

RELATIONS BETWEEN THE HOSTILE ATTRIBUTION BIAS AND THE POSITIVE ILLUSORY
BIAS IN AGGRESSIVE CHILDREN AND THEIR MOTHERS: THE ROLE OF
SCHEMAS AND INTERGENERATIONAL INFLUENCES

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ABSTRACT

Previous research has demonstrated that aggressive children exhibit both a hostile attribution bias (Hudley, 2008), in which they attribute hostile intent to a peer in an ambiguous situation, and a positive illusory bias (Owens et al., 2007), in which they believe they are more socially competent than in actuality. However, these constructs have never been examined within the same sample of aggressive children. The current study sought to explore relations between these specific social-cognitive biases, social expectations, self-perceptions, and aggressive behavior, as well as between parents' and children's social perceptions.

New hypothetical vignette measures were developed to examine expected peer liking in parents and children, and a pilot study was conducted to refine them. A sample of 67 boys and girls between the ages of 11 and 15 and their mothers were recruited from a previously identified longitudinal sample screened for aggression. Participants completed the vignette measures, in addition to several self-report measures, and teacher and peer reports were obtained as well. Several hypotheses and exploratory analyses were proposed, addressing patterns of relations across the constructs of interest.

The results of the current study indicated that the positive illusory bias and hostile attribution bias were not related within children, and so may be differentially related to proactively versus reactively aggressive children, respectively. Examination of the expected peer liking vignettes revealed that children who expect to be liked do not demonstrate positive illusory bias, but rather have developed less biased schemas and positive peer relationships.

Additionally, analysis of intergenerational influences suggested that relations between parent and child social cognitions were strongest for same-gender dyads (i.e., mothers and daughters).

The current study provides several implications for future research on children's social cognitions and proposes that aggressive children's social-cognitive schemas should be addressed as part of behavioral interventions, particularly within a family context. Overall, this study indicates that social perceptions and schemas are important to aggressive children's social and behavioral functioning and provides some indications that social-cognitive processes are related across parents and children.

LIST OF ABBREVIATIONS AND SYMBOLS

<i>a</i>	Cronbach's index of internal consistency
ANOVA	Analysis of variance
APQ	Alabama Parenting Questionnaire
β	Standardized beta coefficient
BDI	Beck Depression Inventory
Δ	Increment of change
<i>df</i>	Degrees of freedom
EPL	Expected Peer Liking
<i>F</i>	Fisher's <i>F</i> ratio
FCSE	Friendship-contingent self-esteem
HAB	Hostile Attribution Bias
<i>M</i>	Sample mean, arithmetic average
<i>N</i>	Total number of cases
<i>n</i>	Number of cases in subsample
<i>p</i>	Probability
PCSC	Perceived Competence Scale for Children
PIB	Positive Illusory Bias
<i>r</i>	Estimate of the Pearson product-moment correlation coefficient
R^2	Multiple correlations squared; measure of strength of association

RS	Rejection Sensitivity
<i>SD</i>	Standard deviation
SIP	Social Information Processing
<i>t</i>	The sample value of the <i>t</i> -test statistic
<	Less than
=	Equal to
%	Percentage

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CHAPTER 1

INTRODUCTION

Aggression is a common problem in childhood, accounting for half of all child mental health referrals (Nelson & Finch, 2000) and children with aggressive and disruptive behavior problems are at risk for a variety of negative outcomes. Aggression frequently interferes with family functioning, classroom activities, and peer relationships. For example, these children contribute significantly to their parent's level of stress (Graziano, McNamara, Geffken & Reid, 2011) and are more likely to experience peer rejection, which in turn predicts lower academic achievement and more aggressive behavior (Parker & Asher, 1987). Additionally, aggressive and disruptive behaviors displayed in middle childhood may develop into more chronic patterns of problem behavior, such as deviant behavior in adolescence and more antisocial behavior later, including substance use, delinquency, and violence (Hinshaw & Lee, 2003).

The following review of the literature will first discuss social-information processing in aggressive children, differences between reactive and proactive aggression, and the role of parents in contributing to children's aggression. Evidence of aggressive children's hostile attribution bias will then be presented, followed by research on parent's hostile attribution bias, as well as related parent-level factors such as inconsistent discipline and maternal depression. Next, the positive illusory bias in children will be addressed, detailing prior research on this concept, common methods of investigation, and theories about its development, including the role of parenting and self-esteem. The existence of positive illusory bias in parents, and lack

thereof, will be discussed. Finally, relations between the hostile attribution bias and positive illusory bias in children and parents will be discussed, addressing both relations between biases within individuals and also relations between parent hostile attribution bias and child positive illusory bias.

Social Information Processing Model

In 1994, Crick and Dodge proposed a model of social information processing (SIP) that occurs in 6 steps: (a) encoding social cues, (b) interpreting the cues, (c) identifying social goals, (d) generating possible solutions to the problem event, (e) evaluating the solutions, and (f) behavioral enactment of the chosen response. During encoding, it is believed that children selectively attend to particular external and internal cues. Based on the encoding of those cues, previous experience, and causal inferences, an interpretation of the event and an understanding of the social situation are constructed. Children then process this social information during the remaining four steps, by selecting a desired outcome, accessing solutions from memory or constructing new possible responses, evaluating the identified responses, and finally enacting the chosen response.

SIP in aggressive children. Aggression is often conceptualized within a social-cognitive model, in which aggressive children display a wide range of deficits in processing social information, as well as social problem solving (Lochman & Dodge, 1994). For example, they are more likely to perceive peers' ambiguous interactions as intentionally hostile, recall more hostile cues, and expect that aggression will have a positive outcome (Crick & Dodge, 1996; Dodge, Lochman, Harnish, Bates, & Pettit, 1997). Aggressive children also tend to generate fewer solutions to social problems and view aggression as an acceptable and effective solution

(Lochman & Dodge, 1994). Taken together, this biased and deficient social information processing leads children to enact an aggressive response.

In particular, aggressive children seem to demonstrate difficulty with the first two steps of social information processing: encoding and interpreting social cues. For example, Dodge and Tomlin (1987) presented children with hypothetical provocation situations in addition to information about the peer's intent and then asked them to identify the intent. Aggressive children were more likely to rely on information from their own previous experiences (i.e., schemas), rather than the information presented in the story, when formulating an interpretation. Additionally, when interpreting social situations, aggressive children have been found to use fewer social cues and rely more on prior expectations than their non-aggressive peers (Dodge & Newman, 1981; Lochman & Dodge, 1998). As a result of these studies, it has been suggested that during the encoding and interpreting stages, aggressive children selectively attend to particular social cues and rely on well-developed schemas. These schemas provide them with a framework for interpretation and prevent them from using immediate social cues (Crick & Dodge, 1994). In fact, recent research using eye-tracking methods indicated that aggressive children's schemas guide which stimuli and cues they attend to (Horsely et al., 2010). Therefore, aggressive children who tend to exhibit one or more social-cognitive biases, including those addressed in the current study, are likely to demonstrate global deficits in these particular steps of social information processing, instead relying on inaccurate schemas.

Some research has demonstrated reciprocal relations between social information processing and child behavior and outcomes. For example, using a longitudinal developmental cascade procedure, one study demonstrated that aggression predicted later peer rejection, peer rejection led to subsequent aggression and problems in social information processing, and these

biased social cognitions also contributed to later peer rejection and aggression (Lansford, Malone, Dodge, Pettit, & Bates, 2010). Overall, this evidence has indicated that aggressive children hold distorted social-cognitive schemas, in which biased self- and other-appraisals and expectations lead to misperception of social interactions, which contributes to further aggressive behavior. This social information processing model provides a framework for the current study, which will examine aggressive children's social perceptions.

Proactive vs. Reactive Aggression in Children

Researchers distinguish between two types of aggression. Proactive aggression refers to aggression that occurs without provocation and is frequently used to obtain a social goal, whereas reactive aggression is a response to actual or perceived threats from others (Dodge, 1991). Reactive aggression, more so than proactive aggression, is associated with peer rejection and peer victimization (Dodge & Coie, 1987; Fite, Colder, Lochman, & Wells, 2007). Proactive aggression is particularly grounded in social-learning theory, which states that aggressive behavior is learned by observing and imitating an aggressive model. The reliance on aggressive behavior is then strengthened and maintained through experiencing desirable outcomes as a result of the behavior (Bandura, 1986). In contrast, reactive aggression is based in frustration-aggression theory, which suggests that negative experiences lead to aggressive tendencies (Berkowitz, 1989).

In terms of social-cognitive processes, children who exhibit reactive aggression demonstrate specific biases, including the tendency to perceive peers' actions as intentionally hostile, while children who exhibit proactive aggression hold positive expectations of aggressive behavior and may tend to believe that they are well-liked by their peers (Crick & Dodge, 1996; Dodge et al., 1997; Orobio de Castro, Brendgen, Van Boxtel, Vitaro, & Schaeppers, 2007).

Results from one study indicated that reactive aggression is related to earlier steps of the social information processing model, while proactive aggression is correlated with later steps (Schwartz, Dodge, Coie, Hubbard, Cillessen, Lemerise, & Bateman, 1998). Overall, previous research indicates that aggression, and reactive aggression in particular, is related to deficits in social cognition as well as a variety of negative outcomes.

Although factor analyses and differential correlates indicate that reactive and proactive aggression represent two types of aggression, the two are often highly comorbid within individuals (Poulin & Boivin, 2000; Vitaro, Brendgen, & Barker, 2006). Research indicates the average correlation between measures of proactive and reactive aggression is approximately .70 and ranges from .40 to .90 (Crapanzano, Frick, & Terranova, 2010). Additionally, limited support has been found for a proactive aggression-only subgroup (Dodge & Coie, 1987; Frick, Cornell, Barry, Bodin, & Dane, 2003), indicating that children who display proactive aggression also demonstrate reactive aggression. Furthermore, the same behavior displayed by a child can often be perceived as either reactive or proactive aggression, depending on which aspect of the behavior is considered. This hinders the ability to find differences between the two types of aggression and also indicates that any correlates of reactive and proactive aggression need to be interpreted with the caveat that children who exhibit proactive aggression also display high levels of reactive aggression.

In all, it is important to examine different correlates of both reactive and proactive aggression, while recognizing that they frequently overlap within individuals. The current study aims to examine the ways in which reactive and proactive aggression relate to children's social-cognitive biases.

The Role of Parents in Children's Aggression

Parents seem to play a crucial role in the development and maintenance of their children's aggressive and disruptive behaviors. Parenting factors, including harsh or inconsistent discipline, low parental warmth and involvement, poor parental monitoring, and maternal depression have all been found to contribute to children's aggressive behavior (e.g., Goodman, Rouse, Connell, Broth, Hall, & Heyward, 2011). Additionally, it is important to understand how parents may contribute to aggressive children's social-cognitive processes. Parent's behavior toward their peers, partner, or child, or even their own social-cognitive biases could impact children's development and socialization. Some studies have examined relations between impairment in parent's social-cognitive processes and children's own biases and aggression (e.g., Bickett, Milich, & Brown, 1996). Clearly, the relation between parenting and aggressive children's social-cognitive processes is an important area for future research to elucidate. Therefore, parent-level factors will be included in the current study as correlates of the main constructs of interest, discussed below.

Hostile Attribution Bias

Child HAB. Research has consistently demonstrated that children with aggressive and disruptive behavior tend to hold a hostile attribution bias (HAB), in which they perceive ambiguous social stimuli (e.g., a peer bumping into them) to have a hostile intent (for a review of the literature, see Hudley, 2008). During social situations, aggressive children activate schemas based on prior experience, guiding them to expect, selectively attend to, and encode cues that lead them to interpret a hostile intent. One study demonstrated that aggressive boys' deficits in accurately interpreting others' intentions, including HAB, were exaggerated under threat conditions (Dodge & Somberg, 1987). The fact that HAB is most apparent with ambiguous

stimuli, as opposed to clearly hostile or non-hostile stimuli, suggests that aggressive children are most likely to activate a distorted schema when social cues do not provide enough information. This tendency to infer hostile intent on the part of others leads children to respond with an aggressive action, thereby perpetuating the cycle (Dodge & Coie, 1987). One study demonstrated that a hostile attribution of intent toward a particular peer was significantly related to reactive aggression toward that peer, as directly observed in a laboratory interaction (Hubbard, Dodge, Cillessen, Coie, & Schwartz, 2001).

As indicated above, HAB is more associated with reactive aggression, as opposed to proactive aggression (e.g., Arsenio, Adams, & Gold, 2009; Dodge et al., 1997), although positive correlations between reactive and proactive aggression complicate this relation. HAB in aggressive children has been replicated and confirmed using various methods, including social vignettes presented in audio, video, and pictorial formats, as well as staged social interactions. A meta-analysis conducted in 2002 indicated that there was a robust association between aggressive behavior and HAB, and that audio presentation of vignettes was associated with larger effect sizes than either video or pictorial presentation (Orobio de Castro, Veerman, Koops, Bosch, & Monshouwer, 2002). On the whole, aggressive children consistently demonstrate a hostile attribution bias, which is particularly related to reactive aggression. The current study seeks to confirm these relations.

Parent HAB. Additionally, some research has demonstrated that parents of aggressive children tend to exhibit similar biases. In summarizing the literature at the time, Dix (1993) indicated that parents of aggressive children also exhibit attributional biases, which may directly influence children's developing social cognitions, through internalization of these biases. In one study, mothers of aggressive boys who watched videos of children misbehaving tended to make

more negative attributions and report stronger negative affect than mothers of nonaggressive boys (Dix & Lochman, 1990). Furthermore, using hypothetical vignettes, some studies have demonstrated that in families with aggressive children, both the child and parents tend to demonstrate HAB (e.g., Bickett, et al., 1996; MacBrayer, Milich, & Hundley, 2003; Nelson, Mitchell, Yang, 2008). In particular, Halligan, Cooper, Healy, and Murray (2007) demonstrated that parents exhibit HAB both towards their own child and towards unknown others. Together, these findings suggest that parents of aggressive children may also hold a distorted social-cognitive schema, reflecting a hostile attribution bias, which is then transmitted in some way to their children.

Explanations for the link between parent and child HAB. There have been several theories proposed that may explain why parent and child attributional biases are linked. MacBrayer and colleagues (2003) suggested that since mothers of aggressive children exhibit HAB to others' ambiguous actions, they are more likely to respond with aggression and model HAB for their children. In addition to perceiving their parents' interactions with themselves, children also pay attention to parent-peer interactions, which could lead them to develop beliefs and schemas similar to those of their parents (Huesmann & Eron, 1989). Therefore, from their parents' peer interactions, children may vicariously learn specific ways of encoding and interpreting social interactions (i.e., relying on distorted schemas instead of available social cues), thus enacting similar social-cognitive strategies.

Contrary to the modeling hypothesis however, one study found that parent HAB and child HAB were not directly related, but rather indirectly associated through their link with child externalizing symptoms (Halligan et al., 2007). Therefore, some studies have focused on parenting, for example, finding that negative parenting practices are associated with child HAB

(MacKinnon-Lewis, Lamb, Hattie, & Baradaran, 2001; Nelson & Coyne, 2009). Repeated exposure to parental negativity could lead to the tendency to encode and interpret social cues as hostile.

Inconsistent parenting and HAB. One aspect of parenting that may be related to these biases and contribute to the development of distorted schemas is inconsistent discipline. Inconsistent discipline refers to a style of parenting in which rules are established but not always enforced, rules and expectations may be unclear, and frequently, low rates of positive behavior and high negative behavior are involved (Barry, Dunlap, Lochman, & Wells, 2009). Parental inconsistent discipline has been consistently associated with aggressive and conduct disordered children (e.g., Loeber & Dishion, 1984; Stormshak, Bierman, McMahon, Lengua, & CPPRG, 2000). For example, Frick et al. (1992) found that high levels of inconsistent discipline predict later conduct problems and Dishion (1990), demonstrated direct pathway evidence through Structural Equation Modeling.

Additionally, inconsistent discipline has been shown to predict deficits in social information processing and children's social-cognitive biases (e.g., Haskett & Willoughby, 2006). Specifically, children who receive inconsistent parenting are more likely to display hostile attribution biases, generate negative solutions to peer conflict, and expect positive outcomes from aggressive behavior (Dodge, Greenberg, Malone, & CPPRG, 2008). Children experiencing inconsistent parenting may learn that aggression is successful at home, consistent with a coercive process model (Patterson, 1982), and then generalize these beliefs to peer situations, believing both that peers have a hostile intent and that aggression is a successful response (Ramsey, Patterson, & Walker, 1990).

Although parents who hold a HAB may be more likely to demonstrate inconsistent discipline, there is no known research evidence to support this. However, one study found that parental HAB and ineffective discipline interact to predict later child conduct problems (Synder, Cramer, A Frank, & Patterson, 2005). In these families, parent HAB and inconsistent discipline may be highly likely to co-occur, contributing to more negative child outcomes. Overall, the relation between parent and child HAB within families with aggressive children may be accounted for by parenting factors such as inconsistent discipline.

Maternal depression. Additionally, maternal depression may be a risk factor involved in the development of these processes. Extensive research has demonstrated consistent links between maternal depressive symptoms and a range of negative child outcomes, particularly child externalizing behavior problems (e.g., Goodman et al., 2011). Furthermore, evidence has suggested that maternal depression is related to parental inconsistent discipline (Zahn-Waxler, Iannotti, Cummings, & Denham, 1990), which mediates the relations between maternal depression and child aggression (Barry et al., 2009; Stromeier, 2010a). Additionally, depression itself is associated with cognitive distortion and biased schemas, which may contribute to attributional biases in parents. For example, one study found that parental perceptions of their child and cognitive-emotional processes, such as hostile attributions, mediated the effect of parental stress on discipline (Pinderhughes, Dodge, Bates, Pettit, & Zelli, 2000). Furthermore, Chi and Hinshaw (2002) found that depressed mothers perceived both their parenting and their child's behavior as worse than observed laboratory interactions, and in turn, these cognitive distortions mediated the relation between maternal depression and negative parenting.

In all, it appears that parents with aggressive children tend to exhibit similar social-cognitive biases as their children, which may be related to parent-level factors, such as

inconsistent discipline or depression, that contribute to the development of their children's schemas. The current study will examine whether inconsistent discipline accounts for the relation between parent and child HAB within aggressive children, and will also explore the relation of maternal depression to these constructs.

Positive Illusory Bias

Similarly to the way that people perceive hostile intent, the manner in which people perceive their own social competence is partially dependent on how they encode and process a social situation (i.e., the first two steps of the social information processing model). Recent research has examined a newer phenomenon entitled the *positive illusory bias* (PIB), in which children with externalizing and aggressive behavior problems believe themselves to be more competent than they actually are in a variety of domains (for a review of the literature, see Owens, Goldfine, Evangelista, Hoza, & Kaiser, 2007). Although the current review will discuss and detail the available PIB literature, the present study will focus on a related process, *expected peer liking*, described below.

Although it is common for young children to hold positively biased-self perceptions, children's self-perceptions begin to coincide with objective raters around age 8 (Berndt & Burgoyne, 1996). However, a subset of children continues to demonstrate difficulty with accurate self-appraisals. For example, children with aggressive and disruptive behavior problems overestimate their competencies relative to reports from other sources, compared to nonaggressive children (e.g., Patterson, Kupersmidt, & Griesler, 1990). This has been demonstrated in domains including academic, athletic, social competence, appearance, relations with adults, behavior at school, cooperativeness, leadership qualities, and sense of humor (Hymel, Bowker, & Woody, 1993) and overestimation has been found to be related across

domains (Baden, Stromeyer, Lochman, & Wells, 2011). However, *social* competence is the most researched domain and the area on which the current study will focus. While in reality, aggressive children may be rejected by their peers, they often tend to report that they are well-liked. Interestingly, one study demonstrated that social PIB is specific to perceptions of *self*-competence; even though children overestimated their own competence compared to their teachers' ratings of behavior, they did not rate an actor's competence significantly higher than control children's ratings (Evangelista, Owens, Golden, & Pelham, 2008).

Although there has been some argument about whether this positive illusory bias serves an adaptive, self-protective function for children, buffering them from negative outcomes (Taylor, 1989), the majority of research on PIB in aggressive and disruptive behavior-disordered children suggests that it is not helpful for them. For instance, overly inflated self-perceptions are related to physical and relational aggression, as well as poor academic outcomes (e.g., Hughes, Cavell, & Grossman, 1997; Pardini, Barry, Barth, Lochman, & Wells, 2006), are highly stable, and lead to poorer response to treatment (Mikami, Calhoun, & Abikoff, 2010). PIB even predicts higher levels of aggression over time, although this appears to be true only for moderately to highly aggressive children (Brendgen, Vitaro, Turgeon, Poulin, & Wanner, 2004). Peer rejection is widely associated with aggression and overestimation of social competence (David & Kistner, 2000), and one study suggested that problems in social perception, such as interpretive understanding and perspective co-ordination, contribute to peer rejection (Hoglund, Lalonde, & Leadbeater, 2008). Additionally, there is a bidirectional relation between peer rejection and aggression, such that they reciprocally influence each other over time, which may contribute to the maintenance of social-cognitive biases (Coie & Dodge, 1983).

Although this study focuses on aggressive children's overestimation of their social competence, it must be noted that there is some literature on the *underestimation* of social competence, indicating that it is related to internalizing symptoms in children. Therefore, the relation between perceptions of social competence and adjustment may be curvilinear, such that children who are the most discrepant in either direction exhibit differential problems related to social functioning, whereas children who rate their social competence accurately may be well-adjusted. Overall, for the purposes of the current study, aggressive children tend to demonstrate a social positive illusory bias that appears to be detrimental to their social functioning.

Methods of investigating PIB. Traditionally, investigations of the positive illusory bias have used comparison scores to evaluate the discrepancy between children's actual and perceived level of competence. For example, researchers ask children to rate their level of perceived competence on a self-report scale, and also ask their parents, teachers, or peers to rate the child's level of "actual" competence. These two scores are usually standardized and then subtracted from each other to create a difference score. Higher difference scores indicate greater distortion. Newer studies have used differences in residuals to achieve a similar result; the actual report is regressed onto the child's report and the residual is used as the indicator of distortion. However, one drawback of these methods is that they rely on subjective sources to represent actual behavior, introducing an amount of bias. Some studies have begun to branch out, using test scores or grades as objective comparison measures for academic competence (Stromeyer, 2010b) or motor tests for comparison measures of competence in motor performance (Fliers, de Hoog, Franke, Faraone, Rommelse, Buitelaar, et al., 2010). Of note, Evangelista and colleagues (2008) used video vignettes of ambiguous social situations, in which children attempted unsuccessfully to enter peer groups, to measure inflation in children's ratings of other's social

competence. Although the authors did not find an effect, this is the only known study, to date, to use a vignette procedure to evaluate a process related to PIB in social situations. The majority of studies investigating PIB of social competence have tended to focus on the difference score method.

Although researchers commonly refer to PIB as measuring overestimation of *social competence*, in actuality, it measures overestimation of *peer liking*. When using peers as the comparison for “actual social competence”, a peer-report sociometric difference is usually created by subtracting the number of “liked least” nominations from “liked most” nominations. This sociometric difference score is then subtracted from children’s “perceived social competence.” The latter is commonly measured by the Perceived Competence Scale for Children (Harter, 1982), on which children choose between two statements to best describe themselves (e.g., “Some students have a lot of friends” vs. “Other student don’t have very many friends,” “Some students wish that more people their age like them” vs. “Other students feel that most people their age do like them,” or “Some students are popular with others their age” vs. “Other students are not very popular.”) Therefore, the child-peer discrepancy score traditionally used to measure social PIB is actually a measure of overestimation of how much they are liked by their peers.

It would seem that one sub-construct or social-cognitive process involved in social positive illusory bias concerns the encoding and appraisal of whether one is liked by other people during any given interaction. Due to the hypothetical nature of vignettes, they are unable to measure the degree of one’s actual liking by their peers and, by extension, social PIB as it is traditionally understood, but they may measure expectations of peer liking in social interactions. Children’s social-cognitive schemas of their peer liking might guide them to expect certain

degrees of liking when presented with a new situation involving an unknown peer. Given that aggressive children have been found to rely more on their previous experiences and schemas than immediate social cues (Dodge & Tomlin, 1987; Lochman & Dodge, 1998), they might activate these internalized schemas as a framework for formulating an expectation in the moment. Vignettes designed to assess this social-cognitive process of *expected peer liking* (EPL) might identify people who tend to overestimate how much a peer might like them in social interaction situations, which in turn might be related to PIB. People who consistently rate on either extreme (either high liking or low liking) across vignettes may have stronger schemas that guide their perceptions, whereas people who consistently rate neutral may be more open to experience and interpreting the particular situation. Using such vignettes, the current study will examine the relation of expected peer liking to social positive illusory bias as it is traditionally measured, to determine whether these processes are related in aggressive children.

PIB and reactive vs. proactive aggression. Considering the negative consequences of overestimating peer liking, it is important to gain a better understanding of the relation between the social positive illusory bias and aggression, including aggressive subtypes. However, little research exists on this topic and recent studies have revealed inconsistent findings on the relation between PIB and reactive versus proactive aggression. While one study found that the relation between PIB and aggression was specific to proactive aggression (Orobio de Castro et al., 2007, another study indicated that the relation was unique to reactive aggression (White & Kistner, 2011). Discrepancies in the studies' methods could account for these contradictory findings. Specifically, in the Orobio de Castro study, peer informants were used to report on children's social competence and aggression, whereas the White and Kistner study used teacher reports on these constructs. Teachers and peers likely have different experiences with the same child's

aggressive and social behaviors, which would produce different results. The current study will use parent and teacher report of aggression and peer report of social competence to calculate PIB, which will avoid these problems of shared method variance and offer a different perspective.

Given the theoretical distinctions as well as the differential behavioral and social correlates between reactive and proactive aggression previously discussed, the association between aggressive subtypes and overestimation of peer liking could provide information about the cognitive processes related to the bias. Whereas reactive aggression is more related to the perception of hostile intent (Lochman & Dodge, 1994), proactive aggression may be associated with a positive outcome expectation of aggression. Research has shown that children who believe that aggression will lead to positive outcomes are more likely to behave aggressively (Fontaine, Burks, & Dodge, 2002), and specifically engage in proactive aggression to attain a specific goal.

Overall, there is some research evidence to support that the positive illusory bias is related to proactive aggression, which is associated with the tendency to expect that aggressive behaviors will have a positive outcome. Given these findings, the current study will examine the unique relations of PIB and EPL to reactive and proactive aggression within a sample of aggressive children.

