

OUTCOME EXPECTATIONS AND INCONSISTENT DISCIPLINE:  
THE EFFECTS OF PARENT AND CHILD PERCEPTIONS  
AND PARENTAL DEPRESSION

by

MARY WOJNAROSKI

JOHN E. LOCHMAN, PH.D., COMMITTEE CHAIR

RANDALL SALEKIN, PH.D

NICOLE POWELL, PH.D

MARY ELIZABETH CURTNER-SMITH, PH.D., CFLE

MELISSA F. JACKSON, PH.D.

A DISSERTATION

Submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy  
in the Department of Psychology  
in the Graduate School of  
The University of Alabama

TUSCALOOSA, ALABAMA

2011

Copyright Mary Wojnaroski 2011  
ALL RIGHTS RESERVED

## ABSTRACT

This study examined the reciprocal relation between inconsistent discipline and child outcome expectations (beliefs about the effectiveness of aggression), as well factors that may also contribute to inconsistent discipline (parent depression and the parent's perception of the child's outcome expectations) or to aggressive outcome expectations (child perception of the parent's outcome expectations). Measures were created to examine newly developed constructs (e.g., parent and child perception of the other's outcome expectations) and results from a pilot study are reported. 132 fourth grade children rated at-risk for aggression and their caregivers completed self-report questionnaires. Mediation analyses were conducted separately by gender and outcome expectations subtype (reducing aversive treatment and attaining tangible rewards). High levels of caregiver outcome expectations related to tangible rewards were significantly positively associated with boys' aggressive tangible rewards outcome expectations. This relation was mediated by boys' perceptions of their caregivers' tangible rewards outcome expectations. Boys who see their parents frequently engage in aggression to attain tangible rewards likely begin to perceive that their parent thinks this is an acceptable behavior, and through identification with their parent, begin to develop their own aggressive outcome expectations. Parent outcome expectations related to reducing aversive treatment may be more difficult to perceive than tangible rewards outcome expectations; therefore, they may be developed during peer interactions. Gender differences are also discussed; girls were not able to perceive caregiver outcome expectations. It may be that overtly aggressive girls have caregivers who are

disengaged, making it more difficult for daughters to perceive their outcome expectations.

Relations between child outcome expectations and aggression as well as outcome expectations measure development are also discussed. Implications for intervention include: a) clinicians should target child perceptions of outcome expectations for aggression and b) clinicians should also target *caregiver* outcome expectations when possible, given their ability to impact children's outcome expectations and behavior. Finally, the importance of different models of aggressive behavior for boys and girls is reinforced by current findings.

## LIST OF ABBREVIATIONS AND SYMBOLS

<i>ab</i>	Indirect effect: product of the path coefficient from the independent variable to the intervening variable and the coefficient from the intervening variable to the dependent variable
<i>AOEQ</i>	Adult Outcome Expectations Questionnaire
<i>APQ_ID</i>	Alabama Parenting Questionnaire, Inconsistent Discipline subscale
<i>BDI</i>	Beck Depression Inventory
<i>CPOEQ</i>	Child Perception of Parent Outcome Expectations Questionnaire
<i>DV</i>	Dependent variable
<i>IV</i>	Independent variable
<i>M</i>	Mediating variable
<i>OEQ</i>	Outcome Expectations Questionnaire
<i>PPA</i>	Parent-rated proactive aggression
<i>PRA</i>	Parent-rated reactive aggression
<i>PPOEQ</i>	Parent Perception of Child Outcome Expectations
<i>p</i>	Probability of obtaining a test-statistic as least as extreme as the one observed when the null hypothesis is true
<i>SD</i>	Standard deviation: Describes amount of variation from the mean in a sample of data
<i>r</i>	Pearson's correlation coefficient: Measures the degree of relation between two variables

<i>RAT</i>	Reducing Aversive Treatment subscale, on all OEQ measures
<i>t</i>	t-test: Test statistic that describes the difference between two groups of data when the population distribution is unknown
<i>TPA</i>	Teacher-rated proactive aggression
<i>TR</i>	Attaining Tangible Rewards subscale, on all OEQ measures
<i>TRA</i>	Teacher-rated reactive aggression
<i>X</i>	Mean: the sum of a set of measurements divided by the number of measurements
<i>z</i>	z-test: test statistic that describes the difference between two groups that both have a normal distribution

## ACKNOWLEDGMENTS

I am pleased to have this opportunity to thank the many colleagues, friends, and faculty members who have helped me with this research project. I am extremely indebted to Dr. John Lochman, the chairperson of my dissertation, for his consistent and constructive feedback. I am grateful and blessed to have worked with an esteemed mentor who is clearly committed to my professional development. I am also thankful for the comments and feedback from committee members Dr. Mary Liz Curtner-Smith, Dr. Nicole Powell, Dr. Melissa Jackson, and Dr. Randall Salekin. Their input and expertise were invaluable in the completion of this project.

This project would not have been possible without the hard work of all the employees of the Lochman Lab. I would especially like to thank Lixin Qu, Shanta Burrell, and Shane Jones for their tireless assistance in preparing the data set.

