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**Feelings Are Hard: The Influence of Parent Emotion Socialization, the Social  
Sharing of Emotions, and Emotion Regulation Strategies on Peer Relationship  
Quality**

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April 27, 2022

## **Abstract**

Emerging adulthood (ages 18 to 29, typically in western cultures) is a period of high emotional volatility and shifts in peer relationships; therefore, the link between emotion regulation strategies (reappraisal, distraction, rumination, and suppression) and peer relationship quality must be examined. Furthermore, previous literature has found that supportive parent emotion socialization is related to healthier emotion regulation strategies in children. Study 1 found that reappraisal mediated the relationship between supportive parent emotion socialization and communication, suggesting that supportive parent emotion socialization teaches children to use reappraisal more, which aids in communication. Due to the link between emotion regulation and communication displayed in Study 1, Study 2 again examined the relationship between emotion regulation strategies and peer relationship quality, this time with the social sharing of negative emotions as a mediating variable. Results showed that the quality of social sharing, but not the number of times participants socially shared, mediated the relationship between suppression and average peer relationship quality. Given these findings, supportive emotion socialization and the (qualitative) social sharing of negative emotions are important when examining the relationship between emotion regulation strategies (specifically, reappraisal and suppression) and peer relationship quality.

## **Acknowledgements**

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## Table of Contents

Abstract	1
Acknowledgements	2
Table of Contents	3
Introduction	5
The Current Studies	22
Study 1	22
Study 2	24
Study 1 Method	26
Participants	26
Design	27
Materials	27
Procedure	29
Study 1 Results	31
Preliminary Analyses: Reliability and Descriptives	31
Correlations Between Variables	31
Comparing Correlations	33
Mediation Analysis	36
Study 1 Discussion	38
Study 2 Method	42
Participants	42
Design	43
Materials	43
Procedure	45
Study 2 Results	47
Types of Emotional Experiences	47
Preliminary Analyses: Reliability and Descriptives	48
Correlations Between Variables	48
Mediation Analyses	53
Study 2 Discussion	58
General Discussion	61
Summary of Findings	61
Interpretation of Results	63

Limitations	73
Directions for Future Research	74
Conclusion	75
References	77
Appendix A	86
Appendix B	87
Appendix C	88
Appendix D	89
Appendix E	92
Appendix F	95

## **Introduction**

### **Peer Relationship Quality in U.S. Emerging Adults**

Emerging adulthood is defined typically in western cultures as the developmental period between the ages of 18 to 29 (Arnett, 2007). This period comes after adolescence, the period between the ages of 12 and 17, and before adulthood, the period from 30 years onward and common themes of emerging adulthood include identity exploration, increased independence, and occupational instability. Therefore, emerging adults experience a lot of uncertainty during this period of intense change and instability. Emerging adults also often experience social changes during this period, including changes in important friendships due to a number of life transitions that are common during emerging adulthood such as graduating from high school and moving away from the family home (Crosnoe & Muller, 2014).

Changes in peer relationships can create additional stress for emerging adults; however, friendship quality has the potential to mitigate the stress created by the life transitions associated with emerging adulthood (Asendorpf, 2000). Secure peer attachments can provide emerging adults with an environment of comfort and emotional support outside of the home (Allen & Land, 1999). The quality of peer relationships can greatly impact a person's emotional and mental health; failure to meaningfully connect with one's peers has been associated with low emotional competence and self-esteem (Laible et al., 2007). Peer relationship quality is also associated with lower levels of anxiety, depression, and aggressive behaviors in emerging adults, and longitudinal data found that higher friendship quality in participants ages 15 through 25 was associated with increases in self-worth and decreases in social anxiety and depressive symptoms

(Pittman & Richmond, 2008; Narr et al., 2019). Furthermore, more authenticity in friendships during early adolescence was associated cross-sectionally with more positive self-views, less loneliness, and more relationship satisfaction, and among first-year college students who reported high levels of shyness, high friendship quality was related to less decreased life satisfaction (Peets & Hodges, 2018; Shell & Absher, 2019). The evidence suggests, then, that peer relationship quality for many emerging adults is key to one's emotional and mental health,

While there is no one definition of *peer relationship quality*, two key dimensions that are associated with peer relationship quality are trust and communication (Armsden & Greenberg, 1987). Trust is necessary in order for both parties in a relationship to feel safe and comfortable, and communication helps not only to build that sense of trust within the relationship, but also helps to mitigate the consequences of interpersonal conflict (Rotenberg & Boulton, 2013; Armsden & Greenberg, 1987; Prosser, 2022). High levels of trust and communication are necessary in order to optimize relationship health and, therefore, the positive effects of healthy peer relationships on individual wellbeing.

### **Emotion Regulation**

Peer relationship quality has been linked to emotion regulation in past literature. While emotions are often viewed as uncontrollable, people have the ability to significantly influence which emotions they have and how intensely they feel them (Gross & John, 2003). *Emotion regulation* refers to the processes by which people maintain and modify the intensity or duration of their emotion responses (Gross & Thompson, 2007). Emotion cues trigger a series of experiential, behavioral, and physiological emotion responses that unfold over time, and emotion regulation strategies



can be categorized based on where they fall in the timeline of the emotion process (Gross, 2001).

Emotion regulation strategies can be distinguished by four general groups of specific strategies: distraction, rumination, reappraisal, and suppression. All four are all emotion regulation strategies, and therefore, anyone who uses these strategies regularly engages in emotion regulation more often than those who do not use strategies like these. For example, both someone who uses reappraisal during an emotion-eliciting event and someone who uses suppression are effectively regulating an emotion. However, it is important to understand the individual outcomes of each strategy in order to identify the emotion regulation strategies that are most beneficial for one's overall well-being.

*Reappraisal* involves changing one's perspective or way of appraising the emotional situation. One reappraisal strategy can involve creating a more positive interpretation of an emotional situation, while another can involve mentally distancing oneself from the emotional situation (Webb et al., 2012). A meta-analysis of 306 studies examined the effectiveness of reappraisal, distraction, rumination, and suppression in regulating emotional outcomes (often referring to increasing the duration and intensity of positive emotions or decreasing the duration and intensity of negative emotions); overall, reappraisal had the largest overall positive effect on emotional outcomes (Webb et al., 2012). This finding is perhaps due to the fact that cognitive reappraisal is an antecedent-focused strategy, meaning that it intervenes early in the emotion process and allows people to reinterpret emotion-eliciting situations in order to decrease the intensity of negative emotions or to increase the intensity of positive emotions (Gross & John, 2003). Therefore, reappraisal catches the emotion-eliciting situation early and effectively

changes its emotional impact (e.g., reinterpreting a bad date as a learning experience). Reappraisal is also negatively associated with symptoms of psychopathology (Aldao et al., 2010). The relationship between reappraisal and positive individual outcomes could be explained by the fact that since reappraisal intercepts an emotional response early in the process, the strategy can effectively alter the entire subsequent trajectory of an emotional response (Gross & John, 2003).

*Distraction* involves focusing one's attention away from the emotional situation — for example, thinking about a happy moment in order to avoid negative feelings such as sadness or anger. Like reappraisal, distraction was also found to have an overall positive effect on emotional outcomes, indicating that distracting oneself from emotional experiences can lessen intense negative emotions (Webb et al., 2012). Reappraisal and distraction both help to decrease negative affect in the short term; however, reappraisal requires one to engage with emotions and make sense of emotional experiences, an important process for long-term emotional health, while distraction does not (Shafir et al., 2015). Furthermore, while distraction can be helpful in reducing negative emotions, previous literature suggests that it may also reduce positive emotions, suggesting that the use of distraction may decrease the overall experience and expression of emotion (Quoidbach et al., 2010). Therefore, while distraction is effective in regulating negative emotions in the short term, it may have long term consequences on one's emotional health.

*Concentration* (often labeled *rumination*) involves focusing on or reliving the emotional experience; for example, in one study, researchers told participants assigned to use rumination as an emotion regulation strategy to “think about [their] experience in

terms of the feelings and the emotions involved” (Ayduk et al., 2002). Rumination tends to have a negative effect on emotional outcomes, as rumination involves bringing the negative emotional event to mind again and again for an extended period of time. As a result, ruminators tend to exhibit more overall negative emotions, as well as symptoms of anxiety and depression (Aldao et al., 2010).

*Suppression* involves suppressing either the experience of the emotion or the expression of the emotion. Suppression can involve suppressing the experience of the emotion or suppressing the behavioral expression of the emotion (e.g., crying, gasping; Webb et al., 2012). Suppression is an effective strategy to regulate emotions in the short term, but it is also associated with negative long-term consequences. While suppression can be important in many social contexts (e.g., avoiding crying in a classroom environment) and thus helpful for societal functioning, suppression has also been associated with more symptoms of psychopathology and lower levels of social support (Webb et al., 2012). A possible explanation for the negative long-term outcomes associated with suppression could be that the usage of suppression prevents habituation to strong emotional experiences. Chronic suppression of emotions can keep a person’s mind from getting used to encountering and processing strong negative emotions in a healthy way, leading to increased sensitivity to depression and anxiety-related thoughts and emotions (Aldao et al., 2010).

Notably, as briefly mentioned above, emotion regulation strategies also fall under the broader categories of antecedent-focused or response-focused strategies (Gross & John, 2003). Antecedent-focused strategies are emotion regulation strategies that people use before the emotional response has fully been activated and include strategies like

distraction, rumination, and reappraisal. For example, one might distract themselves from their failed math test by going on the Internet, diverting their attention away from their negative emotions before they've fully experienced the emotions. Response-focused strategies, on the other hand, are emotion regulation strategies that people use after the emotion is already underway and include strategies like suppression. For example, one might suppress their tears, an expression of sadness, even though their emotional response has already been activated (Gross & John, 2003).

Emotion regulation strategies are most often sorted into four categories: reappraisal, distraction, suppression, and rumination. Reappraisal has been associated with measures related to well-being, while suppression and rumination have generally been associated with lower individual well-being. Individual outcomes related to distraction have been more complicated; while distraction is effective in altering one's immediate emotional state, distraction does not involve processes that help one's long-term emotional health. Generally, the goal for emotion regulation strategies is to alter one's emotional state in order to decrease negative emotions or to increase positive emotions, but the strategies differ in whether they are adaptive (i.e., aligned with the individual's emotion regulation goals) or maladaptive (i.e., not aligned).

### **Emotion Regulation and Peer Relationship Quality**

The relationship between emotion regulation and peer relationship quality is the main relationship explored in the current studies due to previous literature that suggests important links between emotion regulation and peer relationships. Emotions are essential in social exchanges; social interactions can be the cause of or result of different emotional states (Campos et al., 1989; English et al., 2017). Effective emotion regulation,

then, is necessary for productive social interactions. If one can healthily manage the feelings that arouse from various social situations, relationships can grow and improve. For example, adaptive emotion regulation strategies such as reappraisal can allow a person to effectively manage interpersonal situations that are emotionally arousing, while maladaptive emotion regulation strategies such as rumination and suppression can create higher levels of emotional arousal than are conducive to interpersonal relationships (Gross & Thompson, 2007).

Reappraisal is largely associated with positive social outcomes. For example, reappraisal is associated with more close relationships, higher likability ratings from peers, higher social status, and more sharing of positive and negative emotions with others (Gross & John, 2003; English et al., 2012). One possible explanation includes the fact that reappraisers are more likely to share both positive and negative emotions with others and are therefore able to have closer relationships with friends and appear more likable to others. Reappraisers also experience and express behaviorally more positive emotion and less negative emotion than those who do not use reappraisal as often, which is often helpful in creating positive social interactions (Gross & John, 2003).

Furthermore, reappraisal can aid in perspective-taking in interpersonal conflicts, and previous literature has suggested that the usage of reappraisal during marital conflict protects couples from a normative decline in marital quality (Finkel et al., 2013).

Distraction is not as directly associated with social relationships as other emotion regulation strategies; while hedonic emotion regulation goals (goals relating to the desire to change one's emotional state, e.g., wanting to feel more positive emotions) have significantly predicted distraction, prosocial emotion regulation goals (goals relating to

the desire to influence social interactions or relationships, e.g., maintaining a social relationship, avoiding social rejection) have only weakly predicted distraction (Eldesouky & English, 2019). As such, research is sparse in regard to how distraction as an individual emotion regulation strategy affects social relationships. However, individual usage of distraction might imply that individuals are actively avoiding negative emotions and, consequently, that negative emotions are not being discussed in a relationship. Distraction may therefore have an indirect negative impact on relationship closeness and support.

Rumination in response to stress was associated with higher levels of marital conflict among paramedics and their spouses, as well as higher levels of withdrawal from the relationship (King & DeLongis, 2014). Researchers posited that this could be due to the cycle created by the use of rumination as an emotion regulation tactic; negative affect leads to ruminative thoughts, which increases negative affect and causes spouses to withdraw, which leads to more rumination, and so on. Furthermore, rumination has been associated with more social isolation and less perceived social support among the recently bereaved, possibly because it can be difficult for people to offer sufficient social support to ruminators due to their tendency to go over the same negative experiences over and over again (Nolen-Hoeksema & Davis, 1999). Similarly, rumination has been associated with interpersonal distress and reduced relationship satisfaction among depressed individuals (Kuehner & Bueger, 2005; Lam et al., 2003).