Self-esteem and PIB. Aspects of self-esteem have been identified as constructs that may be particularly related to the social positive illusory bias, although the research evidence is variable. Research in this area grew out of Baumeister and colleagues' work on *threatened egotism*: highly favorable views of the self that are disputed by some person or situation. Although it was traditionally thought that low self-esteem was related to aggression and

violence, Baumeister, Smart, and Boden (1996) proposed that aggression actually results from threats to overly inflated self-esteem. When people have unfounded high self-esteem, they are very fragile and prone to encountering contradictory evidence from others. When aggressive people encounter these ‘threats’, they respond with aggression in order to protect their self-concept (Baumeister et al., 1996). Some research findings have supported these hypotheses. Kernis, Grannemann, and Barclay (1989) found that the highest levels of self-reported angry and hostile responding were associated with participants who had high but unstable self-esteem scores. Other studies provided experimental evidence that people with an inflated self-concept were more likely to respond with aggression when they encountered social criticism (Bushman & Baumeister, 1998; Twenge & Campbell, 2003). It appears that people who report inflated self-esteem are also more likely to display aggressive behavior, probably as a reaction to “threats” from others.

It is unclear whether people who overestimate their peer liking and also report high self-esteem are blind to reality and truly maintain high self-esteem or falsely report to mask low self-esteem. Regardless, the threatened egotism literature would predict that people with a positive illusory bias are likely to report high self-esteem, which would account for their aggressive behavior in response to challenges. Sandstrom and Herlan (2007) argued that measuring some aspect of egotism (such as PIB) as well as self-esteem allows researchers to distinguish between healthy high self-esteem and an unjustifiably positive self-view in its relation to aggression. Taken together, it appears that the tendency to report high self-esteem makes people sensitive to threats from others, resulting in aggressive behavior.

Self-esteem: applications to children. The majority of the research in this area of inflated self-esteem and threatened egotism was developed with adult samples, but some studies

have expanded to include children. Inflated self-esteem may also allow aggressive children to ignore their negative attributes or information that threatens their self-concept and to therefore maintain a positive, though idealized, view of themselves (Hughes et al., 1997). Similarly to adults, children also react with aggression when they encounter negative feedback from others that contradicts their highly positive self-view. For example, one study found that high self-esteem was related to retaliatory behavior when children were given negative feedback from a peer (Sandstrom & Herlan, 2007). Going further, another study found that children with a social positive illusory bias who are rejected by their peers are more aggressive (Diamantopoulou, Rydell, & Henricsson, 2008). Furthermore, Hoza, Murray-Close, Arnold, Hinshaw, and Hechtman (2010) found that aggression predicted increased PIB, which then predicted increases in aggression over time, reflecting a negative reciprocal pattern that is self-perpetuating. Although discussion so far has focused on reactive aggression, or aggression in response to perceived threats to self-esteem, there is also some mention of proactive aggression in this literature. Salmivalli and colleagues (1999) found that inflated self-esteem leads to later bullying, a form of proactive aggression. This finding is consistent with the notion that children with a positive illusory bias demonstrate proactive aggression, believing that it will have a positive outcome. Therefore, the current study will examine the relation of self-esteem to both reactive and proactive aggression, as well as to positive illusory bias and expected peer liking.

Although this research evidence supports the notion that aggressive children report high self-esteem, it should be noted that other studies have found contradictory results with children, contributing to a more mixed picture. The reason for these differences across studies may be developmental; younger aggressive children may not yet inflate their self-esteem, while older children demonstrate a pattern more consistent with adults (e.g., Lochman & Dodge, 1994).

Given that research findings are contradictory as to how self-esteem relates to aggression, the current study will explore relations between aggressive children's social-cognitive biases and children's self-report of their self-esteem.

Friendship contingent self-esteem. Furthermore, one specific aspect of general self-esteem, *contingent self-esteem*, may play a role in these relations. Contingent self-esteem refers to the tendency for a person to base their evaluations of their self-esteem at any given moment on external domains, such as athletics, academics, or interpersonal relationships. Some people are particularly likely to base their self-esteem on the quality of their friendships (*friendship contingent self-esteem: FCSE*), and this tendency seems to be associated with internalizing problems. For example, Cambron, Acitelli, and Steinberg (2010) found that people with greater FCSE reported greater depressive symptoms, lower self-esteem, and more self-esteem instability. In research study conducted with children, Reijntjes and colleagues (2011) demonstrated that anxious children's self-esteem is highly contingent on social approval, given that they experienced significantly stronger decreases in state self-esteem following peer disapproval. No research exists on the relation between *externalizing* behavior and FCSE, or how this construct may operate in aggressive children. Therefore, the relation between FCSE and social-cognitive biases in aggressive children will be explored in the current study.

Parent PIB. As of yet, no research has examined whether parents of aggressive children also exhibit similar tendencies to overestimate their peer liking. If parents share this bias, it may be transmitted to children through similar processes as the transmission of HAB, such as modeling or poor parenting. Parents may model such social-cognitive strategies with others, which their children adapt for use with their own peers. Studies have demonstrated that children can accurately perceive their parent's values and that those values then predict the child's

behavior (Knafo & Schwartz, 2003; Rodrigo, Janssens, & Ceballos, 1999; Whitbeck & Gecas, 1988). Therefore, from their parents' peer interactions, children may learn specific peer-related values that influence their interpretations of social interactions, which lead them to rely on similar social-cognitive strategies. Alternately, parents' inability to accurately appraise their own social behavior may represent a deficit in social-cognitive functioning, such that children of these parents are not exposed to, and therefore do not learn, normative perceptions or expectations of social competence. Therefore, it is possible that children either learn to ignore information from their peers, leading them to be inaccurate, or actually learn to distort social information in a self-serving manner, which would lead them to exhibit a motivated bias.

However, it is also possible that parents of aggressive children do not demonstrate overestimation of peer liking, and that children's positive illusory bias develops through other mechanisms. To the extent that parents experience depressive symptoms, they may actually *underestimate* peer liking, a theory that is supported by research on the relation between child depressive symptoms and underestimating social acceptance (e.g., Whitton, Larson, & Hauser, 2008). Clearly, research is needed in this area to determine the role of parent expectations of peer liking in relation to children's social-cognitive biases. The current study aims to explore these relations through the use of parent EPL vignettes.

Additional Relations between HAB and PIB in Parents and Children

Although no studies have directly tested relations between HAB and PIB, some research provides indications that these constructs may be related. Several hypotheses for why these constructs may be linked are detailed below.

HAB and PIB within individuals. Despite the absence of research on relations between the discrete concepts of HAB and PIB in aggressive children, some research involving distorted

self-schemas provides evidence that such investigations may be promising. Positive correlations between HAB and inflated perceptions or expectations of peer liking within the same child might be counterintuitive, because it would seem that children who are likely to perceive hostile intent by their peers are also likely to say that their peers do not like them. However, it could be that these children demonstrate opposing biases that are elicited in different social situations. For example, in general and in group-joining situations, aggressive children may tend to feel liked or expect that others like them, missing negative feedback from their peers, but when they feel thwarted, they tend to make hostile attributions in order to protect their self-concept.

One possible reason for the co-occurrence of these seemingly contradictory schemas within aggressive children is related to comparable deficits in social information processing. Aggressive children often fail to pay attention to, have a lack of awareness of, or make inaccurate interpretations of negative social cues (Crick & Dodge, 1994). Additionally, aggressive children are more likely to rely on biased schemas of their own previous experiences, as opposed to immediate social cues (Dodge & Tomlin, 1987). Crick & Dodge hypothesized that aspects of distorted social information processing, such as HAB, may even lead to misappraisals of social competence due to the consistent enactment of maladaptive behaviors and the lack of attention to disconfirming evidence from their peers. Similarly, Webster-Stratton and Lindsay (1999) argued that because children with behavioral problems have deficits in social information processing, especially encoding and interpretation of social cues, they are more likely to both overestimate their own peer liking and misattribute hostile intent to others. For example, in one study, aggressive boys completed both competitive and cooperative dyadic tasks with nonaggressive peers. The aggressive boys demonstrated more distorted perceptions overall; they both overperceived aggression in their peers and underperceived their own aggression, and

these perceptions were based on prior expectations of behavioral outcomes (Lochman & Dodge, 1998). Overall, deficits in social information processing may lead children to demonstrate a range of social-cognitive biases.

Relations between aggressive children's HAB and PIB could also be related to the concept of inflated self-esteem. Rudolph and Clark (2001) argued that aggressive children's cognitive distortions lead to biased processing of social information and underutilization of social cues in an attempt to protect themselves from repeated interpersonal difficulties.

Processes such as this may contribute to both the tendency to overestimate peer liking and to attribute hostile intent to others. Furthermore, these tendencies may be related to reactive and proactive aggression, which are differentially related to inflated self-esteem (Barry et al., 2007).

Whereas high self-esteem might predict reactive aggression as a response to a social threat (e.g., Sandstrom & Herlan, 2007), it would also predict proactive aggression as a belief that aggression is a successful response (Salmivalli et al., 1999).

In essence, aggressive children have likely developed distorted schemas based on their previous experiences that lead them to make a number of socially related errors and serve to maintain their beliefs in the face of negative information. Therefore, children who overestimate their peer liking and then encounter any interpersonal experience that conflicts with this idealized view (i.e., perceived rejection from peers or parents), are able to easily and quickly identify hostile intent on the part of others. This HAB may lead to a twofold outcome: children are able to maintain their highly positive self-schema and they also respond with aggression, thereby perpetuating the cycle of rejection and distorted schemas. In order to evaluate these predictions, the current study will examine whether hostile attribution bias and expected peer liking are related within aggressive children and whether self-esteem serves as a moderator.

Rejection sensitivity and concurrent HAB and PIB. As mentioned above, sensitivity to rejection may be a construct that is involved in the link between perceptions of hostile intent, expected peer liking, and aggressive behavior. Rejection sensitivity (RS) is defined as the tendency to anxiously or angrily expect rejection, leading children to be predisposed to “readily perceive and overreact to experiences of possible rejection,” including with internalizing or externalizing behavior (Downey, Lebolt, Rincón, & Freitas, 1998). Based on this conceptualization, Downey and colleagues developed a measure of rejection sensitivity that uses vignettes and subsequent questions to devise ratings of both anxious and angry expectations of rejection (Downey et al., 1998). Several studies have used this measure to examine RS and its relation with other constructs. McDonald, Bowker, Rubin, Laursen, and Duchene (2010) found that rejection sensitivity, especially anxious RS, was related to depressive symptoms in adolescents, but only for those with low social support. Another study demonstrated that peer rejection predicted later increases in both anxious and angry RS, but only for boys, and that angry RS predicted increased aggression (London, Downey, Bonica, & Paltin, 2007). Taken together, these results provide support for the notion that children with heightened RS are at risk for a variety of affective and behavioral outcomes. Specifically, children with anxious RS are more likely to experience internalizing symptoms, whereas children with angry RS are more likely to demonstrate externalizing behavior.

In terms of social-cognitive biases and rejection sensitivity, it would seem that children who are more likely to angrily expect rejection tend to perceive hostile intent, but also be *less* likely to overestimate peer liking. In support of this hypothesis, Downey and colleagues (1998) found that RS (particularly angry RS) was positively correlated with attributions of hostile intent, while it was negatively correlated with self-perceived social competence. These children tended

to have a hostile and aggressive interpersonal style, which leads to increases in aggressive behavior, poorer grades, and further rejection from their peers over time (Downey et al., 1998). However, there may be a subset of children who only demonstrate angry RS to whom this latter finding does not apply, because anxious RS accounts for the observed relation. This may be related to findings that anxious children report lower levels of self-esteem following perceptions of peer disapproval (Reijntjes et al., 2011). Furthermore, one study found that peer acceptance predicted a reduction in anxious RS (London et al., 2007), which suggests that children whose peers like them are not likely to demonstrate anxious RS.

Therefore, the relation between RS and social biases may be complex, such that rejection leads to different perceptions and resulting behaviors depending on the individual child. For children prone to internalizing, they anxiously expect and perceive rejection, believing they are inadequate, which leads to further internalizing symptoms. On the other hand, aggressive children tend to think that they are well-liked *overall*, due to protective self-esteem or biased self-schemas. However, they may angrily expect rejection *in any given moment* based on their previous experiences, so when they experience any potential rejection cues, their self-protective mechanisms are activated. This leads them to respond with aggression, but possibly not internalize the rejection, which would allow them to avoid altering their inflated social schema. More research on children's social-cognitive biases should include measures of rejection sensitivity in order to elucidate the nature of the relations and clarify aggressive children's experiences during social interactions. Therefore, the current study will examine how both angry RS is related to hostile attribution bias and overestimation of peer liking, after controlling for anxious RS.

Parent HAB and child PIB. Although there have been no studies investigating a relation between parent HAB and child PIB, this potential linkage may be related to the previous discussion of inflated self-esteem. Children with negative parent relationships may be more likely to engage in this tendency to exclude or ignore distressing information, alternatively creating an idealized view of themselves and their relationships. In a theoretical review, Dix (1993) concluded that, “Once formulated, adults' dispositional attributions influence their reactions to children, and thus children's socialization experiences, and children's views of themselves and how they should act.” Therefore, parent social-cognitive biases might impact children’s social-cognitive development either directly or indirectly, which would then contribute to children’s behavior and biases. In families with frequent negative interactions, children may not be able to rely on their parent’s perceptions of them as accurate information, and so they form their own, albeit biased, self-schemas.

Some research evidence supports these hypotheses. For example, Cassidy (1988) demonstrated that children who had negative relationships with their parents were more likely to present themselves in an idealized way, arguing that this tendency to self-idealize may reflect a hesitancy to acknowledge negative attributes that may lead to further rejection from their mothers. Additionally, Hughes and colleagues (1997) found that aggressive children were more likely to rate several self-domains higher and more idealized, including their peer relationships and support from their parents. In another study, parents of boys with ADHD perceived their relationships more negatively than control families, whereas the boys’ perceptions were positively enhanced compared to their parents’ perceptions (Gerdes, Hoza, & Pelham, 2003). These results would suggest that within families with aggressive children, parents may be exhibiting negative biases and simultaneously, children may be exhibiting positive biases with

regard to their interpersonal relationships in order to protect themselves. Overall, research on the relation between parent hostile attribution bias and child expectations of peer liking will help to clarify the nature of social-cognitive distortions and intergenerational transmission within families with aggressive children.

Gender

Very limited and inconclusive research exists on the differences between boys and girls, with regard to the constructs discussed in the current study. Although boys are more likely to exhibit overt aggression (e.g., David & Kistner, 2000) and girls generally experience more internalizing than externalizing symptoms, within aggressive children of both genders, it is unclear whether many social-cognitive differences exist. This is complicated by the fact that many studies in these research areas only use male samples, and even many of those that use mixed samples do not examine gender differences. However, some research sheds light on potential similarities and differences.

In terms of aggression, Sandstrom and Herlan (2007) reported that boys responded more aggressively in response to provocation than girls, suggesting that boys may be more likely to exhibit reactive aggression when threatened. Furthermore, in another study, boys believed more than girls that aggression would effectively obtain positive consequences (Crick & Werner, 1998), possibly indicating that they would also be more likely to demonstrate proactive aggression. A meta-analysis of the relation between HAB and aggression indicated that while some studies found larger effect sizes for boys (e.g., Nelson et al., 2008), there were no overall differences in effect size found. Results were not conclusive, however, because there were so few studies that included girls (Orobio de Castro et al., 2002).

Research on parent-child relationships and HAB has found mixed results in terms of same-gender parent and child pairs. For example, MacBrayer and colleagues (2003) found that while mothers' and daughters' HAB were correlated, mothers' and sons' were not, suggesting that intergenerational transmission of biases is stronger when parent and child gender is matched. Similarly, another study demonstrated that aversive parenting by fathers is more strongly related to their sons' HAB than their daughters' (Nelson & Coyne, 2009). However, Nelson and colleagues (2008) reported that mothers' HAB, as opposed to fathers', predicted both their sons' and daughters' HAB. Taken together, these studies are conflicting and do not provide consistent results for gender effects or stronger relations for same-gender pairs.

Some research also exists on relations between gender and PIB, including related constructs of inflated self-esteem and rejection sensitivity, although again, no clear pattern emerges. In a chapter discussing children's social competence, Dodge and colleagues (1986) did not report any gender differences. Similarly, a review of the PIB literature in 2007 reported that only 3 studies even included girls and overall, results did not indicate that there were any gender differences in overestimation of social competence (Owens et al., 2007). In terms of self-esteem, boys are more likely to report inflated self-esteem (Salmivalli et al., 1999) and of children with high self-esteem, it is more strongly related to aggression and bullying in boys versus girls (Diamantopoulou et al., 2008). However, Barry and colleagues (2007) reported that relations between inflated self-esteem and reactive and proactive aggression were similar across gender.

On the other hand, research on rejection sensitivity has revealed some gender differences. For example, one study found that only for boys did peer rejection predict increases in RS (London et al., 2007). Furthermore, Sandstrom and colleagues (2003) demonstrated that gender moderated the relation between rejection and externalizing behavior, such that girls with low

generalized RS who were rejected had the highest externalizing behavior, whereas boys with high on-line RS who were rejected had the highest externalizing behavior. Overall, although it appears that there are no gender differences in the tendency to overestimate peer liking in aggressive children, boys may be more likely to demonstrate aggressive behavior, report inflated self-esteem, and have heightened rejection sensitivity. Given these mixed findings between gender and the constructs of interest in the current study, more research needs to be conducted in all of these areas with regard to gender differences.

Purpose and Hypotheses

This project aims to examine the nature of social-cognitive distortions within and across aggressive children and their parents. Despite existing research with aggressive children on HAB and PIB, no research, to date, has explicitly attempted to elucidate whether they are linked, either within individuals or across parents and children. Therefore, one major purpose of the current study is to address these discrepancies in the research literature, to determine the nature of biases within families with aggressive children. Furthermore, this study will examine several related constructs, including inconsistent discipline, maternal depression, inflated self-esteem, and rejection sensitivity, given their role in the development and maintenance of aggressive children's social-cognitive distortions, as well as behavioral outcomes. Additionally, research on HAB has used hypothetical vignette procedures with success, but this method has not been used within the PIB literature (excepting one study using video vignettes), and so the current study will introduce a new method into this particular area of research by measuring expectations of peer liking with vignettes. The following hypotheses are proposed:

1. Given research on hostile attribution bias in aggressive children (Hudley, 2008), it is hypothesized that the tendency to infer hostile intent in peers (child HAB) will be related

to child aggression (1a). Specifically, children with higher HAB will demonstrate more reactive aggression (1b). Additionally, it is hypothesized that parent's tendency to infer hostile intent (parent HAB) will be positively correlated with child HAB (1c), based on initial support in the literature (e.g., Halligan et al., 2007).

2. Based on previous research on parenting and child biases (e.g., Dodge et al., 2008), it is hypothesized that parent inconsistent discipline will be positively related to child HAB (2a) and exploratory analyses will investigate whether inconsistent discipline is related to parents' tendency to infer hostile intent (2b). Should the latter reveal significant positive findings, inconsistent discipline will be explored as a mediator between parent HAB and child HAB (2c). Research suggests that children who experience negative parenting are more likely to perceive hostile intent and also expect positive outcomes from aggression (e.g., Ramsey et al., 1990). Thus, it is hypothesized that inconsistent discipline will be related to both reactive and proactive aggression (2d).
3. Vignettes developed for this study will measure expected peer liking and how it fits with the known construct of PIB (as it traditionally measured); a tentative hypothesis is that EPL and PIB will be positively correlated (3a). It is hypothesized that the tendency to expect high peer liking will be related to children's aggression (3b). Due to mixed findings (e.g., Orobio de Castro et al., 2007; White & Kistner, 2011), it will be explored whether high EPL relates to both reactive and proactive aggression, or specifically to proactive aggression (3c).
4. It is hypothesized that the tendency to report high self-esteem will be related to both reactive aggression, given research on threatened egotism (e.g., Sandstrom & Herlan, 2007), and proactive aggression, given findings that aggressive children believe that

aggression is successful (e.g., Salmivalli et al., 1999) (4a). Based on the implications of this research, it is hypothesized that high self-reported self-esteem will be related to greater EPL (4b). Additionally, relations between FCSE and HAB and EPL will be explored (4c). Given that research has indicated that FCSE is related to internalizing symptoms (Cambron et al., 2010), a tentative hypothesis is that FCSE will be negatively related to aggressive children's biases.

5. Separate lines of research have consistently demonstrated that aggressive children exhibit both HAB and PIB (e.g., Hudley, 2008; Owens et al., 2007), as well as suggested that they experience global deficits in social information processing and utilization of social cues (e.g., Crick & Dodge, 1996). Thus, it is hypothesized that the tendency to attribute hostile intent (HAB) and expect high peer liking (EPL) will be positively related within children (5a). Should these constructs be related, it is hypothesized that high self-esteem may moderate the link between them (5b).
6. In terms of rejection sensitivity, it is hypothesized that child aggression will be related to angry RS, based on previous findings (e.g., London et al., 2007) (6a). It is hypothesized that angry RS will be related to child HAB, after controlling for anxious RS (6b). Further analyses will explore how RS is related to EPL (6c), given mixed findings and contradictory implications (e.g., Downey et al., 1998; Hoglund et al., 2008).
7. Research has indicated that parents hold negative biases while children hold positive biases about relationships (e.g., Gerdes et al., 2003). It is hypothesized that parent HAB will be positively correlated with children's tendency to report high self-esteem and EPL.

Several further exploratory analyses will also be conducted. Due to the fact that there is no research on PIB in parents, no hypotheses will be made and exploratory analyses will be conducted with the parent EPL vignettes and their relation to parent HAB and child EPL. Given the role that maternal depression seems to play in the development of parental social-cognitive biases and negative parenting behaviors, its relation with the main study variables will be explored, especially its relations to inconsistent discipline, aggression, and parent HAB. Finally, based on limited research and equivocal findings on gender differences within these constructs, the current study will also explore the role of gender in the observed relations.

CHAPTER 2

METHOD

The current project consisted of two separate empirical investigations: a pilot study and the main study. Prior to beginning the main study, a pilot study was conducted to gather information about and further improve the measures created for the main study. The goals of the pilot study were to confirm that all questions were understandable and realistic for the participants, and to assess the feasibility of administration. Appendix A presents the sample characteristics, procedures, and results of the pilot study. Following the pilot investigation and the refinement of the new measures, the main study was conducted to investigate the hypotheses proposed. Sample characteristics, procedures, and results of the main study are presented below, with discussion following.

Participants

Participants in this project consisted of mothers and their children between the ages of 11 and 15 who participated in prior treatment outcome studies examining the efficacy of the Coping Power program for aggression. For inclusion in this study, children were initially screened by their 4th grade teachers on the *Teacher Report of Reactive and Proactive Aggression* (Dodge & Coie, 1987). Teachers reported on the aggression of all of the students in their classroom and the top 30% on the aggression screener of all of the students across classrooms were contacted to participate in the larger study. However, the top 25% of this sample was excluded, because they were believed to be unresponsive to the larger prevention study, since they likely already

displayed severely antisocial behavior. Students were included in the study if initial parent ratings of child aggression were also high.

It is important to examine constructs in at-risk samples in order to determine if relations are similar to or different from other populations. Additionally, previous research has identified that the main constructs targeted in the current study are particularly salient for children with externalizing problems. Although it is possible that the use of an aggressive sample would lead to a restricted range of scores, previous research conducted with similar at-risk samples on the processes involved in the current study have found variability in children's responses (e.g., HAB: Yaros, 2012; PIB: Stromeyer, 2010). This variability within aggressive children is important to detect the existence of biases and processes that may fluctuate based on individual differences within an aggressive sample.

For the current study, 67 families were recruited from the larger sample of 360 families. Given the various analyses proposed, several power analyses were conducted at the .05 level. To demonstrate a medium effect, 67 participants was the largest sample needed for a power of .80 in the various analyses. (Faul, Erdfelder, Buchner, & Lang, 2009). Of the larger sample, participants who did not agree to be contacted for future research studies, and those who had not yet completed the most recent data collection interview were not contacted ($n = 291$). Recruitment oversampled for girls, in order to achieve roughly equal groups of males and females. Attempts were made to contact families until at least 67 interviews were completed.

The final sample for the current study ($N = 67$) consisted of 37 males (55.2%) and 30 females (44.8%) who ranged in age from 11- to 15-years old ($M = 12.43$, $SD = 1.02$). The children were all in middle school, Grade 6, 7, and 8, and were roughly equally divided by grade (Grade 6: 34.3%; Grade 7: 34.3%; Grade 8: 31.3%). In this sample there were 58 African

American families (86.6%), 5 Caucasian families (7.5%), and 4 other ethnicity families (6%). The minority representation in the sample represents a significant benefit of the study. Of note, 60 participants (90%) were mothers, five were grandmothers, and two were aunts. For the purposes of this study, the participants will be referred to as ‘mothers,’ given that they all functioned as the primary caregiver to the child and were all female.

Procedure

Participant recruitment and consent. Children and their mothers who were participants in a recent Coping Power treatment outcome study funded by the National Institute of Drug Abuse were considered for inclusion in this study. Families who completed the most recent data collection wave were recruited, such that data collected from the larger study would be accessible and applicable for the current study. The most recent teacher report of aggression measure and sociometric data were obtained from the larger study, due to feasibility concerns.

Participants were called and asked if they would like to participate in a brief (i.e., one hour) interview, designed to assess parents’ and children’s perceptions of different social situations. If they declined, no further action was taken. If they agreed, a brief outline of the procedure was presented over the phone and a meeting time and place convenient for the family was scheduled. At the beginning of the interview, the informed consent and assent form was provided and explained to the parent and child, respectively. At that time, any questions from the family were addressed prior to beginning the interview.

Data collection. Due to the low socioeconomic status nature of the sample, as well as transportation difficulty, interviews were mostly completed in participants’ homes, although a few were conducted at the research offices. Three undergraduate students were recruited to assist the author with the interviews; they participated in training, role-playing, and observation before

conducting interviews themselves. Additionally, three graduate students assisted when none of the undergraduates were available. During the interviews, one person worked with the mother while the other separately interviewed the target child. The author was present during all interviews and always served as one of the interviewers. At the beginning of the interview, the author reviewed the informed consent and assent form with the mother and child, after which they completed several brief self-report questionnaires. Additionally, mothers and children listened to a series of hypothetical vignettes, in which they were asked to identify with the main character and subsequently answer questions based on what occurred in the vignette. Due to reading difficulty among some of the participants, the vignettes were presented auditorily to all participants, with the option of reading along on paper, before questions were posed. The vignettes were pre-recorded, in order to increase standardization and reduce bias if read differently across administrations or administrators.

Initially, mothers received \$20 and children received \$5 for their participation in the study, as it was anticipated that the interviews would take approximately 1 hour to complete per person. However, after data collection began, the interviews actually lasted about 30 minutes per person (and often only 20 minutes for the parent portion). The parent incentive was changed to \$10, due to funding issues. A series of independent samples t-tests indicated that mothers who received \$20 versus those who received \$10 did not significantly differ on any of the main study variables.