My parents prepared me to succeed in life, and their thoughtful comments on versions of this document and unending encouragement were irreplaceable. TJ Quakenbush, my future husband, has been a rock throughout graduate school, and is partly responsible for my success. I am blessed to have wonderful, supportive, and intelligent lab mates, who offered thoughtful feedback on my project as well as encouragement and inspiration. Laura Young, Anna Yaros, Rachel Baden, and Sara Stromeyer positively contributed to the completion of this project and my graduate school career. I acknowledge support provided by a grant from the National Institute on Drug Abuse (R01 DA023156; awarded to Dr. Lochman) for assistance in assessing participants and for providing research training through a Diversity Supplement to this grant.

## CONTENTS

ABSTRACT.....	ii
LIST OF ABBREVIATIONS AND SYMBOLS.....	iv
ACKNOWLEDGMENTS .....	vi
LIST OF TABLES.....	viii
1. INTRODUCTION .....	1
2. METHOD .....	41
3. RESULTS .....	54
4. DISCUSSION .....	71
REFERENCES.....	90
APPENDICES .....	106

## LIST OF TABLES

2.1 Boys and Girls Internal Consistency for Adult Outcome Expectations Questionnaire (AOEQ), Parent Perception of Child Outcome Expectations Questionnaire (PPOEQ), Outcome Expectations Questionnaire (OEQ), Child Perception of Parent Outcome Expectations Questionnaire (CPOEQ), Alabama Parenting Questionnaire - Inconsistent Discipline subscale (APQ_ID), Parent Depression (BDI-IA), Parent-Rated Proactive Aggression (PPA), Parent-Rated Reactive Aggression (PRA), Teacher-Rated Reactive Aggression (TRA), and Teacher-Rated Proactive Aggression (TPA).....	49
3.1 Boys Descriptive Statistics for Study Variables.....	55
3.2 Girls Descriptive Statistics for Study Variables.....	55
3.3 T-tests for Study Variables by Gender.....	56
3.4 Correlations between Study Variables.....	61
3.5 Boys Summary Table of Regression Coefficients for 10 Hypothesized Mediation Models Assessed with Baron and Kenny Procedure.....	63
3.6 Girls Summary Table of Regression Coefficients for 10 Hypothesized Mediation Models Assessed with Baron and Kenny Procedure.....	64
3.7 Boys Summary Table of Regression Coefficients for 4 Reactive Aggression Exploratory Analyses Assessed with Baron and Kenny Procedure.....	64
3.8 Girls Summary Table of Regression Coefficients for 4 Reactive Aggression Exploratory Analyses Assessed with Baron and Kenny Procedure.....	65

## CHAPTER 1

### INTRODUCTION

Parenting is one of the most important contributors to children's characteristic beliefs and behavior. Negative parenting techniques such as harsh corporal punishment, inconsistent discipline, and modeling of maladaptive behavior often contribute to the development of aggressive behavior (Snyder, Cramer, Afrank, & Patterson, 2005). Reciprocally, children with negative temperaments and behavior problems are more difficult to parent, often evoking negative and inappropriate discipline from their parents (Fite, Colder, Lochman, & Wells, 2006). If children develop negative characteristic behavior patterns as they grow, such as aggressive or coercive behavior, they continue to elicit negative discipline from their parents. These behavior patterns begin and maintain a cycle where children misbehave, the parent responds inappropriately, and in turn, the child escalates or engages in a different negative behavior, leading the parent to do the same (Dodge & Pettit, 2003; Patterson, 1982).

Recent research examines the role of parent and child internal processes in this reciprocal relation. Dix and colleagues have found that parents make judgments about appropriate punishment for their children's misbehavior based not only on the child's inappropriate actions, but also on perceptions of their child's nonobservable thoughts or internal thought processes (Dix & Lochman, 1990; Dix & Reinhold, 1991). Again, another cycle can be created whereby a parent's inappropriate response to perceptions of child cognitions contributes to a child's negative worldview, which the parent often perceives and uses to determine discipline actions.

This study aims to examine the relation between inconsistent discipline, a negative parenting technique, and child outcome expectations, which are beliefs about the consequences of an aggressive act. Support, though rare, does exist for a relation between parenting and social cognitive variables (Haskett & Willoughby, 2006; Kochanska, Aksan, & Nichols, 2003); support is even more limited for the specific variables in this study. Recent literature emphasizes the bidirectionality of parent and child relationships throughout a child's development (Pardini, 2008; Pettit & Arsiwalla, 2008). Therefore, the effect of outcome expectations on inconsistent discipline will be explored as well as the effect of inconsistent discipline on outcome expectations. In addition, factors that may also contribute to inconsistent discipline (parent depression and the parent's perception of the child's outcome expectations) or to aggressive outcome expectations (child perception of the parent's outcome expectations) will be included to further explore the relation between inconsistent discipline and outcome expectations. Finally, the effect of inconsistent discipline and outcome expectations on child aggression will be examined. This paper will first provide literature related to aggression, the two major constructs, and will then discuss literature related to bidirectional effects between parent and child, emphasizing the relation between parent behaviors and beliefs and children's cognitions. Lastly, the factors mentioned above that may contribute to the development and maintenance of the relation will be discussed.

### **Child Aggression**

Some amount of aggression is common and even normal in young children, but persistent intense aggression that does not decrease with age can be clinically significant (Lochman, Powell, Clanton, & McElroy, 2006). A consistent tendency to behave aggressively in children is maladaptive, and causes difficulties in school, at home, and in later adjustment.

