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Early Exposure to Marital Conflict and Adolescent Emotion Regulation

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Early Exposure to Marital Conflict and Adolescent Emotion Regulation

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Abstract

Exposure to both physical and psychological stress has a negative impact on one's regulatory processing, and stress within the family context may be especially impactful on emotional regulation and development. Early experiences of exposure to parent marital conflict or parent relationship discord, such as divorce, are stressors often associated with poor emotional well-being, including emotion dysregulation, in both children and adults. However, the influence of these experiences on regulatory development is complex as there are many factors that impact the pathways of risk (e.g., parenting behaviors, child perceptions). Furthermore, emotion regulation has not been well-studied in adolescence in the context of parental relations. Because adolescence is a period of rapid growth that involves many important developmental tasks, including the shaping of regulatory processes and emotional control, the current study examined the influence of marital conflict on adolescent emotion regulation. A total of 45 parent-adolescent dyads completed online questionnaires regarding family experiences (i.e., conflict, parenting, etc.) and emotion regulation difficulties. Results demonstrated that marital conflict was significantly associated with children's perceptions of intense and frequent conflict. Marital conflict was not significantly directly associated with adolescent emotion regulation. Indirect pathways from martial conflict to adolescent emotion regulation via parenting behaviors and children's perceptions were also not supported. Findings suggest the importance of examining the influence of other family relationships and exploring additional assessments of emotion regulation.

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Early experiences are extremely important in a child's life, as they are associated with a number of later developmental outcomes (Finkelhor et al., 2011). In particular, adversities experienced in childhood impact later development, health, and well-being (Finkelhor et al., 2011), including mental health and regulatory functioning. The family context is one of the most influential factors in a young child's development as early childhood is considered a critical period of developmental plasticity (Edwards & Liu, 2002), placing them at a high risk for maladjustment when adversity is experienced within the family environment (Hetherington & Parke, 1993). Specifically, early experience (i.e., before school age or 5 to 6 years old) of parental discord is considered a risk factor for later maladjustment, as previous research has linked divorce with later mental health and academic problems (Lansford, 2009; Størksen et al., 2006). Importantly, there is a significant body of research suggesting that exposure to marital conflict is more harmful to children's adjustment than is the experience of parental divorce (Ablow et al., 2009; Davies et a., 2007; Gottman & Katz, 1989; Shelton & Harold, 2008). Exposure to marital conflict has been linked to dysregulated emotions in childhood (Cummings & Davies, 1996; Morris et al., 2007), though adolescence has received very little attention in this domain (Graham et al., 2017). Therefore, given its impact on regulatory functioning, the current study focused on marital conflict as an early family experience.

Adolescence is a period when individuals are experiencing rapid growth physically, socially, and emotionally. Specifically, those in early adolescence are faced with an identity crisis in which they are trying to find a unique, independent self while also developing educational and career goals (Erikson, 1994). Another crisis emerges in late adolescence in which they are trying to maintain a balance between giving and receiving love and support amid

family, close friends, and intimate partners (Erikson, 1994). Not only are adolescents dealing with identity and intimacy crises, but they are also learning how to become emotionally independent while going through various pubertal changes (e.g., menarche, spermarche, voice changes; (Grotevant, 1998). Learning how to control emotions and impulses is an important developmental task adolescents face during these times of physical changes. Furthermore, higher order processes implicated in the shaping of emotional control and self-regulation are especially vulnerable to external factors during this time, such as higher levels of conflict with parents and more emotional challenges with early sexual and romantic experiences, making adolescence an important time period to explore emotion regulation (Steinberg & Morris, 2001; Yap et al., 2007). The present study sought to gain a better understanding of how early exposure to marital conflict is associated with emotion regulation in adolescence, since it is such an important period for regulatory processes.

Emotion Regulation

A key area that is affected by stressful, early life experiences is the ability to regulate emotions in a demanding situation (i.e., emotion regulation; Loman & Gunnar, 2010). Emotion regulation is the ability to adjust, either voluntarily or automatically, the occurrence and intensity of emotional expressions, and can be observed through attentional strategies and behavioral responses (Gross, 1998, 2013; Thompson, 1994). Often confused with emotion-focused stress coping mechanisms (e.g., crying to deal with frustration), emotion regulation is more specifically associated with the cognitive adjustment of processing stressful stimuli to modify reactions (Gross, 1998; Wang & Saudino, 2011). As such, the internal strategies and abilities that are associated with the adjustment of one's emotional experiences and expressions when aroused is a major focus for the study of emotion regulation (e.g., Asnaani et al., 2020).

Emotions that are experienced by an individual are associated with differing levels of arousal that sometimes require various skills and strategies to help diminish the experience to a more normative and functional level (Gratz & Tull, 2010; Gross, 1998). According to the Theory of Neurovisceral Integration (Thayer & Lane, 2000), the mechanisms by which individuals are able to regulate emotional arousal are neurally based, such that heart rate variability (i.e., a proposed physiological indicator of regulation) is linked to the prefrontal cortex in the brain. The prefrontal cortex is implicated in complex cognitive functions and decision making regarding social behavior. In support of this theory, several neuroimaging studies have found that explicit regulation strategies (e.g., reappraisal) are associated with the activation of brain regions that are involved with executive functioning and self-control (i.e., the dorsolateral prefrontal cortex), inhibiting and suppressing behaviors (i.e., the ventrolateral prefrontal cortex), and perceiving and processing stimuli (i.e., the parietal cortex; Etkin et al., 2015; Goldin et al., 2008; Kohn et al., 2014). Furthermore, implicit regulation of fear is often linked to the activation of brain regions that are involved with emotions and impulse control (i.e., the anterior cingulate cortex) and the inhibition of emotional responses (i.e., ventromedial prefrontal cortex; Etkin et al., 2006; Greenberg et al., 2013; Kerns et al., 2004). Collectively, these studies provide evidence of a cognitive basis for emotion regulation capabilities, suggesting that having adaptive emotion regulation skills allows individuals to attend to and cognitively adjust their behavioral reactions to a given stimuli, despite what is actually being experienced (Berking et al., 2008).

However, it should be noted that experiencing negative emotions is not a sign of emotion dysregulation and having emotion regulation capabilities does not necessarily include suppressing or avoiding negative emotions. Rather, having adaptive emotion regulation skills refers to the ability to control one’s cognitions and behaviors in response to intense emotions in

order to maintain the functionality of both positive and negative emotions, and not to directly control the emotions themselves (Cole et al., 1994; Gratz & Tull, 2010). In support of this functionality approach, adaptive emotion regulation encompasses many different skills that are important when experiencing heightened emotions and include being able to inhibit impulsive reactions and behaviors, engage in goal-directed behaviors, maintain awareness of one's emotions, accept one's emotions, understand emotions that are being experienced, and access various strategies (Gratz & Roemer, 2004). Deficits in any one of these facets are indicative of emotion dysregulation or having emotion regulation difficulties. Therefore, having adaptive emotion regulation is beneficial when responding to emotional distress, and these skills are often learned and shaped within early social contexts and relationships (i.e., family, peers; Thompson, 2014). Furthermore, emotion regulation is a strong predictor of social adjustment (Matsumoto et al., 2008), highlighting the importance of understanding the potential developmental antecedents of poor regulation, such as experiencing early stress within these social contexts.