Measures

All of the measures to be used in the main study are provided, in the order listed, in Appendix B, including the final versions of the vignette measures. The vignette measures and the BDI, APQ, Parent Report of Aggression, the Perceived Competence Scale, rejection

sensitivity, and self-esteem measures were collected as part of this study, and the Teacher Report of Aggression and sociometric measures from the most recent time point of the larger study were used.

Hostile attribution bias vignettes. Children and their mothers completed the *Child Attribution Measure* and the *Parent Attribution Measure*, respectively. They listened to pre-recorded vignettes designed to assess hostile attributions of intent towards peers. Participants were presented with a vignette in which an ambiguous social interaction occurs and asked to imagine themselves as the main character (e.g., “You are sitting at the lunch table at school, eating lunch. You look up and see another kid coming over to your table with a drink. You turn around to eat your lunch, and the next thing that happens is that the kid spills the drink all over your back and gets your shirt all wet.”). Then, children were asked to rate, “The kid did this on purpose to be mean to me” and parents were asked to rate, “The person meant to irritate me” on a 5-point scale: 1 (*strongly disagree*), 2 (*disagree*), 3 (*not sure*), 4 (*agree*), or 5 (*strongly agree*). Each participant’s responses across all of the vignettes were summed and averaged and higher scores indicate greater attributions of hostile intent. Using Likert ratings of hostile intent in response to a vignette is a procedure that has been used in previous studies of HAB (e.g., Halligan et al., 2007).

Internal consistency for the current sample was good for the parent attribution measure ($\alpha = .84$), but within the questionable range for the child attribution measure ($\alpha = .61$). Reliability analyses and inter-item correlations for the child measure were examined, and removing any individual items would not improve the measure significantly. As this measure was the only measure of attributions of hostile intent in the current study, it is used as is in the following analyses, but results should be interpreted with caution. The means of the Child Attribution

measure and Parent Attribution measure are subsequently referred to as child HAB and parent HAB, respectively.

Expected peer liking vignettes. Similarly, children and their mothers listened to 11 pre-recorded vignettes designed to assess estimation of social liking in different situations (*Child Social Stories* and *Parent Social Stories*). Participants were presented with a vignette in which a social interaction occurs and asked to imagine themselves as the main character (e.g., “You are just about to go out for P.E. and you have made a plan with a kid in your class to play with him. When P.E. begins you ask him to play. He looks at you for a few seconds and then tells you that he has to go do something else first.”). Then, participants were asked to rate, “How much do these kids/people like you?” on a 5-point scale (1 [*mostly dislikes*], 2 [*not very much/somewhat dislikes*], 3 [*not sure/neutral*], 4 [*a little bit/somewhat likes*], or 5 [*mostly likes*]) and “Could you get these kids/people to like you?” on a 5-point scale (1 [*definitely not*], 2 [*maybe not*], 3 [*not sure*], 4 [*maybe*], or 5 [*definitely*]). Seven vignettes in both the parent and child measure consist of ambiguous situations, such as the example provided. To decrease the possibility of socially desirable responding and to collect a range of responses, three additional vignettes describe clear like and two describe clear dislike. For each target question, each participants’ responses across the vignettes were summed and averaged, after confirming that the ambiguous and clear like and dislike vignettes were significantly positively correlated. The subscale created by the first target question is referred to as the *Expect Liking* subscale; higher scores indicate greater expectations of peer liking. The subscale created by the second target question is referred to as the *Facilitate Liking* subscale; higher scores indicate greater expectations of the ability to facilitate peer liking.¹

¹ When the Expect Liking and Facilitate Liking subscales are aggregated to create a total score, the patterns of the relationships observed in the current study are similar. However, the reported analyses examined the subscales separately, in order to consider them as separate constructs.

Of note, for the parent Expect Liking and the parent Facilitate Liking, vignette 5 was removed in order to improve the internal consistency, since $\alpha = .58$ and $\alpha = .78$, respectively, with the inclusion of all 12 vignettes. Final internal consistency coefficients for the parent and child EPL subscales are as follows: Child Expect Liking ($\alpha = .77$), Child Facilitate Liking ($\alpha = .80$), Parent Expect Liking ($\alpha = .62$), and Parent Facilitate Liking ($\alpha = .80$). Correlations between the Expect Liking and Facilitate Liking subscales were $.48$ ($p < .001$) for children and $.56$ ($p < .001$) for parents.

Rejection sensitivity measure. Children completed the *Feelings and Expectations Questionnaire*, which was designed to measure children's sensitivity to possible rejection experiences. This scale has previously been used to measure rejection sensitivity and is indicated for 3rd – 8th graders (Downey et al., 1998). Only the Peer scale was used, which includes 6 vignettes describing peer interaction situations (e.g., "Imagine you had a really bad fight the other day with a friend. Now you have a serious problem and you wish you had your friend to talk to. You decide to wait for your friend after class and talk with him/her. You wonder if your friend will want to talk to you."). After each vignette, children were asked two questions on 6-point scales about anxious expectations and angry expectations: "How NERVOUS/ANGRY would you feel, RIGHT THEN, about whether or not your friend will want to talk to you and listen to your problem?" from 1 (*not nervous/not mad*) to 6 (*very, very nervous/very, very mad*). Children were also asked about the likelihood of this event on one 6-point scale: "Do you think he/she will want to talk to you and listen to your problem?" from 1 (*yes*) to 6 (*no*).

This measure yields two subscales: *Anxious Expectations of Rejection (anxious RS)* and *Angry Expectations of Rejection (angry RS)*, which were calculated by multiplying each

respective anxious/angry expectation score by the expected likelihood of rejection and then calculating the mean across items. Higher scores indicate higher levels of anxious or angry expectations of rejection. Downey and colleagues (1998) detail the development of this measure and report an internal consistency coefficient of .79 and good test-retest reliability ($\alpha = .85$). For the current sample, internal consistency was in the questionable range for both subscales (angry RS: $\alpha = .68$; anxious RS: $\alpha = .63$), and results should be interpreted with caution. The correlation between the anxious and angry RS subscales was .66 ($p < .001$).

Friendship contingent self-esteem measure. Children will complete the *How Things affect me.....* measure, which is a measure of FCSE, developed by Cambron and colleagues (2010) and adapted for use with children by Jeffrey Parker. This scale measures the tendency to base self-esteem on friendship quality and includes 8 items that are rated on a 5-point Likert scale. Participants rated such items as, “I only feel good about myself when things are going well in my friendships” from 1 (*absolutely not like me, not even a tiny bit*) to 5 (*this is exactly like me*). Children’s scores were averaged across items and higher scores indicate greater friendship contingent self-esteem. Cambron and colleagues (2010) reported validity with moderate to high inter-item correlations and confirmatory factor analysis, as well as good internal consistency ($\alpha = .90$). Internal consistency of this scale in the current sample was good ($\alpha = .85$).

General Self-Esteem Measure. Children completed the *Perceived Competence Scale for Children* (Harter, 1982). The PCSC consists of 40 items, each of which includes two opposing statements (e.g. ‘Some students feel that there are a lot of things about themselves that they would change if they could’ BUT ‘Other students would like to stay pretty much the same’). Target children were required to select which statement was most like them, and then indicate if

it was “really true” or “sort of true” for them. Items are scored from 1 to 4, with higher scores indicating greater perceived competence. Specifically, a 1 represents a “really true” endorsement of the negative statement, a 2 represents a “sort of true” endorsement of the negative statement, a 3 represents a “sort of true” endorsement of the positive statement, and a 4 represents a “really true” endorsement of the positive statement. Children’s scores on these items were averaged across items by subscale. This measure has been found to have adequate reliability and convergent, discriminant, factorial, and construct validity (Harter, 1982; Lochman & Dodge, 1994). In the current study, the General Self-Worth subscale (7 items) of the PCSC was used to measure children’s report of their self-esteem. This subscale represents global self-esteem and has been used in previous studies of children’s self-esteem (e.g., Barry et al., 2007; Sandstrom & Herlan, 2007). For the current sample, internal consistency for the General Self-Worth scale was poor ($\alpha = .54$). It is unclear why the internal consistency for the current sample was low on this subscale, although it is possible that self-esteem is a broad construct and so inter-item correlations were not high. Regardless, this subscale was included in current analyses but is interpreted with caution. In subsequent analyses and discussion, this construct will be referred to as *self-esteem*.

Children’s perceived social competence. The Peer subscale (7 items) of the *Perceived Competence Scale for Children* was used to measure children’s perceived social competence (Harter, 1982). One example of a Peer item consists of: ‘Some students find it hard to make friends’ BUT ‘Other students find it pretty easy to make friends.’ Children’s scores on these 7 items will be averaged and then standardized. In this manner, the Peer subscale of the PCSC has previously been used to compare self-perceived social competence with measures of social preference (e.g., Boivin & Bégin, 1989; Hughes et al., 1997). The internal consistency of the

Peer subscale in the current sample was acceptable ($\alpha = .74$) and will subsequently be referred to as *social competence*.

Sociometric ratings. Children's 'actual' social competence was assessed through two methods as part of a sociometric survey, in which classmates rated target children on a number of different dimensions. First, children indicated who they "liked the most" and who they "liked the least," through an unlimited nomination process. Using an unlimited nominating process produces more reliable and valid assessments of sociometric status than does a limited nominating process (Terry, 2000). These nominations were totaled for each child and then standardized within their classroom. A *Social Preference score* was calculated by subtracting the "liked the least" nominations from the "liked the most" nominations; higher scores indicate higher social preference. This sociometric procedure is a good method for distinguishing between social groups and has demonstrated construct validity (Terry & Coie, 1991).

Although this method has been used most frequently, other researchers have argued for a rating scale procedure, in which children rate each other on a Likert scale. This method is particularly useful when schools or parents are concerned about encouraging children to rate who they like the least in their class (Asher & Dodge, 1986). Rating scales collect information about the target child from all other children in their class, as opposed to a nomination procedure, in which often some children are never nominated on any dimension. Additionally, children can express their degree of attraction/rejection toward a particular child with rating scales (polytomous score attribution), as opposed to the dichotomous scales used in a nomination procedure (Maassen, Boxtel, & Goossens, 2005). Furthermore, rating scale systems have been shown to have higher validity and test-retest reliability than nomination procedures (e.g., Maassen et al., 2005; Maassen & Verschueren, 2005; Oden & Asher, 1977), indicating that

rating scales provide more useful sociometric information and are more stable over time. Oden and Asher (1977) suggested that this occurs because each child's score is comprised of an average rating from all of their classmates, as opposed to the number of nominations they may receive from some of their classmates.

In the current study, 55 of the 67 participants (82.1%) had sociometric data from their respective classrooms. However, a principal became concerned about having children provide negative nominations, and so representatives of the Tuscaloosa City School system did not approve the use of the "like the least" nomination category in the sociometric procedure. Therefore, a Social Preference score could only be calculated for 27 participants (40.3%) who did not attend a Tuscaloosa City school. However, a *Sociometric Rating* score could be calculated for all 55 children. Children rated every other child in their classroom on how much they liked them: 1 (*my very best friends*), 2 (*my other friends*), 3 (*not friends, but ok*), 4 (*don't care for them*), 5 (*dislike them*). The last item, 6 (*don't know them*), was coded as missing data. To calculate the sociometric rating score, each child's 1-5 ratings from their peers were summed and then divided by the total number of children who rated them. This score was then reverse-scored so that higher scores would indicate greater liking by peers, consistent with other measures. This mean sociometric rating score was significantly positively correlated with the social preference score ($r_{27} = .80, p < .001$), indicating that it may be used as a proxy for the traditional nomination method. Additionally, this sociometric rating score may be more valid and reliable than the Social Preference score, as discussed above, and will be used to represent children's 'actual' social competence in the current study.

Positive illusory bias. Children's positive illusory bias score was calculated by identifying the discrepancy between children's perceived social competence and peer ratings of

their competence. Specifically, children's standardized, sociometric rating score was subtracted from children's standardized, self-perceived social competence score (PCSC peer subscale). As a further check on this calculated scale, the traditional measurement scale used in other studies of positive illusory bias (e.g., Hoza et al., 2004) was also calculated by subtracting children's standardized social preference score from their perceived social competence score. Essentially, both of these calculations use the same minuend (children's perceived competence) but different subtrahends (sociometric rating score vs. social preference score). These two difference scores were significantly positively correlated ($r_{27} = .91, p < .001$), lending further support to the use of the sociometric rating score as the measure of peer ratings of social competence. Therefore, in the current study, this calculated score (perceived social competence minus sociometric rating score) will be subsequently referred to as the *Positive Illusory Bias* score.

Inconsistent parenting measure. Mothers also reported on their parenting practices using the *Alabama Parenting Questionnaire*. The APQ is a self-report measure that consists of 42 items that yield five subscales: parental involvement, positive parenting, poor monitoring/supervision, inconsistent discipline, and corporal punishment (Shelton, Frick, & Wootton, 1996). Items are rated on a 5-point Likert scale from 1 (*never*) to 5 (*always*). The APQ has demonstrated strong construct validity (Shelton et al., 1996), and support has been shown for the factor structure through confirmatory factor analyses (Essau, Sasagawa, & Frick, 2006). For the current study, the inconsistent discipline subscale was used, which consists of six items (e.g., "You threatened to punish your child and then do not actually punish him/her"). This subscale has been shown to be related to inconsistency of discipline in the home, through observations (Hawes & Dadds, 2006). In addition, this subscale has been used in many other studies investigating the effect of parenting on children (e.g., Barry, Dunlap, Lochman, et al.,

2009). The internal consistency for the current sample was in the questionable range ($\alpha = .64$) and should be interpreted with caution.

Maternal depression measure. The *Beck Depression Inventory* was used to assess mother's self-reported depressive symptoms. The BDI is a very widely used measure of severity of depression and it consists of 21 self-report items with choices ranging from 0 to 3 (Beck, Steer, & Garbin, 1988). One sample item consists of the choices "I do not feel sad" (0), "I feel sad" (1), "I am sad all of the time and I can't snap out of it" (2), and "I am so sad or unhappy that I can't stand it" (3). The BDI yields a total score and higher scores indicate greater severity of depression. A meta-analysis indicated that the BDI has high external validity and good internal consistency (Beck et al., 1988) and for the current sample, the internal consistency was in the excellent range ($\alpha = .91$).

Aggression measure. Teachers and parents completed the *Measure of Proactive and Reactive Aggression*. This measure was developed by Dodge and Coie (1987) to measure observations of children's reactive and proactive aggressive behaviors and has been used reliably in previous studies (e.g., Crick & Dodge, 1996). Both teacher and parent ratings were used to compare reports of aggression across sources and contexts. The measure consists of six items, three that assess reactive aggression (e.g., "When this child has been teased or threatened, they get angry easily and strike back"), and three that assess proactive aggression (e.g., "This child threatens or bullies other in order to get their own way"). Teachers and parents rated each statement on a five-point scale (0) *never true* to (4) *almost always true*. Chronbach's alphas for the all of the teacher and parent reactive and proactive subscales all fell above .80. Correlations between reactive and proactive aggression were .53 ($p < .001$) for teachers and .57 ($p < .001$) for parents.

CHAPTER 3

RESULTS

Descriptive statistics for the study variables are presented in Table 1. The different sample sizes are due to some missing data from the larger longitudinal study. However, with the exception of the sociometric data previously discussed, there are only two missing data points for teacher-rated aggression. Within this aggressive sample, participants demonstrated a range of responses on all of the study variables. Given that all of the variables demonstrated skewness and kurtosis values under 3, they were used in subsequent analyses as is.²

First, preliminary analyses are presented, followed by hypothesized analyses, exploratory analyses, and finally, secondary analyses. Significant findings are highlighted and significant differences across gender are presented.

Preliminary Analyses

Within-samples t-tests were conducted to determine whether participants differed on the two subscales of the new EPL measure and also on their level of reactive and proactive aggression. On the EPL vignettes, children rated their ability to facilitate liking ($M = 3.44$, $SD = .52$) higher than their expectations of liking ($M = 3.07$, $SD = .45$; $t_{66} = -6.11$, $p < .001$).

Similarly, mothers also rated their ability to facilitate liking ($M = 3.39$, $SD = .54$) higher than their expectations of liking ($M = 2.96$, $SD = .40$; $t_{66} = -7.70$, $p < .001$). Parents rated children's

² As a further examination of normality, variables with higher skewness/kurtosis were transformed using log and inverse functions. The use of these transformed variables did not produce any changes in the patterns of relationships between variables, and so they were not included.

Table 1

Psychometric Properties of the Study Variables

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	Min	Max	Skewness	Kurtosis
Child HAB	67	3.22	0.66	1.14 (1.0)	4.43 (5.0)	-0.77	0.43
Parent HAB	67	3.29	0.81	1.0 (1.0)	5.0 (5.0)	-0.83	1.12
Child Expect Liking	67	3.07	0.45	1.67 (1.0)	4.42 (5.0)	-0.01	1.59
Child Facilitate Liking	67	3.44	0.52	2.42 (1.0)	4.75 (5.0)	0.50	0.06
Parent Expect Liking	67	2.96	0.40	1.91 (1.0)	4.09 (5.0)	0.33	0.53
Parent Facilitate Liking	67	3.39	0.54	1.64 (1.0)	4.91 (5.0)	0.05	1.32
Anxious RS	67	9.94	4.95	1.83 (1.0)	26.67 (36)	0.79	0.87
Angry RS	67	9.06	5.08	1.17 (1.0)	26.83 (36)	0.93	1.12
FCSE	67	2.66	0.98	1.0 (1.0)	5.0 (5.0)	-0.08	-0.51
Self-esteem	67	3.11	0.51	2.14 (1.0)	4.0 (4.0)	0.08	-1.11
Social Competence	67	2.99	0.69	1.29 (1.0)	4.0 (4.0)	-0.36	-0.98
Sociometric Rating	55	2.67	0.73	1.33 (1.0)	4.71 (5.0)	0.61	-0.01
Social Preference Score	27	-0.36	0.86	-2.10 (--)	1.66 (--)	0.02	0.01
PIB score	55	0.22	1.45	-2.58 (--)	2.69 (--)	-0.09	-1.10
Inconsistent discipline	67	2.58	0.61	1.33 (1.0)	4.67 (5.0)	0.58	1.25
Depressive symptoms	67	10.13	9.15	0 (0)	46 (63)	1.46	2.82
Reactive Agg (Parent)	67	2.95	1.12	1.0 (1.0)	5.0 (5.0)	0.36	-1.0
Proactive Agg (Parent)	67	1.58	0.84	1.0 (1.0)	4.0 (5.0)	1.48	1.08
Reactive Agg (Teacher)	65	3.36	1.07	1.0 (1.0)	5.0 (5.0)	-0.48	-0.28
Proactive Agg (Teacher)	65	2.10	1.07	1.0 (1.0)	4.67 (5.0)	0.64	-0.56

Note. Potential minimum and maximum are provided in parentheses next to the actual minimum and maximum.

Abbreviations are as follows: hostile attribution bias (HAB), rejection sensitivity (RS), friendship contingent self-esteem (FCSE), positive illusory bias (PIB), aggression (Agg).

reactive aggression ($M = 2.95$, $SD = 1.12$) higher than their proactive aggression ($M = 1.58$, $SD = .84$; $t_{66} = 11.93$, $p < .001$). Similarly, teachers also rated children's reactive aggression ($M = 3.36$, $SD = 1.07$) higher than their proactive aggression ($M = 2.10$, $SD = 1.07$; $t_{64} = 9.81$, $p < .001$). Parent- and teacher-rated reactive aggression ($r_{65} = .19$, $p = .12$) and parent- and teacher-rated proactive aggression ($r_{65} = .18$, $p = .15$) were not significantly correlated for the total sample or for girls. However, for boys only, parent- and teacher-rated reactive and proactive

aggression ($r_{36} = .43, p = .01; r_{36} = .41, p = .01$) were significantly positively correlated. For subsequent analyses, results of the relations between teacher- and parent-rated aggression with the other study variables are presented separately.

A series of independent samples t-tests and one-way ANOVAs were conducted to determine whether participants differed by gender, grade, or ethnicity on means of the study variables. In terms of grade, only two of the 21 ANOVAs was significant; 6th graders reported significantly lower social competence ($M = 2.67, SD = .72$) than 8th graders ($M = 3.25, SD = .46$) on the PCSC peer subscale ($F_{2,64} = 4.50, p = .015$). Additionally, teachers rated 6th graders' reactive aggression ($M = 3.78, SD = .81$) significantly higher than that of 7th graders ($M = 2.91, SD = 1.02; F_{2,62} = 4.08, p = .022$). None of the 21 t-tests conducted for either gender or ethnicity were significant. Although boys and girls did not differ by means on the study variables, of note, parents rated girls' aggressive behavior higher than that of boys, while teachers reported the opposite pattern (see Table 2). Subsequent correlations were conducted separately by gender to examine potential differences in correlational patterns.

Table 2

Means and Standard Deviations of Parent- and Teacher-Rated Aggression by Gender

Gender	Parent-Rated Aggression		Teacher-Rated Aggression	
	Reactive	Proactive	Reactive	Proactive
Girls	3.07 (1.26)	1.64 (0.80)	3.20 (1.12)	2.09 (1.14)
Boys	2.85 (1.00)	1.52 (0.88)	3.49 (1.02)	2.10 (1.03)

Note. Standard Deviations are provided in parentheses next to the Means.

Table 3

Study Variable Correlations

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. C-HAB	-----													
2. P-HAB	-.06	-----												
3. C- Expect Like	-.38**	.07	-----											
4. C-Facilitate Like	-.35**	-.17	.48**	-----										
5. P- Expect Like	.11	.03	.22	.03	-----									
6. P-Facilitate Like	-.02	-.02	.16	.11	.56*	-----								
7. Anxious RS	.31**	.15	-.26*	-.23	-.24	-.09	-----							
8. Angry RS	.43**	-.05	-.31*	-.26*	-.22	-.10	.66**	-----						
9. FCSE	.14	.10	-.01	.01	-.15	-.18	.45**	.18	-----					
10. Self-esteem	-.22	-.19	-.05	.25*	.05	.10	-.17	-.14	-.28*	-----				
11. Social Comp.	-.05	-.21	.12	.14	.12	.09	-.26*	-.10	-.30*	.57**	-----			
12. PIB score	-.08	-.22	.02	.10	.12	.06	-.31*	-.05	-.24	.36**	.70**	-----		
13. Inconsistent Dis	.15	.10	.11	-.10	.01	.09	.23	.17	.05	-.37**	-.13	-.18	-----	
14. Depressive Sx	.01	-.02	.13	-.04	.17	.42**	.01	.06	-.02	-.28*	-.10	-.09	.38**	-----

Note. ** indicates correlation is significant at the .01 level; * indicates correlation is significant at the .05 level.

Hypothesized correlations are in **bold**.

‘C’ denotes child vignette measures and ‘P’ denotes parent vignette measures.

Abbreviations are as follows: hostile attribution bias (HAB), rejection sensitivity (RS), friendship contingent self-esteem (FCSE), social competence (Social Comp.), positive illusory bias (PIB), discipline (Dis), symptoms (Sx).

Table 4

Study Variable Correlations by Gender

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. C-HAB	-----	-.12	-.32	-.42**	.12	-.16	.34*	.36*	.24	-.28	-.002	-.09	.11	-.09
2. P-HAB	.03	-----	.21	-.10	.14	.18	.24	.08	.12	-.13	-.06	-.17	.04	-.03
3. C- Expect Like	-.44*	-.22	-----	.42**	.11	.17	-.34*	-.23	-.10	-.25	.05	.04	.16	.27
4. C-Facilitate Like	-.27	-.26	.58**	-----	-.27	-.09	-.44**	-.36*	.06	.15	.14	.11	-.31	-.08
5. P- Expect Like	.07	-.08	.53**	.37*	-----	.73**	-.30	-.20	-.18	-.09	-.04	-.07	.04	.30
6. P-Facilitate Like	.06	-.25	.31	.36	.33	-----	-.27	-.35*	-.25	-.01	-.20	-.26	-.09	.37*
7. Anxious RS	.32	.06	-.26	-.09	-.17	.11	-----	.60**	.43**	-.07	-.31	-.25	.23	-.12
8. Angry RS	.48**	-.18	-.42*	-.16	-.28	.11	.74**	-----	.06	-.05	-.10	-.07	.18	-.11
9. FCSE	.01	.10	.22	-.02	-.13	-.13	.51**	.31	-----	-.28	-.37*	-.27	.01	-.09
10. Self-esteem	-.16	-.28	.27	.30	.23	.23	-.26	-.25	-.28	-----	.42*	.29	-.46**	-.26
11. Social Comp.	-.12	-.36*	.28	.16	.26	.33	-.22	-.11	-.25	.73**	-----	.65**	-.22	-.19
12. PIB score	-.16	-.26	.14	.17	.32	.37	-.36	-.10	-.24	.54**	.80**	-----	-.15	-.31
13. Inconsistent Dis	.23	.18	-.01	.11	-.02	.37*	.24	.20	.13	-.25	-.02	-.18	-----	.43**
14. Depressive Sx	.11	.03	-.10	.04	-.07	.47**	.18	.26	.09	-.32	-.03	.19	.32	-----

Note. Correlations for boys are presented above the diagonal and correlations for girls are presented below the diagonal.

** indicates correlation is significant at the .01 level; * indicates correlation is significant at the .05 level.

Hypothesized correlations are in **bold**.

‘C’ denotes child vignette measures and ‘P’ denotes parent vignette measures.

Abbreviations are as follows: hostile attribution bias (HAB), rejection sensitivity (RS), friendship contingent self-esteem (FCSE), social competence (Social Comp.), positive illusory bias (PIB), discipline (Dis), symptoms (Sx).

Hypotheses Analyses

Several series of analyses were conducted to test the proposed relations in the current study. For each hypothesis, results are presented for the total sample, followed by an analysis of the differences by gender and aggression ratings source (i.e., parent vs. teacher). Correlations between the major study variables are presented for the total sample in Table 3 and by gender in Table 4. Correlations between teacher- and parent-rated aggression with study variables are presented in Table 5 for the total sample and in Table 6 for boys versus girls.

Hypothesis Set 1. Correlation analyses were used to test the relations between child HAB and reactive aggression and parent HAB. Specifically, child HAB was not significantly related to parent-rated reactive aggression ($r_{67} = .15, p = .25$), teacher-rated reactive aggression ($r_{65} = .13, p = .32$), or to parent HAB ($r_{67} = -.06, p = .65$). These relations were also not significant for either boys or girls.