Children most often learn through socialization from parents and teachers that aggression is not accepted by society and learn other more socially appropriate techniques to deal with frustration and anger. However, some children begin to display an aggressive style by 12 months and by age 8, aggressiveness has become a stable trait (Huesmann & Guerra, 1997). Aggression that lasts past early childhood is a strong predictor of later aggression, criminality, and risk for the development of externalizing disorders, such as Conduct Disorder and Antisocial Personality Disorder in adulthood (Lochman & Barry, 2004).

Research has explored several subtypes of aggression. One of the most common categorizations of aggression exists between covert and overt aggression (Dishion, French, & Patterson, 1995). Overt aggression is often confrontational and involves physical altercations, yelling, and arguing. In contrast, covert aggressive acts are performed in secret, and include such activities as stealing, lying, and vandalism. Early childhood forms of overt aggression often lead to delinquency, early arrest, and chronic antisocial behavior more often than covert aggression (Patterson, Shaw, Snyder, & Yoerger, 2005). Because of the negative impact of early overt aggression, the current study will focus on correlates of overt aggression rather than covert.

### **Inconsistent Discipline**

Inconsistent discipline is one parenting behavior that leads to maladaptive outcomes for children. Inconsistency is typically multidetermined in families and is caused by factors such as marital discord, parent psychopathology, and neighborhood disadvantage (Berg-Nielsen, Vikan, & Dahl, 2002; Davies, Sturge-Apple, & Cummings, 2004; Hill, 2002). Inconsistent discipline is defined as unpredictable parental punishment for similar incidents of child misbehavior or termination of discipline due to lack of energy to follow through or in response to coercive behavior by the child. Numerous studies have indicated a positive relation between inconsistent

discipline and overt aggressive behavior in children (Gardner, 1989; Grant, et al., 2005; Stormshak et al., 2000). Toddler and early elementary school-aged children who receive high levels of inconsistent discipline are more likely to behave aggressively (Del Vecchio & O'Leary, 2006; Sutton, Cowen, Crean, & Wyman, 1999). Inconsistent discipline also has implications for adulthood. Children who received high levels of inconsistent discipline were more likely to be diagnosed with depression or alcohol abuse as adults (Holmes & Robins, 1988).

The relation between inconsistent discipline and aggressive behavior persists during middle to late childhood (Lindahl, 1998). This time period takes on increased importance because children must prepare for the transition to middle school and preadolescence. Additionally, although children's behavior is becoming more influenced by their own beliefs as well as peers' beliefs and behaviors, parental behavior continues to exert an effect on child behavior during this developmental period. Lengua and Kovacs (2005) asked third through fifth grade children and their parents to report the amount of inconsistent discipline the children received as well as their level of aggressive behavior one year later. The results indicated that children who received more inconsistent discipline had higher levels of aggressive behavior one year later. In another study, fourth grade children (age range = 9-11) who perceived their parents as inconsistent also showed higher levels of self-reported conduct problems (Gonzales, Pitts, Hill, & Roosa, 2000). The children that participated in the latter study were mostly Mexican American and lived in high crime, low income areas. However, this finding was supported in a more recent sample of low income Caucasian and Mexican American families (children age 8-13), providing support for the generalizability of the relation between inconsistent discipline and aggressive behavior across ethnicities, at least in low-income neighborhoods (Hill, Bush, & Roosa, 2003). Several studies also support this relation in African American children (Barry,

Dunlap, Lochman, & Wells, 2009). Because of the competing influences of parent and child during this developmental period, the causal factors of child behavior become more complex, calling for more in-depth and detailed analysis.

Most analyses of the relation between inconsistent discipline and aggressive behavior have been correlational, with data collected either through self-report or observation. However, some studies have attempted to manipulate the inconsistent discipline children receive. In one such experimental study, Acker and O’Leary (1996) instructed mothers who were involved in a telephone conversation to either provide consistent reprimands or follow one of four inconsistent discipline strategies in response to their typical two-year-olds’ inappropriate demands for attention (50% of interactions with their child involved reprimands while the other 50% of the time, the mother ignored the toddler; 50% reprimand and 50% positively attend; 50% reprimand and positively attend and 50% ignore; 50% positively attend and reprimand and 50% ignore). Positive attention was defined as the mother giving positive attention to her child after being interrupted on the phone (“Yes, your drawing is pretty.”). Children who were in the 50% reprimand and 50% attend condition displayed significantly more negative behaviors (i.e., demanding more of their mother’s attention, whining, and fussing) than children in the other conditions. The other types of inconsistent discipline were not significantly related to children’s externalizing behaviors. The authors hypothesized that when the mothers ignored their children’s behavior half the time, they diluted the effect of their positive attention. It is important to note that these two-year-olds had no history of behavior problems and that the inconsistent discipline provided by their mothers in a short twelve-minute phone call was sufficient to elicit negative behaviors.