Previous literature suggests that suppression may be associated with negative outcomes in social relationships. Suppression has also been associated with relationship conflict; during a daily diary task, higher levels of emotion suppression was associated

with more reported daily conflict (Impett et al., 2012). Previous literature found that romantic couples who were asked to use emotion suppression strategies displayed lower levels of intimacy in their relationships, and in a longitudinal study, suppression was found to be associated with declines in global relationship closeness across four college years (Impett et al., 2012; English et al., 2012). In addition, Gross and John (2003) found that higher levels of suppression among undergraduate students was associated with fewer close relationships, higher avoidance of attachment to potential romantic partners, fewer sources of social support, and less sharing of both positive and negative emotions with others. These associations could be due to the fact that suppressors tend to feel inauthentic in social relationships, as they are unable to show others their true emotions, positive or negative.

Previous literature has provided grounds for possible relationships between all four emotion regulation strategies and peer relationship quality. Reappraisal and positive social outcomes have largely been correlated, while suppression and rumination have largely been negatively related to measures of relationship quality. There is some evidence that suggests that distraction is not as related to social relationships as the other three emotion regulation strategies; however, distraction may have a negative impact on relationship quality due to the avoidant nature of distraction as an emotion regulation strategy, which could hinder communication. Overall, emotion regulation has been closely linked with outcomes related to social relationship health, providing support for a relationship between emotion regulation strategies and peer relationship quality.

## **Parent Emotion Socialization**

There are several ways in which children's emotion regulation strategies can be influenced by their parents. *Parent emotion socialization* includes parents' own emotion expression and regulation, the way parents discuss emotions with their children, and parents' responses to their children's emotions; all three components have an impact on how children deal with their emotions (Eisenberg et al., 1998). Parental emotion regulation and expression can affect children's emotional health in many ways; parents model emotion management and expression for children and, by doing so, teach children about how to interpret and understand others' emotional reactions. Furthermore, discussing emotions in the family can communicate support and enhance children's understanding of emotional states and other emotion-related concepts (Eisenberg et al., 1998).

Parental reactions to children's emotions are a direct example of how parents inform their children's emotional development. In previous literature, *supportive parent emotion socialization strategies* have included acknowledgement of the emotion, encouragement of appropriate emotional expression, and the teaching of strategies to manage the emotion. *Unsupportive parent emotion socialization strategies* have included expressing parental distress over the child's emotion, minimizing the emotion, or punishing the child for the emotion (Gottman et al., 1997).

Parental emotion-related socialization behaviors (ERSBs), including parental reactions to children's emotions, affect children's arousal levels and can change the way they think about emotion. For example, punitive reactions to children's emotions may create an association between children's negative emotions and fear or anxiety



surrounding the expression of those emotions, increasing emotional arousal. Meanwhile, supportive reactions to children's emotions may not increase children's emotional arousal and may in fact even lower their emotional arousal (Eisenberg et al., 1998). Parent emotion socialization, then, is tightly linked with children's emotional outcomes, including children's emotional arousal.

### **Parent Emotion Socialization and Child Emotion Regulation**

Parent emotion socialization has also been linked with children's emotion regulation strategies. Unsupportive parent emotion socialization strategies such as minimizing and punishment reactions to children's emotions have been associated with children's maladaptive emotion regulation strategies; for example, higher levels of punitive and minimizing reactions to children's emotions was associated with a higher tendency to escape in anger situations among 4- and 6-year-old children (Eisenberg & Fabes, 1994). Furthermore, unsupportive parent socialization practices have been associated with adolescent rumination (Goldman, 2005). Unsupportive parent emotion reactions have also been associated with child suppression. In a study by Eisenberg et al. (1991), higher levels of punitive parental reactions to children's emotions were associated with high levels of physiological reactivity (indicators of emotional distress) in reaction to an empathy-inducing film among third grade boys. When asked to report their distress levels to the researchers, however, the boys reported low levels of distress, indicating that these boys were unwilling to express their emotions to others. These findings suggest that punitive or restrictive parental reactions to children's emotions may be associated with a tendency to suppress one's emotions in distressing situations (Eisenberg et al., 1991).

In contrast with the negative emotional outcomes associated with unsupportive parent emotion socialization strategies, supportive parent emotion socialization has been associated with adaptive emotion regulation strategies in children, albeit less consistently than the data related to unsupportive parental reactions. Eisenberg and Fabes (1994) found that maternal comforting reactions to children's emotions were associated with children's constructive emotional responses, including verbalizing their emotions. These results suggest that supportive parent emotion socialization may help children to learn healthy emotion regulation strategies, such as reappraisal. However, other evidence suggests that child age moderates the association between parent supportive emotion socialization and children's socioemotional adjustment; among parents of 3-year-old children, parent supportive emotion socialization predicted better emotion regulation, while among parents of 6-year-old children, parent supportive emotion socialization predicted worse emotion regulation (Mirabile et al., 2018). These results suggest that parent supportive emotion socialization strategies may not be as effective in promoting children's emotional health as they get older.

### **Social Sharing of Emotion**

Emotion regulation strategies can help not only to manage one's individual emotional state but also to aid in interpersonal exchanges and relationships. One example of how emotions relate to social relationships is the social sharing of emotions, defined as one's tendency to share their emotional experiences with other people. Rimé et al. (1991) found that 80-95% of participants reported the *social sharing of emotion* after an emotional episode. The social sharing of emotion is a form of self-disclosure that is specific to emotional experiences, and more intense emotions often elicit more abundant

sharing (Rimé et al., 2020). Motives for sharing an emotional experience include the desire to vent, to receive clarification or advice, to gain empathy or support, or to inform others about their experience (Rimé et al., 2020).

Individual outcomes of the social sharing of emotions depend on a variety of factors. Emotional outcomes for the sharer also depend on listener responses; Nils & Rimé (2012) found that sharers experienced a reduction in loneliness after receiving socio-affective responses (empathy, social support, validation) from listeners, while cognitive responses (encouraging reappraisal, reframing the situation) increased feelings of loneliness in sharers. Furthermore, the benefits of social sharing for the sharer can depend on the listener's empathic concern (benevolent motivation to be a responsive listener) and empathic accuracy (ability to accurately understand another person's internal emotional state). When listeners' empathic concern is high, high empathic accuracy is correlated with high listener responsiveness and increased ability to respond effectively to one's partner, while when empathic concern was low, empathic accuracy had no effect on listener responsiveness (Winczewski et al., 2016).

Verbally sharing an emotion reactivates the emotion rather than the opposite. In previous studies, participants experienced increased positive affect after sharing positive emotional experiences, and increased negative affect after sharing negative emotional experiences (Choi & Toma, 2014). Curci and Rimé (2012) reported that the social sharing of emotions is a "repetitive phenomenon, which tends to diminish over time, leading to an increasing sense of recovery from the initial emotional experience." They found that people who continued sharing the emotional experience after the typical extinction point reported that the beneficial effects of time passing were reduced

compared to the others. Curci and Rimé (2012) also found that this group of participants reported that the initial emotional impact of the emotional experience was higher than the others.

There are two possible explanations that could explain the decreased emotional benefits of social sharing after the typical extinction point: either a) the *emotional intensity* of the initial emotional experience leads to decreased benefits from social sharing and the perpetuation of social sharing past the stopping point, or b) the *perpetuation* of the social sharing process actually led to decreased benefits of social sharing over time. Researchers concluded that “the prolongation of social sharing processes is actually a maladaptive outcome of experiencing an emotion,” further noting that when the social sharing of emotions perpetuates over time, it is important to examine individual aspects and traits (Curci & Rimé, 2012). Therefore, though the emotional intensity of the initial event may affect the perpetuation of social sharing as well as emotional recovery, the perpetuation of social sharing may be related to individual emotional characteristics and habits such as emotion regulation strategies. Overall, the social sharing of emotions has positive emotional and social outcomes, though it often depends on factors such as listener responsiveness.

### **Emotion Regulation and Social Sharing of Emotion**

The social sharing of emotion is closely related to emotion regulation strategies. People who use reappraisal as an emotion regulation strategy, for example, reported that they shared more emotions, both positive and negative, with others (Gross & John, 2003). Reappraisal is an “antecedent-focused” emotion regulation strategy, meaning that reappraisal happens before the emotion response is fully activated; for example, at a job

interview, a reappraiser might reframe the situation as an opportunity to learn about the company and get to know their potential employer, rather than a nerve-wracking social evaluation (Gross & John, 2003). Since reappraisal happens early in the emotion process, reappraisal allows an individual to shift the subsequent trajectory of the emotion process, and thus frequent usage of reappraisal leads to more overall positive emotions and fewer overall negative emotions. Furthermore, both the social sharing of emotions and reappraisal are associated with emotional intelligence, which suggests that emotional intelligence could explain part of the link between the social sharing of emotions and reappraisal (Bucich & MacCann, 2019).

Research regarding the relationship between the social sharing of emotions and rumination has been mixed. Social sharing of emotions reactivates the initial emotion, so repetitive social sharing is akin to rumination, which prolongs the emotional experience of the initial emotion-eliciting event (Rimé et al., 1992). Curci and Rimé (2012) found that longer perpetuation of social sharing was related to higher emotional intensity of the initial emotional experience and reduced emotional recovery over time, indicating that the perpetuation of social sharing is similar to rumination in that it prolongs the emotional effects of the initial event and, presumably, the sharer's fixation on the emotional experience. However, Rimé et al. (1992) found that among participants asked to recall a specific emotion-eliciting event, social sharing and rumination were not significantly related. Researchers proposed three possible explanations: a) rumination and social sharing are completely separate processes, b) characteristics of the initial emotional event (e.g., emotional intensity) largely determine the amount of rumination and social sharing after the emotional experience, or c) there were stable individual differences that

contributed to the results. Therefore, the relationship between rumination and social sharing might be variable and affected by factors such as the emotional intensity of the initial emotional experience and the perpetuation of social sharing, though more research would be needed in order to properly justify this prediction.

Suppression, on the other hand, was correlated with decreased sharing of both positive and negative emotions with others (Gross & John, 2003). Suppression is a “response-focused” emotion regulation strategy, and suppression happens after the emotion response has already happened. During a sad movie, for instance, a suppressor might suppress their tears even though they already feel sad. Suppression is effective in reducing the behavioral expression of a negative emotion, and the usage of suppression when experiencing negative emotions might create a habit of suppressing positive emotions, as well. Therefore, more suppression is related to less social sharing of both positive and negative emotions.

Research about the relationship between distraction and the social sharing of emotions is sparse. However, there is some evidence that the chronic usage of distraction could lead to a decrease in the overall experience and expression of emotions, both positive and negative (Quoidbach et al., 2010). Therefore, distraction may function similarly to suppression in that distraction may also reduce an individual’s overall output of emotional expression. However, there is not much evidence to support this theory.

Overall, social sharing has largely been related to more reappraisal and less suppression. Distraction and rumination have for the most part not been associated with the social sharing of emotions.

## **Social Sharing of Emotion and Peer Relationship Quality**

The social sharing of emotions is related to social outcomes such as peer relationship quality. Social sharing is related to social connections and support in that sharing emotions encourages emotional synchrony, where the sharer and listener briefly share an emotional state and experience a sense of emotional unity and communion with others (Mogan et al., 2017). Furthermore, the social sharing of emotions fosters a sense of privacy and trust between the sharer and listener and signals “a safety condition granting understanding, confidentiality, and nonjudgment” (Rimé et al., 2020).

Therefore, while the social sharing of emotion is often seen as a practice that is largely for the emotional wellbeing of the sharer, sharing an emotion can have positive outcomes for both sharer and listener. Listeners often perceive a benefit, either for self-oriented or prosocial, to listening to another share an emotion. Delelis and Christophe (2016) found that the most common motivations for listening to another person share their emotional experience for positive events include *bonding* (strengthening social links), *empathy* (relating emotionally, expressing an emotional response), and *information* (gathering information about the sharer). For the social sharing of negative events, common listener motivations include *bonding* and *social support* (providing support and help, making the sharer feel listened to). The social sharing of emotions can thus be used to foster close relationships and provide personal and social benefits for both the listener and sharer.

