

## Building a Sense of Self: The Link between Emotion Regulation and Self-Esteem in Young Adults

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### ABSTRACT

Emotion regulation is the process through which a person changes his or her emotions. Individuals may change their emotions in many ways, and these different aspects of emotion regulation might have different implications for one's self-esteem. Self-esteem is defined as an individual's concept of the self. Despite the substantial research on these topics, there has been a lack of research on the links between emotion regulation and self-esteem. The present study aimed to explore the link between emotion regulation and self-esteem in young adults, as well as to examine potential gender differences in this association. Based on current research, we predicted that men would have higher self-esteem than women, whereas women would have a stronger capacity to regulate their emotions. Furthermore, we predicted women would show a stronger association between emotion regulation and self-esteem. Participants were asked to answer the Difficulties in Emotion Regulation (DERS) questionnaire as well as a singular measure to assess their self-esteem. The results of the present study were consistent with our hypothesis that men would have a higher self-esteem, and that women would show a stronger association between emotion regulation and self-esteem. Our study adds to a growing body of research on the importance of emotion regulation for self-esteem.

**Keywords:** Emotion Regulation, Self-Esteem, Gender Differences, Difficulties in Emotion Regulation, Young adults, Self-Concept



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## INTRODUCTION

The transition from adolescence to adulthood can be both an enjoyable and a challenging period in a young adult's lifetime. These changes can bring about new emotions, perspectives, and sense of self as a young adult begins to create a new outlook on the world. As obstacles and hardships are encountered, it is frequently necessary for people to regulate, modify, or change the emotions that are generated by these events. Emotion regulation involves the use of behavioral, cognitive, emotional, and attentional tools to change or maintain the experience and expression of emotions (Brody & Hall, 2009). Regulating emotions is a process that most people engage with on a daily basis. The stress someone may feel during a job interview or when managing the constant demands of homework and course preparation can be regulated effectively through breathing exercises and meditation. Even during moments of hopelessness and sentiments of despair, the process of changing emotions enables people to feel less emotional exhaustion and more life satisfaction (Hülshager, Alberts, Feinholdt, & Lang, 2013). The current study aims to identify individual and gender variations in emotion regulation during periods of distress and unpleasant events.

There is substantial evidence that women and men regulate their emotions in different ways. For example, men have been found to use cognitive reappraisal (i.e., reframing the negative event in a less emotional way) less effectively than women (McRae, Ochsner, & Mauss, 2008). Men have also been found to suppress their anger and depressive feelings more often than women (Kwon, Yoon, Joormann, & Kwon, 2013). On the other hand, women are more likely to use rumination (i.e., repetitively pondering about the situation), which in turn can lead to heightened feelings of anxiety and inadequacy over the present situation. (Kwon, Yoon, Joormann, & Kwon, 2013).

Gender differences have also been found in self-esteem. Self-esteem is defined as a person's general sense of worth (Bajaj, Gupta, & Pande, 2016). An individual's sense of self plays a vital role in one's identity. A low self-esteem can generate sentiments of inadequacy or fulfillment during moments of high stress, such as in the case of adopting a set of duties through a new job position or when awaiting a medical diagnosis. Research has also suggested that men

tend to have higher self-esteem than women (Zuckerman, Li, & Hall, 2016). Although men may report having higher self-esteem than women, a person's self-esteem does not fully develop until about age 18. Therefore, gender differences in self-esteem do not appear to exist until later in adolescence (Zuckerman, Li, & Hall, 2016). In essence, young adult men may report having higher self-esteem than women, but ultimately societal expectations and sociocultural factors mold these perceptions of the self.

Self-esteem plays a vital role in enhancing one's well-being and can reduce negative affect (Bajaj, Gupta, & Pande, 2016). Therefore, it is not surprising that there seems to be a link between emotion regulation and self-esteem. Specifically, more adaptive emotion regulation appears to act as a buffer for low self-esteem (Bajaj, Gupta, & Pande, 2016). Although there is some evidence that general measures of emotion regulation are associated with self-esteem, less is known about how specific aspects of emotion regulation might relate to self-esteem. Moreover, considering that there seem to be gender differences in both self-esteem and emotion regulation in early adulthood, more research is needed to understand if the link between self-esteem and emotion regulation differs between men and women.

## Current Study

Several studies within the past decade have indicated that there is a relation between emotion regulation and self-esteem (Bajaj, Gupta, & Pande, 2016). Past research, however, has overlooked the link between specific aspects of emotion regulation, such as access to emotion regulation strategies, as a predictor of self-esteem. There is evidence that men and women differ in how they regulate their emotions (Kwon, Yoon, Joormann, & Kwon, 2013). If this is true, then gender differences in emotion regulation should also be reflected in the link between emotion regulation and self-esteem. The present study aimed to assess whether differences in various aspects of emotion regulation relates to self-esteem in young adults. Additionally, we examined the role of gender in further contextualizing the hypothesized relation between emotion regulation and self-esteem. Based on previous studies, we hypothesized that men would show higher self-esteem than women, and that women would show better emotion regulation than

men. When looking at the link between emotion regulation and self-esteem, we expected the relation between the constructs to be stronger for women compared to men.