## **Child Outcome Expectations**

Crick and Dodge (1994) developed a social information processing model, which states that all children enter social interactions with genetically dictated abilities and memories for past experiences. Children then determine their behavior by following a series of steps. The steps are (1) encoding of external and internal cues, (2) interpretation and mental representation of those cues, (3) clarification or selection of a goal, (4) response access or construction, (5) response decision and evaluation, and (6) behavioral enactment. Often aggressive children display dysfunction in certain steps of the model (Kendall & MacDonald, 1993; Lochman, Powell, Whidby, & Fitzgerald, 2006). According to Kendall and MacDonald (1993), cognitive distortions refer to distorted thinking processes and occur during the first two steps of the social-information processing. Aggressive children misperceive cues in the environment, leading them to perceive and encode ambiguous cues as hostile. In contrast, cognitive deficiencies suggest an insufficient amount of cognitive activity, which is associated with a lack of verbal mediation and lack of self-control, and occur during the last four steps of the model. Such deficiencies in aggressive children lead to selection of social dominance goals, a smaller range and decreased quality of available problem solving solutions, the evaluation of aggressive solutions as effective, and the decision to enact an aggressive response.

During Step Five, children evaluate possible response options to determine which they should enact (Crick & Dodge, 1994). Fontaine and Dodge (2006) have elaborated this step, defining it as response evaluation and decision (RED). During RED, children make several judgments, including *response evaluation* (judgments of a response option's content), *outcome expectations* (the anticipation of what will result from the response), and *self-efficacy evaluation*

(one's expectation as to one's ability to successfully carry out a behavior). The current study focuses on outcome expectations, which have long been used to understand behavior (Bandura & Barab, 1971; Fontaine & Dodge, 2006; Hall, Herzberger, & Skowronski, 1998).

**Outcome expectations and aggression.** Several research studies have shown a consistent and significant relation between outcome expectations and aggressive behavior during middle and late childhood. Children and adolescents who believe that aggression will lead to positive outcomes, or hold aggressive outcome expectations, are more likely to behave aggressively (Fontaine, Burks, & Dodge, 2002; Slaby & Guerra, 1988). This decision is critical in the enactment of an aggressive response. Even though children may consider enacting an aggressive act, they are unlikely to show aggression if they are not sure that it will lead to positive outcomes (Huesmann & Guerra, 1997). In fact, an intervention aimed at changing aggressive children's social cognitions found that decreases in delinquency and school behavior problems were driven by a decreasing belief in the effectiveness of aggression (Lochman, 2006).

Perry, Perry, and Rasmussen (1986) asked children aged nine to twelve to imagine themselves acting aggressively toward a classmate. Peer-nominated aggressive children reported greater confidence in the belief that an aggressive act would produce positive outcomes for them; specifically that aggression would lead to acquisition of tangible rewards and reduction of aversive treatment. These concepts will be explained in detail following an initial review of the literature. The authors suggested that children's past aggressive behavior has been negatively reinforced and they have learned that it can yield positive consequences. Crick and Ladd's (1990) study replicated and extended these findings. The authors tested third and fifth grade children's abilities to generate the expected outcomes of aggressive and nonaggressive behavior on their own, instead of selecting from a list of choices as in the Perry et al. (1986) article.

During an interview, children read two conflict situation vignettes and six accompanying strategies (physical aggression, commands, appeal to social norms, avoidance, compliance, and compromise). Children imagined themselves utilizing each of the six strategies and reported the outcome they thought most likely to occur after enactment of each strategy. Results suggested that aggressive rejected children expected more instrumentally successful outcomes from verbal commands than nonaggressive popular children. These studies and most others that have examined outcome expectations and aggression have focused on the relation between the two variables at one point in time. In contrast, results from a short-term longitudinal study indicated that third through seventh grade boys who believed that aggression would produce rewards (i.e., aggressive outcome expectations), were initially aggressive, and were not victims of bullying at the beginning of the school year were more likely to show increased aggressive behavior at the end of the school year (Egan, Monson, & Perry, 1998). However, for girls, aggressive outcome expectations only predicted aggressive behavior at the end of the year for girls who were initially victimized at the beginning of the school year. McConville and Cornell (2003) replicated the above results for boys with boys *and* girls in sixth through eighth grade, although they did not examine victimization or initial levels of aggression.

Lochman and Dodge (1994) compared the social cognitions of violent, moderately aggressive, and nonaggressive boys. The boys in the violent category were selected from a statewide treatment program (the “Willie M. Program”) for children and adolescents with severe violent behavior problems. Children were admitted into the program if they had violent assaultive behavior; serious emotional, neurological, or mental handicaps; and received inadequate services. In contrast, the moderately aggressive boys were nominated by their teachers as aggressive but were not involved in any government agencies outside of school. The

violent boys had lower self-worth, social problem-solving deficiencies, and more hostile attributional biases than the moderately aggressive boys, who were in turn, more deficient than the nonaggressive boys. However, the moderately aggressive, but not the violent, boys expected that aggressive behaviors would stop aversive treatment from others. This suggests an instrumental component to aggressive boys' behavior; additionally, the behavior of moderately aggressive boys may be more proactive, while the violent boys are behaving more reactively.