The social sharing of emotions also strengthens the interpersonal dynamic between the sharer and the listener. The sharer shares an emotional experience with the listener, which aids in creating emotional synchrony between the two parties. In return,

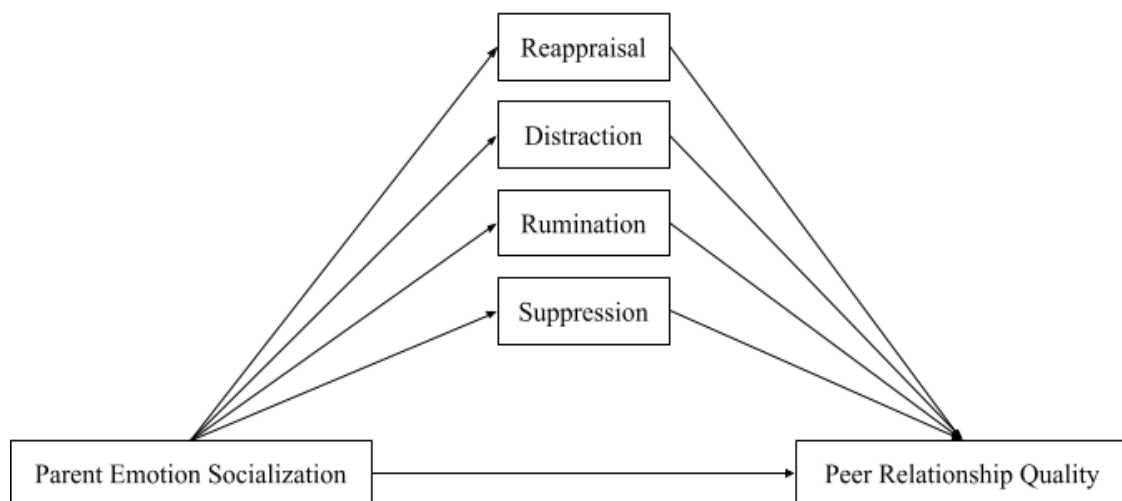
the listener's response, attention, empathy, and support causes the sharer to like the listener more, while the sharer's emotional disclosure causes the listener to like the sharer more (Rimé et al., 2020). Therefore, the social sharing of emotions increases liking, closeness, and trust between sharer and listener and strengthens relationships.

## The Current Studies

### Study 1

#### Figure 1.

*Hypothesized Model for the Relationship Between Parent Emotion Socialization and Peer Relationship Quality as Mediated by Emotion Regulation.*



Parent emotion socialization affects children's emotional outcomes and may, consequently, affect how they express and handle their emotions among their peers. This can be especially salient in emerging adulthood (ages 18 through 29, typically in western cultures), which is characterized by "volatility and identity formation," with relationships acting as key contributors to well-being (Rimsky, 2020).

Relatively few studies have explored the mechanisms behind peer relationships in emerging adulthood, and even fewer have explored how these peer relationships relate to



parent emotion socialization. Furthermore, few studies have examined directly the effects of parent emotion socialization on specific emotion regulation strategies such as distraction, rumination, reappraisal, and suppression. The following study hopes to fill these gaps by exploring the relationships between parent emotion socialization, emotion regulation, and peer relationship quality among emerging adults. Study 1 had participants complete an online survey that included questionnaires relating to child-reported parent emotion socialization, emotion regulation strategies, and peer relationship quality. The study is designed to assess the following primary hypotheses:

Hypothesis 1: Higher levels of reappraisal and lower levels of suppression, distraction, and rumination, are associated with higher peer relationship quality.

Hypothesis 2: Higher levels of supportive parent emotion socialization are associated with lower levels of suppression, distraction, and rumination, as well as higher levels of reappraisal.

Hypothesis 3: Higher levels of supportive parent emotion socialization are associated with higher peer relationship quality.

Hypothesis 4: Suppression, distraction, rumination, and reappraisal mediate the relationship between parent emotion socialization and peer relationship quality.

In addition to the first four hypotheses, our study examines the following three secondary hypotheses:

Hypothesis 5: Unsupportive parent emotion socialization has a larger effect on peer relationship quality than supportive parent emotion socialization.

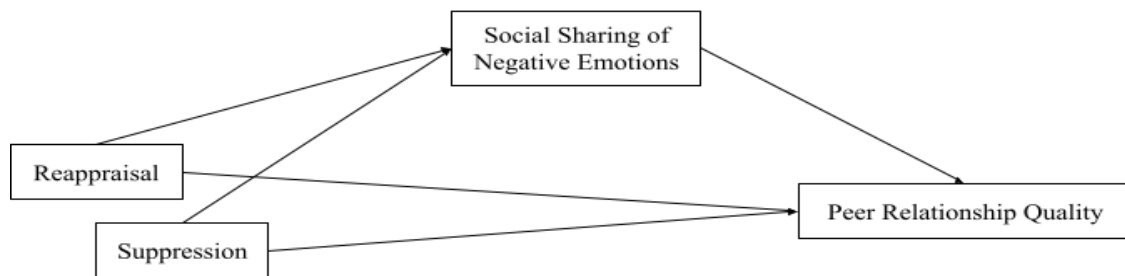
Hypothesis 6: Unsupportive parent emotion socialization has a larger effect on emotion regulation strategies than supportive parent emotion socialization.

Hypothesis 7: Suppression, reappraisal, and rumination have a larger effect on peer relationship quality than distraction.

## *Study 2*

### **Figure 2.**

*Hypothesized Model for the Relationship Between Emotion Regulation Strategies and Peer Relationship Quality as Mediated by the Social Sharing of Negative Emotions.*



Emotion regulation strategies like reappraisal, distraction, rumination, and suppression are associated with a number of outcomes related to peer relationship quality, such as conflict levels and closeness. Furthermore, the social sharing of emotion is related to both emotion regulation strategies and peer relationship quality, possibly explaining the relationship between emotion regulation and peer relationship quality.

Few studies have examined the relationship between the social sharing of emotions and peer relationship quality; rather, many have focused on the individual consequences of socially sharing an emotion. The following study hopes to fill these gaps by exploring the relationships between emotion regulation, the social sharing of negative emotions, and peer relationship quality. Study 2 had participants fill out an online survey measuring emotion regulation strategies, the social sharing of negative emotion, and peer relationship quality. The study is designed to assess the following hypotheses:

Hypothesis 1: Higher levels of reappraisal and lower levels of suppression are associated with higher peer relationship quality.

Hypothesis 2: Higher levels of reappraisal and lower levels of suppression are associated with more social sharing of negative emotions.

Hypothesis 3: More social sharing of negative emotions is associated with higher peer relationship quality.

Hypothesis 4: The social sharing of negative emotions mediates the relationship between emotion regulation strategies (reappraisal and suppression) and peer relationship quality.

## Study 1 Method

### Participants

Initially, 174 participants were recruited via email and over social media such as Facebook and Reddit. However, 18 participants were excluded due to poor compliance (<50% of answers completed), leaving a final sample of 156 participants ranging in age from 18 to 29 years, with a mean age of 21.41 ( $SD = 2.85$  years). Participant demographics are presented in Table 1.

**Table 1.**

*Sociodemographic Characteristics of Participants*

Sample Characteristics	<i>N</i>	<i>%</i>
Gender		
Male	38	24
Female	97	62
Nonbinary	7	4
Agender	1	.6
Other	1	.6
Preferred not to say	12	8
Age		
18-20	57	37
21-23	53	34
24-26	18	12
27-29	9	6
Preferred not to say	19	12
Race/Ethnicity		
White	75	48
Black or African American	13	8
American Indian or Alaska Native	0	0
Asian	18	12
Native Hawaiian or Pacific Islander	0	0
Latino/a or Latinx	23	15
Mixed race	16	10
Other	1	.6
Preferred not to say	10	6

## **Design**

This is a cross-sectional, correlational study. Parent emotion socialization will be examined as a predictor variable, child peer relationship quality as an outcome variable, and child emotion regulation strategies (suppression, distraction, rumination, reappraisal) as mediator variables.

## **Materials**

### ***Parent Emotion Socialization***

The Emotions as a Child Scale (EAC; O’Neal & Magai, 1997) was used to assess child-reported parent emotion socialization strategies. The EAC scale consists of 15 items assessing parent responses to children’s fear, anger, and sadness (see Appendix A). In this study, the sadness scale was used. The measure uses a 5-point Likert scale that ranges from 1 (*never*) to 5 (*very often*). *Supportive emotion socialization responses* include three dimensions: Reward (items 3, 6, 15), Neglect (reverse-coded items; items 1, 12), and Override (Items 7, 11). *Unsupportive emotion socialization responses* included two dimensions: Punish (items 5, 9) and Magnify (items 4, 8, 13). Examples of items include “When I was angry/sad, parent/caregiver comforted me (supportive response; reward),” “. . . focused on me (supportive response; neglect; reverse-coded),” “. . . told me not to worry (supportive response; override),” “. . . told me I was younger” (unsupportive response; punish),” and “. . . got very angry/sad (unsupportive response; magnify).” The scale has shown acceptable construct validity among adolescents and emerging adults, as well as suitable to good internal reliability in prior research (Guo et al., 2017; Parra et al., 2010). The Cronbach’s alpha for the supportive and unsupportive subscales of the sadness scale have been .90 and .69, respectively (Guo et al., 2017).

## ***Emotion Regulation***

**Distraction and Rumination.** The distraction and rumination subscales of the 48-item version of the Regulation of Emotion Systems Survey (RESS; De France & Hollenstein, 2017) were used to assess distraction and rumination. The rumination subscale (items 1, 2, 3, 4, 5, 6) and the distraction subscale (items 7, 8, 9, 10, 11, 12, 13) consist of six and seven items, respectively, scored on a 4-point Likert scale that ranges from 1 (*almost never*) to 4 (*almost always*) (see Appendix B). Examples of items include “Whenever I feel down, sad, or depressed, I usually respond to it by thinking again and again what went wrong (rumination),” “. . . doing something else to distract myself (distraction),” and “. . . continually trying to decide what went wrong (rumination).” Both distraction and rumination subscale have shown good reliability; Cronbach’s alphas were 0.92 and 0.90, respectively (De France & Hollenstein, 2017).

**Reappraisal and Suppression.** The Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) was used to assess cognitive reappraisal and expressive suppression. The ERQ consists of 10 items scored on a 7-point Likert scale that ranges from 1 (*strongly disagree*) to 7 (*strongly agree*) (see Appendix C). Both the reappraisal scale (items 1, 3, 5, 7, 8, 10) and the suppression scale (items 2, 4, 6, 9) include general-emotion items (“I control my emotions by not expressing them”; suppression) as well as at least one item regarding the regulation of negative emotions (“When I want to feel less negative emotion, I change the way I’m thinking about the situation”; reappraisal) and one item regarding the regulation of positive emotions (“When I am feeling positive emotions, I am careful not to express them”; suppression). Examples of items include “I control my emotions by changing the way I think about the situation I’m in” (reappraisal)

and “I control my emotions by not expressing them” (suppression). The scale has shown adequate construct validity and adequate internal reliability in previous research among emerging adults (Gross & John, 2003). The Cronbach’s alphas have been reported as .73 for expressive suppression and .79 for cognitive reappraisal (Gross & John, 2003).

### ***Peer Relationship Quality***

The peer section of the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) was used to assess child peer relationship quality. The peer scale of the IPPA consists of 25 items scored on a 5-point Likert scale that ranges from 1 (*almost never or never true*) to 5 (*almost always or always true*) (see Appendix D). The peer scale has three subscales: Trust (items 4, 5, 7, 8, 9, 10, 11, 14, 15, 16), Communication (items 1, 2, 3, 6, 12, 13, 17, 18), and Alienation. Alienation items were excluded due to poor item-total correlations. Item 4 (“I wish I had different friends”; Trust) was reverse-coded. Examples of other items include: “My friends understand me (Trust),” “I can tell my friends about my problems and troubles (Communication),” and “My friends can tell when I’m upset about something (Communication).” The scale has shown high construct validity among late adolescents and good internal reliability in prior research; the Cronbach’s alpha for the peer scale of the IPPA has been reported as .92 (Armsden & Greenberg, 1987).

### **Procedure**

Participants were directed to a survey in Qualtrics, where they filled out a consent form to confirm their voluntary participation in the study. The survey included five questionnaires: 1) the sadness subscale of the Emotions as a Child (EAC) Scale for child-reported parent emotion socialization; 2) the distraction and rumination subscales of the

Regulation of Emotion Systems Survey (RESS) for distraction and rumination (as emotion regulation (ER) strategies); 3) the Emotion Regulation Questionnaire (ERQ) for reappraisal and suppression (as ER strategies); and 4) the peer section of the Inventory of Parent and Peer Attachment (IPPA) for peer relationship quality. The order of these sections were randomized across participants. Participants then reported their demographic information, including racial identity, age, and gender (see Appendix F). Finally, participants were debriefed and thanked for their time.



## Study 1 Results

### Preliminary Analyses: Reliability and Descriptives

Cronbach's alphas were calculated in order to determine scale and subscale reliability. The EAC demonstrated good reliability; the supportive parent emotion socialization subscale consisted of nine items ( $\alpha = .85$ ), and the unsupportive parent emotion socialization subscale consisted of six items ( $\alpha = .77$ ). The RESS and the ERQ measured emotion regulation strategies and also demonstrated good reliability.

Cronbach's alphas for the six rumination and seven distraction items were .92 and .89, respectively. The ERQ consisted of six reappraisal items ( $\alpha = .84$ ) and four suppression items ( $\alpha = .77$ ). The Cronbach's alpha for all 18 peer relationship quality items on the IPPA was .94; the trust subscale consisted of 10 items ( $\alpha = .93$ ), and the communication subscale consisted of eight items ( $\alpha = .83$ ).

The means and standard deviations for all parent emotion socialization, emotion regulation, and peer relationship quality variables are presented in Table 2.