Given that the literature has consistently demonstrated a significant positive relation between child HAB and aggression, further analyses were conducted to examine whether any of the 7 child HAB vignettes were related to child aggression. Out of 28 correlations conducted, only two were significant: vignette 4 was significantly negatively correlated with teacher-rated proactive aggression ($r_{65} = -.39, p = .001$) and vignette 3 was significantly positively correlated with parent-rated reactive aggression ($r_{67} = .25, p = .04$). In conclusion, it does not seem that the HAB measure as a whole or any of its vignettes (even widely-used vignettes) are consistently relating to children's aggression in this study, as would be predicted. Furthermore, previous research has suggested that child and parent HAB are significantly positively correlated, but this was not the case in the current study.

Hypothesis Set 2. Correlational analyses were conducted to explore the relation between inconsistent discipline and child HAB and parent HAB. Inconsistent discipline was not

Table 5

Correlations Between Parent- versus Teacher-Rated Aggression with Study Variables

Variable	Parent-Rated Aggression		Teacher-Rated Aggression	
	Reactive	Proactive	Reactive	Proactive
1. Child HAB	.15	.12	.13	-.13
2. Parent HAB	-.10	-.16	.12	.11
3. Child Expect Like	.21	.16	-.14	-.04
4. Child Facilitate Like	.05	-.08	-.22	-.15
5. Parent Expect Like	.15	-.14	.16	-.03
6. Parent Facilitate Like	.23	-.03	.07	.10
7. Anxious RS	.06	.14	.17	.05
8. Angry RS	.20	.25*	.09	-.03
9. FCSE	-.004	.06	.12	-.03
10. Self-esteem	-.05	-.12	-.13	.10
11. Social Competence	.20	.25*	-.08	.11
12. PIB score	.14	.30*	-.02	-.02
13. Inconsistent Discipline	.25*	.33**	.11	.12
14. Depressive Symptoms	.40**	.32**	.15	.18

Note. ** significant at the .01 level; * significant at the .05 level.

Hypothesized correlations are in **bold**.

Abbreviations are as follows: hostile attribution bias (HAB), rejection sensitivity (RS), friendship contingent self-esteem (FCSE), positive illusory bias (PIB).

significantly correlated with child HAB ($r_{67} = .15, p = .22$) or with parent HAB ($r_{65} = .10, p = .42$).

This same pattern was also found for both boys and girls. Although these constructs were not significantly related, a Sobel mediation test was used to examine potential indirect effects. The Sobel test compares the strength of the indirect effect of the independent variable on the dependent variable to the point that the null hypothesis equals zero (Sobel, 1982). The relation between child and parent HAB was not mediated by inconsistent discipline ($z_{67} = .60, p = 0.55, 95\% \text{ CI } [-.05, .09]$). These results were also consistent with Baron and Kenny mediation requirements, which were not supportive of indirect effects either.

The relation between inconsistent discipline and both reactive and proactive aggression was examined with two correlation analyses. Inconsistent discipline was not significantly

Table 6

Correlations Between Parent- versus Teacher-Rated Aggression with Study Variables by Gender

Variable	Parent-Rated Aggression				Teacher-Rated Aggression			
	Reactive		Proactive		Reactive		Proactive	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
1. Child HAB	.16	.17	.11	.15	.14	.08	-.03	-.23
2. Parent HAB	-.12	-.10	-.45*	.04	.45*	-.14	.23	.01
3. Child Expect Like	.09	.28	.03	.21	-.18	-.07	-.15	.02
4. Child Facilitate Like	.07	-.01	-.08	-.10	-.34	-.05	-.33	.04
5. Parent Expect Like	.16	.17	-.04	-.19	-.06	.30	-.17	.08
6. Parent Facilitate Like	.37*	.14	.30	-.25	-.28	.30	.14	.07
7. Anxious RS	.31	-.28	.14	.13	.38*	-.05	.27	-.21
8. Angry RS	.45*	-.06	.41*	.13	.25	-.11	.09	-.16
9. FCSE	.15	-.12	.09	.06	.23	.01	.25	-.24
10. Self-esteem	.13	-.24	.07	-.26	-.29	-.002	-.07	.26
11. Social Competence	.36	.005	.40*	.13	-.27	.12	-.04	.27
12. PIB score	.31	.01	.55*	.16	-.45*	.25	-.21	.15
13. Inconsistent Discipline	.22	.27	-.002	.53**	.08	.15	.22	.03
14. Depressive Symptoms	.33	.49**	.40*	.29	.04	.21	.26	.12

Note. ** significant at the .01 level; * significant at the .05 level.

Hypothesized correlations are in **bold**.

Abbreviations are as follows: hostile attribution bias (HAB), rejection sensitivity (RS), friendship contingent self-esteem (FCSE), positive illusory bias (PIB).

correlated with teacher-rated reactive aggression ($r_{65} = .11, p = .39$) or proactive aggression ($r_{65} = .12, p = .36$). However, inconsistent discipline was significantly positively correlated with both parent-rated reactive aggression ($r_{67} = .25, p = .04$) and proactive aggression ($r_{67} = .33, p = .007$).

This finding indicates that mothers who perceived that they were less consistent with their discipline also perceived higher levels of aggression in their children.

Additionally, these relations between parent-rated aggression and inconsistent discipline differed by gender. While these relations were not significant for girls, for boys, parental inconsistent discipline was significantly positively correlated with proactive aggression ($r_{37} = .53, p = .001$). Furthermore, the partial correlation of proactive aggression with inconsistent discipline

was still significant when reactive aggression was controlled for ($r_{37} = .48, p = .003$). These differences indicate that greater inconsistent discipline is related to higher levels of boys' proactive aggression.

Hypothesis Set 3. Two correlational analyses explored the relation between the positive illusory bias score and the Expected Peer Liking measure subscales. PIB in children was not significantly correlated with children's average responses on the EPL vignettes (Expect Liking: $r_{55} = .02, p = .89$; Facilitate Liking: $r_{55} = .10, p = .46$). These relations were also nonsignificant for boys and girls. These findings indicate that the new EPL vignettes are not related to positive illusory bias.

Further correlation analyses examined the relation between aggression and EPL. Correlations were nonsignificant between both the Expect Liking and Facilitate Liking subscales and both parent- and teacher-rated reactive and proactive aggression (see Table 5). However, there was a nonsignificant negative trend for both the total sample and for girls between Facilitate Liking and teacher-rated reactive aggression ($r_{65} = -.22, p = .08$; $r_{29} = -.34, p = .07$). Taken together, these findings indicate that expectations of peer liking are not related to aggression in children, although there is a trend that increased estimations of the ability to facilitate liking are related to less reactive aggression in girls.

Hypothesis Set 4. Three correlation analyses examined the relation of child self-esteem to reactive aggression, proactive aggression, and child EPL. Self-esteem was not significantly related to parent- or teacher-rated reactive aggression ($r_{67} = -.05, p = .68$; $r_{65} = -.13, p = .29$) or proactive aggression ($r_{67} = -.12, p = .35$; $r_{65} = .10, p = .41$). Self-esteem was not significantly related to Expect Liking ($r_{67} = -.06, p = .66$), although it was significantly positively correlated with Facilitate Liking ($r_{67} = .25, p = .04$). This indicates that children with higher self-esteem expect that they will be able to get others to like them. An additional correlation analysis tested the relation between

friendship contingent self-esteem and EPL vignettes. FCSE was not significantly related to Expect Liking ($r_{67} = -.01, p = .93$), or to Facilitate Liking ($r_{67} = .01, p = .92$). All of these relations were nonsignificant for both genders examined separately. Taken together, these results indicated that self-esteem is not related to reactive or proactive aggression in aggressive children, although it is related to the expectation of the ability to facilitate liking.

Hypothesis Set 5. Two correlation analysis examined the link between child HAB and EPL subscales. Child HAB was significantly negatively correlated with both Expect Liking ($r_{67} = -.38, p = .002$), and Facilitate Liking ($r_{67} = -.35, p = .004$). An examination of gender differences revealed that for girls, HAB is only related to Expect Liking ($r_{67} = -.44, p = .02$), while for boys, HAB is only related to Facilitated Liking ($r_{67} = -.42, p = .01$). These results were in the opposite direction than was predicted; higher tendency to perceive hostile intent is related to lower expected liking in girls and lower expected ability to facilitate liking in boys.

A regression analysis investigated whether self-esteem moderated the link between HAB and EPL. HAB was entered as the dependent variable, EPL and self-esteem were entered on the first step, and the interaction of EPL and self-esteem was entered on the second step. Self-esteem did not moderate the relation between HAB and the EPL subscales for the total sample or for girls, but it did for boys only. For both the EPL subscales, entering the interaction term on the second step improved the model (Expect Liking: $R^2 = .39, \Delta R^2 = .17, F_{3,33} = 7.03, p = .001$; Facilitate Liking: $R^2 = .32, \Delta R^2 = .14, F_{3,33} = 5.08, p = .005$) and the interaction term was significant (Expect Liking: $\beta = -3.38, p = .005$; Facilitate Liking: $\beta = -3.08, p = .02$). Analysis of the interaction revealed that for boys with higher self-esteem, as HAB increases, they become less likely to expect high liking or ability to facilitate liking.

Hypothesis Set 6. Correlational analyses examined the relation between angry RS and child aggression. Angry RS was significantly positively related to parent-rated proactive aggression (r_{67}

= .25, $p = .04$) but not to parent-rated reactive aggression ($r_{67} = .20, p = .10$) or to teacher-rated reactive or proactive aggression ($r_{65} = .09, p = .48; r_{65} = -.03, p = .82$). For girls only, angry RS was significantly positively correlated with both parent-rated reactive ($r_{67} = .45, p = .01$) and proactive aggression ($r_{67} = .41, p = .02$). These results indicate that higher angry rejection sensitivity, particularly for girls, is related to higher ratings of aggression by mothers.

Partial correlations were used to determine whether angry RS is related to child HAB after anxious RS is controlled for. For both the total sample and for girls only, angry RS predicted HAB after controlling for anxious RS ($r_{64} = .31, p = .01; r_{27} = .38, p = .40$). These findings indicate that higher angry rejection sensitivity is related to greater perceptions of hostile intent, particularly for girls.

Additionally, a series of correlation analyses explored the relation between RS and EPL subscales. For the total sample, angry RS was significantly negatively related to Expect Liking and to Facilitate Liking ($r_{67} = -.31, p = .01; r_{67} = -.26, p = .03$). However, these relations were represented differently by gender. For boys only, angry RS was significantly negatively correlated with Facilitate Liking ($r_{37} = -.36, p = .03$), while for girls, angry RS was significantly negatively correlated with Expect Liking ($r_{30} = -.42, p = .02$). Taken together, these findings suggest that higher angry rejection sensitivity is related to lower expectations of peer liking in girls and the lower expected ability to facilitate liking in boys.

Hypothesis Set 7. Two sets of correlation analyses were used to determine whether parent HAB is associated with children's EPL and self-esteem. Parent HAB was not significantly correlated with child Expect Liking ($r_{67} = .07, p = .60$), Facilitate Liking ($r_{67} = -.17, p = .17$), or self-esteem ($r_{67} = -.19, p = .12$). For both genders, these relations were nonsignificant as well.

Planned Exploratory Analyses

Additional correlation analyses explored relations between additional constructs for which no hypotheses were made, including parent peer liking and its relation to parent and child biases, and maternal depression with the main study variables. For the total sample, parent EPL subscales were not significantly related to parent HAB (Expect Liking: $r_{67} = .03, p = .79$; Facilitate Liking: $r_{67} = -.02, p = .86$), or to child EPL subscales (see Table 3). However, for girls, parent Expect Liking was significantly positively correlated with both child Expect Liking ($r_{67} = .53, p = .003$) and child Facilitate Liking ($r_{67} = .37, p = .047$). This indicates that girls with mothers who rate their expectations of peer liking as high also have high expectations of peer liking and the ability to facilitate liking themselves.

Maternal depressive symptoms were significantly positively correlated with inconsistent discipline ($r_{67} = .38, p = .002$) and significantly negatively correlated with children's self-esteem $r_{67} = -.28, p = .02$). Furthermore, inconsistent discipline was significantly negatively correlated with boys' self-esteem ($r_{37} = -.46, p = .004$). These results indicate that mothers with higher levels of depressive symptoms reported higher inconsistent discipline practices and their children, particularly sons, reported lower self-esteem. Additionally, for boys only, maternal depressive symptoms were significantly positively correlated with parent-rated reactive aggression ($r_{37} = .49, p = .002$). On the other hand, for girls only, maternal depressive symptoms were significantly positively correlated with parent-rated proactive aggression ($r_{30} = .40, p = .03$). These results suggest that mothers with more depressive symptoms are more likely to report higher levels of proactive aggression in daughters and higher levels of reactive aggression in sons.

Secondary Analyses

During data analysis, several relations of interest emerged that had not been predicted and are reported below. Given the large number of analyses, it must be noted that these unanticipated

findings may be due to chance, or family-wise error. However, for the total sample, out of 123 correlations for which hypotheses were not made, 20 of those (16.3%) were significant, which is greater than chance. Similar proportions of correlations were found for girls only (15.4%), although lower for boys only (12.2%).

Aggressive children's social functioning. Children's social preference score was significantly positively correlated with child Expect Liking ($r_{27} = .42, p = .03$), although not with Facilitate Liking ($r_{27} = .28, p = .17$). This suggests that children's greater expectations of peer liking are related to greater peer-rated social competence. However, children's ratings of their social competence were not significantly correlated with measures of peer preference. Social competence was significantly positively correlated with parent-rated proactive aggression ($r_{67} = .25, p = .04$), particularly for girls ($r_{30} = .40, p = .03$). This indicates that mothers of girls with higher perceptions of their social competence rated them as having more proactive aggressive behavior.

Children's self-esteem was significantly positively correlated with perceived social competence ($r_{67} = .57, p < .001$). However, these constructs are derived from the same measure, and so this finding may represent shared method variance. Children's self-esteem was also significantly positively correlated with positive illusory bias ($r_{55} = .36, p = .007$, particularly for girls ($r_{23} = .54, p = .008$). Positive illusory bias was significantly negatively correlated with peer-rated social preference score ($r_{27} = -.53, p = .005$), indicating that children with higher PIB were less liked by their peers. Furthermore, PIB and angry RS were both significantly positively correlated with parent-rated proactive aggression ($r_{55} = .30, p = .03; r_{67} = .25, p = .04$). Both of these significant relations were carried by girls ($r_{23} = .55, p = .007; r_{30} = .41, p = .02$). However, girls' PIB was significantly negatively correlated with teacher-rated reactive aggression ($r_{30} = -.45, p = .04$). Furthermore, angry RS was significantly positively correlated with reactive aggression in girls ($r_{30} = .45, p = .01$). Taken together, these findings indicate that girls demonstrating a positive

illusory bias have higher self-esteem and higher rates of proactive aggression. Furthermore, girls with higher angry rejection sensitivity displayed more parent-rated reactive and proactive aggression.

Additional relations between parents and children. Parent HAB was significantly negatively correlated with girls' social competence ($r_{30} = -.36, p < .05$). Furthermore, parent HAB was significantly positively correlated with girls' teacher-rated reactive aggression ($r_{30} = .45, p = .02$), and significantly negatively correlated with parent-rated proactive aggression ($r_{30} = -.45, p = .01$). These findings suggest that mothers with higher levels of hostile attribution bias had daughters with lower perceived social competence, higher reactive aggression, and lower proactive aggression. Additionally, parent Expect Liking was significantly positively correlated with both girls' Expect Liking ($r_{30} = .53, p = .003$) and Facilitate Liking ($r_{30} = .37, p < .05$). This indicated that higher expected peer liking by mothers is related to higher expectations of peer liking and the ability to facilitate liking by their daughters.

CHAPTER 4

DISCUSSION

The current study developed new hypothetical vignettes and explored patterns of relations between these measures, social and self-perceptions, aggression, and maternal influences within a sample of aggressive children. Although the results of the current study did not support some of the hypotheses, other hypotheses were supported and other interesting findings emerged in exploratory and secondary analyses.

The following discussion will first address findings that were unexpected or inconsistent with the study's hypotheses. Next, an analysis of the vignette measures and their correlates will be provided, focusing on the patterns of social perceptions in aggressive children. Relationships between aggressive children and their mothers, as well as gender differences will then be discussed. Finally, limitations, future directions, and implications of the current study will be considered.

Findings Inconsistent with Hypotheses

In general, it is not unexpected that several hypotheses were not supported, given the exploratory nature of the study and the newness of the measures and relations among them. Several of the constructs and relations addressed in the current study were novel, with little previous research evidence, albeit with some theoretical support. As such, these constructs were hypothesized to be related in specific ways, while recognizing that different patterns between them might emerge. Furthermore, the internal consistency of the new vignette measures ranged from questionable to good, although estimates were high after completion of the pilot study. However, these coefficients are similar to those obtained in other studies of social cognition (e.g., Lochman &

Dodge, 1994) and may indicate that perceptions of social situations are dynamic and fluctuate in response to different stimuli. Additionally, some of the well-established scales (e.g., PCSC General self-worth) demonstrated low internal consistency for the current sample, which possibly affected the results. This low reliability possibly impeded the ability to find a significant relation, even when one existed, due to increasing standard error.

Finally, the current study was constrained to a sample of children screened to be aggressive, which could have possibly limited the results. Previous studies using only aggressive samples have found significant variability among children on many of the constructs in the current study. However, due to the sample's nature, it does not allow for comparison with 'nonaggressive' children, and may restrict the range of the constructs in question. Thus, relations in the current sample may not have been particularly robust, even though some variability was evident. More specifically, explanations for several key hypotheses with nonsignificant results are provided below.

Nonsignificant findings with hostile attribution bias. Neither the child HAB measure as a whole, nor any of its vignettes (even widely-used vignettes) seemed to consistently relate to children's aggression in this study, as predicted by previous literature (Hudley, 2008). The lack of significant findings could have several explanations. First, this sample has had repeated exposure to this vignette format and participated in the Coping Power intervention, in which they received skills training on perceptual-taking and examining several possible attributions in a situation. This may have disrupted the relation between HAB and aggression normally observed in such a sample. For instance, children are taught to use effortful control to inhibit their automatic responses and examine all possible attributions before acting. Therefore, they may still demonstrate an initial hostile attribution bias, but have learned to counteract this perception by subsequently thinking through alternate possibilities and enacting a better, non-aggressive solution. There could also be a developmental issue, such that this measure may no longer be appropriate for children of middle

school age. Finally, although most studies in this area find significant positive relations between child HAB and aggression, some literature has failed to find a significant effect (e.g., Hubbard et al., 2002; Orobio de Castro et al., 2002). Furthermore, previous research has suggested that child and parent HAB are significantly positively correlated (e.g., MacBrayer et al., 2003), but this was not the case in the current study. In general, it is possible that these nonsignificant findings are related to the low internal consistency of the child HAB measure, the developmental level of the children, or the constricted sample. However, other significant relations were found with parent and child HAB, so these nonsignificant findings may simply indicate that these constructs were not related in the current study.

It is also possible that these unexpected nonsignificant findings with the hostile attribution are related to the unique ethnic and SES makeup of the sample, given that it is predominately African American and low SES. In such a sample, parenting and neighborhood factors are likely different from Caucasian and middle to high SES families, which are primarily used in previous studies. Children may be exposed to more danger in their neighborhoods and parents may use more harsh parenting, and these differences might disrupt the relationships between HAB and aggression and between parent and child HAB that normally are found in families with fewer negative contextual influences.

Differences in parent- and teacher-rated aggression. Additionally, significant differences were found between parent- and teacher-rated aggression. Overall, parents reported higher levels of reactive and proactive aggression in their children than did teachers, and parent- and teacher-rated aggression were not significantly correlated. There are two possible explanations for these findings: either children differentially exhibited aggression across contexts (i.e., home and school), or one or both of the reporters demonstrated biased perceptions. However, many studies of children's aggression have found only modest correlations between parents and teachers (e.g., Rettew et al.,

2011), and so this finding is not unusual. In terms of gender differences, parents rated girls aggression as higher, while teachers rated boys aggression as higher. This may indicate that boys who are aggressive at home also display aggression at school, while girls do not, or that parents may be more willing to overlook boys' aggression, since it is consistent with gender stereotypes. Additionally, boys' aggressive behavior may be more disruptive at school, or teachers may be more likely to pay attention to aggressive behavior in boys versus girls. Given that virtually no significant relations were found with teacher-rated aggression, discussion will focus on significant relations with parent-rated aggression, which will emphasize the nature of mother-child relations and contextual effects.

In addition to these nonsignificant predicted findings, other expected relations were found to be significant. These and several other interesting correlations that emerged during exploratory and secondary analyses will be discussed in the following sections.

Social Perceptions of Aggressive Children

The results of the current study yield some interesting findings regarding the patterns of relations between social and self-perceptions and behavior in aggressive children. Specifically, relations between the hostile attribution bias, rejection sensitivity, and aggression, as well as expected peer liking, positive illusory bias, and self-esteem will be discussed.

Relations with hostile attribution bias. Although child HAB was not related to child aggression or to parent HAB in this sample (as discussed previously), child HAB was significantly related to other constructs. The tendency to perceive hostile attributions in ambiguous situations was related to higher levels of angry expectations of rejection, consistent with the previous literature (Downey et al., 1998). In turn, angry rejection sensitivity was related to higher proactive aggression, suggesting that children with hostile, angry schemas about their peer interactions engage in more aggression. This is consistent with previous findings, although some studies have

indicated that constructs such as angry RS and HAB are more related to reactive, as opposed to proactive aggression (Arsenio et al., 2009; Downey et al., 1998). Children who expect to be rejected by their peers may be easily able to identify hostile intent when interacting with others, based on biased schemas developed out of previous rejection experiences. As such, they may engage in proactive aggression as a protective mechanism, in order to prevent themselves from being rejected first, which serves to reinforce their schemas and continue the cycle of rejection and aggression.

In this sample, angry RS was significantly positively correlated with both reactive and proactive aggression in girls, but not boys. These findings suggest that aggressive girls possessing these hostile and angry perceptions about social interactions are more likely to engage in both reactive and proactive aggression, whereas angry RS is unrelated to aggression in aggressive boys. This dual relation may be related to the high overlap of reactive and proactive aggression (e.g., Crapanzano et al., 2010), but also related to different social strategies. Girls may engage in reactive aggression as a response to rejection, but also engage in proactive aggression in an attempt to prevent further rejection experiences.

The hostile attribution bias was not related to the positive illusory bias in aggressive children. This finding suggests that these two specific social-cognitive biases do not co-exist within children, such that aggressive children who demonstrate the tendency to attribute hostile intent may be different from those who tend to overestimate their peer liking or social competence. An analysis, presented below, of the results of the PIB score and the new EPL vignettes might contribute to the understanding of the perceptions, expectations, and behaviors of these latter aggressive children.

The meaning of the expected peer liking vignettes. The pattern of correlations with the EPL subscales provides some insight into social perceptions of aggressive children. It was initially

hypothesized that high expectations of peer liking and the ability to facilitate liking would be positively related to the positive illusory bias in aggressive children, representing related constructs. However, expected peer liking was not related to PIB or to aggression, indicating that EPL is not measuring a construct directly related to PIB. These results are understandable, given that bias, measured by a discrepancy between perceived and actual reports, is (by the nature of its construction) different from high estimations, which could be either accurate or inaccurate. Furthermore, the one previous study that used vignettes to measure children's ratings of social competence did not find a significant effect either (Evangelista et al., 2008). These nonsignificant findings may suggest that the positive illusory bias is not evident during hypothetical social interactions when children are asked to rate how much they expect to be liked, but rather only when children are asked to provide retrospective estimates of their social competence with their actual peers. Therefore, the EPL vignettes are more situationally-specific, while the PCSC is a more global, trait-like measure.

Other constructs provide some further information on the peer liking vignettes through their relations with the EPL subscales. The tendency to expect higher peer liking and higher ability to facilitate liking was related to lower hostile attribution bias and fewer angry expectations of rejection, consistent with previous literature on RS and self-perceived social competence (Downey et al., 1998). This suggests that aggressive children with positive expectations about peer interactions are less likely to attribute hostile intent to others and also less likely to expect that they will be rejected. These children have likely developed peer liking schemas based on their previous experiences involving positive peer interactions, in which their peers like and accept them, and in which they have had success getting others to like them. Therefore, when presented with a hypothetical social situation with unknown peers, this positive schema would be activated and lead

them to expect that others like them and that they could get the peer to like them. Consequently, they would not expect that others would reject them or that the peer was intentionally being mean.

Furthermore, aggressive children with high expected peer liking received higher ratings of social preference by their peers, and children with high expectations of the ability to facilitate liking reported higher self-esteem. Taken together, these findings suggest that within a sample of aggressive children, those who expect to be liked and to get others to like them also have high self-esteem. It seems likely that children who have had positive experiences with their peers, leading them to expect positive outcomes, would have higher self-views. In addition, these expectations are probably accurate for these children, because they are positively related to how well they are liked by their actual classmates. These aggressive children may have developed positive peer relationships, which have led them to develop social-cognitive schemas reflecting their actual peer liking experiences. Furthermore, these children demonstrate less hostile attribution bias, angry expectations of rejection, and aggressive behavior, suggesting that these high, yet accurate, expectations are related to positive social outcomes (even within a sample of aggressive children) and could serve as buffers. By contrast, aggressive children who do not expect that others will like them, and who are likely accurate because their peers rate them lower on social preference, have lower self-esteem and expectations of their social facility, yet higher HAB, and angry RS, and aggression.

Overall, high, accurate expectations of peer liking in aggressive children seem to be related to positive outcomes and less social-cognitive biases, potentially because they are based on social schemas involving actual positive peer relationships.

Contrast between the correlates of high EPL and PIB. Although it seems that EPL and PIB are not related, identifying the correlates of PIB may help to further identify variability among aggressive children. Similar to high expected peer liking, positive illusory bias is related to higher

self-esteem and greater perception of social competence, particularly for girls. However, PIB was negatively related to peer-rated social preference, indicating that aggressive children who overestimate their degree of peer liking are less well-liked by their peers. Furthermore, PIB was positively related to proactive aggression, indicating that children who inflate their degree of peer liking display higher rates of proactively aggressive behavior, as predicted by the literature (e.g., Orobio de Castro et al., 2007). Of note, PIB was negatively related to teacher-rated reactive aggression, suggesting that this relation is specific to proactive aggression. By contrast, children who underestimate their social competence have lower self-esteem and lower perceptions of their social competence, but less proactive aggression and higher ratings of preference by their peers. This is consistent with the notion of a curvilinear relation between discrepancy between self and peer perceptions of social competence, such that both overestimating and underestimating social competence have differential correlates indicating difficulty in social functioning, related to externalizing and internalizing behavior, respectively.