Regulatory processes are heavily influenced by early stress, in that coping strategies for stressors will be altered to accommodate the demanding environment, resulting in dysregulated activity and emotions (e.g., Blair et al., 2011). The vast majority of previous research has linked early adverse experiences with negative emotionality and poor emotional and regulatory functioning in both children and adults (Cloitre et al., 2002; Reichmann-Decker et al., 2009; Schore, 2001). Adults who experienced high levels of abuse from a caregiver in childhood also report experiencing negative emotions as more overwhelming than adults without a history of abuse (Reichmann-Decker et al., 2009). Additionally, Teicher et al. (1996) suggests that stress interferes with healthy development of the prefrontal cortex, and Schore (2001) specifically found early relational trauma (i.e., poor attachment with a caregiver) to be linked with abnormal

development of the prefrontal cortex. Stress experienced in early life evidently influences emotional functioning in later life, and early adversities are also directly impactful on one's ability to effectively regulate emotions (Espeleta et al., 2018; Gratz et al., 2008; Kim & Cicchetti, 2010). For example, severe psychological, physical, and sexual abuse, and emotional neglect in early childhood are all predictive of difficulties with emotion regulation (Espeleta et al., 2018; Gratz et al., 2008). Moreover, experiencing interparental violence, family instability, or maternal unresponsiveness at a young age (2 to 3 years old) is associated with elevated stress reactivity in adulthood (Suor et al., 2015). Taken together, these studies suggest that early stress negatively affects long-term regulatory functioning. Unpredictability within the family context serves as a risk factor for a dysregulated stress response, as children may not know what to expect and are continually hypervigilant as a result of an inconsistent environment. Given that early adversities experienced within the family context serve as a risk factor for emotion dysregulation, the present study examined different pathways potentially linking early exposure to marital conflict to adolescent emotion regulation. It was expected that exposure to marital conflict would be associated with greater emotional dysregulation in adolescence.

In addition to the influence of early family stress on adolescent regulation, the gender of the child may further impact emotion regulation capabilities, though the literature is inconclusive in this regard. Some research suggests that boys are able to regulate negative emotions more efficiently than girls (e.g., McRae et al., 2008), and that girls report more difficulties with utilizing regulation strategies when stressed (Bender et al., 2012). However, other studies find that girls use significantly more cognitive reappraisal strategies compared to boys (Zhang et al., 2020; Zhao et al., 2014). Still, there is also research that suggests boys and girls do not differ on palliative (i.e., relaxation techniques; Eschenbeck et al., 2007) and adaptive emotion regulation

(John & Gross, 2004; Zimmermann & Iwanski, 2014). Given that the research is mixed, gender differences were explored within the present study; however, specific hypotheses were not proposed.

It is important to note that negative early life experiences (e.g., abuse, neglect, exposure to marital conflict) are not the only influential factors on one's regulatory functioning. Specifically, past research has identified other factors that influence individual differences in emotion regulation, such as one's genetic background, current life stress, and early-life environment and experiences (Canli et al., 2009; Stephens & Wand, 2012). Though genetics may influence individual differences in responses to emotional stimuli and increase susceptibility to dysregulation of the body's stress systems, it is the interplay between both genetic and environmental factors that matter most (Soussignan et al., 2009; Hartling et al., 2019). For example, someone with a genetic predisposition for dysregulated emotional processes in a warm, loving environment may not exhibit problems with emotion regulation in response to stress (Gillespie et al., 2009). Positive parenting behaviors may be an environmental factor that could buffer the negative predisposition of genetics. Thus, there is much more than genetics playing a role in one's regulatory response to stress. Independent of stress experienced in childhood, present life stress such as concurrent conflict exposure, work/school related issues, or problems with peers can also negatively impact one's stress response. For example, once baseline levels of cortisol (one of the body's stress hormones) are elevated due to current stress, it takes a while to return to pre-stress levels of cortisol (McEwen, 2000). Given this, perceptions of current stress were assessed in the present study. Current state anxiety was also assessed as a potential covariate given the association between regulatory functioning and anxiety symptomatology. However, exposure to adverse experiences during critical periods of development may

permanently modify stress responses and emotion regulation capabilities (Chapman et al., 2004; Gillespie et al., 2009; Heim & Nemeroff, 2001). Though genetics may be a risk factor for dampened regulation, impactful environmental experiences within the family system, such as parental conflict, might be more influential on these processes, including emotion regulation (i.e., parenting behaviors buffering the negative impacts). As such, the current study focused on early life experiences, namely exposure to negative interparental relations (i.e., marital conflict), as influential factors on one's self-reported difficulties with emotion regulation.

Children's Exposure to Conflict

As discussed, early experiences in life are extremely important for a child's development as it is some of the earliest relationships, experiences, and events that shape the blueprint for future development. Given this, it is not surprising that conflict within the parent partner relationship has a significant effect on later developmental outcomes for children (Ablow et al., 2009; Shelton & Harold, 2008). Research has specifically linked children's exposure to marital conflict with emotion dysregulation and diminished parenting qualities (Benedetto & Ingrassia, 2015; Graham et al., 2017; Krishnakumar & Buehler, 2000; Lansford, 2009; Lucas-Thompson & George, 2017; Sturge-Apple et al., 2012). Children's exposure to marital conflict varies on many dimensions, including intensity and frequency of conflict, what the conflict is about, how it is resolved, and how it is expressed (Grych & Fincham, 1990). For the purpose of this study, marital conflict was examined as overt conflict, or outwardly expressed through arguments, disagreements, behaviors, and verbal aggression (Kline et al., 2006), as the majority of previous work on interparental conflict and children's emotional functioning finds verbal conflict to be the most influential on children's emotional development (e.g., Cummings et al., 2003). There is a

large body of literature that suggests marital conflict impacts children's adjustment both directly (Morris et al., 2007) and indirectly (Davies et al., 2004; Shelton & Harold, 2008).

Direct Impact of Marital Conflict

Modeling is an important mechanism that allows children to learn behaviors, including how to regulate and/or express emotions through observation of their parents' emotional displays and interactions (Bandura, 1977; Morris et al., 2007). Different expressions and gestures, especially of negative emotions, will likely lead to a similar response in another person, which is often referred to as emotion contagion and occurs in early childhood and beyond (Morris et al., 2007). In a situation that may provoke emotions, such as frustration, young children are likely observing others' reactions to know what an appropriate response should be (Denham et al., 1997). Thus, when children witness their parents displaying high levels of anger in a hostile situation, they are much more likely to adopt those same behaviors, affecting their ability to regulate emotions properly in subsequent frustrating scenarios. Furthermore, unresolved anger and conflict observed by children is associated with more negative emotionality, while witnessing conflict resolution may actually have positive effects for children (Cummings et al., 1991). It is evident that marital conflict directly influences children through emotional displays and interactions; however, marital conflict may be more impactful on children indirectly, such as through the influence on parenting behaviors and on children's perceptions (Ablow et al., 2009; Davies et al., 2004).

Spillover Hypothesis

Conflict within a marriage, or any relationship, is often inevitable. When parents are consumed by conflict with each other, it tends to affect their parenting. Research has identified this as the spillover hypothesis, in that the children are indirectly affected by their parents'

relationship conflict (Erel & Burman, 1995). The spillover hypothesis suggests that conflictual marital relationships impact parent-child relationships through affective quality, level of hostility, and discipline practices (Emery, 1999). However, the majority of research suggests that affective quality (e.g., warmth and supportiveness) and hostility are more influenced by marital conflict than is discipline (Davies et al., 2004; Gonzales et al., 2000; Sturge-Apple et al., 2006a; 2006b). Given this, the current study focused on affective quality and hostility as a link between marital conflict and adolescent emotion regulation.