### Correlations Between Variables

The correlations between emotion regulation strategies, parent emotion socialization, and peer relationship quality are presented in Table 2. Distraction ( $M = 2.92$ ,  $SD = .67$ ) and reappraisal ( $M = 3.42$ ,  $SD = .84$ ) were significantly correlated,  $r = .43$ ,  $p < .01$ . All other relationships between distraction, reappraisal, rumination ( $M = 3.27$ ,  $SD = .70$ ), and suppression ( $M = 2.94$ ,  $SD = .94$ ) were nonsignificant. Supportive emotion socialization ( $M = 3.43$ ,  $SD = .85$ ) and unsupportive emotion socialization ( $M = 2.34$ ,  $SD = .84$ ) were negatively correlated,  $r = -.16$ ,  $p < .05$ . The trust ( $M = 4.17$ ,  $SD = .78$ ) and communication ( $M = 3.87$ ,  $SD = .72$ ) subscales of the IPPA were highly

correlated,  $r = .77, p < .01$ . Overall peer relationship quality ( $M = 4.04, SD = .71$ ) was highly correlated with trust and communication,  $r = .96, p < .01$  and  $r = .92, p < .01$ , respectively.

Hypothesis 1 predicted that higher levels of reappraisal and lower levels of suppression, distraction, and rumination would be associated with higher peer relationship quality. In accordance with this hypothesis, communication was significantly correlated with reappraisal,  $r = .19, p < .05$ . Communication and suppression were also negatively correlated,  $r = -.20, p < .05$ . In contrast with our hypothesis, however, distraction and communication were highly correlated,  $r = .26, p < .01$ . Regression analyses found that the relationship between distraction and communication became nonsignificant when accounting for reappraisal, indicating that reappraisal explains the relationship between distraction and communication. All other correlations between peer relationship quality and emotion regulation strategies were nonsignificant.

We predicted in Hypothesis 2 that unsupportive parent emotion socialization would be correlated with suppression and negatively correlated with reappraisal and that distraction and rumination would not be significantly correlated with emotion socialization. As hypothesized, supportive parent emotion socialization was highly correlated with reappraisal,  $r = .27, p < .01$ , and unsupportive parent emotion socialization and rumination were also correlated,  $r = .21, p < .05$ . In contrast with Hypothesis 2, supportive parent emotion socialization and distraction were highly correlated,  $r = .25, p < .01$ . Furthermore, suppression was not correlated with parent emotion socialization.

According to Hypothesis 3, we predicted that higher levels of supportive parent emotion socialization would be associated with higher peer relationship quality. In accordance with this hypothesis, supportive parent emotion socialization and the communication subscale of the IPPA were correlated,  $r = .20, p < .05$ . Other than this relationship, the hypothesized relationships between parent emotion socialization and peer relationship quality, as well as between parent emotion socialization and the trust subscale of the IPPA, were not significant.

### **Comparing Correlations**

According Hypothesis 5, we predicted that the magnitude of the correlation between unsupportive parent emotion socialization and peer relationship quality would be significantly larger than the correlation between supportive parent emotion socialization and peer relationship quality. In contrast with Hypothesis 5, the effects of supportive and unsupportive parent emotion socialization on peer relationship quality did not differ significantly, 95% CI of difference between correlations = [-.15, .33].

Hypothesis 6 predicted that the magnitude of the correlation between unsupportive parent emotion socialization and emotion regulation strategies would be significantly larger than that of the correlation between supportive parent emotion socialization and emotion regulation strategies. In contrast with this hypothesis, the effects of supportive and unsupportive parent emotion socialization on rumination did not differ significantly, 95% CI of difference between correlations = [-.33, .07], and neither did the effects of supportive and unsupportive emotion socialization on distraction, 95% CI of difference between correlations = [-.01, .39]. The difference in correlations between unsupportive parent emotion socialization and reappraisal and between supportive parent

emotion socialization and reappraisal was also not significant, 95% CI of difference = [-.02, .37]. Finally, the effects of supportive and unsupportive parent emotion socialization on suppression did not differ significantly, 95% CI of difference between correlations = [-.26, .14]. Therefore, results did not provide support for Hypothesis 6.

Hypothesis 7 predicted that suppression, reappraisal, and rumination would have a larger effect on peer relationship quality than distraction. The results did not find evidence for this hypothesis; the effects of suppression and distraction on peer relationship quality did not differ significantly, 95% CI of difference between correlations = [-.18, .24]. Similarly, there was no significant difference in the correlations between reappraisal and peer relationship quality and between distraction and peer relationship quality, 95% CI of difference between correlations = [-.13, .21]. The effects of rumination and distraction on peer relationships did not differ significantly, 95% CI of difference between correlations = [-.21, .19]. In conclusion, Hypothesis 7 was not supported by the results.

**Table 2.***Descriptive Statistics and Pearson Correlations Among Model Variables*

<b>Variable</b>	1	2	3	4	5	6	7	8	9
1. Supportive emotion socialization (EAC)	--								
2. Unsupportive emotion socialization (EAC)	-.16*	--							
3. Rumination (RESS)	-.08	.21*	--						
4. Distraction (RESS)	.25**	-.06	.14	--					
5. Reappraisal (ERQ)	.27**	.09	.03	.43**	--				
6. Suppression (ERQ)	-.06	.12	.14	.11	-.02	--			
7. Peer Relationship Quality (IPPA)	.16	-.07	.10	.11	.15	-.14	--		
8. Trust (IPPA)	.11	-.10	.07	.04	.05	-.09	.96**	--	
9. Communication (IPPA)	.20*	-.02	.13	.19*	.26**	-.20*	.92**	.77**	--
<b>Mean</b>	3.43	2.34	3.27	2.92	3.42	2.94	4.04	4.17	3.87
<b>Standard Deviation</b>	.85	.84	.70	.67	.84	.94	.71	.78	.72

*Note.* EAC = Emotions as a Child Scale; RESS = Regulation of Emotion Systems Survey; ERQ = Emotion Regulation Questionnaire;

IPPA = Inventory of Parent and Peer Attachment - Peer Subscale.

\*  $p < .05$ .

\*\*  $p < .01$ .

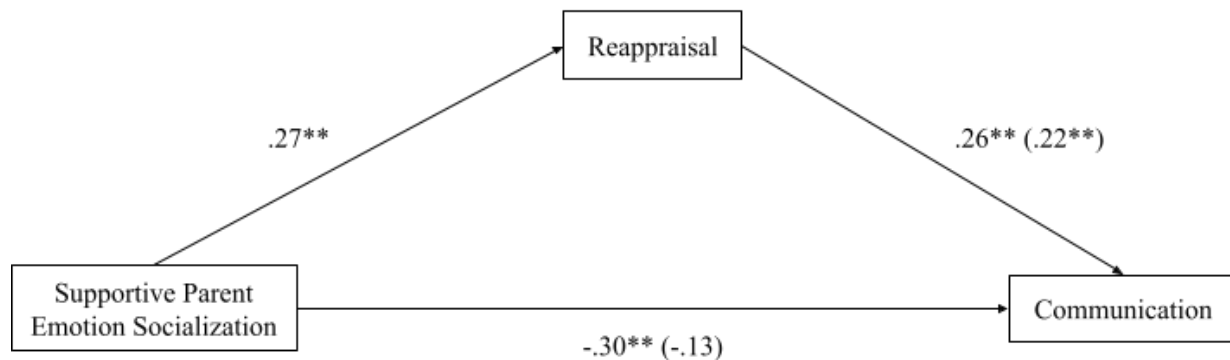
## Mediation Analysis

Hypothesis 4 predicted that suppression, distraction, rumination, and reappraisal would mediate the relationship between parent emotion socialization and peer relationship quality. We ran a mediation analysis in order to test whether reappraisal mediated the correlation between supportive emotion socialization and communication. In contrast with Hypothesis 4, no other mediation models displayed the correlations necessary to justify mediation analyses.

### *Reappraisal as a Mediator*

#### Figure 3.

*Mediation Analysis to Test Whether Reappraisal Mediates the Relationship Between Supportive Emotion Socialization and Communication*



*Note.* The correlation between supportive emotion socialization and communication became nonsignificant after accounting for reappraisal as a mediator, indicating that reappraisal mediated the relationship between supportive emotion socialization and communication.

\*  $p < .05$ .

\*\*  $p < .01$ .

Supportive emotion socialization was associated with reappraisal and communication, and reappraisal was associated with communication. We examined a mediation model using the PROCESS macro, using bootstrapping with 5,000 samples in order to test whether reappraisal

mediated the relationship between supportive emotion socialization and communication (Hayes, 2013, model 4). As hypothesized, the relationship between supportive emotion socialization and communication (initial  $b = .16$ ,  $se = .07$ , 95% CI [.02, .29]) was mediated (final  $b = .11$ ,  $se = .03$ , 95% CI [.01, .11]) by reappraisal, indirect  $b = .05$ ,  $se = .03$ , 95% CI [.01, .11]. Therefore, in line with Hypothesis 4, reappraisal mediated the relationship between supportive emotion socialization and communication.

## Study 1 Discussion

Rumination was not related to any measure of peer relationship quality, which could be explained by the fact that rumination is more of a self-oriented emotion regulation process than a socially-oriented one. Rumination involves concentrating on the emotional experience, which is inherently a self-oriented mental process (Ayduk et al., 2002). Therefore, rumination might not be as related to social relationships as other emotion regulation strategies that directly impact social behavior.

Furthermore, none of the emotion regulation strategies were significantly related to average peer relationship quality or trust, indicating that communication alone is associated with emotion regulation. The communication subscale of the IPPA included items such as “My friends can tell when I’m upset about something,” “My friends care about how I am feeling,” and “If my friends know something is bothering me, they ask me about it,” all of which were related to the expression of emotions within the peer relationship. Trust items, on the other hand, were more related to comfort and respect within the relationship, such as “My friends accept me as I am,” “I feel my friends are good friends,” and “My friends respect my feelings.” The fact that communication includes emotional sharing and expression could explain why communication, and not trust, was associated with higher levels of reappraisal and distraction and lower levels of suppression.

As predicted in Hypothesis 1, reappraisal was associated with the communication measure of peer relationship quality. These findings are consistent with previous research that reappraisal is an antecedent-focused emotion regulation strategy, meaning that reappraisal happens *before* emotion responses have been fully activated. In other words,



reappraisal involves catching the emotion early in the emotion process and effectively altering the entire subsequent emotional trajectory by changing the way one looks at the situation. Since reappraisal happens early in the emotion process, reappraisers tend to experience and express more overall positive emotion and less negative emotion than those who do not use reappraisal as often. Therefore, the significant relationship between reappraisal and communication could possibly be explained by the fact that reappraisers tend to express more positive emotion in their peer relationships.

Suppression and communication were negatively correlated, in accordance with our hypothesis. Since suppression in part refers directly to the suppression of emotional expression, the relationship between suppression and communication could be due to the fact that suppressors tend to express less emotion overall in social relationships, hindering communication (Gross & John, 2003).

The results also showed that distraction and communication were positively correlated, providing evidence against Hypothesis 1, which predicted that distraction would be negatively correlated with measures related to peer relationship quality. The positive relationship between distraction and communication could possibly be explained by the fact that distraction, like reappraisal, is an antecedent-focused emotion regulation strategy, meaning that it occurs early in the emotion-generating process (Gross & John, 2003).

However, distraction was also highly correlated with reappraisal, which was highly correlated with communication. Further analysis revealed that the relationship between distraction and communication became nonsignificant after accounting for reappraisal. In other words, reappraisal was highly correlated with both distraction and

communication, and results showed that reappraisal fully explained the relationship between distraction and communication. These results indicate that those who use reappraisal are more likely to be better communicators, and reappraisers are also more likely to use distraction as an emotion regulation strategy, possibly due to the fact that both occur early in the emotion process.

While we predicted in Hypothesis 2 that unsupportive emotion socialization would be related to suppression, parent emotion socialization was not significantly correlated with suppression. This result indicates that perhaps other factors are more important than parent emotion socialization when considering the predictors of suppression. For example, previous literature has linked personality traits such as high neuroticism and low extraversion to suppression tendencies (Gresham & Gullone, 2012). Therefore, perhaps suppression tendencies are more strongly associated with more stable tendencies such as personality rather than being subject to the influence of parents.

In accordance with Hypothesis 2, lower levels of rumination and higher levels of reappraisal and distraction were associated with more supportive parent emotion socialization. These results suggest that supportive parent emotion socialization (e.g., “When I was sad, my parent/caregiver comforted me,” “. . . focused on me,” “. . . told me to cheer up”) teaches children to use strategies like reappraisal and distraction in order to increase their experience of positive emotions and decrease their experience of negative emotions, while unsupportive parent emotion socialization (e.g., “When I was sad, my parents/caregiver let me know s/he did not approve,” “. . . got very upset,” “. . . told me I was acting younger”) extends the negative emotional experience or increases the experience of negative emotion for children and teaches them to ruminate on their

negative emotions. The findings align with previous research that found that supportive parent emotion socialization strategies were associated with healthy emotion regulation strategies such as reappraisal, while unsupportive parent emotion socialization strategies were associated with negative emotional outcomes such as high levels of rumination.

Parent emotion socialization was not associated with average peer relationship quality or trust. However, supportive parent emotion socialization, but not unsupportive parent emotion socialization, was associated with communication, indicating that supportive parent emotion socialization helps to teach children skills necessary for effective communication in peer relationships. Further analysis found that reappraisal mediated the relationship between supportive emotion socialization and communication. Therefore, the correlation between supportive parent emotion socialization and communication is fully explained by the fact that reappraisal is highly correlated with both supportive emotion socialization and communication.