Taken together, these results indicate that aggressive children who overestimate the degree that their peers like them also report high self-esteem and high social competence. However, in contrast with those children who report high expectations of peer liking, these perceptions are not accurate, given that their peers rated them as less well-liked. Furthermore, PIB is related to higher proactive aggression, suggesting that this bias is not necessarily helpful for children. In support of this notion, children who demonstrate PIB who are rejected by their peers are more aggressive (Diamantopoulou et al., 2008). Aggressive children who overestimate their social competence may believe that aggression is a successful social response (e.g., Fontaine et al., 2002). This outcome expectation leads them to enact proactively aggressive strategies, while conversely maintaining that they are well-liked by their peers and ignoring negative feedback. Consistent with the threatened egotism literature, children who demonstrate PIB are likely to ignore distressing information about

themselves in order to protect their overly inflated self-esteem (Baumeister et al., 1996), which is also related to later proactive aggression (Salmivalli et al., 1999).

In sum, it appears that expectations of peer liking and positive illusory bias are different constructs, and although they have similar correlates, it seems that they operate differently for aggressive children, potentially due to the accuracy of their social schemas.

Relations between Mothers and Children

Although parent HAB was not related to child EPL, as predicted, other relations emerged suggesting that parents' social processes affect aggressive children in the current study.

Specifically, the following relations were found for girls only, indicating that these relations occur across mothers and daughters.

Parent HAB was negatively related to girls' social competence, indicating that mothers with greater tendency to demonstrate a hostile attribution bias had daughters with lower perceived social competence. It could be that mothers who frequently attribute hostile intent to others may enact more negative parenting practices, which leads their daughters to feel that others do not like them. This would be consistent with Dix's (1993) theory that parents' attributions influence their behavior towards their children, which thus affects children's socialization, self-perceptions, and behaviors. Furthermore, parent HAB was positively related to girls' teacher-rated reactive aggression and negatively related to parent-rated proactive aggression. This suggests that girls with mothers who attribute hostile intent are more likely to display reactive aggression at school and less likely to display proactive aggression at home. These results are consistent with studies indicating that parent HAB is related to child aggression (e.g., Dix & Lochman, 1990), and also with the construct of HAB, such that it is more related to reactive than proactive aggression (Arsenio et al., 2009). In sum, there is a direct relation between parent bias and child aggression, although the causal direction of this relation is unknown.

Additionally, parents' expectations of their own peer liking positively related to girls' expected peer liking and ability to facilitate liking. This finding indicates that mothers who expect others will like them have daughters who also expect their own peers to like them and expect that they can get others to like them. It is possible that children may learn specific ways of interpreting peer interactions from their mothers, leading them to develop parallel social-cognitive schemas that guide their expectations. Additionally, given the indication that the expectation of peer liking may reflect true peer preferences, it is conceivable that mothers who are well-liked by their peers would have children who are also well-liked. These mothers might engage in more positive socialization practices with their daughters, who consequently develop positive social skills that lead them to be accepted by their peers.

Overall, it appears that there is a direct relation between mothers' social-cognitive biases and expectations and daughters' social expectations and behaviors within this sample. These findings are consistent with previous research indicating that relations are stronger across same-gender pairs (MacBrayer et al., 2003; Nelson & Coyne, 2009). Daughters may be more likely than sons to internalize their mothers' social cognitions, given socialization differences across genders. A mother may serve as a more salient model for girls when learning specific ways of encoding and interpreting social interactions and developing social schemas. Taken together, these findings suggest that intergenerational transmission of social perceptions, expectations and biases is stronger when parent and child gender is matched.

Inconsistent discipline and maternal depression. Additional relations were found between maternal depression and inconsistent discipline and child perceptions and behaviors. Mothers with higher levels of depressive symptoms reported higher levels of inconsistent discipline and their children reported lower self-esteem. Although causality is unknown, these findings might suggest that mothers' maternal depressive symptoms interfere with consistent discipline (e.g., Barry

et al., 2009) and also directly impact children's self-esteem. Furthermore, gender differences were found between these constructs and aggression. While inconsistent discipline was related to higher levels of both reactive and proactive aggression in boys, consistent with previous literature (Frick et al., 1992), they were not related for girls. Additionally, more maternal depressive symptoms were related to higher reactive aggression in boys and higher proactive aggression in girls. In concert with other findings regarding gender differences in parent-child relationships in the current study, these results may provide different implications across gender. Mothers may impact boys' aggression through parenting practices that are influenced by maternal depressive symptoms, while for girls, development of aggressive behavior may occur more through socialization processes related to maternal depressive symptoms and hostile attribution biases.

Gender Differences

In addition to the gender differences previously discussed with regard to mother-daughter relations, other differences between aggressive boys and girls in the current study emerged. Although the literature indicates that boys tend to be more aggressive overall, few studies have examined the role of gender within a sample of aggressive children and many studies investigating social cognitions in aggressive children have used male-only samples. When studies have examined gender differences, they have usually found either that constructs were similar across gender or that relations were stronger for boys. By contrast, the current study found that relations were more robust for girls, regarding the relations discussed below.

For example, when significant relations were found with teacher-rated aggression between positive illusory bias and parent hostile attribution bias, it was for girls only. This may suggest that girls who have higher PIB or have mothers with HAB are more likely to display aggression across contexts, whereas for boys, their aggressive behavior is unrelated. Furthermore, angry RS predicted HAB in girls but not boys, and relations between PIB, high self-esteem, perceived social

competence, and proactive aggression were found for girls only. Since it is less common for girls to exhibit aggression, for those who are moderately to highly aggressive, it may be that these constructs have a greater influence or are more salient for them. On the other hand, aggression in boys is more common, and so there may be more individual differences and variation across aggressive boys. As such, boys' aggression may have a variety of correlates and is therefore less specifically related to the constructs examined in the current study. One exception to this pattern is that boys' aggression was more strongly related to mothers' inconsistent discipline, which suggests that boys are particularly influenced by negative parenting practices.

Another interesting pattern that emerged was that both hostile attribution bias and angry rejection sensitivity were negatively related to the EPL subscales in a differential pattern by gender. Girls who had lower HAB and angry RS had higher expected peer liking, while boys had higher expectations of the ability to facilitate liking. Therefore, girls who expect that others like them and boys who expect they can get others to like them are less likely to assume others are out to get them and angrily expect peer rejection. It could be that girls have developed positive social schemas based on their experience with previous peer liking, while boys might rely more on how much success they have had getting peers to like them. Consequently, when presented with a hypothetical situation with an unknown peer, girls' expectations about peer liking and boys' expectations of social facility would be most salient in relation to attributions of hostile intent and angry expectations of rejection.

In sum, gender differences suggest that relations between social perceptions, expectations, and behavior are more robust for girls in the current study, particularly with regard to mother-daughter relationships, although there were a few significant findings specific to boys.

Limitations and Future Directions

Several limitations were previously discussed as part of explanations for nonsignificant findings, including the aggressive sample, reliability of the measures, intervention effects, and developmental level of children. Furthermore, the majority of the participants were African-American and low SES. The unique characteristics of this sample could limit the generalizability of the results. However, this unique sample may be a benefit to the current study, given that it analyzes relations between social-cognitive constructs within a different cultural context. Future research should examine these constructs with more diverse samples, including different ethnicities, nonaggressive children, and participants not part of a larger intervention. Furthermore, additional research should continue to refine the vignette measures developed for the current study, in order to determine their reliability and validity with various samples. Certainly, more studies are needed before strong conclusions are drawn about the relations between these measures and the constructs they represent.

Additionally, analyses were conducted with cross-sectional data and were largely correlational in nature. These aspects of the study limit the understanding of possible causality, including the development of these constructs over time and the direction of effect between variables. However, this was not a major goal of the current study given its exploratory nature, and so causal conclusions are not drawn or discussed tentatively. Future research should use longitudinal data and predictive analyses based on underlying theory to further examine relations found in the current study.

Implications

The limited, correlational, and non-hypothesized findings warrant caution in discussing implications. However, potential implications are discussed in terms of further research development and clinical uses.

Implications for further research development. The development of the EPL vignettes introduced a new construct, as well as a new measure, into the area of children's social cognitions. More research should continue to explore expected peer liking and its relations with other constructs, in order to develop a construct map. Such investigations might include rejection sensitivity and self-esteem, as they also appear to be relevant constructs in the social functioning of aggressive children. Furthermore, developing a further understanding of expectations of peer liking, including how they develop as part of children's social schemas, how they are related to social functioning in diverse children, or how they affect long-term functioning will be essential. Additionally, whether the child knows or does not know the peer in a hypothetical situation could be studied to investigate how children's social schemas and expectations might change with known versus unknown peers. Future research could also ask parents to rate in the manner in which they believe their children would rate, in order to determine whether parents accurately perceive their child's expectations.

Expected peer liking vignettes could be used in a variety of research to obtain a measure of how much children expect to be liked or expect they can get peers to like them. One benefit of such a measure is that it uses hypothetical situations to generate an "on-line" cognition, potentially activating social schemas, as opposed to more traditional measures that use children's retrospective reports of their overall perceptions. Additionally, the results of the current study suggest that using an EPL measure may help to distinguish between children with accurate versus inflated appraisals of their peer liking and self-esteem. Notably, Sandstrom and Herlan (2007) suggested that measuring more than one aspect of self-perceptions would allow researchers to distinguish between accurate, yet high, self-views and overly-inflated ones. In this manner, expected peer liking, self-esteem, and positive illusory bias, could be studied in concert to further elucidate patterns among them across aggressive children or between aggressive and non-aggressive children.

The current study suggested that patterns of social perceptions, expectations and behaviors vary among aggressive children. For instance, some children displayed high rates of hostile attribution bias, angry rejection sensitivity, and reactive aggression, others seemed to have high but relatively accurate social and self-perceptions and lower aggression, while still others displayed high but inaccurate social and self-perceptions and proactive aggression. Future research could clarify potential subtypes of aggressive children and investigate the development of differential patterns of social and self-perceptions. Additionally, the current study found significant gender differences among these constructs within an aggressive sample of girls and boys. Given that limited research has been conducted on gender differences and same-gender dyads in this area, further research would be helpful to replicate these findings. Finally, given the scope of the current study, relations with internalizing symptoms were not examined, although some significant relations emerged in secondary analyses. Future research could examine the role of aggressive children's anxiety as it may relate to social-cognitive schemas, peer relationships, rejection sensitivity, and self-esteem.

Clinical implications. The results of this study suggest some potential clinical implications for aggressive children and their families. Perceptions and expectations of social situations and social competence are clearly important to aggressive children's social and behavioral functioning, particularly given relations with aggressive behavior and self-esteem. As such, interventions that address potential social-cognitive biases or distortions may be beneficial to improving self-concept or behavior. Furthermore, differences in parent and teacher ratings of aggression indicate either respondent bias or context effects. Interventions aimed at reducing aggressive behavior in children should consider the context in which children exhibit problems, and work within that context to improve symptoms. Additionally, the current study suggests that relations between social perceptions, expectations and behavior may be stronger for aggressive girls. Therefore, these

aggressive girls may be at-risk for the development of more negative long-term outcomes, as they are a small and largely understudied subgroup of aggressive children and may be more susceptible than boys to negative socialization by their mothers. Finally, parent-child relations found in the current study indicate that addressing social cognitions within a family context, particularly for mothers who report depressive symptoms, inconsistent discipline, or hostile attribution biases, may be beneficial for their children.

Summary

Overall, this study indicates that social perceptions and schemas are important to aggressive children's social and behavioral functioning and provides some indications that social-cognitive processes are related across parents and children. The positive illusory bias and hostile attribution bias were not related within children, but rather may be differentially related to proactively versus reactively aggressive children, respectively. Examination of the new expected peer liking vignettes revealed that children who expect to be liked do not demonstrate positive illusory bias, but rather have developed less biased schemas and positive peer relationships. Measuring expected peer liking in addition to the positive illusory bias will likely be helpful in distinguishing aggressive children who have high, yet accurate, self-perceptions and expectations from those who have overly inflated social perceptions, leading to negative outcomes. Additionally, analysis of intergenerational influences suggested that relations between parent and child social cognitions were strongest for same-gender dyads (i.e., mothers and daughters). Finally, the current study provides several implications for future research on children's social cognitions and proposes that aggressive children's social-cognitive schemas should be addressed as part of behavioral interventions, particularly within a family context.

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APPENDICES

Appendix A

Measure Development Steps

Vignette Creation. The development of the hypothetical vignettes occurred in several steps. First, a literature review was conducted to find studies that used vignettes in their procedure. Much of the previous research on hostile attribution bias in both parents and children has used hypothetical vignettes and although no studies specifically examining positive illusory bias or expectations of peer liking have attempted to use vignettes, other vignettes have been created in the social development literature to examine children's social goals, reactions to conflict situations, jealousy, etc. Several examples of a variety of vignettes and situations were obtained from different authors, which were used as a basis for the creation of vignettes for the current study. An attempt was made to match parent and child vignettes on similarity, such that, as much as possible, they described comparable situations from a parent's and child's point of view. Of note, all of the vignettes were written in the first-person, with the intention that participants would respond as if they were in the story. Overall, the first draft of the vignettes included 12-18 vignettes in each of the 4 sets, which allowed for removal of vignettes that did not accurately measure the concepts, based on feedback from subsequent steps.

As child HAB is commonly studied with vignettes and some vignettes have been developed for parent HAB, there were several well-established vignettes in these areas that were included in the current study. These vignettes were also used to create additional child and parent vignettes

designed to measure HAB, using a similar format, conceptualization, and degree of ambiguity. In essence, these vignettes are intended to describe potential confrontation situations in which peers' motives are unclear.

By contrast, the vignettes intended to measure expectations of peer liking describe social interaction, group-joining situations. A variety of vignettes describing a range of social encounters involving children were collected and used to create this desired situation type, in which the degree of liking by the peer group varied. As previously discussed, the child-peer discrepancy score traditionally used to measure PIB is actually a measure of peer liking overestimation, derived from subtracting peer ratings of liking from children's ratings of how much they are liked. One social-cognitive process involved in PIB concerns the ability to estimate the degree of peer liking in specific social situations. In accord with these conceptualizations, the vignettes in the current study were designed to describe situations in which the degree of peer liking is unclear. With such vignettes, children who are likely to exhibit PIB may also tend to overestimate how much their peers like them in neutral situations. This set of EPL child vignettes was then used to develop the parent set, describing similar situations. Of note, the majority of vignettes consist of situations designed to be relatively ambiguous in liking. However, due to the novelty of vignettes in this area of research, a few vignettes were created to represent clearly negative and positive social interactions. This variety will help to determine whether participants respond similarly across all types of situations, and also decrease the possibility of the participants guessing the purpose of the vignettes and therefore providing socially desirable responses.

Judge's Feedback. Next, feedback from seven colleagues, both experts in these constructs and lab members who have conducted research on these topics, was obtained about the ambiguity of the vignettes, in addition to how well they measured the desired concepts.

For the vignettes intended to measure hostile attribution bias, judges rated each vignette on two 5-point scales: “How ambiguous is the intent of the person toward the main character?” from 1 (*not ambiguous/very clear*) to 5 (*very ambiguous/unclear*) and “How successfully does this vignette allow the researcher to measure the construct of HAB?” from 1 (*doesn't measure the construct of HAB at all*) to 5 (*successfully measures the construct of HAB*). Ratings on these questions were averaged across judges, and vignettes with the lowest ratings on both questions were deleted or edited. Five vignettes were deleted in the child set (14), and three vignettes were deleted in the parent set (12), leaving 9 vignettes in each set. Suggestions were also solicited from judges for improving the clarity of the vignettes, and several vignettes were edited, including additional wording or removal of phrases, based on their feedback. Tables A1 and A2 present the means of judge’s ratings as well as the changes for each individual vignette. Additionally, in order to minimize participants’ confusion, the target question that the participants would be asked was changed from “How likely is it that the kid/person did this on purpose to be mean to you?” to a statement (“The kid/person did this on purpose to be mean to me”) that they then would rate on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*).

For the vignettes intended to measure EPL, judges rated each vignette on three 5-point scales: “How ambiguous is the group’s perception of the main character?” from 1 (*not ambiguous/very clear*) to 5 (*very ambiguous/unclear*), “How much does this vignette describe whether the central character is liked or disliked?” from 1 (*clearly indicates dislike*) to 5 (*clearly indicates like*), and “How successfully does this vignette allow the researcher to measure social-cognitive processes related to the construct of PIB?” from 1 (*does not measure*) to 5 (*successfully measures*). Ratings on these three questions were averaged across judges and patterns of scores were examined.

For EPL vignettes intended to be ambiguous (12), ratings for the first and third scale would ideally be high and ratings for the second scale would be medium (i.e., around 3.0), indicating high ambiguity and neutral liking. Using these criteria, as well as narrative feedback about the clarity and usefulness of individual vignettes, 3 vignettes were deleted in both the parent and child sets, leaving 9 ambiguous vignettes. For EPL vignettes intended to communicate clear like (4), ratings for the first scale would ideally be rated low and ratings for the second and third scale high, indicating low ambiguity and clear liking. Using these criteria, 1 vignette was deleted in both the parent and child set, leaving 3 “like” vignettes. For EPL vignettes intended to communicate clear dislike (2), ratings for the first and second scale would ideally be rated low and ratings for the third scale high, indicated low ambiguity and clear disliking. Both of the “dislike” vignettes in the parent and child sets met these criteria and were therefore retained. Additionally, edits were made to the vignettes that were retained, based on judges’ feedback and suggestions. Tables A3 and A4 present the means of judge’s ratings as well as the changes for each individual vignette. In order to minimize participants’ confusion, the second target question that the participants would be asked was simplified from, “How likely is it that you could get these kids/people to like you?” to “Could you get these kids/people to like you?”

Pilot Study. Finally, using these refined measures, a pilot study was conducted both to gather information about and further improve the measures created for the main study by confirming that all questions were understandable and realistic for the participants, and to assess the feasibility of administration.

Sample. Participants were recruited from the same longitudinal sample that was used for the main study. Attempts were made to contact families that had recently completed an annual Coping Power interview until 6-8 interviews were completed. Of 16 families contacted, 9 families scheduled interviews and 2 families later cancelled, leaving 7 participants that completed the pilot

study. Of the seven children in the pilot study, 4 were males (57.1%) and 3 were females (42.9%). The mean age was 11.57 (range = 10-13) and the mean grade was 6.71 (range = 6th – 8th). In terms of ethnicity, 3 children were Caucasian (42.9%), 2 were African American (28.6%), 1 was Asian American, and 1 was biracial (Caucasian and African American).

Procedure. Procedures followed those that occurred in the main study, including pre-recorded vignette presentation, but were limited to completion of the 4 vignette measures and feedback questions. When contacted, participants were asked if they would like to participate in a brief interview, designed to assess parents' and children's perceptions of different social situations. A brief outline of the procedure was presented and a meeting time and place that was convenient for the family was determined. Five interviews were conducted in the research offices and 2 interviews were conducted in participants' homes. At the beginning of the interview, the informed consent and assent form were reviewed with and signed by the parent and child, respectively. Participants listened to a series of vignettes (see Appendix AA for original vignette wording in each of the 4 measures) and responded to the target questions, as well as questions about understandability and realism, for each vignette. The author conducted the parent interview and subsequently, the child interview; each portion took about 20-25 minutes, making the total family interview time about 40-50 minutes. For their participation in the pilot study, parents received \$10 and children received \$5. Anecdotally, many of the participants indicated that they were happy to participate in the study and assist the author. Additionally, several of the participants stated that they enjoyed the vignettes and either did not mind or actually preferred listening to the vignettes on the computer, especially the children. Overall, administration of the pilot study seemed to run smoothly, indicating that similar procedures will be feasible in the main study.

Results. Throughout the pilot study, many of the participants provided spontaneous narrative feedback about individual vignettes. This narrative feedback is recorded by participant in

Tables A5 – A8 (corresponding to the 4 vignette measures), along with participants’ responses to several follow-up questions (i.e., “What did you think of the target question(s)?”, “Should any questions be added?”, “Should any of the vignettes be changed to make them better?”, and “Do you have any other suggestions?”) Based on this feedback, a few changes were made to the measures throughout the study. Initially, participants were asked, “How understandable is this story?” and “How realistic is this story?”, but both of these questions were confusing for the first pilot study family. Therefore, for the remaining six participants, these questions were changed to, “How easy is this story to understand?” and “How real is this story?” and participants rated them on two 7-point scales from 1 (*not easy/real*) to 7 (*very easy/real*). Additionally, some minor wording changes were made to several vignettes, based on participant feedback, and these changes and their rationales are presented in Tables A9 – A12 by measure, separated by the time point of the changes.

Descriptive statistics, reliability analyses, and final vignette refinement are presented by measure below. Overall, the final vignettes following the pilot study demonstrated good internal consistency, variability on the target questions across participants, and were understandable and realistic situations for the participants. Due to the changing nature of the measures and small sample size in the pilot study, reliability analyses were not considered final estimates and correlations between constructs were not conducted.

Child Attribution Stories. For the 9 child HAB vignettes (Child Attribution Stories), children were asked to rate “The kid did this on purpose to be mean to me” on a 5-point scale: 1 (*strongly disagree*), 2 (*disagree*), 3 (*not sure*), 4 (*agree*), or 5 (*strongly agree*). Descriptive statistics for this target rating scale, as well as for children’s ratings of understandability and realism are presented by vignette in Table A13. Additionally, reliability analyses were conducted on this measure, using the target question for each of the 9 vignettes. Taken together, these results were used to further refine the measure. With all 9 items, internal consistency for the CAS was .79, and

vignette 4 had an item-total correlation of $-.64$, indicating that this item was not measuring the same construct as the other items. Therefore, vignette 4 was removed, producing an internal consistency coefficient of $.87$. Given that vignette 1 still had an item-total correlation below $.3$ ($r = .28$), it was also removed. The progression from initial to final reliability analyses, including corrected item-total correlations and Cronbach's alphas for potentially excluding items, is presented in Table A14. The final CAS measure is presented in Appendix B; the measure had an internal consistency coefficient of $.89$ and all of the remaining 7 items had item-total correlations above $.4$. Pilot participants demonstrated variability in their responses on the target question, as indicated by the ranges and standard deviations, and they largely understood and thought the vignettes were realistic, as indicated by all means on these 7-point scales above 5.

Parent Attribution Stories. For the 9 parent HAB vignettes (Parent Attribution Stories), parents were asked to rate "The person did this on purpose to be mean to me" on a 5-point scale: 1 (*strongly disagree*), 2 (*disagree*), 3 (*not sure*), 4 (*agree*), or 5 (*strongly agree*). Descriptive statistics for this target rating scale, as well as for parent's ratings of understandability and realism are presented by vignette in Table A15. Additionally, reliability analyses were conducted on this measure, using the target question for each of the 9 vignettes. Taken together, these results were used to further refine the measure. Initially, the 9-item PAS had good internal consistency ($\alpha = .82$). However, vignette 2 had an item-total correlation of $.03$, as well as a restricted range (1-2). After removing vignette 2, Cronbach's alpha was $.84$ and the item-total correlation for vignette 7 dropped to $.06$, so it was also removed. The progression from initial to final reliability analyses, including corrected item-total correlations and Cronbach's alphas for potentially excluding items, is presented in Table A16. The final PAS measure is presented in Appendix B; the measure had an internal consistency coefficient of $.88$ and all of the remaining 7 items had item-total correlations above $.4$. Again, pilot participants demonstrated variability in their responses on the target

question, as indicated by the ranges and standard deviations, and they largely understood and thought the vignettes were realistic, as indicated by all means on these 7-point scales above 5.

Notably, several parents suggested that the target question could be reworded to sound less strong. They qualitatively indicated that they did not usually believe that the other person was purposely trying to be mean, although descriptive statistics revealed a range of responses on the majority of PAS vignettes and means for parent and child measures were largely similar. However, based on this common feedback, the parent HAB target question was changed to “The person meant to irritate me” on the PAS, in order to mirror the construct tapped by the child CAS target question, while using language more appropriate for adults.

Child Social Stories. On the 14 vignettes measuring child EPL (Child Social Stories), children were asked to rate “How much do these kids like you?” on a 5-point scale (1 [*not at all/dislikes a lot*], 2 [*not very much/somewhat dislikes*], 3 [*not sure/neutral*], 4 [*a little bit/somewhat likes*], or 5 [*a lot/likes a lot*]) and “Could you get these kids to like you?” on a 5-point scale (1 [*definitely not*], 2 [*maybe not*], 3 [*not sure*], 4 [*maybe*], or 5 [*definitely*]). Descriptive statistics for these 2 target rating scales, as well as for children’s ratings of understandability and realism are presented by vignette in Table A17. Reliability analyses were conducted using the two target questions for each of the 9 ambiguous vignettes, which were used to further refine the measure. (Reliability analyses were not conducted for the like and dislike vignettes due to the small number of items, and all 5 were retained). Initially, this 9-item scale demonstrated good internal consistency on the second target question ($\alpha = .89$), but not on the first target question ($\alpha = .54$). Vignette 4 had the lowest item-total correlation on the first target question ($r = -.25$), and so it was removed. Next, vignette 1 was removed, due to another negative item-total correlation on the first target question ($r = -.22$). Although the item-total correlations were the highest for vignette 1 on the second target question, responses indicated a restricted range (4-5) and a lower standard deviation

($SD = .49$) for vignette 1 on the second target question compared to other vignettes, so removal was justified.

The progression from initial to final reliability analyses, including corrected item-total correlations and Cronbach's alphas for potentially excluding items, are presented in Table A18 and A19, corresponding to the first and second target question. The final CSS measure is presented in Appendix B; for the 7 ambiguous vignettes, the measure had an internal consistency coefficient of .80 on the first target question and .85 on the second target question. The lowest item-total correlation on either scale was .25, but the remainder on both scales fell above .4. Again, pilot participants demonstrated variability in their responses on the two target questions, as indicated by the ranges and standard deviations, and they largely understood and thought the vignettes were realistic, as indicated by all means on these 7-point scales above 5. Based on participant feedback, response option 5 for the first target question will be changed from *likes a lot* to *mostly likes*, in order to narrow the gap between this option and option 4 (*a little bit/somewhat likes*). To mirror this change, option 1 will be changed to *mostly dislikes*.

Parent Social Stories. On the 14 vignettes measuring parent EPL (Parent Social Stories), parents were asked to rate "How much do these people like you?" on a 5-point scale (1 [*not at all/dislikes a lot*], 2 [*not very much/somewhat dislikes*], 3 [*not sure/neutral*], 4 [*a little bit/somewhat likes*], or 5 [*a lot/likes a lot*]) and "Could you get these people to like you?" on a 5-point scale (1 [*definitely not*], 2 [*maybe not*], 3 [*not sure*], 4 [*maybe*], or 5 [*definitely*]). Descriptive statistics for these 2 target rating scales, as well as for parent's ratings of understandability and realism are presented by vignette in Table A20. Reliability analyses were conducted using the two target questions for each of the 9 ambiguous vignettes, which were used to further refine the measure. (Reliability analyses were not conducted for the like and dislike vignettes due to the small number of items, and all 5 were retained). In the reverse pattern as on the CSS, this 9-item scale

demonstrated good internal consistency on the first target question ($\alpha = .84$), but not on the second target question ($\alpha = .75$). Vignette 12 had the lowest item-total correlation on both target questions ($r = -.34$ and $.14$, respectively), and so it was removed. Similarly, after vignette 12 was removed, vignette 14 demonstrated the lowest item-total correlations on both target questions ($r = .31$ and $.22$, respectively), and it was removed as well.