## METHOD

### Participants

Participants included 91 young adults ( $M_{age} = 19.41$  years,  $SD = 1.56$ ; 71 women) who participated in the study in exchange for research credits for a course. Racial and ethnic distribution varied, 41% endorsed being Asian, 17% endorsed being Hispanic, 13% endorsed being white/Caucasian, 7% endorsed more than one ethnicity, 5% endorsed being part of an ethnic group not specified above, 2% endorsed being black, and 15% did not report race/ethnicity.

### Procedure

Participants came to the Emotion Regulation Lab at the University of California Riverside for a two-hour single session study. Informed consent was obtained from all participants before the study started. Participants completed computer tasks and interviews (not considered here) and were asked to report on their gender, their self-esteem, their emotion regulation, as well as on other family and personal characteristics. At the end of the study, participants were debriefed and received research credit for their participation. Procedures were completed in English.

### Stimuli and Measures

**Self-Esteem.** We assessed self-esteem with a single item. Participants were asked to indicate using a 7-point scale (1 = strongly disagree; 7 = strongly agree) how much they agreed with the statement “I have high self-esteem.”

**Emotion Regulation.** Participants completed the *Difficulties in Emotion Regulation Scale* (DERS). This 36-item questionnaire asked participants to indicate how often the statements applied to them using a scale of 1 to 5 (1 = almost never; 5 = almost always). The questionnaire included questions such as, “I am clear about my feelings,” and, “I pay attention to how I feel.” The present study utilized all six subscales from the DERS questionnaire. The *Nonacceptance* subscale measures the extent to which a person has a negative reaction to their own distress. The *Goals* subscale measures difficulty in focusing and completing tasks when negative emotions are present.

The *Impulse* subscale detects the difficulty an individual may have in controlling their behavior while experiencing negative emotions. The *Awareness* subscale provides an indication of a person’s negligence and disregard for his or her emotions. The *Strategies* subscale illustrates an individual’s belief in his or her capability to regulate their emotions. Similarly, the *Clarity* subscale reflects an individual’s capacity to cultivate a clear understanding of their emotions. Reliability for all subscales was good in this sample ( $\alpha = .79-.88$ ).

## RESULTS

The present study aimed to answer the question of whether different aspects of emotion regulation are linked to self-esteem, and whether there were gender differences in the link between emotion regulation and self-esteem.

**Gender differences in self-esteem:** As expected, there was a significant gender difference in self-esteem,  $t(88) = 2.669$ ,  $p = .008$ . Men ( $M = 5.21$ ,  $SD = 1.34$ ) reported having higher self-esteem than did women ( $M = 4.39$ ,  $SD = 1.34$ ).

**Gender differences in emotion regulation:** In contrast to expectations, there were no significant gender differences in emotion regulation. Men and women did not differ in terms of nonacceptance,  $t(89) = .595$ ,  $p = .553$ ; goals,  $t(89) = -1.089$ ,  $p = .279$ ; strategies,  $t(89) = -.235$ ,  $p = .815$ ; impulse,  $t(89) = 1.212$ ,  $p = .229$ ; awareness,  $t(89) = .834$ ,  $p = .407$  or clarity,  $t(89) = 1.406$ ,  $p = .163$ .

**Is emotion regulation associated with self-esteem?** Self-esteem was negatively associated with nonacceptance ( $r = -.299$ ,  $p = 0.004$ ), therefore indicating that having a stronger typical negative reaction to one’s own distress and emotions was associated with lower self-esteem. Furthermore, the DERS goals scale ( $r = -.299$ ,  $p = .004$ ) correlated with self-esteem, indicating that greater difficulty in focusing and accomplishing tasks was also associated with lower self-esteem. Self-esteem was significantly associated with DERS clarity ( $r = -.396$ ,  $p < .001$ ) such that greater difficulties in acknowledging and creating a clear understanding of one’s emotions were associated with lower self-esteem. Lastly, self-esteem was also significantly negatively associated with DERS strategies ( $r = -.351$ ,  $p = .001$ ) such that greater difficulties finding

strategies to change negative emotions was associated with lower self-esteem. Thus, though self-esteem was not related to all six DERS subscales, our hypotheses about the relation between emotion regulation and self-esteem were largely supported by these correlational findings (*Table 1*).