In contrast with Hypothesis 4, however, no other emotion regulation strategies mediated the relationship between parent emotion socialization and peer relationship quality. None of the other possible mediation relationships showed the correlations necessary to warrant mediation analyses; trust and average peer relationship quality were not associated with any emotion regulation strategies, rumination was not significantly correlated with peer relationship quality, suppression and parent emotion socialization were not correlated, and the relationship between distraction and peer relationship quality was fully explained by reappraisal.

## Study 2 Method

### Participants

10 participants were recruited via email and over social media such as Facebook and Reddit, and 97 participants were recruited through Prolific and financially compensated for their time, leaving a final sample of 107 participants ranging in age from 18 through 29 years, with a mean age of 24.12 ( $SD = 3.50$ ). Participant demographics are presented in Table 3.

**Table 3.**

*Sociodemographic Characteristics of Participants*

Sample Characteristics	<i>N</i>	%
Gender		
Male	27	25
Female	70	65
Nonbinary	7	7
Genderfluid/genderqueer	2	2
Unsure	1	1
Preferred not to say	0	0
Age		
18-20	19	18
21-23	24	22
24-26	41	38
27-29	23	21
Preferred not to say	0	0
Race/Ethnicity		
White	59	55
Black or African American	5	5
American Indian or Alaska Native	0	0
Asian	14	13
Native Hawaiian or Pacific Islander	0	0
Latino/a or Latinx	13	12
Mixed race	15	14
Preferred not to say	1	1

## **Design**

This is a cross-sectional, correlational study. Emotion regulation strategies (suppression, distraction, rumination, reappraisal) were examined as predictor variables, peer relationship quality as an outcome variable, and social sharing of negative emotions as a mediator variable.

## **Materials**

### ***Emotion Regulation***

**Distraction and Rumination.** The distraction and rumination subscales of the 48-item version of the Regulation of Emotion Systems Survey (RESS; De France & Hollenstein, 2017) were used to assess distraction and rumination. The rumination subscale (items 1, 2, 3, 4, 5, 6) and the distraction subscale (items 7, 8, 9, 10, 11, 12, 13) consist of six and seven items, respectively, scored on a 4-point Likert scale that ranges from 1 (*almost never*) to 4 (*almost always*) (see Appendix B). Examples of items include “Whenever I feel down, sad, or depressed, I usually respond to it by thinking again and again what went wrong (rumination),” “. . . doing something else to distract myself (distraction),” and “. . . continually trying to decide what went wrong (rumination).” Both distraction and rumination subscale have shown good reliability; Cronbach’s alphas were 0.92 and 0.90, respectively (De France & Hollenstein, 2017).

**Reappraisal and Suppression.** The Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) was used to assess cognitive reappraisal and expressive suppression. The ERQ consists of 10 items scored on a 7-point Likert scale that ranges from 1 (*strongly disagree*) to 7 (*strongly agree*) (see Appendix C). Both the reappraisal scale

(items 1, 3, 5, 7, 8, 10) and the suppression scale (items 2, 4, 6, 9) include general-emotion items (“I control my emotions by not expressing them”; suppression) as well as at least one item regarding the regulation of negative emotions (“When I want to feel less negative emotion, I change the way I’m thinking about the situation”; reappraisal) and one item regarding the regulation of positive emotions (“When I am feeling positive emotions, I am careful not to express them”; suppression). Examples of items include “I control my emotions by changing the way I think about the situation I’m in” (reappraisal) and “I control my emotions by not expressing them” (suppression). The scale has shown adequate construct validity and adequate internal reliability in previous research among emerging adults (Gross & John, 2003). The Cronbach’s alphas have been reported as .73 for expressive suppression and .79 for cognitive reappraisal (Gross & John, 2003).

### ***Social Sharing of Negative Emotions***

The Emotional Experience Questionnaire (EEQ) was created for the current study in order to measure the social sharing of negative emotions (see Appendix E). The questionnaire asks participants to provide a brief description of a negative emotional experience that happened in the last three months. Participants were asked to rate the negativity of the experience and the strength of the emotions (fear, anger, sadness) they felt during the experience; these items were scored on a 7-point Likert scale from 1 (*not negative/strongly at all*) to (*very negative/strongly*). Social sharing of negative emotions was measured both by how they shared qualitatively and quantitatively. Qualitative social sharing evaluated how thoroughly participants shared the emotional experience with friends (“I thoroughly shared with friends factual details of the experience,” “. . . the thoughts and emotions that I had during the experience”), and the

four items were scored on a 7-point Likert scale that ranges from 1 (*not true at all*) to 7 (*very true*). Quantitative social sharing evaluated how many times participants shared the emotional experience with friends. Information was also collected about the *delay* between the emotional experience and participants' sharing with friends as well as the extent to and the methods (e.g., face to face, via social media) by which they shared the experience with friends.

### ***Peer Relationship Quality***

The peer section of the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) was used to assess peer relationship quality. The peer scale of the IPPA consists of 25 items scored on a 5-point Likert scale that ranges from 1 (*almost never or never true*) to 5 (*almost always or always true*) (see Appendix D). The peer scale has three subscales: Trust (items 4, 5, 7, 8, 9, 10, 11, 14, 15, 16), Communication (items 1, 2, 3, 6, 12, 13, 17, 18), and Alienation. Alienation items were excluded due to poor item-total correlations. Item 4 ("I wish I had different friends"; Trust) was reverse-coded. Examples of other items include: "My friends understand me (Trust)," "I can tell my friends about my problems and troubles (Communication)," and "My friends can tell when I'm upset about something (Communication)." The scale has shown high construct validity among late adolescents and good internal reliability in prior research; the Cronbach's alpha for the peer scale of the IPPA has been reported as .92 (Armsden & Greenberg, 1987).

### **Procedure**

Participants were directed to a survey in Qualtrics, where they filled out a consent form to confirm their voluntary participation in the study. The survey was divided into

five sections: 1) the distraction and rumination subscales of the Regulation of Emotion Systems Survey (RESS) for distraction and rumination (as emotion regulation (ER) strategies); 2) the Emotion Regulation Questionnaire (ERQ) for reappraisal and suppression (as ER strategies); and 3) the Emotional Experience Questionnaire for the social sharing of negative emotions, and 4) the peer section of the Inventory of Parent and Peer Attachment (IPPA) for peer relationship quality. The order of these sections was randomized across participants. Participants then reported their demographic information, including racial identity, age, and gender (see Appendix F). Finally, participants were debriefed and thanked for their time.



## Study 2 Results

### Types of Emotional Experiences

The types of emotional experiences reported were grouped into the following themes: issues regarding school, family, relationships, friends and acquaintances, one's own/a loved one's health, loss of a loved one, pets (including loss of a pet), sexual assault or harrassment, jobs, personal issues (including mental health), and other. Negative emotional experiences related to family issues were most common (22%), followed closely by experiences related to romantic relationships (19%). Other common themes included experiences related to issues with friends (14%), personal matters including issues with mental health (10%), problems related to jobs (9%), experiences with grief or loss (8%), issues with school (7%), one's own/a loved one's health issues (4%), problems related to pets including loss of a pet (4%), and experiences with sexual harassment or assault (2%).

**Table 4.**

*Types of Emotional Experiences Reported by Participants*

Types of Emotional Experiences	<i>N</i>	%
Family	22	21
Relationships	20	19
Friends	15	14
Personal	11	10
Jobs	10	9
Loss	8	8
School	7	7
Health	4	4
Pets	4	4
Sexual Assault	2	2
Other	4	4

### **Preliminary Analyses: Reliability and Descriptives**

Cronbach's alphas were calculated in order to determine scale and subscale reliability. The four items related to qualitative social sharing showed good reliability ( $\alpha = .93$ ). The rumination and distraction subscales of the RESS also showed good reliability; Cronbach's alphas were .93 and .90, respectively. The ERQ consisted of six reappraisal items ( $\alpha = .89$ ) and four suppression items ( $\alpha = .77$ ). The Cronbach's alpha for all 18 peer relationship quality items on the IPPA was .96; the trust subscale consisted of 10 items ( $\alpha = .96$ ), and the communication subscale consisted of eight items ( $\alpha = .91$ ).

The three indicators of social sharing (qualitative social sharing, quantitative social sharing, and delay in social sharing) were averaged in order to examine the overall effects of social sharing. The means and standard deviations for all emotion regulation, social sharing, and peer relationship quality are presented in Table 5.

### **Correlations Between Variables**

The correlations between emotion regulation strategies, social sharing, and peer relationship quality are presented in Table 5. Average social sharing ( $M = 3.51$ ,  $SD = 1.60$ ) was correlated with qualitative ( $M = 4.01$ ,  $SD = 2.17$ ) and quantitative social sharing of negative emotions ( $M = 2.39$ ,  $SD = 1.07$ ),  $r = .94$ ,  $p < .01$  and  $r = .85$ ,  $p < .01$ . Qualitative and quantitative were also highly correlated,  $r = .74$ ,  $p < .01$ . Both qualitative and quantitative social sharing were negatively correlated with the delay in social sharing ( $M = 2.86$ ,  $SD = 2.02$ ),  $r = -.76$ ,  $p < .01$  and  $r = -.71$ ,  $p < .01$ , respectively. Anger ( $M = 4.92$ ,  $SD = 1.99$ ) was not significantly correlated with fear ( $M = 3.81$ ,  $SD = 2.28$ ) or sadness ( $M = 5.48$ ,  $SD = 1.77$ ). Fear and sadness were highly correlated,  $r = .25$ ,  $p < .01$ . Reappraisal ( $M = 2.89$ ,  $SD = .95$ ) and distraction ( $M = 2.85$ ,  $SD = .71$ ) were correlated,  $r$

= .27,  $p < .01$ . No other correlations between rumination ( $M = 3.22$ ,  $SD = .65$ ), distraction, reappraisal, and suppression ( $M = 2.89$ ,  $SD = .95$ ) were significant. was highly correlated with The trust ( $M = 4.09$ ,  $SD = .90$ ) and communication ( $M = .90$ ,  $SD = .85$ ) subscales of the IPPA were highly correlated with one another,  $r = .87$ ,  $p < .01$ . Trust and communication were also highly correlated with peer relationship quality ( $M = 4.00$ ,  $SD = .85$ ),  $r = .98$ ,  $p < .01$  and  $r = .96$ ,  $p < .01$ , respectively.

Negativeness ( $M = 5.59$ ,  $SD = 1.37$ ) was associated with average social sharing,  $r = .23$ ,  $p < .05$ . Negativeness was also correlated with both qualitative and quantitative social sharing,  $r = .23$ ,  $p < .05$  and  $r = .20$ ,  $p < .05$ , respectively, but not delay in social sharing. Furthermore, negativeness was associated with fear and anger,  $r = .33$ ,  $p < .01$  and  $r = .22$ ,  $p < .01$ . Negativeness and sadness were also correlated,  $r = .22$ ,  $p < .01$ .

Hypothesis 1 predicted that higher levels of reappraisal and lower levels of suppression would be associated with increased peer relationship quality. As hypothesized, suppression was negatively correlated with peer relationship quality,  $r = -.30$ ,  $p < .01$ . Reappraisal and peer relationship quality were correlated,  $r = .21$ ,  $p < .05$ .

According to Hypothesis 2, we predicted that reappraisal and social sharing of negative emotions would be correlated, and suppression and social sharing would be negatively correlated. We also predicted that there would be no significant relationship between rumination and social sharing or between distraction and social sharing. As hypothesized, there was no significant relationship between rumination and social sharing or between distraction and social sharing. Average social sharing and suppression were very negatively correlated,  $r = -.34$ ,  $p < .01$ . Both qualitative and quantitative social sharing were very negatively correlated with suppression,  $r = -.33$ ,  $p < .01$  and  $r = -.30$ ,  $p$

< .01. Furthermore, delay in social sharing and suppression were correlated,  $r = .30, p < .01$ . In contrast with our hypothesis, reappraisal was not significantly correlated with any measure of social sharing.

Hypothesis 3 predicted that social sharing and peer relationship quality would be correlated. As hypothesized, peer relationship quality was highly correlated with average social sharing,  $r = .44, p < .01$ . Peer relationship quality was also highly correlated with both qualitative and quantitative social sharing,  $r = .46, p < .01$  and  $r = .30, p < .01$ , respectively. Peer relationship quality was also negatively correlated with the delay in social sharing,  $r = -.40, p < .01$ .