In the context of conflict, parents may not be able to be fully attentive when it comes to parenting their children. In fact, when marital conflict is present, parents are less likely to engage in positive parenting (Krishnakumar & Buehler, 2000). Parents' stress from conflict also tends to be displaced onto the children through reduced warmth and affection and higher levels of authoritarian-like behaviors (Krishnakumar & Buehler, 2000). Additionally, Lansford (2009) identified both parenting behaviors and parent's well-being as mediators between interparental conflict and children's adjustment. More specifically, as a result of divorce and marital conflict, parents lack sensitivity, are inconsistent with their discipline, and are unable to monitor and supervise their children effectively (Lansford, 2009). Another factor that affects levels of parental warmth and involvement is higher levels of aggression, which is often experienced in the context of marital conflict (Benedetto & Ingrassia, 2015). When destructive conflict is present, less positive parenting practices often ensue. Thus, it is apparent that positive parenting, specifically warmth and sensitivity, are adversely affected by marital conflict and impact children.

Indirect Impact of Marital Conflict

There are consequences of marital conflict that may not be as easily observed, such as children's perceptions and attributions of the conflict (Ablow et al., 2009; Shelton & Harold, 2008). Children's perceptions and attributions may mediate the link between marital conflict and the development of internalizing and externalizing symptoms (Ablow et al., 2009; Shelton & Harold, 2008). Younger children are more likely to blame themselves for their parents' conflict, making them more vulnerable to experiencing internalizing symptoms as a result of those beliefs (Allison & Furstenberg, 1989). More specifically, research has identified important ways that children tend to perceive parental conflict.

The first is a child's perception of involvement with their parent's conflict. In fact, when children have a perception of involvement with the conflict, they are likely to experience more behavioral problems (Ablow et al., 2009). Children's perceived involvement of themselves in their parent's conflict can include being asked to side with a parent, children's distress regarding parents venting to them, and children feeling the need to stop the conflict. Since younger children are more prone to egocentric thinking, they may have a tendency to become more involved in an attempt to stop the conflict (Flavell & Green, 1999). This is typically distressing for a child, which leads to them acting out behaviorally as a result. However, there are other perceptions that may be more impactful on children's emotional functioning, including perceptions of conflict frequency and intensity (Cummings et al., 1981; Davies & Cummings, 1994). Exposure to frequent and intense conflict leads to more emotional problems in children. The more often a child is exposed to conflict, the more likely they will exhibit distress and heightened reactivity in future conflictual situations (Cummings et al., 1981; Grych & Fincham, 1990; Grych & Fincham, 2001). Furthermore, exposure to high intensity conflict with extreme

verbal aggression contributes to emotional problems and social skill impairments in children, even years after the experience (Davies & Cummings, 1994; Grych & Fincham, 2001). Thus, exposure to frequent and intense conflict is a risk factor for children's maladjustment and specifically for the development of emotional problems.

Influence of Marital Dissolution

There are other aspects of the marital relationship that also potentially influence the trajectory of children's development that should be noted, such as parent divorce. Some research suggests that marital dissolution places children at a higher risk for later maladjustment, such as higher levels of anxiety, depression, school-related problems, problems with social relationships, and lower levels of overall well-being compared to children whose parents stayed together (Cherlin et al., 1998; Lansford, 2009; Størksen et al., 2006). However, previous research on marital dissolution and the impact on children's adjustment is mixed (Portes et al., 1992), as the influence is dependent on multiple factors, such as whether a parent remarries and parenting behaviors following the divorce. Children of divorced parents are likely to experience a chain of remarriages, as the rate of divorce is higher for subsequent marriages than it is for the first (Hetherington et al., 1985). Children whose parents remarry are often at a higher risk for maladjustment in the short-term (Anderson & Greene, 2013), though research suggests that about two years after a remarriage, a mixed family and a nondivorced family are more alike than they are different (Hetherington et al., 1991; Pagani et al., 1997). As a result of the lack of research on remarriage and the number of familial reorganizations that a child may experience, the current study examined families in which no more than one remarriage had been experienced by each parent. Despite the potential impact of familial reorganizations, the nature of the parental relationship and what occurs after the divorce (i.e., continued nurturance, conflict, etc.) might be

the most important factor to consider. For example, parents who divorce may co-parent well and maintain a cordial relationship following the dissolution of a marriage, which might serve as a protective factor against the negative impact of divorce (Lansford, 2009). Therefore, some of these differences may be reliant on subsequent contexts, such as the social nature of the marital relationship (i.e., conflict levels). As such, the present study focused on exposure to marital conflict as it influences adolescent emotion regulation.

Parenting and Regulation

Though exposure to marital conflict is a risk factor for maladjustment, the cascading effect of conflict on parenting behaviors and qualities and children's perceptions may be of particular importance for regulatory functioning. Parenting behaviors, whether positive or negative, can influence a child's emotion regulation capabilities (Bugental et al., 2003; Calkins et al., 1998; Cummings & Davies, 1996; Kennedy et al., 2004; Morris et al., 2007). If parenting behaviors are positive and expression of emotions is encouraged, children tend to benefit with better strategies for regulating emotions (Calkins et al., 1998; Kennedy et al., 2004). However, if parenting behaviors are more negative, children's emotion regulation strategies may suffer (Calkins et al., 1998; Kennedy et al., 2004).

Exposure to frequent, unexpected displays of emotions through negative parenting is often associated with children's emotional dysregulation (Cummings & Davies, 1996). Sturge-Apple et al. (2012) found maternal unavailability to be a link between marital conflict and children's reactivity. In the face of conflict, parents become emotionally exhausted, affecting their involvement with their children. However, more adaptive regulatory processing in children has been found when mothers show higher levels of sensitivity, emotional flexibility, and positivity (Connell et al., 2011; Graham et al., 2017; Musser et al., 2012). Families who display

higher levels of parental involvement create an environment that allows for more open expression and discussion of emotions, as well as healthy strategies for coping with distressing feelings (Morris et al., 2007). It is evident that parenting behaviors can heavily influence a child's emotion reactivity, providing evidence for the emotional security hypothesis. The emotional security hypothesis (Davies & Cummings, 1994) suggests that children's emotional insecurity is a result of exposure to conflict and a predictor of future responding (Davies & Cummings, 1994). As a result of exposure to conflict, children acquire less effective coping strategies and greater emotional dysregulation when faced with subsequent stressors (Calkins et al., 1998; Davies & Cummings, 1994; Graham et al., 2017; Kennedy et al., 2004; Sturge-Apple et al, 2012). Research has clearly indicated children's emotion regulation suffer as a result of exposure to marital conflict (Cummings & Davies, 1996; Graham et al., 2017; Lansford, 2009; Sturge-Apple et al, 2012). However, because adolescence is such a challenging time with regards to regulatory processes, and given the lack of research within this population, the present study examined the pathways of risk from marital conflict to adolescent emotion regulation.

Current Study

It is evident that early experiences of exposure to conflict and divorce hinder children's ability to control and regulate their emotions in response to stress. However, research that has been done on regulation and early life experiences neglects examining the developmental impacts of early exposure to marital conflict, especially in the adolescent population. The goals of this study were to bridge this gap in the literature by examining how early experiences of marital discord, including conflict and dissolution, are associated with adolescent regulation (i.e., self-reported emotion regulation), given that adolescence is an important developmental period for emotional control and self-regulation. Additionally, this study sought to determine how

parenting behaviors and children's perceptions of conflict further influence the relationship between marital conflict and adolescent regulation.

Hypotheses

Given the literature on divorce and child adjustment, it was hypothesized that children who had experienced divorce would have less effective regulation (i.e., greater self-reported difficulties with emotion regulation). However, it was expected that regulation would be more negatively impacted by marital conflict as past work suggests that conflict is worse for a child developmentally than is an experience of divorce. There is also consistent evidence of the spillover hypothesis, therefore it was hypothesized that marital conflict would be associated with decreased parental warmth and increased hostility. These diminished parenting qualities would create an indirect path between marital conflict and adolescent regulation (see Figure 1). Further, children's perceptions of their parent's conflict were examined as an additional indirect path between marital conflict and regulation. Specifically, perceptions of high frequency and high intensity conflict would be associated with adolescent regulation via an indirect path through marital conflict (see Figure 2). Regulation may also be influenced by current state anxiety, perception of current stress, and gender, all of which were included as potential covariates in the models. It was expected that levels of current anxiety would reduce regulation capabilities, as it has in past research (e.g., Pittig et al., 2013). Additionally, having high levels of stress would also cause a reduction in regulation. Finally, the influence of child gender on regulation was explored.

