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Parental Rejection and Peer Acceptance: The Mediating Role of Cognitive Bias

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ABSTRACT

Understanding what influences peer attachments is vitally important. Consistent with organizational/transactional theory, we examined the roles of emotional dysregulation and cognitive bias, in the relationship between parental rejection and peer acceptance. Early adult participants reported their perception of parental acceptance/rejection in childhood and current levels of emotional, cognitive, and social wellbeing. Results replicate findings that the quality of a parent-child relationship relates to psychological functioning, including one's ability to regulate emotions, understand others' emotions and intentions, and form quality relationships. However, maladaptive cognitions mediate the relationship between parental and peer acceptance.

INTRODUCTION

The need to belong drives us to engage in behaviors that increase the chances of peer acceptance and reduce the chances of social rejection (Baumeister & Leary, 1995). Appropriate socialization processes in development are maximal, as peer acceptance is linked to self-esteem, communication opportunities, and emotional regulation (Mostow et al., 2002; Onoda et al., 2010). An inability to establish and preserve peer relationships can have negative effects, including aggression and peer victimization (Ettekal & Ladd, 2019), and cognitive persistence impairment on tasks and increased risk-taking (King et al., 2018).

It is vital that children experience positive peer relationships, as this allows them to develop appropriate social and emotional skills which aids in their later behavioral and cognitive development (Izard et al., 2000; Lim & Lee, 2017; Mostow et al., 2002; Tyler et al., 2006; Youngblade & Belsky, 1989). Individuals who are rejected by their peers often engage in subsequent aversive behaviors (e.g., hostile peer interactions) that promote further peer rejection (Ettekal & Ladd, 2019). That is, the lack of peer acceptance creates a social context in which the individual is deprived of normal interactions, and then maladaptive behaviors are increased in retaliation for the initial rejection (Ettekal & Ladd, 2019). As such, peer rejection appears to be longitudinally stable, in that rejected individuals tend to stay rejected (Lewis et al., 2000). Thus, it is imperative to examine what factors may predict peer rejection. We examined potential mediators in the relationship between parental rejection and peer acceptance.

Parental Rejection

Parent-child relationships play a major role in children's psychological well-being (Khaleque & Rohner, 2012), and later peer relationships (Cicchetti, 1989). According to the organizational/transactional theory, adaptations arising from challenges in one developmental stage affect how individuals react to challenges in later stages (Cicchetti, 1989). Consistent with this theory, parental acceptance is related to decreased problem behaviors, higher academic performance, and better socialization with similar aged children (Aunola & Nurmi, 2005). Conversely, low-quality parenting predicts similar negative outcomes (e.g., peer rejection, aggression, interpersonal anxiety, and anger; Casselman & McKenzie, 2015; Giotsa et al., 2018; Rohner, et al., 2012). A recent meta-analysis indicated that adult recollections of parental rejection predicted hostility and aggression in adulthood (Khaleque & Rohner, 2012). However, newer studies suggest the parent-child relationship does not just directly influence aggression; instead, the low quality of a parent-child relationship has negative influences on other linked interpersonal outcomes, such as interpersonal anxiety (Giotsa et al., 2018), interpersonal communication/shyness (Miller et al., 2011), and adult attachment style (Pinquart et al., 2013).

Importantly, the parent-child relationship is directly linked with the peer relationship quality in adolescence and adulthood (Giotsa et al., 2018; Pinquart et al., 2013). One explanation for this association is that individuals maintain an internal working model (IWM) of attachment that influences their perception of social experiences and how they react to social situations in adulthood (Lewis, et al., 2000). The IWM mediates the association between childhood attachment and adulthood wellbeing (Thompson, 2008), and is negatively influenced by situations such as parental divorce (Lewis, et al., 2000), emotional abuse (Wright et al., 2009), and sexual abuse (Seltmann & Wright, 2013) in childhood. While secure IWMs are associated with relationship satisfaction and perceiving adult attachment situations positively, insecure IWMs are associated with interpreting attachment situations as hostile and fearful (Lewis, et al., 2000). Consistently, children with insecure attachment styles are more likely to exhibit insecure attachment behaviors in young adulthood (Pinquart et al., 2013), and individuals displaying higher levels of attachment anxiety are less likely to form adult relationships (Chopik et al., 2013). This is consistent with the organizational/transactional theory, as it suggests that an individual's IWM that was created through childhood attachment experiences impacts how they respond to social situations in adulthood.