**Table 5.**  
*Descriptive Statistics and Pearson Correlations Among Model Variables*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Average Social Sharing (EEQ)	--														
2. Qualitative Social Sharing (EEQ)	.94**	--													
3. Quantitative Social Sharing (EEQ)	.85**	.74**	--												
4. Delay in Social Sharing	-.92**	-.76**	-.71**	--											
5. Negativeness (EEQ)	.23*	.23*	.20*	-.19	--										
6. Fear (EEQ)	.04	.00	.15	-.00	.33**	--									
7. Anger (EEQ)	.02	.10	-.10	.02	.22*	-.15	--								
8. Sadness (EEQ)	.08	.06	.18	-.04	.22*	.25**	.03	--							
9. Rumination (RESS)	.04	.06	.12	.05	.17	.11	-.07	.18	--						
10. Distraction (RESS)	.09	.04	.08	-.13	.04	-.14	.10	.15	.04	--					
11. Reappraisal (ERQ)	.00	.04	-.01	.04	-.12	-.07	-.01	-.09	-.13	.27**	--				
12. Suppression (ERQ)	-.34**	-.33**	-.30**	.30**	.01	.07	-.15	.06	.01	0.1	-.03	--			
13. Peer Relationship Quality (IPPA)	.44**	.46**	.30**	-.40**	.05**	-.07	.05	.00	.01	.07	.21*	-.30**	--		

14. Trust (IPPA)	.38**	.40**	.25**	-.36**	.01	-.11	.01	-.04	-.02	.03	.17	-.24*	.98**	--	
15. Communication (IPPA)	.48**	.51**	.35**	-.41**	.10	-.02	.10	.06	.05	.11	.24*	-.36**	.96**	.87**	--
<b>Mean</b>	3.51	4.01	2.39	2.86	5.59	3.81	4.92	5.48	3.22	2.85	3.29	2.89	4.00	4.09	3.89
<b>Standard Deviation</b>	1.60	2.17	1.07	2.02	1.37	2.28	1.99	1.77	.65	.71	.87	.95	.85	.90	.85

*Note.* EEQ = Emotional Experience Questionnaire; RESS = Regulation of Emotion Systems Survey; ERQ = Emotion Regulation Questionnaire; IPPA = Inventory of Parent and Peer Attachment - Peer Subscale.

\*  $p < .05$ .

\*\*  $p < .01$ .

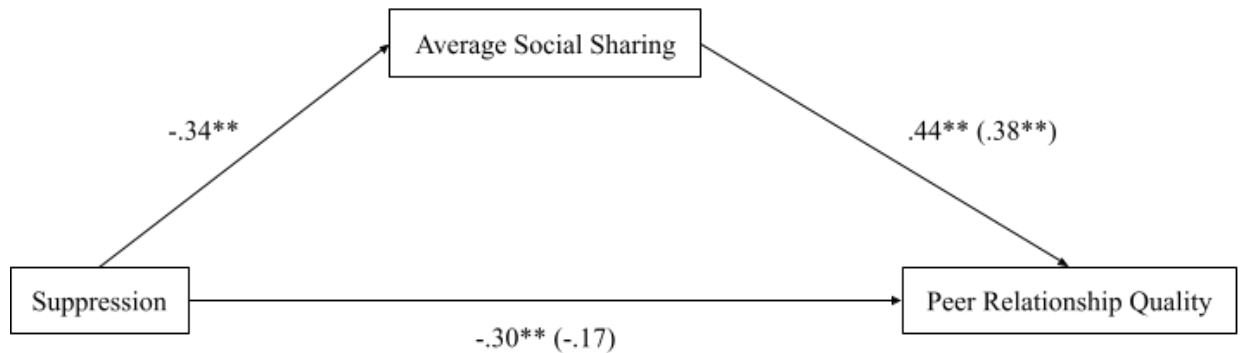
## Mediation Analyses

Hypothesis 4 predicted that the social sharing of negative emotions would mediate the relationship between emotion regulation strategies (reappraisal and suppression) and peer relationship quality. In order to test this hypothesis, we ran mediation analyses to test whether qualitative, quantitative, and delay in social sharing mediated the relationships between emotion regulation strategies (reappraisal and suppression) and peer relationship quality. In contrast with Hypothesis 4, no other mediation models displayed the correlations necessary to justify mediation analyses.

### *Average Social Sharing as a Mediator*

#### **Figure 4.**

*Mediation Analysis to Test Whether Average Social Sharing Mediates the Relationship Between Suppression and Peer Relationship Quality*



*Note.* The correlation between suppression and peer relationship quality became nonsignificant after accounting for average social sharing as a mediating variable.

Therefore, average social sharing mediated the relationship between suppression and peer relationship quality.

\*  $p < .05$ .

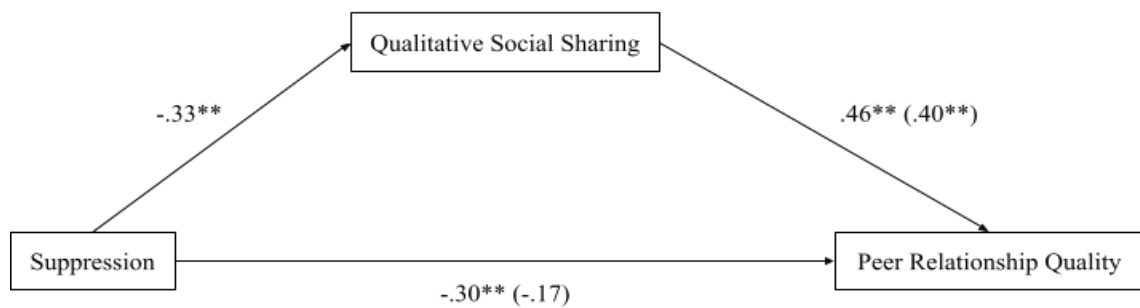
\*\*  $p < .01$ .

Suppression was correlated with average social sharing and peer relationship quality, and average social sharing was correlated with peer relationship quality. To test whether average social sharing mediated the relationship between suppression and peer relationship quality, we examined a mediation model using the PROCESS macro, using bootstrapping with 5,000 samples (Hayes, 2013, model 4). As hypothesized, the relationship between suppression and peer relationship quality (initial  $b = -.27$ ,  $se = .08$ , 95% CI [-.44, -.11]) was mediated (final  $b = -.16$ ,  $se = .08$ , 95% CI [-.32, .01]) by average social sharing, indirect  $b = -.12$ ,  $se = .05$ , 95% CI [-.23, -.04]. Therefore, as hypothesized, average social sharing mediates the relationship between suppression and peer relationship quality.

***Qualitative Social Sharing as a Mediator***

**Figure 5.**

*Mediation Analysis to Test Whether Qualitative Social Sharing Mediates the Relationship Between Suppression and Peer Relationship Quality*



*Note.* The correlation between suppression and peer relationship quality became nonsignificant after accounting for qualitative social sharing as a mediator, indicating that qualitative social sharing mediated the relationship between suppression and peer relationship quality.

\*  $p < .05$ .



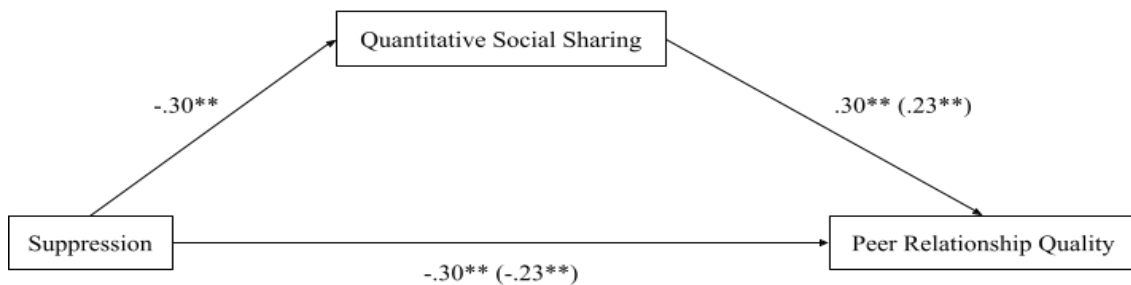
\*\*  $p < .01$ .

Suppression was correlated with qualitative social sharing and peer relationship quality, and qualitative social sharing and peer relationship quality were also correlated. To test whether qualitative social sharing mediated the relationship between suppression and peer relationship quality, we examined a mediation model using the PROCESS macro, using bootstrapping with 5,000 samples (Hayes, 2013, model 4). As hypothesized, the relationship between suppression and peer relationship quality (initial  $b = -.27$ ,  $se = .08$ , 95% CI [-.44, -.11]) was mediated (final  $b = -.16$ ,  $se = .08$ , 95% CI [-.32, -.01]) by qualitative social sharing, indirect  $b = -.12$ ,  $se = .05$ , 95% CI [-.22, -.04]. Therefore, in accordance with Hypothesis 4, qualitative social sharing mediates the relationship between suppression and peer relationship quality.

#### *Quantitative Social Sharing as a Mediator*

**Figure 6.**

*Mediation Analysis to Test Whether Quantitative Social Sharing Mediates the Relationship Between Suppression and Peer Relationship Quality*



*Note.* The relationship between suppression and peer relationship quality remained significant in the presence of quantitative social sharing as a mediating variable. Therefore, quantitative social sharing did not mediate the relationship between suppression and peer relationship quality.

\*  $p < .05$ .

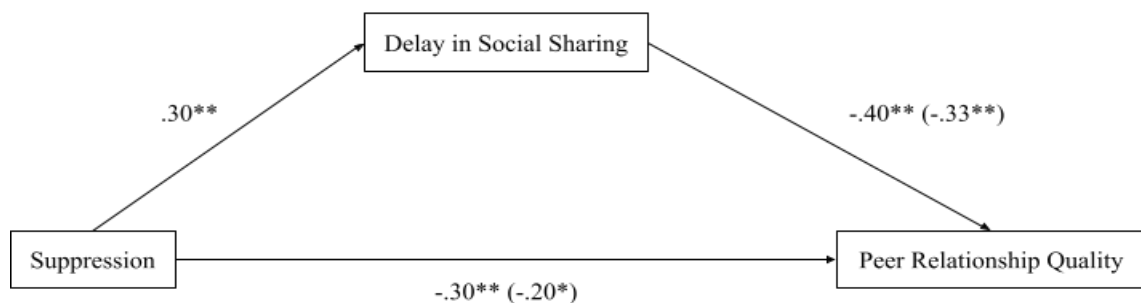
\*\*  $p < .01$ .

Suppression was correlated with quantitative social sharing and peer relationship quality, and quantitative social sharing was correlated with peer relationship quality. In order to test whether quantitative social sharing mediated the relationship between suppression and peer relationship quality, we again examined a mediation model using the PROCESS macro, using bootstrapping with 5,000 samples (Hayes, 2013, model 4). In contrast with Hypothesis 4, the relationship between suppression and peer relationship quality (initial  $b = -.27$ ,  $se = .08$ , 95% CI [-.44, -.11]) was not mediated (final  $b = -.21$ ,  $se = .09$ , 95% CI [-.38, -.04]) by quantitative social sharing, indirect  $b = -.06$ ,  $se = .03$ , 95% CI [-.13, -.01], indicating that quantitative social sharing does not mediate the relationship between suppression and peer relationship quality.

### *Delay in Social Sharing as a Mediator*

#### **Figure 7.**

*Mediation Analysis to Test Whether Delay in Social Sharing Mediates the Relationship Between Suppression and Peer Relationship Quality*



*Note.* The correlation between suppression and peer relationship quality remained significant after accounting for delay in social sharing as a mediator, indicating that delay

in social sharing did not mediate the relationship between suppression and peer relationship quality.

\*  $p < .05$ .

\*\*  $p < .01$ .

Suppression was correlated with delay in social sharing and peer relationship quality, and delay in social sharing was also correlated with peer relationship quality. To test whether delay in social sharing mediated the relationship between suppression and peer relationship quality, we examined the PROCESS macro, using bootstrapping with 5,000 samples (Hayes, 2013, model 4). The relationship between suppression and peer relationship quality (initial  $b = -.27$ ,  $se = .08$ , 95% CI [-.44, -.11]) was not mediated (final  $b = -.18$ ,  $se = .08$ , 95% CI [-.35, -.01]) by delay in social sharing, indirect  $b = -.09$ ,  $se = .04$ , 95% CI [-.19, -.03]. Therefore, in contrast with Hypothesis 4, delay in social sharing did not mediate the relationship between suppression and peer relationship quality.

## Study 2 Discussion

As we predicted, more reappraisal and less suppression were associated with higher peer relationship quality. The results line up with previous research that found that reappraisal was associated with positive social outcomes such as more close relationships and higher likability from peers, while suppression was associated with negative social outcomes such as fewer closer relationships and more avoidance of attachment to romantic partners (Gross & John, 2003). Reappraisal, as an antecedent-focused strategy, catches the emotion early in the emotion-generating process and alters the emotional trajectory from that point forward, causing reappraisers to experience and express more overall positive emotion and less overall negative emotion, which is helpful when engaging in social relationships (Gross & John, 2003). Suppression, on the other hand, in part refers directly to the suppression of emotion expression, and suppressors also tend to feel inauthentic in social relationships due to their inability to express their true feelings (Gross & John, 2003). Therefore, the effects of reappraisal and suppression on peer relationship quality could possibly be explained by the fact that the way people express their emotions in relationships affects communication, a key component of relationship health.

Peer relationship quality was not correlated with distraction or rumination, which lined up with our hypothesis. Distraction and rumination are both more related more to individual emotion regulation rather than emotion regulation that affects social relationships. Previous literature has found that distraction was most related to hedonic or self-focused emotion regulation goals (e.g., wanting to feel more positive or fewer negative emotions) rather than prosocial emotion regulation goals, which suggests that

distraction is more helpful for individual emotion management than for social relationships (Eldesouky & English, 2019). Rumination, similarly, is an emotion regulation strategy that is more individually- than socially-oriented, as it involves mentally focusing on the emotional experience rather than anything related to emotional expression towards others.