The progression from initial to final reliability analyses, including corrected item-total correlations and Cronbach's alphas for potentially excluding items, are presented in Table A21 and A22, representing the first and second target question. The final PSS measure is presented in Appendix B; for the 7 ambiguous vignettes, the measure had an internal consistency coefficient of $.91$ on the first target question and $.82$ on the second target question. The lowest item-total correlations on either scale were $.34$ and $.37$, but the remainder on both scales fell above $.4$. Finally, pilot participants demonstrated variability in their responses on the two target questions, as indicated by the ranges and standard deviations, and they largely understood and thought the vignettes were realistic, as indicated by all means on these 7-point scales above 5. As described previously, the response options for the first target question on the PSS was altered to mirror the changes in the CSS.

Table A1

Changes Made to Child Attribution Stories (CAS) after Judge's Feedback and Means of Judge's Rating Scales

#	Vignette	Edits	Q1	Q2
1	You brought your new Nintendo DS in to school today. You had saved up your allowance to buy the Nintendo DS, and you want to show it to the other kids at school. You let another kid play with it for a few minutes while you leave to get a drink of water. When you get back, you realize that the kid has broken your brand new Nintendo DS.	Changed to passive voice (i.e., 'your brand new DS is broken')	4.29	4.43
2	You are sitting at the lunch table at school, eating lunch. You look up and see another kid coming over to your table with a drink. You turn around to eat your lunch, and the next thing that happens is that the kid spills the drink all over your back and gets your shirt all wet.		4.57	4.86
3	You are changing classes at school and hurrying down the hall to the next class. While you are hurrying, a new kid at school who you don't know very well comes down the hall from the other direction and bumps into your shoulder hard, knocking your books to the floor.	Removed 'hard'	4.57	4.57
4	You are in your classroom at school and you lose your calculator. You look for it, but can't find it anywhere. If you don't find it, you won't be able to finish your work. Just when you think it's lost forever, you look up and see that one of your classmates is holding your calculator.		4.86	4.86
5	You are walking along a sidewalk next to the street and you are wearing a new outfit. You are on your way to school and you look really great. You are almost to school when a kid from your class bikes past you and splashes the dirty water from a puddle all over you.		4.86	4.86
6	You are standing on the playground playing catch with a kid. You throw the ball and he catches it. You turn around, and the next thing you realize is that he has thrown the ball and hit you in the middle of your back. The ball hits you hard and it hurts a lot.		4.57	4.71
7	You come in a little early from recess and see a kid in your class looking through your desk. After a few seconds you see her walking away with your favorite pencil.	DELETED	2.29	2.71

8	You are playing soccer and you look over at a kid on your team and call for the ball. She has a weird look on her face. She passes you the ball and you receive it but the ball hurts your foot.	DELETED	3.43	3.29
9	You are sitting at your desk trying to work on a writing assignment, but another kid nearby keeps banging his pencil so that you can't think or get your own work done.		4.29	4.43
10	You ask a kid you know to watch TV with you one afternoon. After about 10 minutes, she changes the channel without asking.	DELETED	4.14	4.0
11	Your teacher asked you and several other kids to work out different math problems and write out the answers on the board. After you finish and sit back down, you realize that the kid working next to you on the board has erased part of your work.	Changed to passive voice (i.e., 'part of your work has been erased')	4.43	4.57
12	You are playing a board game with five other kids, and you are in the lead. You get up for a second to get some water, and when you come back, you realize that the kid after you has gone and skipped your turn.	DELETED	3.86	3.86
13	You hear from one of your friends that one of the kids in your class has brought some cookies to school and is sharing them with the other kids. When you go find him to ask if you can have one, he tells you that they are gone.		4.43	4.43
14	You are playing a racing video game with your friend. After winning the first game, your friend keeps cutting off your car, so that you lose the next game.	DELETED	2.86	3.43

Note. $N = 7$. 'Q1' refers to Question 1 = "How ambiguous is the intent of the person toward the main character?" (1=not ambiguous/very clear, 2=somewhat not ambiguous/clear, 3=neutral, 4=somewhat ambiguous/not clear, 5=very ambiguous/unclear). 'Q2' refers to Question 2 = "How successfully does this vignette allow the researcher to measure the construct of HAB?" (1=doesn't measure the construct of HAB at all, 2=does not quite measure the construct of HAB, 3=unsure, possibly measures the construct of HAB, 4=somewhat measures the construct of HAB, 5=successfully measures the construct of HAB).

Table A2

Changes Made to Parent Attribution Stories (PAS) after Judge's Feedback and Means of Judge's Rating Scales

#	Vignette	Edits	Q1	Q2
1	You are really in a rush to get to your doctor's appointment, but when you get there, you realize that you left your papers in the lobby. You rush back to the lobby and find someone looking through your papers.		4.42	4.42
2	You are patiently waiting at the pharmacy and you're finally next in line. Another aisle opens up. A person who you haven't noticed before walks up in front of you and starts to check out.	Changed to 'walks up to the new aisle'	4.57	4.57
3	You remind your partner to sign some important forms, which must be turned in today. After your partner has left for the day, you find the forms on the table where you left them out, and see that they have not been signed.	DELETED	4	4
4	You have a project to do with two other people at work. While discussing the assignment, you attempt to give some input and share your ideas. However, one of your coworkers does not listen to your ideas at all. When you say what you think, the coworker just talks about their own idea.	Removed 'one of your coworkers does not listen to your ideas at all'	4.43	4.29
5	You have been saving a drink for lunch in the community refrigerator at work. When you go to get the drink, it is missing. You look around the break room and notice one of your coworkers drinking it.		4.71	4.57
6	You are at a restaurant with your family and the people at the table next to you are talking loudly, making it hard for you to hear what members of your family are saying.	DELETED	3.29	3.43
7	You are looking at some items in a store, deciding which to select. A person comes up and stands in front of you, blocking your view.		4.29	4.29
8	You are sitting on the end of a bench in the lobby area of a crowded restaurant waiting for a table. The person next to you keeps moving closer so that you are getting nearer to the edge.		4.43	4.43
9	You are at work and lose some important equipment. You look for it but cannot find it anywhere. If you do not find it, you will not be able to finish your work. Just when you think it is lost for good, you notice that one of your coworkers has your equipment and has not told you.	Removed 'and has not told you'	4.71	4.71

10	You are seated at a bar in a restaurant. The people next to you are laughing and talking. One of them brushes against you. You do not pay any attention to this. This same person then bumps into you, causing you to spill your drink. You look over at the person and they are laughing.	Removed 'you do not pay any attention to this'	4.43	4.71
11	You are sitting at the table eating dinner. You look up and see your partner walking over with his dinner. You turn around to eat your food, and the next thing that happens is that your partner spills his drink all over your back and gets your shirt all wet.	DELETED	4	4
12	You have had a long day and finally gotten the kids down to bed. You go to watch your favorite TV show, but after 10 minutes, your partner comes into the room and changes the channel without asking you.		4.29	4.43

Note. $N = 7$. 'Q1' refers to Question 1 = "How ambiguous is the intent of the person toward the main character?" (1=not ambiguous/very clear, 2=somewhat not ambiguous/clear, 3=neutral, 4=somewhat ambiguous/not clear, 5=very ambiguous/unclear). 'Q2' refers to Question 2 = "How successfully does this vignette allow the researcher to measure the construct of HAB?" (1=doesn't measure the construct of HAB at all, 2=does not quite measure the construct of HAB, 3=unsure, possibly measures the construct of HAB, 4=somewhat measures the construct of HAB, 5=successfully measures the construct of HAB).

Table A3

Changes Made to Child Social Stories (CSS) after Judge's Feedback and Means of Judge's Rating Scales

#	Vignette	Edits	Q1	Q2	Q3
<i>Ambiguous vignettes</i>					
1	You want to join two of your classmates who already have been working on an art project for 10 minutes. You take a box of markers with you and ask if you can join them. The two kids look at each other and whisper something to each other. One of the kids says, "yes, you can join us but in 5 minutes."	Removed 'but'	4	3	4.17
3	You are just about to go out for recess. You have made a plan with a kid in your class to play with him during recess. When recess begins you ask him to play. He looks at you for a few seconds and then tells you that he has to go do something else first.		4.71	2.86	4.50
4	You are walking down the hall at school and you see two kids who you know pretty well talking quietly to each other at one end of the hall. They briefly look up at you and then continue talking. As you pass them, you hear them laughing.		4	2.71	4
6	You are at a park near your house, and you see a bunch of kids talking in a circle a ways away from you. You yell out, "Hey, everybody!" The kids keep on talking and don't say anything to you.		4.29	2.86	4.33
7	You are at a party and ask to join a game of cards that has already started. Another kid playing says that you'll have to wait until they're done, even though they have let other kids join since they started playing.	DELETED	2.86	2	4.67
8	You are in the bathroom at school. While you are in there, two other students you know come in and start talking to each other. You hear one of them invite the other to a party at his house. The student says that everyone in your class has been invited to the party. You have not gotten an invitation.	DELETED	2.86	2.43	4.67
11	You see some kids playing on the playground. You would really like to play with them, so you go over and ask one of them if you can play. In response, one kid just shrugs her shoulders.	Removed 'one of' and 'just'	3.86	2.57	4.50
12	You are hanging out in your neighborhood riding your bike. You come across a group of kids racing each other on their bikes. You would like to join them so you wait close by, but no one asks you to race.		3.86	3	4
13	You just gave a presentation to your class and you ask the teacher if you can go to the bathroom. When you get back to class, everyone turns and looks at you.		4.29	3	4.17
14	Your class is going on a field trip to the zoo and everyone has to have a partner, but your class has an odd number of kids in	DELETED	2.29	2	4.50

	it. Your teacher asked everyone to turn in two choices for their partner. When she gives out partner assignments, you did not get one and you have to partner with your teacher.				
16	You are throwing the football with two other kids at recess. After passing it around for awhile, the other two kids start to mostly pass it back and forth to each other.	Added 'you notice' and changed 'start' to 'seem'	3.43	2.29	4.50
18	Your mom recently let you get a Facebook account. Over the weekend, you 'friended' a bunch of kids in your class. The next time you check your account, you see that some kids have accepted your friend request but other kids have not.		3.86	3	4.50
<i>Liked vignettes</i>					
2	You finish your reading work early, so you decide to go see what other kids are up to. Two other kids are working on a computer project, and you ask if you can help them. They say "Sure, that would be great!"		1.29	4.71	3.67
5	You find out that one of the kids in your neighborhood is having a birthday party on Saturday. When you see him in the afternoon, he asks you if you would like to come.	DELETED	2.29	4	4.50
9	It is your first day on the track team. You don't know a lot of the other kids and you would like to make friends with them. During practice, you walk up to a group of kids on the team and say "Hi!" and they excitedly welcome you to the team.		1.29	4.86	4.33
15	You are walking into the cafeteria at school. As you are going in the door, you see two kids from your class. As you pass by them, they smile at you and wave.	Added 'and say hi'	1.57	4.43	4.33
<i>Disliked vignettes</i>					
10	At lunch, you overhear a group of other kids who are sitting behind you say your name. You try to listen to their conversation, and realize that they are calling you names and making fun of you.		1	1	4.67
17	During recess, you decide you want to play four square with the kids who play it everyday. When you go up and ask if you can join them, they say "No, we don't want you here, go somewhere else."		1	1	4.50

Note. $N = 7$. 'Q1' refers to Question 1 = "How ambiguous is the group's perception of the main character?" (1=not ambiguous/very clear, 2=somewhat not ambiguous/clear, 3=neutral, 4=somewhat ambiguous/not clear, 5=very ambiguous/unclear). 'Q2' refers to Question 2 = "How much does this vignette describe whether the central character is liked or disliked?" (1=clearly indicates dislike, 2=somewhat indicates dislike, 3=neutral/doesn't indicate like or dislike, 4=somewhat indicates like, 5=clearly indicates like). 'Q3' refers to Question 3 = "How successfully does this vignette allow the researcher to measure social processes related to the construct of PIB?" (1=does not measure, 2=does not quite measure, 3=unsure, possibly measures, 4=somewhat measures, 5=successfully measures).

Table A4

Changes Made to Parent Social Stories (CSS) after Judge's Feedback and Means of Judge's Rating Scales

#	Vignette	Edits	Q1	Q2	Q3
<i>Ambiguous vignettes</i>					
1	Some of your friends are going shopping on the weekend and you need to shop for some things. When you ask if you can join them, they say, "Yes, you can join us but after lunch."	Removed 'but'	3.29	2.43	4.17
3	Tonight, you made plans to go out to dinner with a friend. When you call her to ask if she is ready, she hesitates for a few seconds and says that she is busy and has to cancel.		3.57	2.57	4.17
4	You are walking down the aisle at the grocery store and you see two people who you know pretty well talking quietly to each other at end of the aisle. They briefly look up at you and then continue talking. As you pass them, you hear them laughing.	Changed 'people who you know pretty well to 'neighbors'	3.14	2.43	3.83
6	You are at a park near your house, and you see a bunch of other mothers talking in a circle a ways away from you. You yell out, "Hey, everybody!" The women keep on talking and don't say anything to you.		3.57	2.57	4.33
7	You are at a party and ask to join a game of cards that has already started. A person playing says that you'll have to wait until they're done, even though they have let other people join since they started playing.	DELETED	2.71	2.14	4.67
8	You are in the bathroom at work. You hear two of your co-workers talking about a party that is going on this weekend. They mention who is coming, and all your other co-workers are invited. You have not gotten an invitation.	DELETED	2.86	2.29	4.67
11	You are with a group of friends and acquaintances. One of your friends tells a story about you which is funny but it presents you in a really bad light.		3.43	2.86	4
12	Last week an acquaintance invited you to a party on Saturday. On Friday, your friend called you to say that the party was cancelled. The next day, however, you happened to drive by their house and see a lot of cars parked out front.	DELETED	2.43	2.57	4.50
13	You just gave a presentation at work and immediately afterwards, you leave to use the restroom. When you get back to the room, everyone turns and looks at you.		4	2.86	4.33
14	A bunch of people you know created a pool for the NCAA tournament. Since you like basketball, you ask if you can enter the pool with them. They tell you that they already have too many people.		3.43	2.57	4.33
16	In your neighborhood, you hear about a group of people				

	getting together to watch of your favorite reality TV shows. You really like the show, so you ask one of them if you can watch it with them. In response, he shrugs his shoulders.		3.43	2.71	4.83
18	You recently decided to get a Facebook account and you just set up your page. Over the weekend, you 'friended' a bunch of acquaintances. The next time you check your account, you see that some people have accepted your friend request but others have not.		4.14	3	4.50
<i>Liked vignettes</i>					
2	You find out that one of your friends is having a party on Saturday. The next time you see her, she invites you to come.	Changed to 'neighbor' and added 'but you didn't expect to be invited'	2.29	4.43	3.33
5	You have been having a bad day at work. When your coworker notices that you're upset, she offers to cover for you while you take a break.		1.43	4.43	4.50
9	You go to the first meeting of a club you want to join. You would like to become friendly with the other people in the club. You walk up to some of the other people and say "Hi!" and they enthusiastically welcome you to the club.		1.14	4.71	4
15	You are taking a walk to the store one day. After you walk a block or two, you see two people you know. As you pass by them, they smile at you and wave.	DELETED	2.43	4.29	3
<i>Disliked vignettes</i>					
10	You run into some acquaintances at the mall. When you ask them how they are doing, they make a rude face and walk away from you without saying anything.		1.14	1.14	4.83
17	Over lunch break at work, you overhear a group of your coworkers say your name. You try to listen to their conversation, and realize that they are calling you names and making fun of you.		1	1	3.83

Note. $N = 7$. 'Q1' refers to Question 1 = "How ambiguous is the group's perception of the main character?" (1=not ambiguous/very clear, 2=somewhat not ambiguous/clear, 3=neutral, 4=somewhat ambiguous/not clear, 5=very ambiguous/unclear).

'Q2' refers to Question 2 = "How much does this vignette describe whether the central character is liked or disliked?" (1=clearly indicates dislike, 2=somewhat indicates dislike, 3=neutral/doesn't indicate like or dislike, 4=somewhat indicates like, 5=clearly indicates like).

'Q3' refers to Question 3 = "How successfully does this vignette allow the researcher to measure social processes related to the construct of PIB?" (1=does not measure, 2=does not quite measure, 3=unsure, possibly measures, 4=somewhat measures, 5=successfully measures).

Table A5

Child Attribution Stories (CAS) Participant Narrative Feedback during Pilot Study

Child	Feedback Type	Feedback
1	Spontaneous	2) it could be an accident 3) doesn't happen much 5) doesn't happen because he rides the bus to school 8) normally doesn't happen
	Responses to Questions	The target question is good because it's the "main center question to explain." Could also ask 'Did you do anything to him before he did it to you?'
2	Responses to Questions	Thought the vignettes and questions were good. Thought that sometimes the other kid might not have meant to be mean.
3	Responses to Questions	Thought the questions and stories were "really good."
4	Spontaneous	5) he doesn't walk outside 6) they weren't being mean because he plays sports and it happens a lot 7) he does this all the time 8) has happened before
	Responses to Questions	Thought the target question makes a lot of sense and the stories actually do happen, even as an older participant. Could also add a story about taking a test and having someone interrupting you or playing a sport in P.E. and others won't let you join.
5	Responses to Questions	The question is good to ask because it shows "whether you think it's on accident or on purpose." Thought stories were good for her age.
6	Spontaneous	1) "most kids don't bring stuff like that to school" 6) don't have playgrounds at his school 9) he might not bring cookies to school
	Responses to Questions	Thought the questions and the stories were good.
7	Spontaneous	2) "it could happen but at the same time there's a possibility that it wouldn't"
	Responses to Questions	Thought the target question was good because "it is getting at whether they did something that made you mad."

Note. See vignettes administered in Appendix AA. Numbers in Feedback column refer to vignette numbers.

Table A6

Parent Attribution Stories (PAS) Participant Narrative Feedback during Pilot Study

Parent	Feedback Type	Narrative Feedback
1	Spontaneous Responses to Questions	2) has happened before, the person was probably in a hurry 7) figured they just needed the equipment 9) has happened before Thought all of the questions and stories were good and “very realistic.”
2	Spontaneous Responses to Questions	6) “I could see it happening” 7) seems realistic 8) purposely mean because they bumped you twice and they’re laughing Thought all questions were good and no changes needed.
3	Spontaneous Responses to Questions	1) could happen but not sure because she does not always have papers with her 3) not sure if they did it on purpose because it depends on the coworker 4) has happened before 7) it depends on whether they need to use the same equipment; it could be a misunderstanding 8) it depends on how drunk the person is 9) this happens a lot Stated that she did not always think they were doing it to be mean. Could ask instead if it was on accident or intentional.
4	Spontaneous Responses to Questions	1) never happened before to her and doctor’s papers are usually kept more private; recommended to change the setting. 7) doesn’t happen to her but knows it happens 8) has never happened to her “People don’t usually do these things on purpose”; could possibly change the target question. Thinks ‘Did they do this on purpose to irritate you?’ might work better.
5	Spontaneous Responses to Questions	6) people wouldn’t do that 7) this would not happen to her 9) partner did it out of spite; not realistic for her because they have two TV rooms Stories were good; thought that question could be changed to ‘What did you feel the intention was?’ because it is not always meant to be mean
6	Spontaneous	1) the person could just be nosy 2) “they are just rude!” 3) “some people just like the sound of their own voice” 4) probably happened because they are thirsty and don’t care; happens a

		lot to her
		5) “they are just rude or don’t have social skills”; happens “all the time”
		6) figured that they just don’t have enough space
		7) has happened before
Responses to Questions		The target question is good because “some other people have issues and think everyone else is being mean.” Thought that all of the situations were covered and she liked the stories.
7	Spontaneous	3) confused whether they were interrupting you or talking after you finished
		4) has happened before
		6) doesn’t seem to happen much
		9) happens often
Responses to Questions		Thought the target question should be broken into two parts: ‘to be mean’ and ‘on purpose,’ or ask the adults whether they were trying to be ‘purposely rude.’

Note. See vignettes administered in Appendix AA. Numbers in Feedback column refer to vignette numbers.

Table A7

Child Social Stories (CSS) Participant Narrative Feedback during Pilot Study

Child	Feedback Type	Narrative Feedback
1	Spontaneous Responses to Questions	2) the teacher wouldn't let them walk around the room 9) not sure if they like you because you didn't ask them to race; could change this story to have the boy ask them first 12) had to listen to story twice because it was confusing The target questions are "good questions for these problems."
2	Responses to Questions	Very good target questions. Thinks he might be able to make friends with some of the kids.
3	Spontaneous Responses to Questions	1) only 'somewhat real' because the kids' response could also be yes Thought the target questions were ok and the stories were "a good mix for boys and girls."
4	Spontaneous Responses to Questions	3) they don't have recess anymore; this happens a lot 6) happens a lot on sports teams 8) not very descriptive because not sure why she's shrugging her shoulders 9) don't really have sidewalks where he lives 12) older kids used to do this 13) not very real because everybody at his school is pretty cool 14) knows a lot of people at school but doesn't really know them well on Facebook The target questions make sense, the stories are "pretty well-covered," and the stories are "pretty right." Could add a story about "a kid talking in class and the teacher gets on them and then everybody laughs."
5	Responses to Questions	The target questions are good because "you don't want to go up to someone and not know if they like you." Thought all of the stories were good.
6	Spontaneous Responses to Questions	13) not realistic because everybody wants him to play 4 square with them 14) not very real because his mom won't let him get Facebook Thought the target questions and all stories were good.
7	Spontaneous Responses to Questions	13) "the kids at my house aren't like that; they're not as rude and mean" Thought the target questions were good and all of the stories were covered "pretty well."

Note. See vignettes administered in Appendix AA. Numbers in Feedback column refer to vignette numbers.

Table A8

Parent Social Stories (PSS) Participant Narrative Feedback during Pilot Study

Parent	Feedback Type	Narrative Feedback
1	Spontaneous	8) has happened before 9) the woman did not know that the story would embarrass you 10) “that’s a true story!”
	Responses to Questions	Most stories have happened to self or other people she knows; “I love those stories.”
2	Spontaneous	5) has happened before 9) common, happens with her and her friends 11) “they could be telling the truth” 12) shrugging shoulders makes you unsure of liking
	Responses to Questions	First target question is good because “it makes you think” and the second target question “goes hand in hand with the first one; whether you think it’s hopeless or you could get them to like you.”
3	Spontaneous	1) “it depends on what their lunch plans were” 3) “it could be that something came up, like something personal “ 4) “they might not be talking about you” 5) thinks they probably like her a lot but she would be left wondering if the person was vindictive and trying to get her in trouble 7) could have it be a book club 9) ‘likes a lot’ because “you have to be good friends to pull off that kind of story” 11) they could be nervous that you might have some insight to do well in the poll; or “the more people there are, the less money they might get” 12) “he could just be a quiet guy” 13) this happens all the time
	Responses to Questions	The stories seem pretty real; the target questions are good and “make you think of how you would solve it.”
4	Spontaneous	1) wouldn’t happen to her 3) they might really be busy 9) “your friend wouldn’t do this to you” 10) doesn’t mean they don’t like you because “every time someone walks into a room everyone looks” 11) they don’t like you because “there’s no such thing as too many people in a basketball pool” 12) not real because wouldn’t invite self to a get-together 14) it’s normal for people to be friends in person but not Facebook friends
	Responses to Questions	Thought some stories were vague and were hard to answer without more background. Did not care if you can get them to like you, so did not think second target question was important.

5	Spontaneous Responses to Questions	<p>10) would not happen to her 12) might not get together for a show but would for a fight or a match Thought that both target questions could be left out because it's not important to her if people like her and she "definitely would not" get people to try to like her.</p>
6	Spontaneous Responses to Questions	<p>1) if they're supposed to be her friends they would like her a lot 3) "this doesn't mean she doesn't like me" 6) not a lot of information; they may not have heard her, so assumed they like her 7) "if I'm paying for the club, they're going to like me" 8) she wouldn't want to be their friend 9) she does this a lot to her husband without thinking 10) probably just didn't like what you had to say, not you 11) "they could really be full" 13) "I would have to fire them" 14) not enough information to make a decision; could add how you know them Thought the questions were good but could add, "Why do you think these people do or do not like you?" to get more thorough answers.</p>
7	Spontaneous Responses to Questions	<p>6) might add that you know that they heard you or you see one person turned your way 9) has happened several times 10) since most people turn to look when the door opens, could add more detail Response choices on first target question seem extreme (i.e., the difference between 'a little bit likes' to 'likes a lot'). Thinks you shouldn't have to answer second target question if you think they already like you.</p>

Note. See vignettes administered in Appendix AA. Numbers in Feedback column refer to vignette numbers.

Table A9

Changes Made to Child Attribution Stories (CAS) during Pilot Study

Set of Changes	Time Point	Change Made
1	After 2 nd participant	5) removed references to walking to school because uncommon activity
2	After 6 th participant	6) changed 'playground' to 'field' because more age-appropriate

Note. See vignettes administered in Appendix AA and participant narrative feedback in Table A5. Numbers in Change Made column refer to vignette numbers.

Table A10

Changes Made to Parent Attribution Stories (PAS) during Pilot Study

Set of Changes	Time Point	Change Made
1	After 3 rd participant	7) added 'but isn't using it' to indicate that the coworker did not need to use the equipment at the time
2	After 4 th participant	1) changed setting to vehicle tag office to make situation more realistic
3	After 7 th participant	3) changed 'when' to 'after' to clarify interaction

Note. See vignettes administered in Appendix AA and participant narrative feedback in Table A6. Numbers in Change Made column refer to vignette numbers.

Table A11

Changes Made to Child Social Stories (CSS) during Pilot Study

Set of Changes	Time Point	Change Made
1	After 1 st participant	12) added “and not to you” to clarify interaction
2	After 4 th participant	3) and 12) and 13) Changed ‘recess’ to ‘P.E.’ to make it more age-appropriate
3	After 6 th participant	8) changed ‘playground’ to ‘field’ to make it more age-appropriate

Note. See vignettes administered in Appendix AA and participant narrative feedback in Table A7. Numbers in Change Made column refer to vignette numbers.