**Are there gender differences in these patterns of associations?** Although we did not find significant group differences between men and women for any of the emotion regulation variables, one of our main goals was to explore how the link between emotion regulation and self-esteem might differ by gender. Thus, we still conducted our planned correlations for women and men separately to explore these potential differences in the relations between emotion regulation and self-esteem.

**Men.** Self-esteem was significantly associated with DERS clarity for men ( $r = -.495, p = .007$ ), showing the same pattern as the correlation with the whole sample. The correlation between DERS strategies and self-esteem was significant ( $r = -.447, p = .017$ ) with greater difficulties being associated with lower self-esteem. Lastly, the correlation between DERS goals and self-esteem was also significant ( $r = -.401, p = .034$ ) showing that having difficulty in completing tasks was associated with having a lower self-esteem for men.

**Women.** Self-esteem was significantly associated with DERS clarity for women ( $r = -.435, p < .001$ ) showing the same patterns as the correlation with the whole sample. A similar pattern emerged for DERS strategies ( $r = -.324, p = .011$ ) with greater difficulties being associated with lower self-esteem. The correlation between self-esteem and DERS nonacceptance scale was also significant ( $r = -.339, p = .007$ ), suggesting

that non-acceptance of one’s emotions was associated with a lower self-esteem. Lastly, a greater inability to acknowledge one’s emotions (i.e., DERS awareness) was associated with lower self-esteem ( $r = -.338, p = .008$ ).

**Differences in the magnitude of the relation between emotion regulation and self-esteem for women and men.** We used Fisher’s  $r$  to  $z$  transformations to assess potential magnitude differences in the correlations between DERS strategies and clarity and self-esteem for women and men, because these were the only correlations that were significant for both men and women. Results suggest that the magnitude of these correlations did not significantly differ between men and women for DERS strategies ( $z = -.061, p = .542$ ) or for DERS clarity ( $z = -.32, p = .749$ ), in contrast to our expectations.

**DISCUSSION**

The goal of the present study was to assess associations between various aspects of emotion regulation and self-esteem, and to examine potential gender differences in these associations. Studying self-esteem is vital, as high self-esteem has been associated with better coping mechanisms and setting higher standards for one’s self (Baumeister, Campbell, Krueger, & Vohs, 2003). In addition, low self-esteem has been associated with greater aggressive behavior (Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005), underscoring the importance of understanding how emotion regulation and self-esteem are related for men and women. Thus, we aimed to further look at potential gender differences in self-esteem by exploring how emotion regulation might differentially relate to self-esteem for men and women. We hypothesized that men would have higher self-esteem, whereas women would show better emotion regulation. Furthermore, we hypothesized that women would show a stronger association between emotion regulation ability and their self-esteem. Our findings showed that young adult men did in fact report significantly higher self-esteem in comparison to young adult women. However, in contrast with our hypothesis, there were no significant gender differences in emotion regulation. Despite the lack of group level differences in emotion regulation, the correlations between various facets of emotion regulation and self-esteem revealed that there were differences in how emotion regulation was linked to self-esteem for men and women. Specifically, when

DERS Subscales	Everyone	Men	Women
DERS Goals Scale	-.299**	-.401*	-.235
DERS Non-Acceptance	-.299**	-.310	-.339**
DERS Awareness	-.208*	.012	-.338**
DERS Strategies	-.351**	-.447*	-.324*
DERS Clarity	-.396**	-.495*	-.435**
DERS Impulse	-.206	-.374	-.195

*Table 1. Correlations between self-esteem and the emotion regulation subscales. + $p < .10$ ; \* $p < .05$ ; \*\* $p < .01$*



looking at the correlations by gender the clarity, strategies, and goals subscales were significantly correlated with self-esteem for men, whereas for women, self-esteem was significantly associated with nonacceptance, awareness, strategies, and clarity. Thus, these findings partially support our hypothesis that a stronger link between aspects of emotion regulation and self-esteem would be seen among women compared to men.

There are several possible explanations as to why young adult men may have higher self-esteem than their female counterparts. It is possible that societal stereotypes, that define men as less emotional in comparison to women, may introduce psychological stress that men feel the need to fulfill and surpass (Kling, Hyde, Shibley, Buswell, Showers, 1999). The significant associations for men (clarity, strategies, and goals) suggest that difficulties understanding their emotions, difficulties accessing strategies to change how they feel, and difficulty focusing and completing the task at hand because of these negative emotions, are particularly important for understanding men's self-esteem. Difficulties in these specific aspects of emotion regulation may present a threat to masculine identity and self-esteem (Tager, Good, Brammer, 2010). Moreover, the norms established by sociocultural factors can further impede on a male's sense of self and ability to acknowledge their emotions.