In a particularly note-worthy study, Schwartz and colleagues (1998) observed small playgroups of eight-year-old African American boys while they engaged in free play for five consecutive sessions. During the play sessions, observers coded proactive aggression, or goal-oriented aggression, and reactive aggression, or retaliatory aggression. After the second and fourth play sessions, children heard vignettes that described a conflict situation with a peer. They then imagined that the child in the vignette came from their playgroup and imagined directing aggression toward that specific peer. Lastly, they answered how instrumentally effective they expected the aggressive response would be. Results indicated that children who endorsed higher levels of instrumental effectiveness from aggressive responses were more likely to display higher rates of proactive aggression during the play sessions (e.g., bullying, teasing, or aggression used to obtain an external material goal).

Middle to late childhood is a critical time for the development of personal beliefs and values. During this developmental period, children's cognitive processing is becoming more hypothetical, future-oriented, and means-end oriented (Neimark, 1982). Children begin to rely more on their own judgments of a situation to determine a behavioral choice, as opposed to parental choices. Children's beliefs about aggression become important as they are now the driving factor in a child's decision to act aggressively. Lochman and Dodge (1994) found

evidence for a shift in outcome expectations between preadolescence and adolescence. Teacher-rated aggressive *adolescent* boys (mean age = 13.3) believed more strongly that aggression would produce positive consequences than aggressive *preadolescent* boys. This suggests that older aggressive boys have received reinforcement for aggressive behavior and developed strong beliefs that it will be effective in social encounters. In support of this finding, Huesmann and Guerra's (1997) study indicated that the level of aggressive behavior in first and second graders best predicted their normative beliefs about aggression when in third grade. In contrast, normative beliefs about aggression during fourth and fifth grade predicted levels of aggression in sixth grade. Essentially, young children's beliefs are determined by their behavior whereas older children's behavior is determined by their beliefs, again providing evidence for a shift during this critical developmental period. In addition, Lansford et al. (2006) did not find continuity, or positive associations, between patterns of social information processing in third grade children and social information processing patterns in eighth or eleventh grade children, providing further evidence for cognitive restructuring during the end of elementary school and beginning of middle school. Understanding the development of social cognitive processes that operate during middle and late childhood is necessary for aggression prevention and intervention programs.

**Outcome expectations and gender.** Crick and Dodge (1994) reported that gender moderates the relation between social information processing and psychological outcomes. McFayden-Ketchum, Bates, Dodge, and Pettit (1996) have also called for gender specific models of aggression development. However, limited and inconclusive research exists on the differences in social cognitive deficiencies and distortions between boys and girls. Researchers have theorized that boys should be more likely to expect positive consequences from aggression given that children more often see males rather than females perform aggression; this aggression

is also more successful for males (Perry, Perry, & Weiss, 1989). Therefore, since children more often identify with the reinforcement received by members of their own sex (Shaffer, 2009), boys are then more likely to develop aggressive outcome expectations. Egan et al. (1998) reported that boys were significantly more likely to expect tangible rewards from aggression than girls. Similarly, third through sixth grade boys believed more than girls that aggression would effectively obtain positive consequences (Crick & Werner, 1998). In contrast, results from Boldizar, Perry, and Perry (1989) indicate that boys are more likely to expect less suffering in their victims, retaliation from their victims, negative self-evaluation, and rejection from peers than girls, but boys and girls did not differ in their expectations for tangible rewards. Other studies have also indicated no significant difference in expectations for tangible rewards for boys and girls (Crick & Ladd, 1990; Perry et al., 1989).

Despite several preliminary research studies, recent research has rarely examined the influence of gender on specific steps of social information processing and their prediction of outcomes for boys and girls (Ostrov & Godleski, 2010). Detailed examination of gender differences in social cognitive deficiencies and distortions as well as their impact on aggressive behavior and other negative outcomes is important to understand the development and prediction of aggression in boys and girls and to tailor interventions to increase their effectiveness.

**Outcome expectations subtypes.** Several different types of outcome expectations have been proposed and studied, including expectations regarding victim suffering, social acceptance, and relationships. Perry et al.'s (1986) original measure differentiated between outcome expectations related to reducing aversive treatment from a peer and attaining tangible rewards. Tangible rewards outcome expectations refer to the child's expectation that aggressive behavior will aid in their attainment of tangible items (e.g., toys, candy, money). In contrast, reducing

aversive treatment outcome expectations are defined as the child's belief that acting aggressively will reduce the likelihood that someone will continue mistreating him or her (e.g., refusing to play with you or physically harming you). Early field studies indicated both reducing aversive treatment and attaining tangible rewards as significant motivators for child aggression (Hartup, 1974; Patterson, Littman, & Bricker, 1967). Hartup (1974) states that it is necessary to examine different functions, or reasons for behavior to obtain a full picture of child aggression. Detailed study of both forms of outcome expectations is necessary to examine predictors, outcomes, relations with aggression, and effectiveness of interventions.