Given that parental neglect and other negative childhood attachment experiences impact the ability to form friendships throughout life (Aunola & Nurmi, 2005; Giotsa et al., 2018; Lewis, et al., 2000; Pinquart et al., 2013; Seltmann & Wright, 2013; Wright et al., 2009), it is important to understand mediating mechanisms. The organizational/transactional theory would suggest that maladaptive cognitions and emotional understanding arising from parental rejection prevent individuals from understanding the emotions and intentions of others (Ettekal & Ladd, 2019; Mostow et al., 2002). Therefore, we examined emotional dysregulation and cognitive bias as potential mediators in the relationship between parental rejection and peer acceptance.

Emotional Dysregulation

Mostow and colleagues (2002) argue that if children have high levels of emotional knowledge, they are more accurate at evaluating their own emotions and interpreting the emotions of others,

compared to individuals who have low levels of emotional knowledge. For example, children high in emotional knowledge could interpret a shoulder pat as a positive gesture; children low in emotional knowledge could interpret a shoulder pat as an aggressive act. Following a correct interpretation, children should respond with the appropriate behavior (Mostow et al., 2002).

Emotional dysregulation, the inability to control negative emotions, is linked to peer rejection and aggression (Casselman & McKenzie, 2015; Ettekal & Ladd, 2019). This is because peer rejection elicits a strong, negative, emotional response and emotionally over-reactive children are more likely to respond aggressively compared to emotionally appropriate children (Ettekal & Ladd, 2019). Children with poor emotion regulation skills may misinterpret emotional cues more frequently and act on their immediate emotional responses, whereas children who are skilled at emotion regulation may correctly interpret emotions and respond appropriately. Thus, this process of social cue interpretation is directly related to peer acceptance and the ability to form and maintain friendships (Izard et al., 2000; Mostow et al., 2002; Tyler et al., 2006). Although emotions evolve with age and the way individuals respond to situations in childhood are different than how they respond in adulthood (Abe & Izard, 1999), the organizational/transactional theory would suggest that emotional regulation difficulties may result from poor child-parent relationships (Khaleque & Rohner, 2012). Consistently, Khaleque and Rohner (2012) found that perceptions of father rejection predicted emotional instability, and emotional instability mediated the relationship between parental rejection and aggression in young adults (Casselman & McKenzie, 2015). Therefore, emotional dysregulation should mediate the relationship between parental rejection and peer rejection.

Cognitive Biases

Similar to emotional processing, individuals encounter social situations in which they are required to use available information to make cognitive decisions. Cognitions, including biases, may adaptively allow individuals to respond to novel situations with minimal cognitive effort, and allow individuals to detect and respond to threatening stimuli (LeDoux, 1998). However, these biases can become oversensitive and lead individuals to misinterpret non-threatening social information as threatening. For example, when encountering social situations such as public speaking, socially anxious individuals might only pay attention to ambiguous or potentially threatening faces when scanning a crowd of people while ignoring positive ones. This attentional bias may cause anxious individuals to misinterpret situations as threatening and avoid future social situations (MacNamara et al., 2013).