Gender differences in self-esteem are noticeable from early adolescence, more specifically beginning at the age of 15 (Zuckerman, Li, & Hall, 2016). During this time, girls are found to have lower self-esteem than boys, as girls become more exposed to the media presentation of women and girls as passive and are exposed to the societal standards of body image (Kling, Hyde, Showers, Buswell, 1999). Participants in the present study were young adults, therefore it is possible that female participants are not only continuously in the process of developing their identity but are also presenting differences in self-concept in comparison to men that would be expected based on these societal factors. The primary difference between the correlation of emotion regulation and self-esteem in both genders was that low self-esteem in women was associated with more and different aspects of emotion regulation, especially problems accepting their emotions and acknowledging them. It is possible that women's consistent exposure to passive perceptions of women and the unfeasible

criteria for body thinness that is predominant in contemporary western societies such as the United States, results in women more frequently experiencing negative situations that can directly undermine their self-esteem more often. This in turn may provide an explanation as to why emotion regulation appears to be more strongly associated to self-esteem in women compared to men; however more research is needed on this particular topic.

The findings of the present study are tempered by some limitations. For example, we used a single question to measure self-esteem, which may not account for other aspects of self-esteem and self-concept that differentially relate to emotion regulation. Another limitation is that most of our sample were women, and the relative underrepresentation of men may have limited the variance in men's emotion regulation and self-esteem we could detect. In addition, we focused on young adults, but research suggests that these links might be changing throughout development, therefore, more research is needed to better understand how these associations might be changing throughout the lifespan.

Although the present study utilized a single question to measure self-esteem, we believe that this was a sufficient measure of self-esteem because of the range of possible responses (1-7). As previous research suggests, self-esteem can be classified as high or low. In essence, an ordinal scale (like the one we used) provides a concise and finite evaluation of participants' perception on their self-esteem. The results in the study did not confirm our hypothesis that women had better emotion regulation than men, however, the results supported our hypothesis that women would have a stronger link between emotion regulation and self-esteem. Therefore, it is possible that having a larger sample size of women in the present study may have provided a more illustrative evaluation of the link between emotion regulation and self-esteem. Current research also suggests that women begin to develop a lower self-esteem during later adolescence. By studying a larger sample of female participants, our study confirms past research on gender variations in self-esteem. Future studies should continue to evaluate the link between emotion regulation and self-esteem by assessing a larger number of men, and by looking at several developmental stages. Exploring this association across adolescence, young adulthood, and middle age may provide useful information about when emotion regulation is

most important for self-esteem. This knowledge, in turn, can be used by clinicians to generate intervention efforts that are most appropriate for the particular developmental stage of the patient.

The current study adds to the growing body of research on

how emotion regulation relates to self-esteem and expands knowledge in this area by highlighting how different aspects of emotion regulation are related to self-esteem for men and women. This is an important first step in clarifying the role and importance of emotion regulation in the cultivation of one's sense of self.

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## Parent Psychopathology and Parent-Child Conflict Interact to Predict Children's Anxiety but Not Depression

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### ABSTRACT

Correlates of child psychology have been studied for decades (Ollendick & Herson, 1989). Research has shown that parental psychopathology can influence child psychopathology through a combination of familial and environmental factors (Biedel & Turner, 1997; Burstein et al., 2010). Parent-child interactions have also been found to relate to child psychopathology (Donenberg & Weisz, 1997). A possible explanation for these relations is that the behavior of parents experiencing psychopathology symptoms differs from parents not facing these difficulties, like displaying more hostile behavior towards their offspring (Burstein et al., 2010). The present study examines the interaction of parent psychopathology and parent-child conflict during a stressful task to see if conflict moderated the relation between parents' and children's psychopathology. We studied whether the relation between parent and child symptoms would be stronger for dyads characterized by conflict. 184 children aged 3 to 11 (91 boys and 93 girls) visited the lab. Parents completed questionnaires to measure their depression and anxiety symptoms, as well as the child's anxiety and depressive symptoms. The parent and the child also participated in a Lego task where instances of child conflict were observed. Results showed that parent anxiety interacted with parent-child conflict to predict children's anxiety symptoms, such that parents' anxiety predicted children's anxiety only among dyads characterized by high levels of conflict. The same was not true for depressive symptoms. The current study expands research about moderators by showing that the link between parent and child psychopathology is qualified by other aspects of the family environment.

**Keywords:** Psychopathology, Parent-Child Conflict, Anxiety Symptoms, Depressive Symptoms, Internalizing Disorders



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## INTRODUCTION

Parents are one of the greatest influences on a child's life. Children's development is heavily influenced by both biological and psycho-social aspects of parenting (Ollendick & Herson, 1989). Thus, it is not surprising that parents and children display similar symptoms of psychopathology. A reason why we see this relation between parents' and children's psychopathology may be that children learn, mimic, and internalize their parents' disordered behaviors. Children are at the greatest risk for developing the type of psychopathology demonstrated by their parents because of environmental factors such as parent modeling (Burstein et al., 2010). This is important as the internalization of these behaviors might be a mechanism through which child psychopathology emerges and is maintained throughout the lifespan. Looking at specific factors such as parent psychopathology and parent-child conflict are important when assessing which children are at a higher risk for developing psychopathology. With more research being done on this subject, we are able to minimize the risk factors that increase the likelihood of child psychopathology. Additionally, research on these relations can help create early intervention and prevention measures for child anxiety and depression.