Methods

Participants

A total of 125 parents recruited through online advertisements, social media, flyers, and emails completed the initial screening survey to determine eligibility for participation. Those who failed the attention check (n = 9), were never married to the other child's parent (n = 14), or had been remarried more than once (n = 12) were deemed ineligible. Of the 90 who met study criteria and were invited to participate, a total of 45 parents and their adolescent children completed all study materials (n = 34 intact families, n = 11 divorced families). The majority of the parents were mothers (n = 43), and 24 of the adolescents were boys while 21 were girls. Parents were between the ages of 33 and 58 (M = 45.77, SD = 5.76) and adolescents were between 13 and 18 (M = 14.55, SD = 1.34). The sample was primarily Caucasian (84.1%), and the remainder of participants identified as African American (6.8%), Asian (6.8%), and Other/Mixed Race (2.3%). Additionally, most of the sample reported having an annual household income of $55,000 to $95,000 or above (68.9%). The rest of the sample reported incomes between $45,000 and $54,999 (13.3%), $35,000 and $44,999 (6.7%), and $25,000 and $34,999 (4.4%), while 6.7% did not report income. Most of the parents in the sample had a graduate (40%) or Bachelor's degree (33.3%), with the remainder having an Associate's degree (4.4%), some college (15.6%), or high school diploma/GED (6.7%).

Measures

Adolescent Emotion Regulation. To assess the adolescent's current difficulties with emotion regulation, the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) was used. The DERS is a 36-item questionnaire with six subscales, and each item is rated on a 5-point Likert scale (1 = Almost never, 5 = Almost always). Subscales include: (1)

nonacceptance of emotional responses (e.g., “When I’m upset, I feel guilty for feeling that way.”); (2) difficulty engaging in goal-directed behaviors (e.g., “When I’m upset, I have difficulty getting work done.”); (3) impulse control difficulties (e.g., “When I’m upset, I have difficulty controlling my behaviors.”); (4) lack of emotional awareness (e.g., “When I’m upset, I acknowledge my feelings.”); (5) limited access to emotion regulation strategies (e.g., “When I’m upset, I believe there is nothing I can do to make myself feel better.”); and (6) lack of emotional clarity (e.g., “I am confused about how I feel.”). A higher score on the DERS suggests more difficulties with emotion regulation, and total scores were used in the current study. Previous studies have reported acceptable internal consistency across all subscales (Cronbach’s α from 0.75 to 0.92; Gratz & Roemer, 2004; Hallion et al., 2018). In the present study Cronbach’s α was good across all subscales (0.86 to 0.92) and excellent for the total score (0.94).

Marital Conflict. Interparental conflict was examined through the Conflict Tactics Scale 2 (CTS2; Straus et al., 1996) and the Children’s Perception of Interparental Conflict Scale (CPIC; Grych et al., 1992), in order to obtain both a parent report of conflict exposure and a child report of their perceptions of marital conflict. Both scales were used retrospectively as respondents reported on experiences from when the child was younger. The CTS2 is a 78-item questionnaire and is a widely used measure of conflict for examining five different domains of relational conflict: physical assault, negotiation, psychological aggression, sexual coercion, and injury. Responses on the psychological aggression domain of the CTS2 (e.g., “Said something to spite my partner”) were used as an assessment of overt marital conflict and aggression in the present study. The psychological aggression domain contains 16 total items that are rated on a 7-point Likert scale, with regards to how often the statement was experienced (0 = once a year, 6 = more than 20 times in a year). Of the 16 items on the psychological aggression domain, 8 items

assess victimization (i.e., acts of aggression committed by one's partner) and 8 assess perpetration (i.e., acts of aggression committed by oneself). Additionally, the psychological aggression domain is further broken down into minor (e.g., "I insulted or swore at my partner") and major (e.g., "I threatened to hit or throw something at my partner") aggressive interactions. Total exposure scores were obtained by combining both the self and partner perpetration items across the minor and major subscales, with higher scores indicating higher levels of verbal conflict and aggression within the marital relationship. Previous Cronbach's α ranges from 0.79 to 0.95 on all domains (Straus et al., 1996). Cronbach's α was acceptable for the psychological aggression domain in the present study (0.74).

The CPIC was used to assess adolescent's perceptions of their parent's marital conflict from when they were younger. The 48-item scale is broken down into three categories (Conflict Properties, Threat, and Self-Blame) that further consist of eight subscales. The Conflict Properties category was used to assess children's perceptions as an indirect path between marital conflict and regulation in the current study. This category contains 19 total items and consists of the following three subscales: Frequency (e.g., "I often saw my parents arguing.", Cronbach's α ranges from 0.68 to 0.75), Intensity (e.g., "When my parents had an argument, they would yell a lot.", Cronbach's α ranges from 0.80 to 0.84), and Resolution (e.g., "When my parents would disagree about something, they usually came up with a solution.", Cronbach's α ranges from 0.82 to 0.86). All items are evaluated as either true, sort of true, or not true, and higher scores indicate more negative perceptions (i.e., more intense and frequent conflict with little resolution). Cronbach's α was good in the present study across the Frequency, Intensity, and Resolution subscales (0.87 to 0.92), and excellent for the overall Conflict Properties category (0.96).

Parenting Qualities. To examine different parenting behaviors and qualities, both the parent- and child-report versions of the Alabama Parenting Questionnaire (APQ-P and APQ-C; Frick, 1991; Shelton et al., 1996) were used retrospectively as adolescents reported on their experiences from when they were younger. Both versions of the APQ consist of 42 items that classify parenting behaviors into five different categories: Corporal Punishment, Involvement, Positive Parenting, Poor Monitoring/Supervision, and Inconsistent Discipline. Responses on the Positive Parenting subscale (e.g., "Your parents tell you that you're doing a good job/You let your child know when he/she is doing a good job with something") were used as a measure of levels of warmth and lack of hostility in the pathway model. This subscale contains 6 items that are rated on a 5-point Likert scale (1 = Never, 5 = Always) regarding how often the experience occurred, with higher scores being indicative of parental warmth and lower scores of hostility. Previous Cronbach's α ranges from 0.79 to 0.82 for the Positive Parenting subscale (Essau et al., 2006). The parent and adolescent reports of positive parenting were significantly correlated in the current study ($r = 0.51$, $p < .001$), though it was not strong enough to combine into one measure. Given that child reports of parenting practices are often more valid than parent reports (e.g., Abar et al., 2015; Barry et al., 2008), the adolescent report of the positive parenting subscale was retained as a measure of warmth and lack of hostility. Cronbach's α for this subscale was excellent in the present study (0.93).

Current Life Stress. To covary for current perception of stress in the child's life for the past month, adolescents completed the Perceived Stress Scale-10 (PSS-10; Cohen et al., 1983). The PSS-10 is a 10-item inventory designed to assess how unpredictable and uncontrollable a respondent finds their life. Items are rated on a 5-point Likert scale (0 = Never, 4 = Very Often; e.g., "In the last month, how often have you felt nervous and 'stressed'"). A higher score on the

PSS-10 suggests higher levels of everyday stress for the month prior to assessment. Previously reported Cronbach's α ranges from 0.78 to 0.82 (Cohen et al., 1983; Remor, 2006). Cronbach's α was excellent in the present study (0.92).