Table A12

Changes Made to Parent Social Stories (PSS) during Pilot Study

Set of Changes	Time Point	Change Made
1	After 3 rd participant	2) changed ‘invites you to come’ to ‘says that she would love for you to come’ to make indication of liking stronger
2	After 5 th participant	12) changed ‘reality TV show’ to ‘TV program’ to make it more applicable to a range of participants
3	After 7 th participant	6) added ‘they turn in your direction briefly’ to indicate that they might have heard you 10) added ‘with a weird look on their faces’ to provide more information on which to base a judgment 14) changed ‘acquaintances’ to ‘people you went to school with’ to provide more background information

Note. See vignettes administered in Appendix AA and participant narrative feedback in Table A8. Numbers in Change Made column refer to vignette numbers.

Table A13

Pilot Study Descriptive Statistics for Child Attribution Stories (CAS)

#	Question											
	Target				Understand				Realistic			
	<i>M</i>	<i>SD</i>	min	max	<i>M</i>	<i>SD</i>	min	max	<i>M</i>	<i>SD</i>	min	max
1	2.29	1.38	1	5	6.43	0.79	5	7	5.86	1.07	4	7
2	2.43	1.40	1	4	6.00	1.16	4	7	5.29	1.60	4	7
3	2.14	1.68	1	5	5.57	1.90	3	7	5.57	2.15	2	7
4	3.00	1.00	1	4	5.57	1.27	4	7	5.29	1.80	2	7
5	3.29	1.11	2	5	6.43	0.98	5	7	4.71	1.89	2	7
6	2.86	1.46	1	5	6.29	0.76	5	7	6.00	0.08	5	7
7	2.43	1.40	1	5	6.14	1.07	5	7	6.14	1.22	4	7
8	3.86	1.07	2	5	6.29	0.95	5	7	6.00	1.41	3	7
9	2.14	1.22	1	4	6.00	1.16	4	7	6.14	1.07	5	7

Note. $N = 7$. # = vignette number. See vignettes administered in Appendix AA. ‘Target Question’ = “The kid did this on purpose to be mean to me”: 1 (*strongly disagree*), 2 (*disagree*), 3 (*not sure*), 4 (*agree*), or 5 (*strongly agree*). ‘Understand Question’ = “How easy is this story to understand?”: 1 (*not easy*), 4 (*neutral*), 7 (*very easy*). ‘Realistic Question’ = “How real is this story?”: 1 (*not real*), 4 (*neutral*), 7 (*very real*).

Table A14

Pilot Study Reliability Analyses for Child Attribution Stories (CAS)

#	Step					
	1 ($\alpha = .79$)		2 ($\alpha = .87$)		3 ($\alpha = .89$)	
	Item-Total Correlation	α if deleted	Item-Total Correlation	α if deleted	Item-Total Correlation	α if deleted
1	.36	.79	.28	.89	----	----
2	.86	.71	.83	.83	.77	.87
3	.60	.75	.67	.85	.73	.87
4	-.64	.87	----	----	----	----
5	.14	.81	.26	.89	.40	.90
6	.47	.77	.50	.87	.50	.90
7	.80	.72	.83	.83	.81	.86
8	.86	.73	.85	.84	.81	.87
9	.94	.71	.94	.82	.90	.85

Note. $N = 7$. # = vignette number. See vignettes administered in Appendix AA.

Table A15

Pilot Study Descriptive Statistics for Parent Attribution Stories (PAS)

#	Question											
	Target				Understand				Realistic			
	<i>M</i>	<i>SD</i>	min	max	<i>M</i>	<i>SD</i>	min	max	<i>M</i>	<i>SD</i>	min	max
1	2.43	1.40	1	5	6.29	1.11	4	7	5.57	1.27	4	7
2	1.57	0.54	1	2	6.86	0.38	6	7	6.71	0.49	6	7
3	2.43	0.79	1	3	6.14	1.22	4	7	5.71	0.95	4	7
4	2.71	1.50	1	5	6.86	0.38	6	7	6.71	0.49	6	7
5	2.71	1.11	1	4	6.14	1.22	4	7	5.86	0.90	5	7
6	2.43	1.13	1	4	6.14	1.22	4	7	5.00	1.41	3	7
7	2.57	1.27	1	5	6.57	0.79	5	7	5.86	1.46	3	7
8	3.57	1.40	1	5	6.57	0.79	5	7	5.86	1.22	4	7
9	2.71	1.60	1	5	6.57	0.79	5	7	6.00	1.41	3	7

Note. $N = 7$. # = vignette number. See vignettes administered in Appendix AA. ‘Target Question’ = “The person did this on purpose to be mean to me”: 1 (*strongly disagree*), 2 (*disagree*), 3 (*not sure*), 4 (*agree*), or 5 (*strongly agree*). ‘Understand Question’ = “How easy is this story to understand?”: 1 (*not easy*), 4 (*neutral*), 7 (*very easy*). ‘Realistic Question’ = “How real is this story?”: 1 (*not real*), 4 (*neutral*), 7 (*very real*).

Table A16

Pilot Study Reliability Analyses for Parent Attribution Stories (PAS)

#	Step					
	1 ($\alpha = .82$)		2 ($\alpha = .84$)		3 ($\alpha = .88$)	
	Item-Total Correlation	α if deleted	Item-Total Correlation	α if deleted	Item-Total Correlation	α if deleted
1	.59	.79	.61	.81	.61	.87
2	.03	.84	----	----	----	----
3	.71	.79	.70	.81	.68	.87
4	.75	.77	.77	.79	.87	.83
5	.71	.78	.71	.80	.70	.86
6	.42	.81	.39	.84	.47	.88
7	.09	.85	.06	.88	----	----
8	.70	.78	.69	.80	.54	.88
9	.70	.78	.75	.79	.84	.83

Note. $N = 7$. # = vignette number. See vignettes administered in Appendix AA.

Table A17

Pilot Study Descriptive Statistics for Child Social Stories (CSS)

#	Question															
	Target 1				Target 2				Understand				Realistic			
	<i>M</i>	<i>SD</i>	min	max	<i>M</i>	<i>SD</i>	min	max	<i>M</i>	<i>SD</i>	min	max	<i>M</i>	<i>SD</i>	min	max
<i>Am</i>																
1	3.71	0.76	3	5	4.29	0.49	4	5	6.43	0.79	5	7	6.29	0.95	5	7
3	3.00	1.29	2	5	3.57	0.98	2	5	6.00	1.29	4	7	5.86	1.22	4	7
4	2.43	0.98	1	4	3.57	1.27	1	5	6.43	0.98	5	7	6.57	0.54	6	7
5	2.57	0.98	1	4	3.14	0.90	2	4	6.43	0.79	5	7	6.43	1.13	4	7
8	3.00	0.58	2	4	3.71	1.11	2	5	6.29	1.11	4	7	6.57	0.79	5	7
9	3.14	0.69	2	4	4.00	0.58	3	5	6.14	1.46	3	7	6.14	1.46	4	7
10	3.00	0.58	2	4	4.00	0.58	3	5	6.43	0.79	5	7	6.29	0.76	5	7
12	3.29	0.76	2	4	3.86	1.07	2	5	6.57	0.79	5	7	6.29	0.76	5	7
14	3.71	0.49	3	4	4.00	0.58	3	5	7.00	0.00	7	7	6.43	1.13	4	7
<i>Like</i>																
2	4.86	0.38	4	5	4.86	0.38	4	5	7.00	0.00	7	7	6.00	1.83	2	7
6	5.00	0.00	5	5	4.71	0.49	4	5	6.86	0.38	6	7	6.86	0.38	6	7
11	4.43	0.79	3	5	4.43	0.54	4	5	6.86	0.38	6	7	6.71	0.49	6	7
<i>Dis.</i>																
7	1.57	0.54	1	2	2.71	1.38	1	4	6.71	0.76	5	7	6.71	0.49	6	7
13	1.00	0.00	1	1	2.29	1.60	1	5	6.29	1.11	4	7	5.29	1.89	3	7

Note. $N = 7$. # = vignette number; ‘Am’ = ambiguous vignettes; ‘Like’ = liked vignettes; ‘Dis’ = disliked vignettes. See vignettes administered in Appendix AA. ‘Target Question 1’ = “How much do these kids like you?”: 1 (*not at all/dislikes a lot*), 2 (*not very much/somewhat dislikes*), 3 (*not sure/neutral*), 4 (*a little bit/somewhat likes*), or 5 (*a lot/likes a lot*). ‘Target Question 2’ = “Could you get these kids to like you?”: 1 (*definitely not*), 2 (*maybe not*), 3 (*not sure*), 4 (*maybe*), or 5 (*definitely*). ‘Understand Question’ = “How easy is this story to understand?”: 1 (*not easy*), 4 (*neutral*), 7 (*very easy*). ‘Realistic Question’ = “How real is this story?”: 1 (*not real*), 4 (*neutral*), 7 (*very real*).

Table A18

Pilot Study Reliability Analyses for Child Social Stories (CSS): First Target Question

#	Step					
	1 ($\alpha = .54$)		2 ($\alpha = .68$)		3 ($\alpha = .76$)	
	Item-Total Correlation	α if deleted	Item-Total Correlation	α if deleted	Item-Total Correlation	α if deleted
1	-.17	.62	-.22	.76	----	----
3	.56	.36	.53	.61	.69	.70
4	-.25	.68	----	----	----	----
5	.77	.29	.71	.54	.60	.71
8	.56	.45	.75	.58	.72	.70
9	.25	.52	.52	.62	.48	.74
10	.36	.49	.17	.68	.25	.77
12	.51	.44	.72	.56	.73	.68
14	-.07	.58	-.06	.72	.00	.80

Note. $N = 7$. Only includes ambiguous vignettes. # = vignette number. See vignettes administered in Appendix AA.

Table A19

Pilot Study Reliability Analyses for Child Social Stories (CSS): Second Target Question

#	Step					
	1 ($\alpha = .89$)		2 ($\alpha = .89$)		3 ($\alpha = .87$)	
	Item-Total Correlation	α if deleted	Item-Total Correlation	α if deleted	Item-Total Correlation	α if deleted
1	.85	.87	.88	.87	----	----
3	.74	.87	.60	.88	.59	.86
4	.61	.89	----	----	----	----
5	.61	.88	.68	.87	.68	.84
8	.84	.86	.87	.85	.87	.81
9	.48	.89	.51	.89	.49	.87
10	.70	.88	.57	.88	.56	.86
12	.67	.87	.76	.86	.76	.83
14	.65	.88	.64	.88	.64	.85

Note. $N = 7$. Only includes ambiguous vignettes. # = vignette number. See vignettes administered in Appendix AA.

Table A20

Pilot Study Descriptive Statistics for Parent Social Stories (PSS)

#	Question															
	Target 1				Target 2				Understand				Realistic			
	<i>M</i>	<i>SD</i>	min	max	<i>M</i>	<i>SD</i>	min	max	<i>M</i>	<i>SD</i>	min	max	<i>M</i>	<i>SD</i>	min	max
<i>Am</i>																
1	3.43	1.13	2	5	3.86	0.69	3	5	6.29	1.25	4	7	5.43	1.27	4	7
3	3.57	0.79	3	5	4.00	0.58	3	5	6.57	0.79	5	7	6.14	1.22	4	7
4	2.57	0.98	1	4	3.14	1.22	1	4	6.57	0.79	5	7	6.00	1.16	4	7
6	2.57	1.51	1	5	3.29	1.38	1	5	6.57	0.79	5	7	5.86	1.22	4	7
9	4.57	0.79	3	5	4.71	0.76	3	5	6.57	0.79	5	7	5.86	1.46	3	7
10	3.29	0.95	2	5	3.86	0.90	3	5	6.14	1.22	4	7	5.86	1.46	3	7
11	2.86	1.35	1	5	3.86	1.07	2	5	6.57	0.79	5	7	5.29	2.22	1	7
12	2.57	0.54	2	3	3.71	0.49	3	4	6.57	0.79	5	7	5.14	2.27	1	7
14	3.29	0.49	3	4	3.71	0.76	3	5	6.57	0.79	5	7	6.29	0.95	5	7
<i>Like</i>																
2	4.57	0.54	4	5	4.86	0.38	4	5	6.71	0.49	6	7	6.43	0.79	5	7
5	5.00	0.00	5	5	4.86	0.38	4	5	6.71	0.49	6	7	6.29	0.95	5	7
7	4.57	0.54	4	5	3.29	1.38	1	5	6.71	0.49	6	7	6.29	0.76	5	7
<i>Dis.</i>																
8	1.43	0.79	1	3	2.00	0.82	1	3	6.57	0.79	5	7	5.86	1.22	4	7
13	1.14	0.38	1	2	1.71	0.76	1	3	6.57	0.79	5	7	5.43	2.44	1	7

Note. $N = 7$. # = vignette number; ‘Am’ = ambiguous vignettes; ‘Like’ = liked vignettes; ‘Dis’ = disliked vignettes. See vignettes administered in Appendix AA. ‘Target Question 1’ = “How much do these people like you?”: 1 (*not at all/dislikes a lot*), 2 (*not very much/somewhat dislikes*), 3 (*not sure/neutral*), 4 (*a little bit/somewhat likes*), or 5 (*a lot/likes a lot*). ‘Target Question 2’ = “Could you get these people to like you?”: 1 (*definitely not*), 2 (*maybe not*), 3 (*not sure*), 4 (*maybe*), or 5 (*definitely*). ‘Understand Question’ = “How easy is this story to understand?”: 1 (*not easy*), 4 (*neutral*), 7 (*very easy*). ‘Realistic Question’ = “How real is this story?”: 1 (*not real*), 4 (*neutral*), 7 (*very real*).

Table A21

Pilot Study Reliability Analyses for Parent Social Stories (PSS): First Target Question

#	Step					
	1 ($\alpha = .84$)		2 ($\alpha = .88$)		3 ($\alpha = .89$)	
	Item-Total Correlation	α if deleted	Item-Total Correlation	α if deleted	Item-Total Correlation	α if deleted
1	.84	.78	.83	.84	.82	.85
3	.60	.82	.64	.86	.66	.87
4	.32	.84	.32	.89	.27	.91
6	.91	.77	.94	.82	.96	.83
9	.32	.84	.36	.88	.37	.90
10	.83	.79	.84	.84	.86	.85
11	.89	.77	.87	.83	.87	.84
12	-.34	.88	----	----	----	----
14	.37	.84	.31	.89	----	----

Note. $N = 7$. Only includes ambiguous vignettes. # = vignette number. See vignettes administered in Appendix AA.

Table A22

Pilot Study Reliability Analyses for Parent Social Stories (PSS): Second Target Question

#	Step					
	1 ($\alpha = .75$)		2 ($\alpha = .76$)		3 ($\alpha = .77$)	
	Item-Total Correlation	α if deleted	Item-Total Correlation	α if deleted	Item-Total Correlation	α if deleted
1	.51	.72	.54	.73	.59	.74
3	.59	.72	.60	.73	.72	.73
4	.32	.76	.22	.80	.18	.82
6	.78	.65	.78	.66	.87	.64
9	.34	.75	.38	.75	.32	.78
10	.74	.68	.78	.68	.79	.69
11	.38	.74	.44	.74	.35	.78
12	.14	.76	----	----	----	----
14	.24	.76	.22	.77	----	----

Note. $N = 7$. Only includes ambiguous vignettes. # = vignette number. See vignettes administered in Appendix AA.

Appendix AA

Pilot Study: Child Attribution Stories

1. You brought your new Nintendo DS in to school today. You had saved up your allowance to buy the Nintendo DS, and you want to show it to the other kids at school. You let another kid play with it for a few minutes while you leave to get a drink of water. When you get back, you realize that your brand new DS is broken.
2. You are sitting at the lunch table at school, eating lunch. You look up and see another kid coming over to your table with a drink. You turn around to eat your lunch, and the next thing that happens is that the kid spills the drink all over your back and gets your shirt all wet.
3. You are changing classes at school and hurrying down the hall to the next class. While you are hurrying, a new kid at school who you don't know very well comes down the hall from the other direction and bumps into our shoulder, knocking your books to the floor.
4. You are in your classroom at school and you lose your calculator. You look for it, but can't find it anywhere. If you don't find it, you won't be able to finish your work. Just when you think it's lost forever, you look up and see that one of your classmates is holding your calculator.
5. You are walking along a sidewalk next to the street and you are wearing a new outfit. You are on your way to school and you look really great. You are almost to school when a kid from your class bikes past you and splashes the dirty water from a puddle all over you.
6. You are standing on the playground playing catch with a kid. You throw the ball and he catches it. You turn around, and the next thing you realize is that he has thrown the ball and hit you in the middle of your back. The ball hits you hard and it hurts a lot.
7. You are sitting at your desk trying to work on a writing assignment, but another kid nearby keeps banging his pencil so that you can't think or get your own work done.
8. Your teacher asked you and several other kids to work out different math problems and write out the answers on the board. After you finish and sit back down, the kid working next to you is still at the board and you realize that part of your work has been erased.
9. You hear from one of your friends that one of the kids in your class has brought some cookies to school and is sharing them with the other kids. When you go find him to ask if you can have one, he tells you that they are gone.

Pilot Study: Parent Attribution Stories

1. You are really in a rush to get to your doctor's appointment, but when you get there, you realize that you left your papers in the lobby. You rush back to the lobby and find someone looking through your papers.
2. You are patiently waiting at the pharmacy and you're finally next in line. Another aisle opens up. A person who you haven't noticed before walks up to the new aisle and starts to check out.
3. You have a project to do with two other people at work. While discussing the assignment, you attempt to give some input and share your ideas. However, when you say what you think, one coworker just talks about their own idea.
4. You have been saving a drink for lunch in the community refrigerator at work. When you go to get the drink, it is missing. You look around the break room and notice one of your coworkers drinking it.
5. You are looking at some items in a store, deciding which to select. A person comes up and stands in front of you, blocking your view.
6. You are sitting on the end of a bench in the lobby area of a crowded restaurant waiting for a table. The person next to you keeps moving closer so that you are getting nearer to the edge.
7. You are at work and lose some important equipment. You look for it but cannot find it anywhere. If you do not find it, you will not be able to finish your work. Just when you think it is lost for good, you notice that one of your coworkers has your equipment.
8. You are seated at a bar in a restaurant. The people next to you are laughing and talking. One of them brushes against you. Then, this same person then bumps into you, causing you to spill your drink. You look over at the person and they are laughing.
9. You have had a long day and finally gotten the kids down to bed. You go to watch your favorite TV show, but after 10 minutes, your partner comes into the room and changes the channel without asking you.

Pilot Study: Child Social Stories

1. You want to join two of your classmates who already have been working on an art project for 10 minutes. You take a box of markers with you and ask if you can join them. The two kids look at each other and whisper something to each other. One of the kids says, “yes, you can join us....in 5 minutes.”
2. You finish your reading work early, so you decide to go see what other kids are up to. Two other kids are working on a computer project, and you ask if you can help them. They say “Sure, that would be great!”
3. You are just about to go out for recess. You have made a plan with a kid in your class to play with him during recess. When recess begins you ask him to play. He looks at you for a few seconds and then tells you that he has to go do something else first.
4. You are walking down the hall at school and you see two kids who you know pretty well talking quietly to each other at one end of the hall. They briefly look up at you and then continue talking. As you pass them, you hear them laughing.
5. You are at a park near your house, and you see a bunch of kids talking in a circle a ways away from you. You yell out, “Hey, everybody!” The kids keep on talking and don’t say anything to you.
6. It is your first day on the track team. You don’t know a lot of the other kids and you would like to make friends with them. During practice, you walk up to a group of kids on the team and say “Hi!” and they excitedly welcome you to the team.
7. At lunch, you overhear a group of other kids who are sitting behind you say your name. You try to listen to their conversation, and realize that they are calling you names and making fun of you.
8. You see some kids playing on the playground. You would really like to play with them, so you go over and ask them if you can play. In response, one kid shrugs her shoulders.
9. You are hanging out in your neighborhood riding your bike. You come across a group of kids racing each other on their bikes. You would like to join them so you wait close by, but no one asks you to race.
10. You just gave a presentation to your class and you ask the teacher if you can go to the bathroom. When you get back to class, everyone turns and looks at you.
11. You are walking into the cafeteria at school. As you are going in the door, you see two kids from your class. As you pass by them, they smile at you, wave, and say hi.
12. You are throwing the football with two other kids at recess. After passing it around for awhile, you notice that the other two kids seem to mostly pass it back and forth to each other.

- 13.** During recess, you decide you want to play four square with the kids who play it everyday. When you go up and ask if you can join them, they say “No, we don’t want you here, go somewhere else.”
- 14.** Your mom recently let you get a Facebook account. Over the weekend, you ‘friended’ a bunch of kids in your class. The next time you check your Facebook, you see that some kids have accepted your friend request but other kids have not.

Pilot Study: Parent Social Stories

1. Some of your friends are going shopping on the weekend and you need to shop for some things. When you ask if you can join them, they say, “Yes, you can join us.... after lunch.”
2. You find out that one of your neighbors is having a party on Saturday, but you didn’t expect to be invited. The next time you see her, she invites you to come.
3. Tonight, you made plans to go out to dinner with a friend. When you call her to ask if she is ready, she hesitates for a few seconds and says that she is busy and has to cancel.
4. You are walking down the aisle at the grocery store and you see two neighbors talking quietly to each other at end of the aisle. They briefly look up at you and then continue talking. As you pass them, you hear them laughing.
5. You have been having a bad day at work. When your coworker notices that you’re upset, she offers to cover for you while you take a break.
6. You are at a park near your house, and you see a bunch of other mothers talking in a circle a ways away from you. You yell out, “Hey, everybody!” The women keep on talking and don’t say anything to you.
7. You go to the first meeting of a club you want to join. You would like to become friendly with the other people in the club. You walk up to some of the other people and say “Hi!” and they enthusiastically welcome you to the club.
8. You run into some acquaintances at the mall. When you ask them how they are doing, they make a rude face and walk away from you without saying anything.
9. You are with a group of friends and acquaintances. One of your friends tells a story about you which is funny but it presents you in a really bad light.
10. You just gave a presentation at work and immediately afterwards, you leave to use the restroom. When you get back to the room, everyone turns and looks at you.
11. A bunch of people you know created a pool for the NCAA tournament. Since you like basketball, you ask if you can enter the pool with them. They tell you that they already have too many people.
12. In your neighborhood, you hear about a group of people getting together to watch of your favorite reality TV shows. You really like the show, so you ask one of them if you can watch it with them. In response, he shrugs his shoulders.
13. Over lunch break at work, you overhear a group of your coworkers say your name. You try to listen to their conversation, and realize that they are calling you names and making fun of you.

14. You recently decided to get a Facebook account and you just set up your page. Over the weekend, you ‘friended’ a bunch of acquaintances. The next time you check your Facebook, you see that some people have accepted your friend request but others have not.

Appendix B

Child Attribution Stories

Instructions: *I am going to read a few stories and I want you to imagine that you are the person in the story. Then, I will ask you a few questions following each story. Remember, there are no right or wrong answers to the questions, so just try to tell me what you would think if you were in the story.*

1. You are sitting at the lunch table at school, eating lunch. You look up and see another kid coming over to your table with a drink. You turn around to eat your lunch, and the next thing that happens is that the kid spills the drink all over your back and gets your shirt all wet.

The kid did this on purpose to be mean to me:

1	2	3	4	5
strongly disagree	disagree	not sure	agree	strongly agree

2. You are changing classes at school and hurrying down the hall to the next class. While you are hurrying, a new kid at school who you don't know very well comes down the hall from the other direction and bumps into your shoulder, knocking your books to the floor.

The kid did this on purpose to be mean to me:

1	2	3	4	5
strongly disagree	disagree	not sure	agree	strongly agree

3. You are walking along a sidewalk next to the street. You are wearing a new outfit and you look really great. Suddenly, a kid from your class bikes past you and splashes the dirty water from a puddle all over you.

The kid did this on purpose to be mean to me:

1	2	3	4	5
strongly disagree	disagree	not sure	agree	strongly agree

4. You are standing on the field playing catch with a kid. You throw the ball and he catches it. You turn around, and the next thing you realize is that he has thrown the ball and hit you in the middle of your back. The ball hits you hard and it hurts a lot.

The kid did this on purpose to be mean to me:

1 2 3 4 5
strongly disagree disagree not sure agree strongly agree

5. You are sitting at your desk trying to work on a writing assignment, but another kid nearby keeps banging his pencil so that you can't think or get your own work done.

The kid did this on purpose to be mean to me:

1 2 3 4 5
strongly disagree disagree not sure agree strongly agree

6. Your teacher asked you and several other kids to work out different math problems and write out the answers on the board. After you finish and sit back down, the kid working next to you is still at the board and you realize that part of your work has been erased.

The kid did this on purpose to be mean to me:

1 2 3 4 5
strongly disagree disagree not sure agree strongly agree

7. You hear from one of your friends that one of the kids in your class has brought some cookies to school and is sharing them with the other kids. When you go find him to ask if you can have one, he tells you that they are gone.

The kid did this on purpose to be mean to me:

1 2 3 4 5
strongly disagree disagree not sure agree strongly agree

Parent Attribution Stories

Instructions:

I am going to read a few stories and I want you to imagine that you are the person in the story. Then, I will ask you a few questions following each story. Remember, there are no right or wrong answers to the questions, so just try to tell me what you would think if you were in the story.

1. You are waiting in line at the vehicle tag office, but when you get to the front of the line, you realize that you left your papers in the lobby. You rush back to the lobby and find someone looking through your papers.

The person meant to irritate me:

1	2	3	4	5
strongly disagree	disagree	not sure	agree	strongly agree

2. You have a project to do with two other people at work. While discussing the assignment, you attempt to give some input and share your ideas. However, after you say what you think, one coworker just talks about their own idea.

The coworker meant to irritate me:

1	2	3	4	5
strongly disagree	disagree	not sure	agree	strongly agree

3. You have been saving a drink for lunch in the community refrigerator at work. When you go to get the drink, it is missing. You look around the break room and notice one of your coworkers drinking it.

The coworker meant to irritate me:

1	2	3	4	5
strongly disagree	disagree	not sure	agree	strongly agree

4. You are looking at some items in a store, deciding which to select. A person comes up and stands in front of you, blocking your view.

The person meant to irritate me:

1	2	3	4	5
strongly disagree	disagree	not sure	agree	strongly agree

5. You are sitting on the end of a bench in the lobby area of a crowded restaurant waiting for a table. The person next to you keeps moving closer so that you are getting nearer to the edge.

The person meant to irritate me:

1	2	3	4	5
strongly disagree	disagree	not sure	agree	strongly agree

6. You are seated at a bar in a restaurant. The people next to you are laughing and talking. One of them brushes against you. Then, this same person then bumps into you, causing you to spill your drink. You look over at the person and they are laughing.