A great amount of research has shown parents' influence on child psychopathology; factors that have been studied vary from parent psychopathology (Biedel & Turner, 1997; Burstein et al., 2010), parent-child interactions (Donenberg & Weisz, 1997; Caron et al., 2006), style of parenting (Van Der Bruggen et al., 2008), and more. First and foremost, parent psychopathology has been found to be a strong predictor for child psychopathology. Researchers have found that children of parents with anxiety disorders and depressive disorders were more likely to have a diagnosable disorder than children of parents that did not have these disorders (Biedel & Turner, 1997). According to this research, the chances of a child having a disorder ranged from 5.05 to 6.25 times higher if the parent had anxiety, depression, or both (Beidel & Turner, 1997). There is a strong link between children's depression and anxiety, and their parent's psychopathology. Therefore, having a parent with a history of psychopathology can affect a child in a multitude of ways.

Parent-child interactions have a strong association with symptoms of depression and anxiety in children (Marmorstein & Iacono, 2004), suggesting that there might be other factors of the parent-child relationship that could account for the emergence of psychopathology in children. One study found that there was an association between child anxiety and parental control (Van Der Bruggen et al., 2008). Interestingly, previous research has associated adult depression/anxiety with reports of over-controlling and dominant behavior (Donenberg & Weisz, 1997). These interactions could lead to parents having more conflict with their children, which in turn can be correlated with symptoms of depression and anxiety. It has been shown that high parent-child conflict was associated with major depression in adolescence (Marmorstein & Iacono, 2004). In this study, we examined instances of parent-child conflict during a stressful task to see if the way parents act in situations like these predicts child symptoms of depression and anxiety when also considering parents' symptoms. Considering these two aspects of a child's environment together is important, as symptoms may be especially pronounced for children who have both a parent with psychopathology and a relationship characterized by conflict with their parents.

## Current Study

In the current study, we looked at parent depression and anxiety along with parent-child conflict to see if conflict between parents and their children during a stressful task moderated the effects of parent psychopathology on children's depression and/or anxiety. Based on past work done on the link between parent and child psychopathology, we hypothesized that parent depression and anxiety would be positively correlated with child depression and anxiety. We also hypothesized that parent-child conflict would be positively associated with child psychopathology. Moreover, we were interested in exploring parent-child conflict as a moderator of the link between parent psychopathology and child psychopathology. We expected parent-child conflict to moderate the effect of parent depression on child depression and the effect of parent anxiety on child anxiety, such that parent psychopathology would be a particularly important predictor of child psychopathology for children experiencing high conflict.



## METHOD

### Participants

Our study included a sample of a total of 184 children, ages 3 to 11 ( $M = 7.67$ ,  $SD = 2.30$ ). This sample included 91 boys and 93 girls. In terms of ethnicity, children were reported by parents as Caucasian (18.2%), African American (10.7%), Hispanic (29.4%), Asian American (2.1%), Other (2.1%), and More than one race (35.3%). Of the caregivers that came in, 153 were mothers and 28 were fathers. Mothers' formal schooling ranged from grade school (1.6%) to a Doctoral degree (2.7%) with the mean formal education level of a trade, technical, or vocational degree ( $M = 4.96$ ,  $SD = 1.34$ ). Fathers' formal schooling ranged from Grade School (1.6%) to a Doctoral degree (3.6%) with the mean also being closer to having a trade, technical, or vocational degree level ( $M = 4.77$ ,  $SD = 1.42$ ). Family income ranged from \$15,000 or less (15.5%) to above \$100,000 (11.8%) with the mean income being in the \$41,000 to \$50,000 bracket ( $M = 5.10$ ,  $SD = 3.35$ ).

### Procedure

Families came to the Emotion Regulation lab for one visit. Before any study procedures began, informed consent was obtained from the parents, and assent (verbal and written) was obtained from the children. While children completed a series of engaging tasks (not considered here), parents completed questionnaires about themselves and their child (e.g., demographics, child psychopathology symptoms, and their own symptoms). About half-way through the study, parents were invited to join their child for a series of tasks. Of importance for this study is a frustrating Lego task that they worked on together. Our measure of parent-child conflict was coded from behavior in this task (described below). At the end of the study, families received a small honorarium for their participation and children chose a toy to take home as a thank-you gift. All procedures were done in English.