When examining how the social sharing of negative emotions was related to emotion regulation, we found that suppression and social sharing measures were negatively correlated, in accordance with Hypothesis 2. This finding was supported by previous research that indicated that more suppression was associated with less social sharing of emotions due to the fact that suppression reduces the behavioral expression of emotions (Gross & John, 2003).

In contrast with our hypothesis, reappraisal was not correlated with any measure of social sharing, indicating that the relationship between reappraisal and peer relationship quality was not explained by the social sharing of negative emotions. One possible explanation for this result is that since reappraisal involves reframing an emotional situation to increase one's experience of positive emotions and decrease the experience of negative emotions, reappraisers experience fewer negative emotions overall, in which case reappraisers would not be sharing negative emotions more than people who use other emotion regulation strategies (Gross & John, 2003).

More social sharing was highly correlated with peer relationship quality, in accordance with Hypothesis 3. This result aligns with previous research that found that the social sharing of emotions is associated with positive social outcomes due to the sense of privacy and trust that social sharing creates (Rimé et al., 2020).

As we predicted in Hypothesis 4, average social sharing and qualitative social sharing mediated the relationship between suppression and peer relationship quality. In contrast with Hypothesis 4, however, neither quantitative social sharing nor the delay in social sharing mediated the relationship between emotion regulation strategies and peer relationship quality. These results suggest that suppression is related to peer relationship quality via how thoroughly they shared their emotions, rather than the number of times or how quickly they shared.

## **General Discussion**

### **Summary of Findings**

Study 1 examined whether emotion regulation strategies mediated the relationship between parent emotion socialization and peer relationship quality. Hypothesis 1 predicted that more suppression, distraction, and rumination, as well as less reappraisal, would be associated with higher peer relationship quality. Against this hypothesis, trust was not significantly correlated with any measure of emotion regulation, and consequently, neither was average peer relationship quality. As in Hypothesis 1, however, more reappraisal and less suppression were correlated with higher levels of communication. Though we hypothesized that distraction would be negatively correlated with peer relationship quality, distraction was positively related to communication. Rumination was not significantly correlated with any measure of peer relationship quality.

According to Hypothesis 2, we predicted that higher levels of supportive parent emotion socialization would be associated with less suppression, distraction, and rumination, as well as more reappraisal. As predicted, supportive parent emotion socialization and reappraisal were highly correlated, and unsupportive parent emotion socialization and rumination were also correlated. However, though we predicted that more distraction would be associated with higher levels of unsupportive emotion socialization, results showed that distraction was instead correlated with supportive emotion socialization. In contrast with this hypothesis, suppression and parent emotion socialization were not correlated.

Hypothesis 3 predicted that higher levels of supportive parent emotion socialization would be associated with higher peer relationship quality. As hypothesized, supportive parent emotion socialization and communication were correlated. In contrast with this hypothesis, parent emotion socialization was not correlated with the trust subscale of the IPPA or average peer relationship quality.

In Hypothesis 4, we predicted that suppression, distraction, rumination, and reappraisal would mediate the relationship between parent emotion socialization and peer relationship quality. As predicted, reappraisal mediated the correlation between supportive parent emotion socialization and communication. However, none of the other emotion regulation strategies mediated the relationship between parent emotion socialization and peer relationship quality.

Hypotheses 5 through 7 compared the magnitude of different correlations. Hypotheses 5 and 6 predicted that unsupportive parent emotion socialization would have a larger effect on peer relationship quality and emotion regulation strategies, respectively, than supportive parent emotion socialization, while Hypothesis 7 predicted that suppression, reappraisal, and rumination would have a larger effect on peer relationship quality than distraction. None of these relationships were found to be significant.

Study 2 examined whether the social sharing of negative emotions mediated the relationship between emotion regulation strategies (reappraisal and suppression) and peer relationship quality. Hypothesis 1 predicted that higher levels of reappraisal and lower levels of suppression would be associated with higher peer relationship quality. As hypothesized, peer relationship quality was negatively correlated with suppression and positively correlated with reappraisal.



In Hypothesis 2, we predicted that higher levels of reappraisal and lower levels of suppression would be associated with more social sharing of negative emotions. As predicted, suppression was very negatively correlated with average, qualitative, and quantitative social sharing, and positively correlated with delay in social sharing. In contrast with our hypothesis, reappraisal was not significantly correlated with any measure of social sharing.

Hypothesis 3 predicted that more social sharing of negative emotions would be associated with higher peer relationship quality. As hypothesized, peer relationship quality was highly correlated with average, qualitative, and quantitative social sharing, and negatively correlated with the delay in social sharing.

According to Hypothesis 4, we predicted that the social sharing of negative emotions would mediate the relationship between emotion regulation strategies (reappraisal and suppression) and peer relationship quality. In line with this hypothesis, average social sharing and qualitative social sharing both mediated the relationship between suppression and peer relationship quality. However, in contrast with our hypothesis, neither quantitative social sharing nor the delay in social sharing mediated the relationship between suppression and peer relationship quality, and no measure of social sharing mediated the relationship between reappraisal and peer relationship quality.

## **Interpretation of Results**

### ***Emotion Regulation Strategies and Peer Relationship Quality***

Emotion regulation refers to processes that people use in order to manage their emotional responses (Gross & Thompson, 2007). Emotion regulation is incredibly important for relationship health; people who are able to effectively manage their

emotions in interactions with others will inevitably be able to better manage their social relationships. The results of the current studies overall support the idea that emotion regulation is related to peer relationship quality.

Results suggest that reappraisal and suppression are most important when examining how emotion regulation affects emerging adults' peer relationship quality. Study 1 found that more suppression was associated with lower levels of communication, and more reappraisal was highly correlated with higher levels of communication. Distraction, however, was generally not correlated with peer relationship quality, indicating that distraction is not as related to interpersonal relationships as other emotion regulation strategies like reappraisal and suppression. Eldesouky and English (2019) found that hedonic emotion regulation goals, or goals relating to the desire to change one's own emotional state, significantly predicted distraction, while prosocial emotion regulation goals, or goals relating to the desire to influence social relationships, only weakly predicted distraction. Distraction is also more often used in high-intensity emotional situations than low-intensity situations, indicating that the main goal for distraction is to decrease emotional arousal by redirecting one's focus to something that is less emotionally stimulating (Shafir et al., 2015). These findings suggest that distraction is a more individually-focused emotion regulation strategy than one that is used directly in relation to social relationships.

Rumination was not related to peer relationship quality, much like distraction. One possible explanation for this result is that rumination, too, is a more individually-focused emotion regulation strategy. Though rumination has not been examined in direct relation to hedonic and prosocial emotion regulation goals, rumination involves directing

attention toward one's own internal emotional state rather than anything regarding the outward expression of emotion towards others. Previous literature has found that rumination extends the experience of negative emotion, which further supports the idea that rumination is possibly more related to hedonic emotion regulation goals that aim to change or manage one's own emotional state than prosocial emotion regulation goals that aim to influence social status or relationships (Nolen-Hoeksema, 2000). However, more research is needed to explore whether this prediction is true.

Reappraisal was correlated with measures of peer relationship quality. In both studies, reappraisal was associated with the communication subscale of the IPPA, but not trust, indicating that reappraisal primarily helps with communication in peer relationships. These findings align with previous research that found that reappraisal is related to relationship closeness (Finkel et al., 2013). Since reappraisal involves reinterpreting emotion-arousing situations, researchers have posited that reappraisal helps in interpersonal situations because reappraisal helps people to see situations from others' perspectives. For example, Finkel et al. (2013) found that marital couples who used strategies related to reappraisal (e.g., perspective-taking) during marital conflicts were protected from a normative decline in relationship quality. Furthermore, previous literature has found that the usage of reappraisal during interpersonal conflict was related to less anger and distress in participants than those who were given no instructions (Ray et al., 2008). These findings suggest that, overall, reappraisal helps people to reinterpret emotional interpersonal situations (including interpersonal conflict) in order to minimize the damage to social relationships.

Suppression was negatively associated with measures of peer relationship quality across both studies. However, in Study 1, suppression was related only to communication, not trust or average peer relationship quality; in Study 2, suppression was negatively correlated with all measures of peer relationship quality, though the correlation between suppression and communication was more significant than the correlation between suppression and trust. When examined as a whole, these results suggest that, overall, suppression, like reappraisal, was most related to communication in peer relationships. In terms of communication, suppression is essentially counterproductive in that it involves the blockage of emotional expression, keeping important information from being communicated in social relationships and hindering one's ability to be emotionally responsive in conversations and intimate relationships (Ekman, 1993). The expression of emotional information promotes relationship closeness and social support due to the fact that communication provides relationship partners with information about one another's needs, promoting responsiveness and helping or caring behaviors within the relationship (Graham et al., 2016). Suppression, then, acts in the opposite direction in that it prevents healthy communication in social relationships.

### ***Parent Emotion Socialization and Emotion Regulation Strategies***

Study 1 looked at whether emotion regulation strategies mediated the relationship between parent emotion socialization and peer relationship quality in emerging adults. Parent emotion socialization in the field of psychology has been defined in three parts: 1) parents' own emotional expression and regulation, 2) the way parents discuss emotions with their children, and 3) parents' responses to children's emotions. Study 1 examined parent emotion socialization only in regard to parents' responses to children's emotions.

When looking at the relationship between parent emotion socialization and emotion regulation strategies, the results generally lined up with our hypothesis that parent emotion socialization would be correlated with emotion regulation strategies.

In contrast with our hypotheses, however, parent emotion socialization was not associated with suppression. This finding conflicts with previous research that found that unsupportive parent emotion socialization was related to suppression. Eisenberg et al. (1991) used physiological measures (e.g., heart rate, skin conductance) to gather information on children's emotional response to a sympathy-inducing film, then asked the children to report their emotional distress while their parents reported their emotion socialization strategies. Maternal restrictiveness was associated with boys' heart rate acceleration, skin conductance, and facial distress; however, the boys who exhibited the most physiological distress while watching the film reported that they were less distressed than other boys reported, indicating that the boys who experienced the most emotional distress engaged in the most emotional suppression. From these results, researchers interpreted that children whose parents utilized more unsupportive emotion regulation strategies may learn to deny or suppress their emotions (Eisenberg et al., 1991).

It is unclear, then, why the results of Study 1 showed that there was no relationship between parent emotion socialization and suppression, though not many studies in the past have directly examined this link. A possible explanation for these results could be that parents' emotion socialization practices don't have as much of an impact on whether children learn to suppress their emotions as other emotion regulation strategies. Instead, perhaps other predictors have a more significant effect on suppression.

For example, previous literature has found that personality dimensions such as higher levels of neuroticism and lower levels of extraversion predict the usage of suppression (Gresham & Gullone, 2012). This result could indicate that suppression as an emotion regulation tendency is more of a stable individual trait than one that is dependent on outside influences. Another possibility is that suppression depends on other factors like peer emotion socialization. Further research is needed to explore the predictors of suppression.

Reappraisal and supportive emotion socialization were highly correlated, in line with our predictions. This finding was consistent with previous literature that found that maternal emotion socialization strategies such as comforting reactions to children's emotions was associated with children's constructive emotional responses (Eisenberg & Fabes, 1994). Supportive emotion socialization seems to provide children with the emotional tools to effectively manage their emotions. One possible explanation for the link between supportive emotion socialization and reappraisal could be parents' own reappraisal tendencies; parents' reappraisal could be related to their emotion socialization practices, which are related to children's usage of reappraisal. In other words, parents who use more supportive emotion socialization could be more likely to use reappraisal strategies such as perspective-taking, and parents' own reappraisal tendencies might predict children's reappraisal tendencies, since parents often model emotion regulation for children. In any case, more research is needed to understand the relationship between parent emotion socialization and reappraisal.

Supportive parent emotion socialization was also associated with distraction, in contrast with our hypothesis. Previous literature has found that higher levels of punitive

and minimizing reactions to children's emotions were associated with a higher tendency to escape in anger situations among 4- and 6-year-old children, though it is unclear whether or not this counts as a "distraction" strategy (Eisenberg & Fabes, 1994). Little research has been done on the relationship between parent emotion socialization and distraction; however, the results of Study 1 suggest that supportive parent emotion socialization helps children to use distraction as an emotion regulation strategy in order to reduce their emotional arousal in the moment rather than dealing with these emotions in more destructive ways.

Unsupportive emotion socialization was correlated with rumination. This finding is in line with previous research that has found that higher levels of unsupportive parent emotion socialization strategies, such as punitive and minimizing reactions to children's emotions, are associated with rumination in children. While not much research has been done to examine the link between unsupportive parent emotion socialization and rumination, Goldman (2005) found that maternal unsupportive reactions to children's emotions predicted higher rumination in children. Researchers posited that unsupportive parent emotion socialization could result in increased negative emotions about which children might ruminate, causing these children to create a habit of ruminating on negative emotions.