Research has indicated that both forms of outcome expectations are significantly related to aggressive behavior (Fontaine, Yang, Dodge, Pettit, & Bates, 2009; Lochman & Dodge, 1994; Perry et al., 1986). However, research is inconclusive on the specific relations between these two types of outcome expectations and different forms of aggression, demographic variables, or psychosocial outcomes. For example, Perry et al. (1986) found that for tangible rewards, boys had more aggressive outcome expectations than girls. For reducing aversive treatment, the interaction between target aggression status (aggressive vs. nonaggressive), respondent grade, and respondent sex was significant. Girls in fourth grade thought aggression would be less successful against an aggressive peer rather than a nonaggressive peer, but boys did not subscribe to this belief until fifth grade. However, these results are not consistent across other studies' examination of outcome expectations. Specifically, Perry et al. (1989) attempted to replicate gender differences in tangible rewards outcome expectations, but were unsuccessful. They did not offer a conceptual explanation, but stated that a discrepancy between outcome expectations for boys and girls may not be a reliable finding. Taken together, these studies suggest that all aspects of outcome expectations should be evaluated independently, as each

offers significant and additional information to the prediction of aggressive behavior. Finally, other studies have only analyzed one type of outcome expectations and not the other (Lochman and Wells, 2002a; 2002b; Stickle, Kirkpatrick, & Brush, 2009) and so no conclusions about differences can be made.

**Outcome expectations and proactive vs. reactive aggression.** Although children's evaluations of aggressive responses are understood to be critical for determination of their behavior choice, research on this specific social cognitive variable remains relatively rare compared to other steps of social information processing (e.g., hostile attribution bias). Outcome expectations have been more consistently linked to proactive aggression, or goal-oriented aggression, than to reactive aggression, or heated anger and aggression enacted when the child perceives a threat (Dodge, Lochman, Harnish, Bates, & Pettit, 1997). Proactive aggression is characterized as nonemotional, power-seeking, and focused on external goals of an intrapersonal origin, such as dominance (Dodge & Coie, 1987; Fontaine, 2006b). Reactive aggression is performed in response to external social stimuli, which has been perceived as negative or aversive, whereas proactive aggression is performed due to motivation from internal desires and goals (Fontaine, 2007a). Children who engage in proactive aggression have most likely engaged in aggressive behavior before and found it helpful in achieving the desired reward (Lochman et al., 2006). In young children, proactive aggression often manifests as bullying, domination, teasing, name-calling, and coercive acts (Price & Dodge, 1989).

Other differences exist between reactive and proactive aggression, including physiological differences (Fontaine, 2007a). Reactive aggression is characterized by increased heart rate, elevated skin conductance levels, and decreased serotonergic function, while proactive aggression is related to a decreased heart rate and no notable change in skin conductance levels.

Furthermore, preliminary research suggests that the two functions of aggression may have different developmental origins. Fite, Wynn, Lochman and Wells (2009) reported that reactively aggressive children more often lived in a threatening and unpredictable environment or were exposed to harsh parenting or physical abuse, while proactive aggression is likely to develop in disadvantaged neighborhoods (Fite et al., 2009). Such environments support aggression as an effective means of goal achievement, often through exposure to aggressive role models (Vitaro, Brendgen, & Barker, 2006).

Several research studies have found differences in social cognitive processing for children who are mainly reactively vs. proactively aggressive. In one such study, Dodge and colleagues (1997) examined the social cognitive processes of boys (mean age = 12.7) who engaged in either mainly proactive or reactive violence. The boys came from the same program mentioned previously (“Willie M. Program”). Proactively violent boys were significantly more likely than reactively violent boys to expect that an aggressive act would stop aversive treatment from a peer. In another study, third through sixth graders whose teachers rated them as proactively aggressive more often expected positive outcomes to occur after enactment of an aggressive response (Crick and Dodge, 1996). Similar results with eight-year-old African American boys indicate that reactive aggression is correlated with earlier steps of the social information processing model but not later steps, while proactive aggression is correlated with later but not earlier steps (Schwartz et al., 1998).

Proactive and reactive aggression are related to differential outcomes. Proactive, but not reactive, aggression predicts later juvenile delinquency or adult criminality (Pulkkinen, 1996; Vitaro, Gendreau, Tremblay, & Oligny, 1998). Fifteen year old boys were more likely to report higher levels of delinquency if they had been rated as proactively aggressive by their teachers at

age 12 in comparison to boys who had been rated as reactively aggressive (Vitaro et al., 1998). Results also indicated that proactive aggression at age 12 predicted a diagnosis of conduct disorder at age 15. The authors suggested that this may be due to three differences between the two groups: 1) proactively aggressive boys tend to associate more with deviant peers, which has been linked to later delinquency, 2) reactively aggressive boys are more likely to be rejected and so have trouble making and keeping friends, and 3) reactively aggressive boys are more likely to be anxious, which is a protective factor against later delinquency. In a later study that replicated and extended the findings of the above studies, Vitaro, Brendgen, and Tremblay (2002) examined proactive and reactive aggression in six-year olds in an attempt to examine the consequences of these two types of aggression on later delinquency. At age 13, the participants completed self-report measures of delinquency, including overt delinquency (e.g., engaged in a gang fight, threw rocks, carried a weapon) and covert delinquency (e.g., stole something from a store, intentionally destroyed another's property). At age 13, those who had been proactively aggressive at age 6 were more likely to report overt delinquency than those who had been reactively aggressive or both reactively and proactively aggressive. For children who were only proactively aggressive, results also indicated an early pattern of physical aggressiveness, lack of anxiety, and intact attentional resources that may contribute to the development of an antisocial/psychopathic personality profile. Similarly, proactive aggression predicted delinquency one year later for at-risk sixth and eighth grade boys (Fite, Colder, Lochman, & Wells, 2008).