### Stimuli and Measures

**Parent-Child conflict.** The child and their parent were asked to work on completing a difficult Lego structure together. During the first 5 minutes of the task (Phase 1), parents were given the instruction manual on how to complete the Lego but were asked to only provide verbal help. For the second part of the task (also 5 minutes; Phase

2) parents could physically help their child if they wanted. The Lego structure was a highly complex structure too difficult to complete in 10 minutes even for an adult, thus, the task was designed to elicit frustration for both parent and child. Parent-child conflict was globally coded from this task using a 5-point Likert scale (1 = *low conflict*; 5 = *high conflict*), based on the intensity and duration of child and parents' distress-related or conflict-related behaviors and verbalizations. This could include verbalizations such as "Hey, don't get mad at dad!" or non-verbal behaviors such as throwing Lego pieces, crossing arms, and frowning. Two separate codes were assigned (one for each Phase) but we used the average conflict observed in the two Phases for analyses. Both frequency and intensity of these behaviors and verbalizations were used to assign a level of conflict. Inter-rater reliability was excellent (93% agreement).

**Parent psychopathology.** For depression, we used the *Center for Epidemiological Studies-Depression* questionnaire (CES-D; Radloff, 1975). The CES-D is a 20-item measure that asks parents how often in the past week have they had various symptoms associated with depression (e.g., restless sleep, poor appetite, feeling lonely). Responses range from 0 to 3 for each question (0 = *Rarely or None of the Time*; 3 = *Most or Almost All the Time*). Higher scores indicate greater depressive symptoms. The internal consistency of this questionnaire in our sample was very good ( $\alpha = .90$ ).

To evaluate anxiety symptomatology, we used The Penn State Worry Questionnaire, which is a 16-item measure that uses a 5-point Likert scale (PSWQ; Meyer et al., 1990). The questionnaire measures worry and general anxiety disorder. The scale ranges from 1 to 5 for each question (1 = *Not at all typical of me*; 5 = *Very typical of me*). The total score is calculated by summing the first 11 items and the reverse-scores of the other 5 items. Higher PSWQ scores reflect greater levels of pathological worry. The internal consistency for our sample was also very good ( $\alpha = .91$ ).

**Child psychopathology.** We used the MacArthur Health and Behavior Questionnaire (version 1.0), on which parents provided information about their children's functioning (HBQ; Essex et al., 2002). The HBQ has multiple scales (e.g., depression, externalizing symptoms,

conduct disorders, attention-deficit/hyperactivity disorder symptoms, etc.) For this study, we focused on the depression subscale only. Responses on the HBQ ranged from 0 to 2 (0 = *Never or not true*; 2 = *Often or very true*). The depression subscale is calculated as the mean of all the items on the subscales. Reliability for the subscale in our sample was adequate ( $\alpha = .69$ ).

We used the Screen for *Child Anxiety Related Disorders* (SCARED; Birmaher et al., 1999) to assess anxiety. The SCARED is a 41-item inventory that uses a 3-point Likert scale (0 = *Not True or Hardly Ever True*; 2 = *Very True or Often True*) that screens for symptoms of anxiety disorders in children. We used the version of this questionnaire in which parents report on their child's symptoms. We focused on the general score that is calculated by summing up all items. A score higher than 25 on this scale may indicate the presence of an anxiety disorder. Reliability was excellent ( $\alpha = .90$ ).

## RESULTS

*Gender Differences.* There were no gender differences for any of our variables of interest (i.e., parent-child conflict, parent anxiety, parent depression, child anxiety, and child depression), at all  $t$ s  $< 1.888$ ,  $p$ s  $> .061$ .

*Correlations.* As expected, there was a positive significant correlation between parent anxiety and child anxiety,  $r(170) = 0.324$ ,  $p < .001$ . Additionally, there was a positive significant correlation between parent depression and child depression,  $r(173) = 0.412$ ,  $p < .001$ . A positive significant correlation between parent depression and child anxiety was also present,  $r(174) = 0.319$ ,  $p < .001$ . There was also a significant positive correlation between parent anxiety and child depression,  $r(170) = 0.299$ ,  $p < .001$ . Parents with psychopathology, either depression or anxiety, were linked to child psychopathology of either depression or anxiety. Therefore, parental anxiety was not specifically correlated to only child anxiety. These correlations show that the presence of parent psychopathology is correlated to their child having psychopathology even though the symptoms may not be the same as their parents. However, there were no significant associations between parent-child conflict and child anxiety,  $r(172) = 0.015$ ,  $p = .841$ , or between parent-child conflict and child depression,  $r(173) = -0.008$ ,

$p = .915$ . Age was significantly correlated only with child depression,  $r(183) = .191$ ,  $p = .009$ .