Anxiety. To covary for current state anxiety-related issues, which could affect regulatory functioning at the time of assessment, the Generalized Anxiety Disorder 7-item scale (GAD-7; Spitzer et al., 2006) was used. The GAD-7 is a brief scale that asks about respondent's state-level anxiety symptoms experienced during the weeks prior to data collection (previously reported Cronbach's α = 0.87; Johnson et al., 2019). Items are rated on a 4-point Likert scale (0 = not at all sure, 3 = nearly every day; e.g., "over the last two weeks, how often have you been bothered by feeling nervous, anxious, or on edge"). A higher score on the GAD-7 suggests that more anxiety symptoms have been experienced recently. Cronbach's α was excellent in the present study (0.92).

Procedure

This study was approved by the Institutional Review Board at the Rochester Institute of Technology. All participants were recruited through social media advertisements (i.e., Facebook), online parent newsletters (e.g., Rochester Kids Out and About), local parenting groups on Facebook, and flyers that were hung around the community, mailed, and emailed to prospective participants. Prior to completing each online survey (i.e., screener, parent, and adolescent survey) through Qualtrics software, informed consent from parents and youth assent from adolescents were obtained by clicking "I agree to participate." Interested parents were directed to the online screener, which was completed to determine eligibility for the study. Parents who met criteria for participation (i.e., was a parent of a 13-18-year-old child, was currently or had previously been married to the child's other parent, and had not been through

more than one remarriage) were invited to complete the study surveys with their adolescent child. First, an email was sent containing the parent-report measures to be completed. Upon successful completion, parents were compensated with a $5 e-gift card and asked for their child to complete the adolescent self-report measures. Once the adolescent questionnaires were completed, participants were compensated with an additional $5 e-gift card. Participants were provided with a debriefing and a document containing various resources that are available to them (e.g., Domestic Violence Hotline) via email following both the parent and adolescent surveys. Finally, families were entered into a drawing to win an additional $25 e-gift card if both the parent and adolescent surveys had been completed.

Data Analytic Strategy

Prior to testing the models in the primary analyses, all data were subject to a thorough examination and cleaning in order to check that all assumptions of the statistical tests were met and to assess for any potential outliers. Skewness (-0.78 to 0.97) and kurtosis (-0.80 to 0.99) indices suggested that the assumption of multivariate normality was met by all predictor variables. Bivariate scatterplots were examined and suggested that both the linearity and homoscedasticity assumption were met for all variables. There were no issues with collinearity among the predictor variables as evidenced by the correlational analyses (see Table 1) and Variance Inflation Factors (1.43 to 2.15). Finally, there were no outliers or influential cases in the data as the maximum Cook's distance of the residuals was 0.109.

All analyses were completed within IBM SPSS (IBM, 2020). Descriptive statistics and zero-order correlations were conducted for all of the study variables and are presented in Table 1. Gender was examined as a potential covariate through an independent samples *t*-test, and the remaining potential covariates (adolescent state anxiety and adolescent stress) were examined

through their bivariate correlations with adolescent emotion regulation. Adolescents were dichotomized into groups based on experience of parental divorce (i.e., experience of divorce vs. no experience). Then, in order to examine the impacts of parent's marital dissolution on adolescent emotion regulation, an independent samples *t*-test was conducted. Correlational analyses were conducted to examine the relationship of marital conflict and adolescent regulation. To further examine the potential indirect influence of marital conflict, two separate mediation models were analyzed within Process Macro in SPSS (Hayes, 2017). Exposure to conflict (i.e., reported levels of psychological aggression from the CTS2) was entered as the independent variable in both models predicting adolescent regulation (i.e., reported difficulties with emotion regulation). Parental warmth and lack of hostility (i.e., positive parenting subscale from the APQ-C) was entered in the first model and children's perceptions (i.e., conflict properties from the CPIC) was entered in the second model as indirect paths from marital conflict to adolescent regulation. To test these proposed indirect effects in each model, a total of 10,000 bootstrap samples were used (Hayes, 2009).

Missing Data Analysis. There were few erratic missing data on items of some scales, so mean scores of variables were calculated based on available items rather than sum scores. Specifically, mean scores were obtained given that no more than one item was missing on a given measure. However, one adolescent participant was missing on almost all items of the CPIC, so they were not included in the mediation analysis of the second indirect pathway model examining children's perceptions. This left a sample of 44 dyads for this model while all other analyses included the total sample of 45 dyads.

Results

Preliminary Analyses

The descriptive statistics and bivariate correlations of the study variables are presented in Tables 1 and 3, respectively. The descriptive statistics of the key variables are also broken down by family divorce status and presented in Table 2. Marital conflict was significantly positively associated with children's perceptions of conflict. Adolescent regulation, however, was significantly negatively correlated with positive parenting levels, and positively associated with children's perceptions of intense and frequent marital conflict. Additionally, positive parenting was negatively correlated with children's perceptions of conflict. Adolescent current life stress and state anxiety were both strongly positively correlated with emotion regulation; thus, stress and anxiety were included as covariates in the primary analyses. Furthermore, the influence of gender on adolescent regulation was examined but girls and boys did not significantly differ [$t(43) = -1.85$, $p = 0.07$]. Thus, child gender was not included as a covariate in the indirect pathway models.

Primary Analyses

Though there were small, uneven groups regarding adolescent's previous experience of parental divorce ($n = 11$ divorce experienced, $n = 34$ no divorce experienced), an independent sample *t*-test was run to examine the potential impact of divorce on adolescent regulation. There were no significant group differences based on parent divorce status [$t(43) = -1.30$, $p = 0.20$]. The bivariate correlation between marital conflict and adolescent regulation was also found to be nonsignificant ($r = 0.08$, $p = 0.59$).

In the first regression model predicting adolescent regulation with positive parenting included as an indirect path [$F(4,40) = 14.52$, $p = 0.00$, $R^2 = 0.59$], neither marital conflict nor

positive parenting behaviors were significantly associated with adolescent regulation (β's = 0.19 and -0.35, respectively; see Figure 3). As such, the indirect effect through parenting behaviors was nonsignificant (0.07, 95% *CI* = -0.41 to 0.60).

In the second model predicting adolescent regulation with children's perceptions entered as an indirect path [$F(4,39) = 14.82$, p = 0.00, $R^2 = 0.60$], neither marital conflict nor children's perceptions were significantly associated with adolescent regulation (β's = -0.72 and 0.52, respectively; see Figure 4). However, marital conflict was significantly associated with children's perceptions ($\beta = 0.53$, $p < .001$), though the indirect effect through children's perceptions to adolescent regulation was not significant (1.11, 95% *CI* = -0.73 to 2.76).

Discussion

The current study sought to understand components of the cascading risk of exposure to marital conflict on adolescent's emotional regulatory functioning via parenting behaviors (i.e., levels of warmth and hostility) and children's perceptions of frequent and intense conflict. Much of the previous work on exposure to interparental conflict focuses on the developmental period of early childhood (e.g., Davies et al., 2020), and the research that has been done with adolescents has yet to examine the indirect impact of parenting and child perceptions on the relationship between conflict exposure and emotion regulation outcomes (e.g., Schwarz et al., 2012). To address these gaps in the literature, the first goal was to examine the direct effects of early exposure to marital conflict and dissolution on adolescent emotion regulation. The second goal of this study was to test the indirect effect of marital conflict on adolescent emotion regulation through the influence of parenting behaviors and child perceptions. Contrary to hypotheses and past work (e.g., Morris et al., 2007), adolescent regulation was not significantly impacted by marital conflict directly or indirectly.