Callous/unemotional (CU) traits, defined as shallow emotionality and a failure to show prosocial emotions such as empathy or guilt, have been linked to both proactive aggression and outcome expectations (Fite, Stoppelbein, & Greening, 2009; Marsee & Frick, 2007).

Adolescents with high levels of conduct problems and CU traits evidenced more proactive aggression than adolescents with only high levels of conduct problems (Frick, Cornell, Barry, Bodin, & Dane, 2003). Similarly, Kruh, Frick, and Clements (2005) reported that male inmates with psychopathic traits who were adolescents at the time of their arrest were more likely to have committed more instrumentally motivated violence compared to others without psychopathic traits. Results from a study conducted by Pardini, Lochman, and Frick (2003) analyzed the relation between social-cognitive processes and the two-factor model of psychopathy in adolescents [callous/unemotional traits (CU) and impulsivity/conduct problems (I/CP)]. Results indicated that within adjudicated adolescents (mean age = 15.8), high level of CU traits were related to aggressive outcome expectations; specifically, the CU factor was positively related to the expectation that aggression would lead to more tangible rewards and dominance, and negatively related to the expectation that aggression would be punished. To explain this, authors suggested that children with CU traits often have low levels of fear. This makes it difficult to attend and respond to the negative consequences that accompany aggression, which can translate into less concern about punishment for antisocial behavior. Thus, low fearfulness leads to less concern about punishment and a focus on rewards from aggressive behavior rather than the negative consequences of aggression and therefore, an increase in aggressive behavior. Support for this hypothesis exists; low punishment concern mediated the relation between low fearfulness and callousness in adjudicated adolescents (Pardini, 2006) and third through seventh grade children with high levels of CU traits evidenced low behavioral inhibition (Frick et al., 2003).

Although factor analyses and differential correlates indicate that reactive and proactive aggression represent two distinct forms of aggression, the two forms are often highly correlated and individuals often exhibit both types of aggression (Poulin & Boivin, 2000; Vitaro et al.,

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). In addition, most studies of reactive and proactive aggression have indicated the presence of two aggressive groups (reactively aggressive only versus reactively plus proactively aggressive children) and limited support for an only proactively aggressive group (Dodge & Coie, 1987; Frick et al., 2003). This hinders the ability to find differences between the two types of aggression due to the presence of reactive aggression exhibited by both reactive only and reactive plus proactive aggressive children.

Researchers have suggested that a distinction between reactive and proactive aggression, although useful in initially understanding human aggression, can be simplistic in describing human aggression (Bushman & Anderson, 2001). First, several aggressive acts cannot easily be categorized as reactive or proactive, as the action may have elements of each, or multiple motives. Second, the same behavior can often be categorized as an example of both reactive and proactive aggression, based on which element of the behavior is attended to. Furthermore, due to the common reactive aggression exhibited by both groups, it may be that aggression is exhibited along a continuum and the reactively and proactively aggressive children are not qualitatively different from the reactively aggressive children, but just exhibit more severe aggression. This indicates that correlates of reactive and proactive aggression need to be interpreted with attention to the fact that children who display proactive aggression also display high levels of reactive aggression (Crapanzano et al., 2010).

### **Bidirectional Relations between Parent and Child**

In early parenting research, children were seen as passive recipients of parenting practices and children's contributions to the parent-child relationship were ignored (Pardini,

2008). After a series of critical theoretical articles highlighted the importance of child driven effects (Bell, 1968; Scarr & McCartney, 1983), bidirectional processes between parent and child are now considered influential in theories of child development, and in particular, the growth of child aggression (Dodge & Pettit, 2003; Patterson, 1986). Furthermore, it has become clear that parents and children simultaneously influence each other, creating a changing environment. Although each posited theory offers unique insights to the study of the development of child aggression, they are formed from many of the same principles. Essentially, difficult child temperament can evoke negative parenting, which in turn, can lead to increased childhood aggression. As children age, the cycle is maintained and reinforced and eventually, the child internalizes cognitions and behaviors developed from those conflictual interchanges. Several longitudinal empirical studies support the bidirectionality of parent child relations (Fite et al., 2006; Pardini, Fite, & Burke, 2008).

Because of the recognition that most relations between parent and child are bidirectional, the current study will examine inconsistent discipline and outcome expectations reciprocally, with each as a predictor of the other. This paper will first discuss existing literature that supports the idea that inconsistent discipline can impact outcome expectations, and that outcome expectations can impact inconsistent discipline as well. Support for a bidirectional relation between these two constructs already exists (Wojnaroski, 2007) and will be discussed in later sections of this paper. In addition, other constructs that may also predict or mediate the relation between child and caregiver outcome expectations and caregiver inconsistent discipline will also be included (e.g., caregiver perception of child outcome expectations, caregiver depression, and child perception of caregiver outcome expectation), with a rationale for these analyses discussed

below. Although the data in the current study is cross-sectional, and a test of bidirectionality over time cannot be conducted, the current analyses will provide preliminary support for a possible reciprocal relation between outcome expectations and inconsistent discipline.