*Regression model for child depression.* Given the correlation of age with child depressive symptoms, at the first step of this model we entered children's age as a covariate. This step was significant  $F(1, 164) = 5.308$ ,  $p = .022$ ,  $R^2 = .031$  and age was a significant covariate ( $b = .023$ ,  $t = 2.304$ ,  $p = .022$ ). At the second step, we entered parents' depressive symptoms and parent-child conflict. This step was significant  $F\Delta(2, 162) = 14.803$ ,  $p < .001$ ,  $R^2\Delta = .150$ . As expected, parents' depressive symptoms predicted child depressive symptoms ( $b = .010$ ,  $t = 5.433$ ,  $p < .001$ ), but parent-child conflict did not predict child depressive symptoms ( $b = -.011$ ,  $t = -.489$ ,  $p = .626$ ). At the third step, we added the interaction between parents' symptoms and parent-child conflict, but this step of the model was not significant,  $F\Delta(1, 161) = 14.803$ ,  $p < .001$ ,  $R^2\Delta = .013$ , suggesting parent-child conflict did not directly relate to children's depressive symptoms, nor did it moderate the effect of parent depressive symptoms on child depressive symptoms.

*Regression model for child anxiety.* At the first step of this model, we entered parents' anxiety symptoms and parent-child conflict  $F(2, 160) = 9.668$ ,  $p < .001$ ,  $R^2 = .108$ . This first step was significant. As expected, parents' anxiety symptoms predicted child anxiety symptoms ( $b = .231$ ,  $t = 4.395$ ,  $p < .001$ ), but parent-child conflict did not predict child anxiety symptoms ( $b = -.212$ ,  $t = -.289$ ,  $p = .773$ ). At the second step, we added the interaction between parents' symptoms and parent-child conflict. This step was significant  $F\Delta(1, 159) = 6.667$ ,  $p = .011$ ,  $R^2\Delta = .036$ . The interaction of parents' anxiety symptoms and parent-child conflict was significant ( $b = .131$ ,  $t = 2.582$ ,  $p = .011$ ). A closer look at the interaction (**Figure 1**) revealed that higher parent anxiety was associated with more child anxiety, but only for children who experienced high parent-child conflict ( $b = .354$ ,  $t = 4.669$ ,  $p < .001$ ). For children who experienced low parent-child conflict during the task, parents' anxiety did not relate to children's anxiety ( $b = .092$ ,  $t = 1.157$ ,  $p = .249$ ).

## DISCUSSION

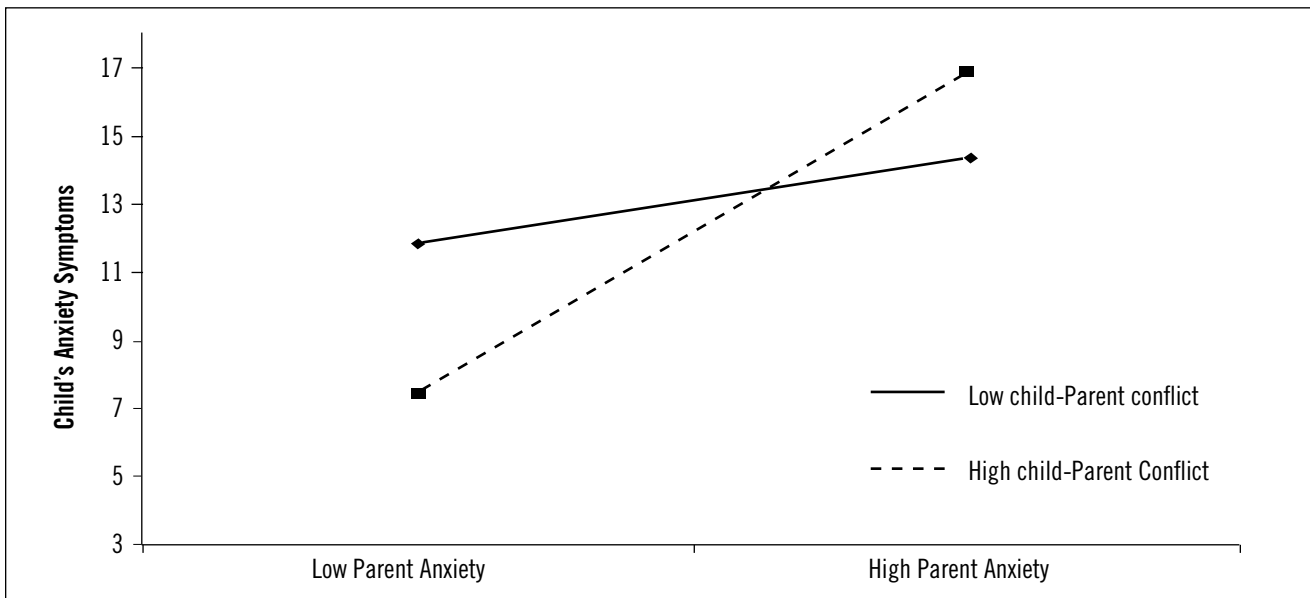
The current study was conducted to examine whether