In examining the direct impact of early life experiences, neither marital conflict nor divorce were associated with adolescent's self-reported difficulties with emotion regulation. Specifically, children of divorce in the current sample did not report significantly more difficulties with everyday emotion regulation compared to children of intact families. This finding contradicts past work that suggests that adolescents have reduced cognitive regulation skills as a result of parental divorce, such that they display higher levels of rumination and a diminished ability to reappraise a stressful situation (Boyes et al., 2016). However, the lack of connection between parental divorce and adolescent emotion regulation is consistent with the finding that parental interactions after a divorce are the most impactful on children's post-divorce adjustment (e.g., Amato & Sobolewski, 2001; Afifi et al., 2015), and that divorce alone may not be significantly impactful on children's emotional functioning.

Perhaps what is more surprising is the lack of association between marital conflict and adolescent emotion regulation in the current study, given the strong evidence of their direct relationship in past work (e.g., Davies & Cummings, 1998; Lemerise & Dodge, 2008; Schwarz et al., 2012). In the context of early exposure to parent's verbal conflict and psychological aggression, adolescents did not report more difficulties with emotion regulation. In a similar study, Schwarz et al. (2012) found that high interparental conflict predicted adolescent emotion regulation capabilities a year later. Given this, it is probable that more recent and concurrent experiences of parental conflict are more impactful on adolescent emotion regulation, and that experiencing marital conflict as a young child is not as influential on emotion regulation development in adolescence. Furthermore, similar to the impact of chronic stress on the body's regulatory systems (e.g., Herman et al., 2016), long-term conflict exposure likely has more deleterious effects on adolescent's regulation capabilities than exposure to a few intense

interactions. Thus, the adolescents in the current study may not have been exposed to their parent's conflict consistently as a child, and they did not experience permanent emotion dysregulation as a result. Additionally, it could be that the conflict reported in the current study was constructive in nature, and that the parents in the sample exemplified proper conflict resolution for their children to witness. Given that children benefit from witnessing conflict resolution (e.g., Cummings et al., 1992), it is possible that witnessing parents settle their conflict played a buffering role on adolescent emotion regulation in this sample. Finally, genetic influences might be more important for adolescent emotion regulation development than environmental factors (e.g., Hawn et al., 2015). Specifically, it may be that emotion regulation is particularly heritable and that having parents with poor regulatory processes is more predictive of adolescent emotion dysregulation than is conflict.

Alternatively, the lack of association between parent conflict and adolescent regulation also highlights the importance of examining other mechanisms that potentially underlie the impact of marital relations on adolescent adjustment, and specifically other influential factors on emotional development during adolescence. For example, adolescents may engage in more avoidant coping (e.g., staying away from a problem, suppressing thoughts, etc.) in response to stress (Herman-Stabl et al., 1995). Though it is often considered a maladaptive response (e.g., Ong & Thompson, 2019), avoidant coping can be advantageous in some situations (e.g., DiClemente & Richards, 2019; Gonzales et al., 2001), such as high levels of family stress. Perhaps avoidant coping is especially useful when dealing with family stress, and it may be that when exposed to high levels of marital conflict, avoidant coping serves as a protective factor against everyday emotion dysregulation for adolescents.

Findings from the model examining the indirect influence of marital conflict on adolescent emotion regulation via parenting behaviors revealed that positive parenting (i.e., parental warmth and lack of hostility) was not significantly associated with adolescent emotion regulation. Furthermore, positive parenting did not emerge as an indirect path from marital conflict to adolescent emotion regulation. Specifically, high levels of marital conflict did not impact adolescent emotion regulation through diminished parenting behaviors and qualities as hypothesized, implying that a conflictual marital relationship does not impact parents' affective quality with their children. However, this contradicts previous work in early childhood that finds maternal harshness (i.e., emotional unavailability) to be a link between interparental violence and young children's regulation (e.g., Sturge-Apple et al., 2012). It may also be that the cascading effect of conflict through parenting is impactful in early childhood, but that this effect does not persist through adolescence or that they learn to adapt over time and no longer display emotion regulation difficulties. On the other hand, it is also possible that marital conflict does not have an influence on parenting behaviors, but that parents' emotion regulation is driving the process. Specifically, it may be that parents had poor emotion regulation themselves which further impacted adolescent emotion regulation via negative parenting behaviors.

However, consistent with past work that establishes a connection between harsh parenting and emotion dysregulation in childhood (e.g., Chang et al., 2003) and adolescence (e.g., Lee et al., 2015), positive parenting was significantly negatively associated with adolescent emotion regulation at the bivariate level (see Table 2). This is also consistent with Morris et al.'s (2017) tripartite theory that suggests children's emotion regulation is influenced by emotion-related parenting practices, parent's emotion regulation, and the emotional climate of the family. More specifically, when parents display emotions related to hostility during parent-child

interactions, children exhibit a diminished ability to regulate emotions when faced with stress. This also potentially demonstrates the importance of parenting behaviors as a possible modeling mechanism for positive emotional development (Morris et al., 2007). Considering this, it is surprising that when the influence of early exposure to marital conflict is taken into account, positive parenting does not have the same influence on adolescent emotion regulation. Perhaps marital conflict characterized by overt, verbal aggression more significantly influences other parenting aspects that were not examined in this study. For example, it may be that discipline practices or parental supervision are more negatively impacted by marital conflict than is parental warmth or hostility.

In the second indirect path model, child perceptions of intense and frequent conflict were not significantly associated with adolescent emotion regulation. Similar to parenting behaviors, however, the bivariate correlation between perceptions and adolescent emotion dysregulation was significant, such that when marital conflict was perceived as being both intense and frequent, adolescents reported more difficulties with everyday emotion regulation. This bivariate association is in line with previous work finding that early adolescents' perceptions of threat from frequent interparental conflict influences their ability to self-regulate (e.g., Siffert & Schwarz, 2011). Thus, this bivariate association indicates that perceiving conflict to be both frequent and intense could potentially undermine an adolescent's ability to regulate and control their emotional experiences. This would be consistent with Halperin et al.'s (2011) Appraisal-Based Framework for Emotion Regulation in that appraisals of events are critical in determining emotions that will be experienced and subsequent ability to regulate those emotions. However, the nonsignificant indirect effect of child perceptions contradicts expectations based on previous findings that negative perceptions mediate the impact of marital conflict in childhood (e.g.,

Ablow et al., 2009). Much like the findings on parenting behaviors, the indirect effect of perceptions on regulation may not be strong enough to be identified in adolescence. Still, early exposure to marital conflict significantly predicted children's perceptions in the first path of this model such that higher levels of marital conflict were associated with children's perceptions of frequent and intense conflict. Although perceptions were associated with adolescent regulation at the bivariate level, child perceptions were not related with adolescent emotion regulation in the second path of the model. This finding was unexpected and suggests that when both exposure to marital conflict and perceptions of how intense or frequent it is perceived to be are taken together, it could be that they do not account for unique variance in adolescent emotion regulation or that potentially they do not impact emotion regulation capabilities in adolescence. Despite this, and given their bivariate association, it may be that there is an additional factor buffering the adverse impacts of negative perceptions in the context of marital conflict on adolescent regulation, such as additional perceptions of conflict resolution. The Conflict Properties category of the CPIC includes items regarding perceptions of resolution (e.g., "When my parents have an argument, they usually work it out"). Though higher scores indicated more intense and frequent conflict with little resolution, it could be that adolescents were exposed to frequent and intense conflict that was also resolved positively, buffering the impacts of negative perceptions. Similarly, there are likely other elements and familial processes in adolescence buffering the influence of negative perceptions on adolescent regulation that should be considered, such as sibling relationships.