The person meant to irritate me:

1	2	3	4	5
strongly disagree	disagree	not sure	agree	strongly agree

7. You have had a long day and finally gotten the kids down to bed. You go to watch your favorite TV show, but after 10 minutes, your partner comes into the room and changes the channel without asking you.

My partner meant to irritate me:

1	2	3	4	5
strongly disagree	disagree	not sure	agree	strongly agree

Child Social Stories

Instructions:

I am going to read a few stories and I want you to imagine that you are the person in the story. Then, I will ask you a few questions following each story. Remember, there are no right or wrong answers to the questions, so just try to tell me what you would think if you were in the story.

1. You finish your reading work early, so you decide to go see what other kids are up to. Two other kids are working on a computer project, and you ask if you can help them. They say “Sure, that would be great!”

How much do these kids like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get these kids to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

2. You are just about to go out for P.E. and you have made a plan with a kid in your class to play with him. When P.E. begins you ask him to play. He looks at you for a few seconds and then tells you that he has to go do something else first.

How much does this kid like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get this kid to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

3. You are at a park near your house, and you see a bunch of kids talking in a circle a ways away from you. You yell out, “Hey, everybody!” The kids keep on talking and don’t say anything to you.

How much do these kids like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get these kids to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

4. It is your first day on the track team. You don’t know a lot of the other kids and you would like to make friends with them. During practice, you walk up to a group of kids on the team and say “Hi!” and they excitedly welcome you to the team.

How much do these kids like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get these kids to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

5. At lunch, you overhear a group of other kids who are sitting behind you say your name. You try to listen to their conversation, and realize that they are calling you names and making fun of you.

How much do these kids like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get these kids to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

6. You see some kids playing on the field. You would really like to join them, so you go over and ask them if you can play. In response, one kid shrugs her shoulders.

How much does this kid like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get this kid to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

7. You are hanging out in your neighborhood riding your bike. You come across a group of kids racing each other on their bikes. You would like to join them so you wait close by, but no one asks you to race.

How much do these kids like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get these kids to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

8. You just gave a presentation to your class and you ask the teacher if you can go to the bathroom. When you get back to class, everyone turns and looks at you.

How much do these kids like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get these kids to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

9. You are walking into the cafeteria at school. As you are going in the door, you see two kids from your class. As you pass by them, they smile at you, wave, and say hi.

How much do these kids like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get these kids to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

10. You are throwing the football with two other kids at P.E. After passing it around for awhile, you notice that the other two kids seem to mostly pass it back and forth to each other and not to you.

How much do these kids like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get these kids to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

11. During P.E., you decide you want to play four square with the kids who play it everyday. When you go up and ask if you can join them, they say “No, we don’t want you here, go somewhere else.”

How much do these kids like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get these kids to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

12. Your mom recently let you get a Facebook account. Over the weekend, you ‘friended’ a bunch of kids in your class. The next time you check your Facebook, you see that some kids have accepted your friend request but other kids have not.

How much do these kids like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get these kids to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

Parent Social Stories

Instructions:

I am going to read a few stories and I want you to imagine that you are the person in the story. Then, I will ask you a few questions following each story. Remember, there are no right or wrong answers to the questions, so just try to tell me what you would think if you were in the story.

1. Some of your friends are going shopping on the weekend and you need to shop for some things. When you ask if you can join them, they say, “Yes, you can join us.... after lunch.”

How much does this group like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get this group to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

2. You find out that one of your neighbors is having a party on Saturday, but you didn't expect to be invited. The next time you see her, she says that she would love for you to come.

How much does this person like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get this person to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

3. Tonight, you made plans to go out to dinner with a friend. When you call her to ask if she is ready, she hesitates for a few seconds and says that she is busy and has to cancel.

How much does this person like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get this person to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

4. You are walking down the aisle at the grocery store and you see two neighbors talking quietly to each other at end of the aisle. They briefly look up at you and then continue talking. As you pass them, you hear them laughing.

How much do these people like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get this group to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

5. You have been having a bad day at work. When your coworker notices that you're upset, she offers to cover for you while you take a break.

How much does this coworker like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get this coworker to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

6. You are at a park near your house, and you see a bunch of other mothers talking in a circle a ways away from you. You yell out, “Hey, everybody!” The women turn in your direction briefly and keep on talking and don’t say anything to you.

How much do these women like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get these women to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

7. You go to the first meeting of a club you want to join. You would like to become friendly with the other people in the club. You walk up to some of the other people and say “Hi!” and they enthusiastically welcome you to the club.

How much do these people like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get these people to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

8. You run into some acquaintances at the mall. When you ask them how they are doing, they make a rude face and walk away from you without saying anything.

How much does this group like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get this group to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

9. You are with a group of friends and acquaintances. One of your friends tells a story about you which is funny but it presents you in a really bad light.

How much does this person like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get this person to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

10. You just gave a presentation at work and immediately afterwards, you leave to use the restroom. When you get back to the room, everyone turns and looks at you with a weird look on their faces.

How much does this group like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get this group to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

11. A bunch of people you know created a pool for the NCAA tournament. Since you like basketball, you ask if you can enter the pool with them. They tell you that they already have too many people.

How much do these people like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get these people to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

12. Over lunch break at work, you overhear a group of your coworkers say your name. You try to listen to their conversation, and realize that they are calling you names and making fun of you.

How much does this group like you?

1	2	3	4	5
mostly dislikes	not very much/ somewhat dislikes	not sure/ neutral	a little bit/ somewhat likes	mostly likes

Could you get this group to like you?

1	2	3	4	5
definitely not	maybe not	not sure	maybe	definitely

How things affect me.....

Below is a list of things that people your age often say change how they feel about themselves. These are things that some people find change how they are feeling for a while. Many people will find that these things change how they feel about themselves but other people will find that how they feel about themselves is not affected by these things. Read each sentence carefully and circle the number that you think describes how true each statement is for you. Circle the number that best describes you; there are no right or wrong answers.

1. I only feel good about myself when things are going well in my friendships.

1	2	3	4	5
Absolutely NOT like me, not even a tiny bit	Maybe just a very tiny bit like me	I'm kinda like this in ways	This is pretty much like me, not perfect though	This is exactly like me

2. My overall feelings about myself are heavily influenced by how much my friends like me.

1	2	3	4	5
Absolutely NOT like me, not even a tiny bit	Maybe just a very tiny bit like me	I'm kinda like this in ways	This is pretty much like me, not perfect though	This is exactly like me

3. My feelings about myself are affected when my friendships are criticized.

1	2	3	4	5
Absolutely NOT like me, not even a tiny bit	Maybe just a very tiny bit like me	I'm kinda like this in ways	This is pretty much like me, not perfect though	This is exactly like me

4. How I feel about myself depends on how well I am getting along with my friends.

1	2	3	4	5
Absolutely NOT like me, not even a tiny bit	Maybe just a very tiny bit like me	I'm kinda like this in ways	This is pretty much like me, not perfect though	This is exactly like me

5. I can't feel good about myself if I feel rejected by my friends.

1	2	3	4	5
Absolutely NOT like me, not even a tiny bit	Maybe just a very tiny bit like me	I'm kinda like this in ways	This is pretty much like me, not perfect though	This is exactly like me

6. When my friends and I fight, I feel bad about myself in general.

1	2	3	4	5
Absolutely NOT like me, not even a tiny bit	Maybe just a very tiny bit like me	I'm kinda like this in ways	This is pretty much like me, not perfect though	This is exactly like me

7. It really affects the way I feel about myself when friendships fall apart.

1	2	3	4	5
Absolutely NOT like me, not even a tiny bit	Maybe just a very tiny bit like me	I'm kinda like this in ways	This is pretty much like me, not perfect though	This is exactly like me

8. When my friends and I have disagreements, I feel bad about myself.

1	2	3	4	5
Absolutely NOT like me, not even a tiny bit	Maybe just a very tiny bit like me	I'm kinda like this in ways	This is pretty much like me, not perfect though	This is exactly like me

PERCEIVED COMPETENCE SCALE

Instructions

"We're interested in what you're like, what kind of person you are like, and how you think and feel about different things. So, I'm going to read you some sentences that will help us understand better what you are like. First let's do a practice sentence. 'Some students would rather play outdoors in their spare time... BUT ...Other students would rather watch TV.' This sentence talks about two kinds of students.

- (1.) What I want you to decide first is whether you are more like the students who would rather play outdoors, or whether you are more like the students who would rather watch TV. Which kind of student is most like you?
- (2.) Now, the second thing I want you to think about, now that you have decided which kind of student is most like you, is to decide whether that is only sort of true for you, or really true for you. Is it sort of true for you or really true for you?

Any questions? OK, now we're going to do some more sentences just like that one." *Interviewer: Please fill in the bubbles as completely as possible.*

Ex.: Some students would rather play outside in their spare time	BUT	Other students would rather watch TV.
<input type="radio"/> Really true for me <input type="radio"/> Sort of true for me		<input type="radio"/> Really true for me <input type="radio"/> Sort of true for me
1. Some students feel that they are <i>very good</i> at their school work	BUT	Other students <i>worry</i> about whether they can do the school work assigned to them.
<input type="radio"/> Really true for me <input type="radio"/> Sort of true for me		<input type="radio"/> Really true for me <input type="radio"/> Sort of true for me
2. Some students find it <i>hard</i> to make friends	BUT	Other students find it <i>pretty easy</i> to make friends.
<input type="radio"/> Really true for me <input type="radio"/> Sort of true for me		<input type="radio"/> Really true for me <input type="radio"/> Sort of true for me
3. Some students do very <i>well</i> at all kinds of sports	BUT	Other students <i>don't</i> feel that they are very good when it comes to sports.
<input type="radio"/> Really true for me <input type="radio"/> Sort of true for me		<input type="radio"/> Really true for me <input type="radio"/> Sort of true for me
4. Some students are <i>happy</i> with the way they look	BUT	Other students are <i>not</i> happy with the way they look.
<input type="radio"/> Really true for me <input type="radio"/> Sort of true for me		<input type="radio"/> Really true for me <input type="radio"/> Sort of true for me
5. Some students often do <i>not</i> like the way they <i>behave</i>	BUT	Other students usually <i>like</i> the way they behave.
<input type="radio"/> Really true for me <input type="radio"/> Sort of true for me		<input type="radio"/> Really true for me <input type="radio"/> Sort of true for me
6. Some students feel that there are a lot of things about themselves that they would change if they could	BUT	Other students would like to stay pretty much the same.
<input type="radio"/> Really true for me <input type="radio"/> Sort of true for me		<input type="radio"/> Really true for me <input type="radio"/> Sort of true for me

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7. Some students feel that they are *just as smart* as other students their age

- Really true for me Sort of true for me

BUT

Other students aren't so sure and *wonder* if they are as smart.

- Really true for me Sort of true for me

8. Some students have *a lot* of friends.

- Really true for me Sort of true for me

BUT

Other students *don't* have very many friends.

- Really true for me Sort of true for me

9. Some students wish they could be a lot better at sports

- Really true for me Sort of true for me

BUT

Other students feel they are good enough at sports.

- Really true for me Sort of true for me

10. Some students are *happy* with their height and weight

- Really true for me Sort of true for me

BUT

Other students wish their height or weight were *different*.

- Really true for me Sort of true for me

11. Some students usually do the *right* thing

- Really true for me Sort of true for me

BUT

Other students often *don't* do the right thing.

- Really true for me Sort of true for me

12. Some students are pretty sure of themselves

- Really true for me Sort of true for me

BUT

Other students are not very sure of themselves.

- Really true for me Sort of true for me

13. Some students are pretty *slow* in finishing their school work

- Really true for me Sort of true for me

BUT

Other students can do their school work *quickly*.

- Really true for me Sort of true for me

14. Some students don't think they are a very important member of their class

- Really true for me Sort of true for me

BUT

Other students think they are pretty important to their classmates.

- Really true for me Sort of true for me

15. Some students think they could do well at just about any new sports activity they haven't tried before

- Really true for me Sort of true for me

BUT

Other students are afraid they might *not* do well at sports they haven't ever tried.

- Really true for me Sort of true for me

16. Some students wish their body was *different*

- Really true for me Sort of true for me

BUT

Other students *like* their body the way it is.

- Really true for me Sort of true for me

17. Some students usually *act* the way they know they are *supposed* to

- Really true for me Sort of true for me

BUT

Other students often *don't* act the way they are supposed to.

- Really true for me Sort of true for me

**IGCP
C3T2**

- | | | |
|---|------------|--|
| 18. Some students feel good about the way they act. | BUT | Other students wish they acted differently. |
| <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me | | <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me |
| 19. Some students often <i>forget</i> what they learn | BUT | Other students can remember things <i>easily</i> . |
| <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me | | <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me |
| 20. Some students are always doing things with <i>a lot</i> of students | BUT | Other students usually do things <i>by themselves</i> . |
| <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me | | <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me |
| 21. Some students feel that they are <i>better</i> than others their age at sports | BUT | Other students <i>don't</i> feel they can play as well. |
| <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me | | <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me |
| 22. Some students wish their physical appearance (how they look) was <i>different</i> | BUT | Other students <i>like</i> their physical appearance the way it is. |
| <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me | | <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me |
| 23. Some students usually get in <i>trouble</i> because of things they do | BUT | Other students usually <i>don't</i> do things that get them in trouble. |
| <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me | | <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me |
| 24. Some students think that maybe they are not a very good person | BUT | Other students are pretty sure they are a good person. |
| <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me | | <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me |
| 25. Some students like school because they do well in class | BUT | Other students don't like school because they aren't doing very well. |
| <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me | | <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me |
| 26. Some students wish that more people their age liked them | BUT | Other students feel that most people their age <i>do</i> like them. |
| <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me | | <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me |
| 27. In games and sports some students usually <i>watch</i> instead of play | BUT | Other students usually <i>play</i> rather than just watch. |
| <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me | | <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me |
| 28. Some students wish something about their face or hair looked <i>different</i> | BUT | Other students <i>like</i> their face and hair the way they are. |
| <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me | | <input type="radio"/> Really true for me <input type="radio"/> Sort of true for me |

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29. Some students do things they know they *shouldn't* do

- Really true for me Sort of true for me

BUT

Other students *hardly ever* do things they know they shouldn't do.

- Really true for me Sort of true for me

30. Some students are very *happy* being the way they are

- Really true for me Sort of true for me

BUT

Other students wish they were *different*.

- Really true for me Sort of true for me

31. Some students wish it was easier to understand what they read

- Really true for me Sort of true for me

BUT

Other students don't have any trouble understanding what they read.

- Really true for me Sort of true for me

32. Some students are *popular* with others their age

- Really true for me Sort of true for me

BUT

Other students are *not* very popular.

- Really true for me Sort of true for me

33. Some students *don't* do well at new outdoor games

- Really true for me Sort of true for me

BUT

Other students are *good* at new games right away.

- Really true for me Sort of true for me

34. Some students think they are good looking

- Really true for me Sort of true for me

BUT

Other students think that they are not very good looking.

- Really true for me Sort of true for me

35. Some students behave themselves very well

- Really true for me Sort of true for me

BUT

Other students often find it hard to behave themselves.

- Really true for me Sort of true for me

36. Some students *are not* very happy with the way they do a lot of things

- Really true for me Sort of true for me

BUT

Other students think the way they do things is *fine*.

- Really true for me Sort of true for me

37. Some students have trouble figuring out the answers in school

- Really true for me Sort of true for me

BUT

Other students almost always can figure out the answers.

- Really true for me Sort of true for me

38. Some students are really easy to like

- Really true for me Sort of true for me

BUT

Other students are kind of hard to like.

- Really true for me Sort of true for me

39. Some students are among the last to be chosen for games

- Really true for me Sort of true for me

BUT

Other students are usually picked first.

- Really true for me Sort of true for me

40. Some students are usually sure that what they are doing is the right thing

- Really true for me Sort of true for me

BUT

Other students aren't so sure whether or not they are doing the right thing.

- Really true for me Sort of true for me

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BD INVENTORY

DIRECTIONS: "Now I'm going to ask you some questions about you and how you feel. I will read groups of statements, then ask you to pick the one statement in that group that describes the way you have been feeling the past week, including today. Remember to choose only ONE answer for each category, that is, from each group of statements. Again, remember your answers are strictly confidential."

Category I

- I do not feel sad
- I feel sad.
- I am sad all the time and I can't snap out of it.
- I am so sad or unhappy that I can't stand it.

Category II

- I am not particularly discouraged about the future.
- I feel discouraged about the future.
- I feel I have nothing to look forward to.
- I feel that the future is hopeless and that things cannot improve.

Category III

- I do not feel like a failure
- I feel I have failed more than the average person.
- As I look back on my life all I can see is a lot of failure.
- I feel I am a complete failure as a person.

Category IV

- I get as much satisfaction out of things as I used to.
- I don't enjoy things the way I used to.
- I don't get real satisfaction out of anything anymore.
- I am dissatisfied or bored with everything.

Category V

- I don't feel particularly guilty.
- I feel guilty a good part of the time.
- I feel quite guilty most of the time.
- I feel guilty all of the time.

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Category VI

- I don't feel I am being punished.
- I feel I may be punished.
- I expect to be punished.
- I feel I am being punished.

Category VII

- I don't feel disappointed in myself.
- I am disappointed in myself.
- I am disgusted with myself.
- I hate myself.

Category VIII

- I don't feel I am any worse than anybody else.
- I am critical of myself for my weaknesses or mistakes.
- I blame myself all the time for my faults.
- I blame myself for everything bad that happens.

Category IX

- I don't have any thoughts of killing myself.
- I have thoughts of killing myself but I would not carry them out.
- I would like to kill myself.
- I would kill myself if I had the chance.

Category X

- I don't cry any more than usual.
- I cry more now than I used to.
- I cry all the time now.
- I used to be able to cry, but now I can't cry even though I want to.

Category XI

- I am no more irritated now than I ever am.
- I get annoyed or irritated more easily than I used to.
- I feel irritated all the time.
- I don't get irritated at all by the things that used to irritate me.

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Category XII

- I have not lost interest in other people.
- I am less interested in other people than I used to be.
- I have lost most of my interest in other people.
- I have lost all my interest in other people.

Category XIII

- I make decisions about as well as I ever could.
- I put off making decisions more than I used to.
- I have greater difficulty in making decisions than before.
- I can't make decisions at all anymore.

Category XIV

- I don't feel I look any worse than I used to.
- I am worried that I am looking old or unattractive.
- I feel that there are permanent changes in my appearance and they make me look unattractive.
- I feel that I look ugly.

Category XV

- I can work about as well as before.
- It takes an extra effort to get started at doing something.
- I have to push myself very hard to do anything.
- I can't do any work at all.

Category XVI

- I can sleep as well as usual.
- I don't sleep as well as I used to.
- I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
- I wake up several hours earlier than I used to and cannot get back to sleep.

Category XVII

- I don't get more tired than usual.
- I get tired more easily than I used to.
- I get tired from doing almost anything.
- I am too tired to do anything.

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Category XVIII

- My appetite is no worse than usual.
- My appetite is not as good as it used to be.
- My appetite is much worse now.
- I have no appetite at all anymore.

Category XIX

- I haven't lost much weight, if any, lately.
- I have lost more than 5 pounds.
- I have lost more than 10 pounds.
- I have lost more than 15 pounds.

*(If yes:) I am purposely trying to lose weight by eating less. NO YES

Category XX

- I am no more concerned about my health than usual.
- I am worried about physical problems such as aches and pains; or upset stomach; or constipation.
- I am very worried about physical problems and it's hard to think of much else.
- I am so worried about my physical problems that I cannot think about anything else.

Category XXI

- I have not noticed any recent change in my interest in sex.
- I am less interested in sex than I used to be.
- I am much less interested in sex now.
- I have lost interest in sex completely.

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ALABAMA SCHOOL-AGED ASSESSMENT SERVICE
APQ
(Parent Form)

"The following are a number of statements about your family. Please rate each item as to how often it TYPICALLY occurs in your home. The possible answers are Never, Almost Never, Sometimes, Often, Always. PLEASE ANSWER ALL ITEMS."
(Interviewer: Please fill in the bubbles as completely as possible.)

	NEVER	ALMOST NEVER	SOMETIMES	OFTEN	ALWAYS
1. You have a friendly talk with your child.	<input type="radio"/>				
2. You let your child know when he/she is doing a good job with something.	<input type="radio"/>				
3. You threaten to punish your child and then do not actually punish him/her.	<input type="radio"/>				
4. You volunteer to help with special activities that your child is involved in (such as sports, boy scouts, church youth groups).	<input type="radio"/>				
5. You reward or give him/her something extra for obeying you or behaving well.	<input type="radio"/>				
6. Your child fails to leave a note or to let you know where he/she is going.	<input type="radio"/>				
7. You play games or do other fun things with your child.	<input type="radio"/>				
8. Your child talks you out of being punished after he/she has done something wrong.	<input type="radio"/>				
9. You ask your child about his/her day in school.	<input type="radio"/>				
10. Your child stays out in the evening past the time he/she is supposed to be home.	<input type="radio"/>				
11. You help your child with his/her homework.	<input type="radio"/>				
12. You feel that getting your child to obey is more trouble than it's worth.	<input type="radio"/>				
13. You compliment your child when he/she does something well.	<input type="radio"/>				
14. You ask your child what his/her plans are for the coming day.	<input type="radio"/>				
15. You drive your child to a special activity.	<input type="radio"/>				
16. You praise your child if he/she behaves well.	<input type="radio"/>				
17. Your child is out with friends you do not know.	<input type="radio"/>				

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	NEVER	ALMOST NEVER	SOMETIMES	OFTEN	ALWAYS
18. You hug or kiss your child when he/she has done something well.	<input type="radio"/>				
19. Your child goes out without a set time to be home	<input type="radio"/>				
20. You talk to your child about his/her friends.	<input type="radio"/>				
21. Your child is out after dark without an adult with him/her.	<input type="radio"/>				
22. You let your child out of a punishment early (like lift restrictions earlier than you originally said).	<input type="radio"/>				
23. Your child helps plan family activities.	<input type="radio"/>				
24. You get so busy that you forget where your child is and what he/she is doing.	<input type="radio"/>				
25. Your child is not punished when he/she has done something wrong.	<input type="radio"/>				
26. You attend PTA meetings, parent/teacher conferences, or other meetings at your child's school.	<input type="radio"/>				
27. You tell your child that you like it when he/she helps out around the house	<input type="radio"/>				
28. You don't check that your child comes home at the time he/she was supposed to.	<input type="radio"/>				
29. You don't tell your child where you are going.	<input type="radio"/>				
30. Your child comes home from school more than an hour past the time you expect him/her.	<input type="radio"/>				
31. The punishment you give your child depends on your mood.	<input type="radio"/>				
32. Your child is at home without adult supervision.	<input type="radio"/>				
33. You spank your child with your hand when he/she has done something wrong.	<input type="radio"/>				
34. You ignore your child when he/she is misbehaving	<input type="radio"/>				
35. You slap your child when he/she has done something wrong.	<input type="radio"/>				
36. You take away privileges or money from your child as a punishment.	<input type="radio"/>				
37. You send your child to his/her room as punishment.	<input type="radio"/>				
38. You hit your child with a belt, switch, or other object when he/she has done something wrong.	<input type="radio"/>				

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	NEVER	ALMOST NEVER	SOMETIMES	OFTEN	ALWAYS
39. You yell or scream at your child when he/she has done something wrong.	<input type="radio"/>				
40. You calmly explain to your child why his/her behavior was wrong when he/she misbehaves.	<input type="radio"/>				
41. You use time out (make him/her stand in a corner) as a punishment.	<input type="radio"/>				
42. You give your child extra chores as a punishment.	<input type="radio"/>				

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**ICP-GCP C1T1 - Coping Power Program
Teacher Report of Reactive and Proactive Behaviors**

Instructions:

Please indicate how true each of the statements below is for this child. Please fill in the bubble under the corresponding answer as completely as possible. The box at the top that says, "ID:" will be filled in by research assistants at the University of Alabama.

	NEVER TRUE	RARELY TRUE	SOMETIMES TRUE	USUALLY TRUE	ALMOST ALWAYS TRUE
1. When this child has been teased or threatened he/she gets angry easily and strikes back.	<input type="radio"/>				
2. This child claims that other children are to blame in a fight and feels that they started the trouble.	<input type="radio"/>				
3. When someone accidentally hurts this child (such as bumping into him/her), he/she assumes that the peer meant to do it and then reacts with anger/ fighting.	<input type="radio"/>				
4. This child gets other kids to gang up on somebody that he/she doesn't like.	<input type="radio"/>				
5. This child uses physical force (or threatens to use physical force) in order to dominate other kids.	<input type="radio"/>				
6. This child threatens or bullies others in order to get his/her own way.	<input type="radio"/>				

Office for Research
Institutional Review Board for the
Protection of Human Subjects

THE UNIVERSITY OF
ALABAMA
R E S E A R C H

June 19, 2012

Sara Stromeyer
Department of Psychology
College of Arts and Sciences
Box 870348

Re: IRB Application # 12-010 "Social Situations Pilot Study"

Dear Ms. Stromeyer:

The University of Alabama IRB has received the revisions requested by the full board on 5/18/12. The board has reviewed the revisions and your protocol is now approved for a one-year period. Please be advised that your protocol will expire one year from the date of approval, 5/18/12.

If your research will continue beyond this date, complete the IRB Renewal Application. If you need to modify the study, please submit the Modification of An Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, please complete the Request for Study Closure Form.

Should you need to submit any further correspondence regarding this proposal, please include the assigned IRB application number. Please use reproductions of the IRB approved stamped consent/assent forms to obtain consent from your participants.

Good luck with your research.

Sincerely,



Stuart Usdan, PhD.
Chair, Non- Medical Institutional Review Board
The University of Alabama



358 Rose Administration Building
Box 870127
Tuscaloosa, Alabama 35487-0127
(205) 348-8461
FAX (205) 348-7189
TOLL FREE (877) 820-3066

Office for Research
Institutional Review Board for the
Protection of Human Subjects

THE UNIVERSITY OF
ALABAMA
R E S E A R C H

October 3, 2012

Sara Stromeyer
Department of Psychology
College of Arts and Sciences
Box 870348

Re: IRB Application # 12-017 "Social Situations Study"

Dear Ms. Stromeyer:

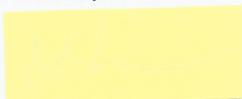
The University of Alabama IRB has received the revisions requested by the full board on 9/21/12. The board has reviewed the revisions and your protocol is now approved for a one-year period. Please be advised that your protocol will expire one year from the date of approval, 9/21/12.

If your research will continue beyond this date, complete the IRB Renewal Application by the 15th of the month prior to project expiration. If you need to modify the study, please submit the Modification of An Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, please complete the Request for Study Closure Form.

Should you need to submit any further correspondence regarding this proposal, please include the assigned IRB application number. Please use reproductions of the IRB approved stamped consent/assent forms to obtain consent from your participants.

Good luck with your research.

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