conflict moderated the relation between parental psychopathology and child psychopathology. We hypothesized that parent depression and anxiety would be related to child depression and anxiety, respectively, and that parent-child conflict would moderate both associations. Specifically, we expected parent psychopathology to be a particularly important predictor of child psychopathology for children experiencing high parent-child conflict. As expected, both parents' anxiety and parents' depressive symptoms were related to children's anxiety and depressive symptoms. However, we found the expected moderating effect of parent-child conflict only for anxiety and not for depressive symptoms. Thus, the results only partly support our hypotheses.

The interaction pattern for anxiety showed that there was no relation between parent and child anxiety for low-conflict dyads, but a positive association between parents' and children's anxious symptoms among high-conflict dyads, as shown in *figure 1*. High parent-child conflict coupled with parent anxiety related to symptoms of anxiety in children, an additional risk factor that children who experienced low conflict did not have. Conflict may be particularly important for anxiety, because high levels of

stress within the dyad are likely linked with other aspects of difficult parenting, such as high levels of parental control, which has been found to increase the chance that particular types of anxiety symptoms and disorders will develop among children (Wood, 2006). For example, it has been shown that mothers were more involved and intrusive in a difficult and stressful situation (Hudson & Rapee, 2000). In the context of high conflict interactions, parents are likely engaging in behaviors that put too much pressure on the child, generating anxiety over the inadequacy to handle the stressful situation (Van Der Bruggen et al., 2008). In addition, we believe that high conflict situations with a parent may serve as an additional stressor to children, who will may already not feel capable to handle these types of situations because they are used to their parents taking control. This increased stress can be an additional possible mechanism through which child anxiety symptoms become worse through childhood.

We found the moderating effect for anxiety but not depression, perhaps because parents' anxiety symptoms are more likely to prompt parents to want to be in control of the situation and dominate their children more so than would parents' depressive symptoms. In turn, this greater



**Figure 1.** Interaction between parents' anxiety symptoms and parent-child conflict predicting child's anxiety symptoms.

Low child-parent conflict:  $b = .092, t = 1.157, p = .249$

High child-parent conflict:  $b = .354, t = 4.669, p < .001$

need to be in control of the child's behavior likely leads to high conflict within the dyad, and in turn, more anxiety symptoms for the child. Evidence supports the idea that parents' anxiety level influences parental control behaviors as a mechanism through which parents aim to avoid having their child encounter threatening situations (Van Der Bruggen et al., 2008). In this case, parents' anxiety is associated with them controlling the stressful situation, which can create conflict with their children as they put pressure on children to behave in certain ways. It is possible we also found this effect because of the behaviors associated with each of these types of psychopathological symptoms. For example, a depressed parent may not express interest in the activity with their child, resulting in fewer attempts at controlling the situation, and in turn, less conflict within the dyad. On the other hand, anxious parent may be overly interested and over involved in the activity, increasing the likelihood of conflict happening during the task.

Like any other study, there were limitations that should be acknowledged. For one, parents' and children's psychopathology symptoms were both provided by the parent, so there may have been some reporter bias. For example, anxious parents could have rated their child as being more anxious than they really are. In addition, the environment could have also played a role when it came to the conflict observation we used. Doing the task in a lab setting could have made parents or children more anxious and could have led to more frustration and conflict, or it could have led to parents interacting with their children in a more socially acceptable way. For one, parents could have acted more kindly when interacting with their children,

because they were aware that they were being watched. Hence, there was a possible chance of observer effect as subjects could have changed their behavior because they know they are being studied.

It would be valuable to do further research on other types of parent and child interactions that may additionally moderate symptoms of child psychopathology. For example, parents' socialization of emotional responses might also moderate the relation between parent and child symptoms. Also, it would be useful to study why parents with psychopathology display some behaviors more often than parents not experiencing symptoms of psychopathology. These behaviors can shed light on why these parents have different interactions and relationships with their children. Future studies should also aim to study parent-child interactions in more naturalistic settings to better assess their behaviors during an interaction. By doing the observation in the family's household instead of a lab, the participants may act the way they usually would, without pressure of having to act in a more socially desirable manner.

## CONCLUSION

The current study expands our knowledge of the link between parent and child psychopathology by highlighting parent-child conflict as an important moderator of child anxiety but not depressive symptoms. This is important to note when attempting to reduce risk factors in children's lives that can lead to psychopathology and has clear implications for clinical work as clinicians must be aware of the myriad factors that play a role in child psychopathology.

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