Marital conflict was positively associated with child perceptions of conflict in the current study in that children's exposure to high levels of conflict was related to children's perceptions of frequent and intense conflict. This finding generally supports other work in this area

connecting interparental conflict with children's negative perceptions and appraisals (e.g., Harold et al., 2007; Schermerhorn, 2018). This is also consistent with the emotional security theory suggesting that interparental conflict shapes children's interpersonal perceptions and insecurity within the family system (Cummings et al., 2006). However, the lack of association between marital conflict and adolescent regulation suggests that there are other factors to be considered regarding development of regulatory processes, and that past experience with conflict characterized by verbal and psychological aggression alone is not impactful on adolescent emotion regulation. There is evidence that suggests that intense conflict exposure (i.e., physical assault and community violence) is especially impactful on psychosocial development (e.g., Brook et al., 2007). Furthermore, in the context of violence exposure and extreme poverty, adolescents may lack the ability to appropriately express and understand their own emotions (e.g., Raver, 2004). It could be that witnessing verbal conflict among parents is not as impactful on regulation, but the combination of multiple vulnerable circumstances is a risk factor for emotional problems in adolescence (e.g., Kim & Cicchetti, 2010).

Limitations and Future Directions

The results of the present study should be interpreted with caution as there are several limitations. To begin, the small sample size may have limited statistical power, inhibiting the detection of true effects in the population from surfacing. Further research should examine similar constructs within a larger sample. This will also allow for the examination of group differences regarding marital dissolution in the context of high levels of marital conflict, since the groups in the current study were small and uneven.

The present study also did not examine other family relationships and influences, such as the potential influence of stepparent or sibling relationships. From a family systems approach,

when examining individual behavior and development, the family should be examined as a whole system (i.e., relationships between all members and how they interact; Bowen, 1966). Specifically, siblings may serve as a protective factor against emotional maladjustment (e.g., Davies et al., 2019), such that having a constructive relationship with a sibling under high levels of interparental conflict has been found to be associated with emotional security and fewer psychological problems. It is possible that the adolescents in the current study benefitted from having a positive sibling relationship to buffer the negative effects of marital conflict. Future studies should consider whether having a sibling influences regulatory functioning in the context of stress, and how the quality of sibling relationships also influences emotional development. The current study also did not consider the potential impact of current conflict exposure at the time of assessment, and it is likely that current experiences of marital conflict would influence concurrent reported emotion regulation abilities. Thus, work should consider examining how current family functioning and having stepparents might impact adolescent regulation.

Furthermore, differences in regulation based on developmental age were not examined, such as comparing younger adolescents with older adolescents. Though adolescence is a significant time period for emotional development (Steinberg & Morris, 2001), some research finds that pre-adolescence (i.e., 11-13 years of age) is especially critical for the development of specific emotion regulation skills (e.g., Brodbeck et al., 2013). Both pre- and younger adolescents may be more vulnerable to external stimuli than older adolescents as it relates to the shaping of regulatory processing (Brodbeck et al., 2013; Garnefski & Kraaij, 2006). Thus, it is likely that younger adolescents might differ from older adolescents on emotional and regulatory functioning, suggesting they should be examined separately. Future research should examine potential emotion regulation differences within the adolescent age window.

Another limitation that is important to note is that the data was collected concurrently, and most of the data was collected as retrospective report (i.e., conflict, child perceptions, parenting). Loftus (2003) indicates that autobiographical memories are both malleable and fallible, which also extends to memories regarding childhood adversity and trauma (Porter & Peace, 2007). Although a recent 25-year longitudinal study found retrospective reports to be significantly moderately associated with initial reports of family functioning (Bell & Bell, 2018), it is still possible that the retrospective reports in the current study were inaccurate due to the potential inability to remember distressing childhood events accurately. To truly understand the impact of an early event on a later outcome in developmental research, data should be collected at their respective time points through longitudinal studies. Additional work on early exposure to conflict and adolescent outcomes would benefit from examining several time points to evaluate developmental changes.

It is also important to note that although the internal consistency for marital conflict was acceptable (i.e., Cronbach's α = 0.74 for the psychological aggression subscale of the CTS2), it was close to the cutoff of 0.70 that most researchers rely on (e.g., Tavakol & Dennick, 2011). The psychological aggression subscale was a combination of the both the minor (α = 0.83) and major (α = 0.68) aggressive items. Thus, the major psychological aggression items did not display reliability above the acceptable threshold, which likely reduced the reliability for overall psychological aggression and potentially impacted the findings of the effects of marital conflict. Additional studies on marital conflict should incorporate more reliable measures.

Finally, emotion regulation in the current study was examined through adolescent self-reports. Thus, another consideration for future research is including multiple and additional measures of emotion regulation. It might be beneficial to collect adolescent data from multiple

informants, such as from both parents and teachers. Additionally, research on emotion regulation has begun to focus on heart rate variability (HRV; variation between time intervals of consecutive heart beats) as a psychophysiological indicator (Thayer et al., 2012; Visted et al.,2017; Williams et al., 2015). Given that exposure to chronic stress may permanently modify the body's stress response systems (e.g., Herman et al., 2016), HRV may add incremental validity to measuring the long-term impact of early stress on regulatory functioning. In fact, adolescent HRV has yet to be considered in the context of marital conflict exposure. Thus, future investigations of emotion regulation should examine adolescent HRV levels as an outcome of conflict exposure.

Conclusion

In sum, this study examined the direct and indirect impacts of early exposure to marital conflict on adolescent emotion regulation, though it was not found to be a risk factor. However, the finding that parenting behaviors and child perceptions of conflict were both associated with emotion regulation in adolescence is consistent with past research (e.g., Morris et al., 2007; Siffert & Schwarz, 2011). Taken together, this study suggests that in the context of high levels of marital conflict, parenting behaviors and children's perceptions of conflict frequency and intensity, do not significantly influence the relationship with adolescent emotion regulation. These findings also indicate that positive parenting does not suffer in the context of marital conflict, though there may be other parenting behaviors implicated in a conflictual marriage and the timing of exposure may be of greater importance (i.e., more recent experiences of conflict are more significant on adolescent regulation development). These findings also highlight the importance of considering potential protective factors when examining emotion regulation in adolescence, such as aspects of constructive conflict (e.g., resolution) and additional family

relationships. Finally, future research on adolescent emotion regulation should consider utilizing other measures of regulation.

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Figure 1.

Indirect Pathway Model for the Relationship Between Marital Conflict and Adolescent Regulation through Parenting Behaviors

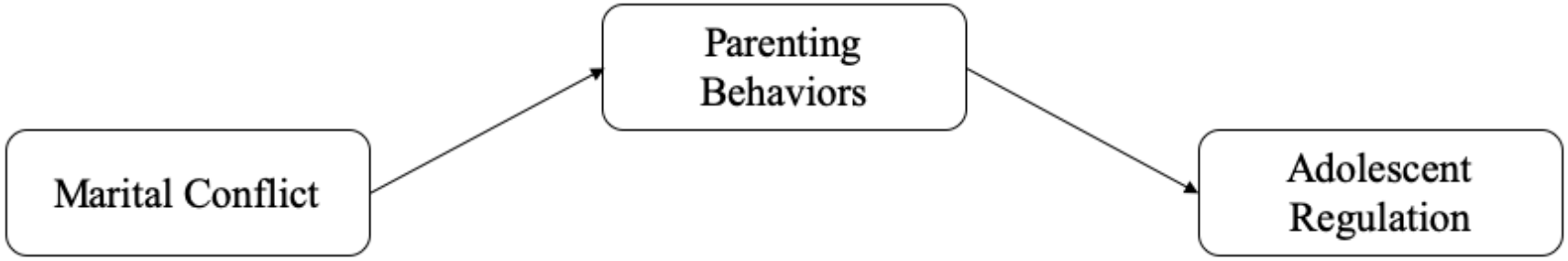


Figure 2.