The organizational/transactional theory would suggest that these cognitive biases result from childhood experiences and affect an individual's ability to interpret information in adulthood. Consistent with this theory, individuals raised by authoritative parents are more likely to report adaptive cognitive skills, whereas children of overprotective and neglectful parents are more likely to report maladaptive cognitive biases (Ren & Edwards, 2014). Additionally, neglected children are more likely to display a theory of mind deficit in which they have difficulty understanding the actions of individuals with different thought patterns (Kay & Green, 2015). Thus, the inability to understand the emotions and intentions of others may mediate the relationship between parental rejection in childhood and peer rejection later in life (Cicchetti, 1989).

We examined the relationship between parental rejection, peer acceptance, emotional dysregulation, and maladaptive social cognitions (i.e., bias). We hypothesized that parental rejection would be related to lower peer acceptance, greater emotional dysregulation, and higher maladaptive cognitive bias (H1). Additionally, we hypothesized that emotional dysregulation and cognitive bias would mediate that parent-peer relationship (H2).

METHOD

The exact data collection procedure and plans, in addition to all other materials can be found at https://osf.io/hpga9/?view_only=1a2e238b7a4341878628b5f709fb901a

Participants

Undergraduate participants voluntarily completed studies in psychology classes. A-priori power analyses using GPower indicated a minimum of 150 participants was necessary. Of the 173 participants who completed this study, six participants were removed due to either failing attention checks (n = 4) or missing data (n = 2). The final sample (N = 167) was 18 to 38 years (M = 19.05, SD = 2.60), 85% female, and 90.4% White (4.8% African Americans, 1.8% Biracial, 0.6% Hispanic, 0.6% Asian, and 0.6% Middle Eastern).

Measures and Procedure

Participants completed an online survey, listed among other studies, under the title of "The ABC's and Acceptance". Upon consent, participants were presented with the following measures, in randomized order:

Parental Rejection

Permission was obtained from the Ronald and Nancy Rohner Center for the Study of Interpersonal Acceptance and Rejection for the use of this scale (February, 2020). The Parental Acceptance and Rejection Questionnaire (PARQ; Rohner & Khaleque, 2008) consists of 24 items that assess adults' perceptions of childhood parental acceptance/rejection. Participants rated their agreement with various statements on a scale from 1(Almost Never True) to 4(Almost Always True) regarding their primary childhood caregiver (e.g., "Paid no attention to me"). Higher scores indicate more parental rejection. Scores were highly skewed and kurtotic, and were transformed via square root transformation (alpha= 0.94).

Peer Acceptance

The Inventory of Parent and Peer Attachment-Revised (IPPA-R; Gullone & Robinson, 2005) contains 25 items assessing an individual's current level of perceived acceptance by adult peers. Participants rated their agreement with statements (e.g., "I trust my friends") on a scale from 0(*Never True*) to 2(*Always True*). Higher scores indicate greater peer acceptance (*alpha*= 0.92).

Emotion Dysregulation

The Difficulties in Emotion Regulation Scale (DERS-16, Bjureberg et al., 2016) measures participants' inability to regulate emotional responses to stimuli via 16 items. Participants rated how much statements (e.g., "I have difficulty making sense of my feelings") apply to them on a scale of 1(*Almost Never*) to 5(*Almost Always*). Higher scores indicate greater emotion dysregulation (*alpha*= 0.94).

Cognitive Bias

The Davos Assessment of the Cognitive Bias Scale (DACOBS; van der Gaag, et al., 2013) consists of 42 items designed to assess an individual's level of maladaptive social cognitions. Participants rated their agreement of various items (e.g., "People surprise me with their reactions") on a scale of 1(*Strongly Disagree*) to 7(*Strongly Agree*), with higher scores indicating greater levels of cognitive bias (*alpha*= 0.84).

RESULTS

Pearson's bivariate analyses supported the first hypothesis that the variables were interrelated. Correlation coefficients and descriptive information for all variables are shown in Table 1.