### ***Reappraisal as a Mediator Between Supportive Parent Emotion Socialization and Communication***

Reappraisal was correlated with supportive parent emotion socialization and communication, and supportive parent emotion socialization was correlated with communication. Mediation analyses showed that reappraisal mediated the relationship

between supportive emotion socialization and communication. In other words, supportive emotion socialization teaches children to use more reappraisal, which aids healthy communication in peer relationships. Particularly helpful reappraisal strategies might include perspective-taking, which is helpful during interpersonal conflict or other emotion-eliciting social situations (Finkel et al., 2013). Supportive parent emotion socialization therefore predicts healthy communication in emerging adults' peer relationships via reappraisal.

### ***Emotion Regulation Strategies and Social Sharing of Negative Emotions***

Study 2 examined whether the social sharing of negative emotions mediated the relationship between emotion regulation strategies (reappraisal and suppression) and peer relationship quality. The social sharing of negative emotions is a key component of communication in peer relationships and is also directly related to how emerging adults handle their emotions during social exchanges. In Study 2, the social sharing of negative emotions was measured in three parts: 1) qualitative social sharing, or how *thoroughly* participants shared their thoughts and emotions regarding the emotional experience, 2) quantitative social sharing, or how many *times* participants shared their emotions, and 3) delay in social sharing, or how *long* it took for participants to share their emotions with peers after the emotional experience. Results showed that suppression, but not reappraisal, was associated with measures of social sharing.

Reappraisal was not significantly correlated with any measure of social sharing. This finding was in direct contrast with our predictions and with previous research that has found that reappraisal was associated with more social sharing of both positive and negative emotions (Gross & John, 2003). While it is unclear why the relationship



between reappraisal and social sharing was not significant, these results could suggest reappraisal is not as directly related to the communication of negative emotions due to the fact that reappraisal involves catching the emotion early in the emotion process and altering its subsequent trajectory (ere). Therefore, it's possible that reappraisal is more related to the social sharing of *positive* emotions than *negative* emotions, since reappraisal is correlated with the experience of fewer negative emotions and more positive emotions overall (Webb et al., 2012). Further research is necessary to explore whether reappraisal impacts other social variables besides the social sharing of negative emotions.

Suppression, as predicted, was highly negatively correlated with average, qualitative, and quantitative social sharing, and highly positively correlated with delay in social sharing. This finding aligns with previous literature that has found that since suppression in its definition involves reducing the behavioral expression of a negative emotion, suppression is correlated with decreased sharing of both positive and negative emotions with others (Gross & John, 2003). The relationship between suppression and social sharing of negative emotions demonstrates how the chronic usage of suppression keeps people from communicating important emotional information with relationship partners.

### ***Social Sharing of Negative Emotions and Peer Relationship Quality***

The social sharing of emotions creates a sense of confidentiality and trust within social relationships (Rimé et al., 2020). The results of Study 2 found that average, qualitative, and quantitative social sharing were associated with higher peer relationship quality, while delay in social sharing was associated with lower peer relationship quality.

These results align with previous literature that found that sharing emotions with others also provides the listener with the opportunity to respond and attend to the emotional experience of the sharer, which can increase liking within the relationship (Rimé et al., 2020). Therefore, participants who displayed more social sharing of negative emotions with their friends reported higher overall peer relationship quality.

### ***Social Sharing as a Mediator Between Suppression and Peer Relationship Quality***

Average as well as quantitative social sharing of negative emotions were negatively correlated with suppression and positively correlated with peer relationship quality, and suppression was negatively correlated with peer relationship quality. Results showed that both average and qualitative social sharing mediated the relationship between suppression and peer relationship quality, indicating that the usage of suppression predicted less thorough sharing of negative emotions with others, which predicted lower peer relationship quality. These findings line up with previous research that found that suppressors tend to share their negative emotions less with their peers, most likely due to their tendency to block their own expression of emotion (Gross & John, 2003). Since suppressors don't share their emotions as much, peer relationship quality is also lower due to the lack of emotional openness in the relationship (Rimé et al., 2020).

In contrast with our hypothesis, however, quantitative social sharing and the delay in social sharing did not mediate the relationship between suppression and peer relationship quality. These results suggest that the relationship between suppression and peer relationship quality is explained by how *thoroughly* one shares their emotions with peers rather than how many *times* or how *quickly* after an emotional experience they

share their emotions. In other words, suppression predicts lower peer relationship quality via the *quality* of their social sharing of negative emotions.

### **Limitations**

The current studies had a number of limitations that are important to note, one of which included a few key differences between the sample makeup of Studies 1 and 2. Study 2 had a relatively small sample size ( $N = 107$ ) as compared to Study 1 ( $N = 156$ ), as well as a relatively older population (>50% older than the age of 23, as opposed to <20% in Study 1). Furthermore, many of the participants in Study 1 were undergraduate students recruited via social media or email, whereas in Study 2, most of the participants came from Prolific and were perhaps less likely to be currently enrolled in college. These differences could have implications for the results presented; between in Study 1, for example, reappraisal and suppression were both less correlated with measures of peer relationship quality as compared to Study 2. One possible interpretation of these results is that since Study 1's population is more largely composed of current college students, perhaps emotion regulation strategies are not as pivotal in peer relationships in university students than among older populations or among those who are not currently attending college.

Furthermore, there are some demographic limitations to consider. In both Studies 1 and 2, participants were majority female (between 60 and 65 percent) and largely white (between 45 and 55 percent). Further research is needed to determine whether the relationships displayed in the current studies can be found in populations with different demographic makeups.

Two general limitations pertain to the measures used in the current studies. All of the measures used were self-report measures rather than experimental, and self-report measures always come with the risk that participants are not reporting accurately. Furthermore, Study 1 used the Emotions as a Child Scale, a retrospective child-reported measure, to examine parent emotion socialization. Child-reported measures may be less accurate than other measures that more directly measure parent emotion socialization, such as observational measures. Therefore, further research is necessary utilizing different measures of parent emotion socialization in order to more fully understand these relationships.

### **Directions for Future Research**

There are several directions for further research based on the results of the current studies. For one, distraction and rumination were not related to peer relationship quality, suggesting that perhaps these are more individually-motivated than socially-motivated emotion regulation strategies. Future research should include the examination of the mechanisms behind distraction and rumination as it relates to individual or social goals.

Furthermore, parent emotion socialization did not predict suppression, in contrast with our hypotheses. In the future, studies should examine other more possible predictors of suppression, such as personality or peer emotion socialization, in order to further understand what causes people to utilize suppression more or less.

Study 1 also found that supportive parent emotion socialization was associated with distraction. The mechanisms behind this relationship are currently unclear, though this finding suggests that supportive emotion socialization from parents teaches children to use distraction in emotion-eliciting situations. Future research should perhaps focus on

specific dimensions of emotion socialization that affect distraction. For instance, perhaps if parents respond to children's emotions with an overall optimistic or positive attitude, then children will be more likely to seek out activities to focus on that will put them in a better mood. In any case, more examination of the relationship between parent emotion socialization and distraction is needed.

## **Conclusion**

These findings indicate the benefits of reappraisal and the social sharing of negative emotions on communication and overall peer relationship quality in emerging adults, as well as the dangers of suppression as it relates to important communication and other relationship outcomes. The most significant findings were that reappraisal mediated the relationship between supportive parent emotion socialization and communication, and that average and qualitative social sharing mediated the negative correlation between suppression and peer relationship quality.

Peer relationship quality is essential to examine during emerging adulthood, a period of extreme change and shifting social relationships. Understanding the implications of parent emotion socialization on emotion regulation and peer relationship quality could help parents to identify the most effective emotion socialization strategies in supporting their children's emotional and social health. Furthermore, reappraisal and suppression were most related to peer relationship quality, suggesting that the usage of more reappraisal and less suppression could be significantly beneficial for peer relationships among emerging adults. These results have possible implications for emotional psychology education in emerging adult populations, such as universities or graduate school. Understanding emotion regulation strategies and their implications for

peer relationships, as well as the effect of sharing one's emotions on communication and overall relationship health, could help young adults to improve their social relationships and identify patterns in their own emotion regulation methods in order to better connect with others.

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## Appendix A

### Emotions as a Child Scale — Sadness Scale

Directions: The following statements are related to your parents' responses to your emotions. Please indicate how you personally respond to the following statements using the 5-point scale from 1 = "never" to 5 = "very often." Please respond thoughtfully and honestly to each question; there are no right or wrong answers.

#### **When I was sad, my parent/caregiver . . .**

1. Responded to my sadness.
2. Told me to stop being sad.
3. Helped me deal with the issue.
4. Got very sad.
5. Told me that I was acting younger.
6. Asked me what made me sad.
7. Told me not to worry.
8. Expressed that s/he was very sad.
9. Let me know s/he did not approve.
10. Bought me something I liked.
11. Told me to cheer up.
12. Focused on me.
13. Got very upset.
14. Did not pay attention.
15. Comforted me.



## Appendix B

### Regulation of Emotion Systems Survey (RESS) — Distraction and Rumination

#### Scales

Directions: People think and do many different things when they feel sad, blue, or depressed. Please indicate what you generally do, not what you think you should do. For each item, please answer using the 4-point scale from “almost never to “almost always.”

#### **When I feel down, sad, or depressed, I usually respond to it by. . .**

1. Thinking again and again about what went wrong
2. Thinking about the emotional event again and again in my mind
3. Going over emotional event again and again in my mind
4. Continually thinking about what was bothering me
5. Continually trying to decide what went wrong
6. Thinking repeatedly about what was bothering me
7. Engaging in activities to distract myself
8. Engaging in something else to keep busy
9. Doing something else to distract myself
10. Immediately working on something to keep myself busy
11. Trying to think about other topics
12. Thinking about other things
13. Engaging in a relaxing activity

## Appendix C

### Emotion Regulation Questionnaire

Directions: We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using the 5-point scale from “strongly disagree” to “strongly agree.”

1. When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about.
2. I keep my emotions to myself.
3. When I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about.
4. When I am feeling positive emotions, I am careful not to express them.
5. When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.
6. I control my emotions by not expressing them.
7. When I want to feel more positive emotion, I change the way I'm thinking about the situation.
8. I control my emotions by changing the way I think about the situation I'm in.
9. When I am feeling negative emotions, I make sure not to express them.

10. When I want to feel less negative emotion, I change the way I'm thinking about the situation.

## **Appendix D**

### **Inventory of Parent and Peer Attachment — Peer Scale**

Directions: The following statements are related to your relationships with your close friends. Please indicate how you personally respond to the following statements using the 5-point scale from 1 = “almost never or never true” to 5 = “almost always or always true.” Please respond thoughtfully and honestly to each question; there are no right or wrong answers.

1. I like to get my friends’ point of view on things I’m concerned about.
2. My friends can tell when I’m upset about something.
3. When we discuss things, my friends care about my point of view.
4. I wish I had different friends.
5. My friends understand me.
6. My friends encourage me to talk about my difficulties.
7. My friends accept me as I am.
8. My friends listen to what I have to say.
9. I feel my friends are good friends.
10. My friends are fairly easy to talk to.
11. When I am angry about something, my friends try to be understanding.
12. My friends help me to understand myself better.
13. My friends care about how I am feeling.
14. I can count on my friends when I need to get something off my chest.
15. I trust my friends.
16. My friends respect my feelings.

17. I can tell my friends about my problems and troubles.

18. If my friends know something is bothering me, they ask me about it.

## Appendix E

### Emotional Experience Questionnaire

Directions: We would like to ask you some questions about a negative emotional experience that occurred within the last three months. The questions below will ask for a description of the negative emotional experience as well as the extent to which you shared the experience with friends afterward.

1. Please describe an experience that happened to you within the last three months where you experienced especially strong negative emotions (e.g., fear, sadness, anger). Briefly describe **what happened, who you were with (if anyone), and what emotions you felt** during and after the experience.

2. How long ago was this experience?

3. How negative was this experience? For this item, please answer using the 7-point scale from “not negative at all” to “very negative.”

4. How strongly did you feel the following emotions during the experience? For each item, please answer using the 7-point scale from “not strongly at all” to “very strongly.”

- Fear
- Sadness
- Anger

5. After a negative emotional experience, sometimes we share the experience with others, and sometimes we keep it to ourselves. We are interested in the extent to which — after you experienced the event itself — you **discussed, communicated about, or shared your emotional experience with friends**. For each item, please answer using the 7-point scale from “not true at all” to “very true.”

- I thoroughly shared with friends . . .
  - Factual details of the experience
  - The thoughts and emotions that I had **during the experience**
  - The thoughts and emotions that I had **at the time of sharing**
- I kept my thoughts and emotions to myself

6. When did you share this experience with friends?

- Within 1 day after the experience
- Within 1-3 days after the experience
- Within 1 week after the experience
- Within 1 month after the experience
- Over a month after the experience
- Never

7. How many times did you share the experience with friends?

- 0 times
- 1 time
- 2-3 times
- 4-5 times
- 6 or more times

8. Through what method(s) did you share the experience with friends?

- Face to face
- Social media
- Texting or instant messaging
- Video or phone call

Other \_\_\_\_\_



## Appendix F

### Demographic Questions

1. How old are you? (Years) \_\_\_\_\_

2. What is your gender identity?

Male

Female

Nonbinary

Other \_\_\_\_\_

Prefer not to answer

3. What is your race/ethnicity? (Select all that apply)

White

Black or African American

American Indian or Alaska Native

Asian

Native Hawaiian or Pacific Islander

Latino/a or Latinx

Other \_\_\_\_\_

Prefer not to answer