Indirect Pathway Model for the Relationship Between Marital Conflict and Adolescent Regulation through Child's Perceptions

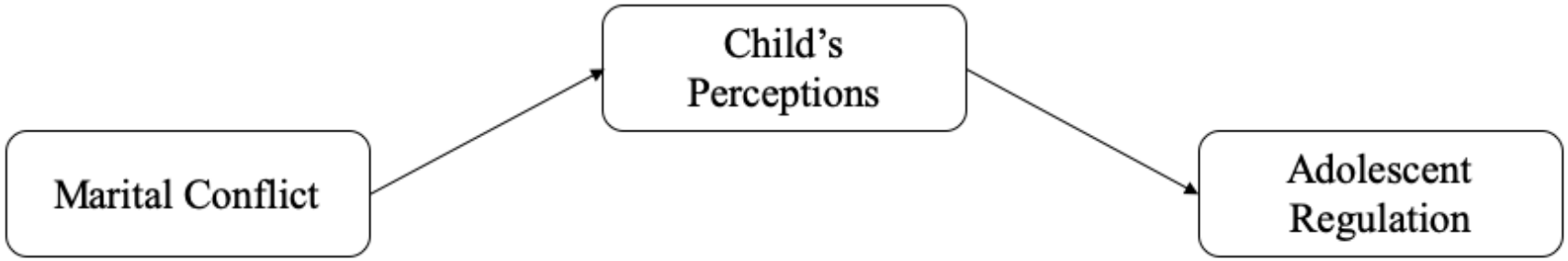
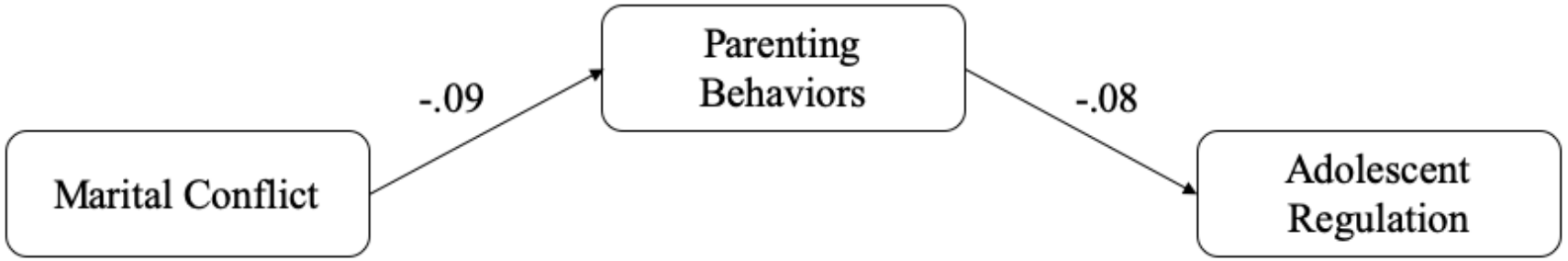


Figure 3.

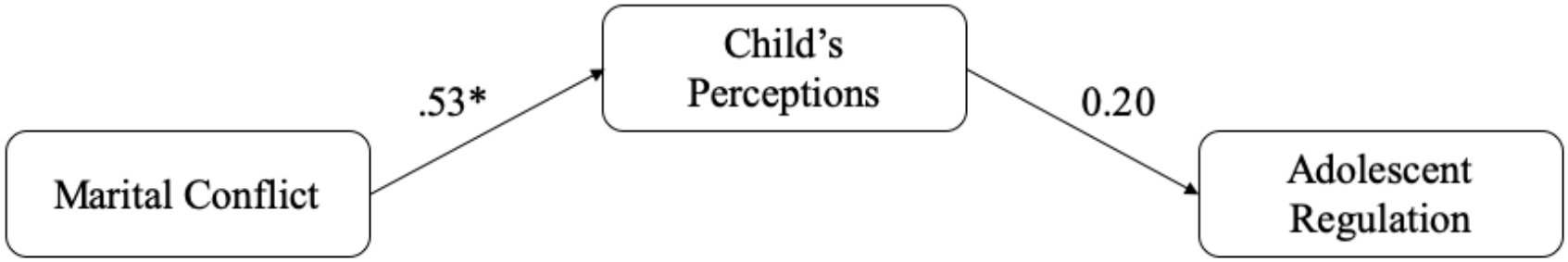
Standardized Regression Coefficients for the Indirect Pathway Model through Parenting Behaviors



Note. Adolescent stress and state anxiety were included as covariates.

Figure 4.

Standardized Regression Coefficients for the Indirect Pathway Model through Child's Perceptions



Note. Adolescent stress and state anxiety were included as covariates. * $p < .001$

Table 1.

Descriptive Statistics of Study Variables

	M	*SD*	Range
Emotion Regulation (DERS-AR)	88.38	27.92	42.00 - 160.00
Marital Conflict (PA-PR)	49.73	42.62	0.00 - 173.00
Parenting Behaviors (PP-AR)	20.60	6.26	6.00 - 29.00
Children's Perceptions (CP-AR)	14.48	10.79	0.00 - 38.00
Adolescent State Anxiety (GAD-AR)	6.07	5.62	0.00 - 18.00
Adolescent Stress (PSS-AR)	17.93	8.26	5.00 - 36.00

Note. DERS, Difficulties in Emotion Regulation Scale; PA, Psychological Aggression subscale of CTS2; PP, Positive Parenting subscale of APQ; CPIC-CP, Conflict Properties category of CPIC; GAD, Generalized Anxiety Disorder 7-item scale; PSS, Perceived Stress Scale-10; AR, adolescent report; PR, parent report.

Table 2.

Breakdown of Descriptive Statistics by Family Status

	Intact (*n* = 34)			Divorced (*n* = 11)		
	M	*SD*	Range	*M*	*SD*	Range
Emotion Regulation (DERS-AR)	85.32	27.53	42.00 - 160.00	97.82	28.24	52.00 - 145.00
Marital Conflict (PA-PR)	46.38	41.49	0.00 - 173.00	60.10	46.39	13.00 - 170.00
Parenting Behaviors (PP-AR)	21.15	6.30	6.00 - 29.00	18.91	6.09	10.00 - 28.00
Children's Perceptions (CP-AR)	12.67	10.73	0.00 - 37.00	20.30	9.20	12.00 - 38.00
Adolescent State Anxiety (GAD-AR)	5.47	5.35	0.00 - 18.00	7.91	6.30	0.00 - 18.00
Adolescent Stress (PSS-AR)	17.00	8.04	5.00 - 36.00	20.82	8.65	7.00 - 31.00

Note. DERS, Difficulties in Emotion Regulation Scale; PA, Psychological Aggression subscale of CTS2; PP, Positive Parenting subscale of APQ; CPIC-CP, Conflict Properties category of CPIC; GAD, Generalized Anxiety Disorder 7-item scale; PSS, Perceived Stress Scale-10; AR, adolescent report; PR, parent report.

Table 3.

Bivariate Correlations of Study Variables

	DERS-AR	PA-PR	PP-AR	CP-AR	GAD-AR	PSS-AR
PA-PR	.08	--				
PP-AR	-.52*	-.12	--			
CP-AR	.45*	.59*	-.51*	--		
GAD-AR	.68*	.14	-.51*	.50*	--	
PSS-AR	.76*	.06	-.62*	.42*	.82*	--

Note. DERS, Difficulties in Emotion Regulation Scale; PA, Psychological Aggression subscale of CTS2; PP, Positive Parenting subscale of APQ; CPIC-CP, Conflict Properties category of CPIC; GAD, Generalized Anxiety Disorder 7-item scale; PSS, Perceived Stress Scale-10; AR, adolescent report; PR, parent report.

* $p < .01$

† $p < .05$