Table 1. *Correlations between parental rejection, peer acceptance, and potential mediators.*

	1	2	3	4
1. Parental Rejection	-			
2. Emotion Dysregulation	0.27***	-		
3. Cognitive Bias	0.32***	0.44***	-	
4. Peer Acceptance	-0.43***	-0.19**	-0.31***	-
Mean(SD)	34.80(11.34)	38.66(13.75)	57.49(14.19)	64.23(8.04)
Range	24-78	16-74	18-99	38-75

Note: $*p < 0.05$, $**p < 0.01$, $*** p < 0.001$

The second hypothesis was that emotional dysregulation and cognitive bias would mediate the relationship between parental rejection and peer acceptance. A simple linear regression revealed that parental rejection significantly predicts peer acceptance $F(1,165) = 38.01$, *MSE* = 52.89, $p <$ .001, *R-SQUARED* = .19, *beta* = -.43, CI[-5.28,-2.72].

Then, mediated regression analyses using the SPSS Macro PROCESS (Hayes, 2018) tested each of the mediators individually. Analyses revealed that cognitive bias ($F(2,164) = 23.34$, *MSE* = 50.96, *R-SQUARED* = 0.22, *beta* = -.11, CI[-.19,-.03], $p = $ .008) partially mediated the

relationship, but not emotional dysregulation ($F(2,164) = 19.61$, *MSE* = 52.84, *R-SQUARED* = 0.19, *beta* = -.05, CI[-.13,.04], *p* = .282).

Finally, a mediated regression was conducted that included both variables simultaneously. Results revealed that only cognitive bias significantly mediated the relationship. The overall model was supported (*beta* = -.06, *SE* = .03, CI[-.13, -.01]). See Figure 1 for the coefficients and pathways of the full mediation model.

Fig1 *Double Mediation Model of Parental Rejection and Peer Acceptance. [included as attachment GIF]*

Note: **p* < 0.05, ***p* < 0.01, **** p* < 0.001; (X) = standard error; significant pathways are bolded for clarity in reading

DISCUSSION

We examined potential mediators in the relationship between parental rejection and peer acceptance. We expected that parental rejection would negatively relate to cognitive and emotional skills, which in turn would relate to peer acceptance. As expected, there was a strong relationship between parental rejection and one's emotional dysregulation, cognitive bias and peer acceptance. This is consistent with research that shows parent-child relationships affect a child's psychological functioning throughout their lifetime (Giotsa et al., 2018; Kay & Green, 2015; Khaleque & Rohner, 2012; Ren & Edwards, 2014).

Despite expectations, cognitive bias was the only significant mediator in the relationship between parental and peer acceptance. This supports, and connects, prior research that shows maladaptive parenting influences the ability to interpret others' actions (Kay & Green, 2015; Ren & Edwards, 2014) and that interpretative skills positively influence   peer acceptance (Mostow et al., 2002). However, the primary relationship remained significant despite the cognitive bias mediator, indicating there are other variables that mediate the relationship. One potential mediator may be verbal ability. Mostow and colleagues (2002) found that verbal ability predicts positive peer relationships. Logically, the ability to interpret another's behavior is only as good as the ability to use one's social skills and verbal acuity to react. Future studies should include other tenets that interact with cognitive bias to see where the actual mechanism lies.

Emotional dysregulation was related to parental neglect, but not peer acceptance, inconsistent with our second hypothesis and prior research (Kim & Cicchetti, 2010). There are a few potential explanations for our lack of mediating evidence. First, while Kim and Cicchetti's (2010) sample exhibited high dysregulation, our sample exhibited low dysregulation. Thus, the two samples are inconsistent. Additionally, the floor effect may have resulted in too little variance to adequately see a pattern within the analyses. Future research should collect from a more varied sample including individuals both high and low in emotional dysregulation. It is still important to examine emotional dysregulation as a mediator in this relationship.

Conclusion

The current study revealed that cognitive biases were a significant mediator in the relationship between parental rejection and peer acceptance. Peer acceptance is vital to an individual's social and emotional development throughout life, and it is important to try to understand what can impact this relationship.

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