**Parent to child - development of child beliefs from parenting behaviors.** It is well accepted that parenting can influence children's characteristic behavior patterns (Kochanska et al., 2003). In fact, parental behaviors may actually first contribute to the development of child cognitions and those cognitions are responsible for the child's behavior. Research, while limited, indicates that harsh parenting and early physical abuse are related to deficits in social information processing (Dodge, Bates, & Pettit, 1990; Dodge, Pettit, Bates, & Valente, 1995; Haskett & Willoughby, 2006). Specifically, children who receive harsh parenting are more likely to display hostile attribution biases, generate negative solutions to peer conflict, and expect positive outcomes from aggressive behavior. In a recent longitudinal study, Dodge, Greenberg, Malone, & Conduct Problems Prevention Research Group (2008) followed children from kindergarten through eleventh grade to examine a dynamic model including several predictors of serious violence in adolescence. Harsh and inconsistent discipline at age five independently predicted subsequent lack of school readiness, which was defined as academic, cognitive and social skills (i.e., reading achievement, vocabulary ability, social problem solving ability, hostile attribution biases, and emotion regulation). Social problem solving ability and hostile attribution biases are of particular note to the current study, as this finding provides evidence for the impact of parenting on social cognitive distortions and deficiencies. These articles suggest that children exposed to negative parenting learn that people are generally aggressive, that aggressive behavior is a viable option, and that aggression works.

In a particularly relevant article, first through fourth grade children participated in an

interview designed to assess outcome expectations while their mothers completed a disciplinary style interview (Hart, Ladd, & Burleson, 1990). Sociometric ratings were collected to determine the children's peer status. Children with power assertive mothers were more likely to expect to get their way (outcome expectations) during peer conflict by using unfriendly-assertive strategies (e.g., "What would happen if you said in a mean voice, 'Give me back my bike!'"). Additionally, children with aggressive outcome expectations were also less likely to be preferred as playmates. Importantly, the study demonstrated that parenting can influence children's social cognitions, particularly outcome expectations. Because inconsistent discipline has been shown to have a negative impact on child behavior, its effect on child cognitions should also be examined.

*Parent inconsistent discipline to child outcome expectations.* Extant literature on the relation between parenting and child cognitions has focused on harsh parenting. However, other types of negative parenting do exist (e.g., inconsistent discipline) that logically may also have an impact on child beliefs. In fact, harsh parenting and inconsistent discipline have been consistently linked in the literature. In one of the most classic bidirectional theories of negative parenting and childhood aggression, Patterson (1982; 1995) details a process whereby negative parenting can increase the level of a child's aggressive behavior by providing negative reinforcement for aggressive or coercive behavior. When a parent issues a command or request, children may not always comply. Irritable and angry interactions occur as the parent tries to make the child comply with a request. The parent frequently issues negative commands and may eventually, due to the child's noncompliance, give up, removing the command or request. Through these repeated interactions, the child learns that the parent may not follow through with punishment or commands, and begins to ignore commands or respond with coercive behavior, such as whining or crying. This type of inconsistent discipline leads to a cycle of negative

reinforcement where the child learns that he or she can stop aversive punishment by refusing to comply with parent's demands and therefore, becomes increasingly difficult to discipline. The parents provide negative reinforcement for frequent child coercive behavior as they stop asking for compliance, which can lead to more aggressive behavior as the child ages. This theory has gained extensive support since its development (Patterson, 1986; Stoolmiller, Patterson, & Snyder, 1997).

According to Snyder, Reid, and Patterson (2003), antisocial behavior is in part shaped by the culmination of interactions with parents that are highly inconsistent, where the child learns the functional value of aggressive behavior in turning off aversive events and control by others. Parental negative reinforcement of four to five year old children's aggressive behavior (defined as terminating conflict after the performance of an aversive event by the child) during the first five observation sessions predicted child aggressive behavior during the second five observation sessions (Snyder & Patterson, 1995). This suggests that children's aggression is directly impacted by the negative reinforcement they received from their parents for earlier instances of similar behavior. The child begins to use these coercive strategies with other family members as well, creating more negative interactions between family members, which places the child at greater risk for increased aggression. In essence, the child comes to believe that aggression is effective in producing positive consequences, and so will continue to use this behavior at home.

Children who frequently use aggression at home often also begin to behave aggressively in other settings. Snyder, Schrepferman, and St. Peter (1997) demonstrated that children whose aggressive behavior was negatively reinforced by their parents were more likely to display aggressive and delinquent behavior two years later in school and other social contexts. Support also exists for this relation in intervention outcome research (Schrepferman & Snyder, 2002).

Six to twelve year old boys and their parents were involved in a parent management treatment program. Results suggested that intervention altered parental reinforcement contingencies to decrease the negative reinforcement children received for coercive behavior. Subsequently, these altered contingencies were predictive of number of arrests two years later.

Patterson (1986) focuses mainly on parenting behavior that influences child *behavior*. Although this relation has been supported numerous times in the literature, much less is known about its development or the specific processes that operate to develop and maintain it. Recent research has begun to test children's cognitions as a mediator. In other words, parenting behavior contributes to child aggressogenic cognitions, which in turn, predict child behavior. Children come to believe that aggression is successful at home and then generalize their aggressive behavior at home to peer encounters, believing aggression will also succeed there (Ramsey, Patterson, & Walker, 1990; Reid & Patterson, 1989). This idea is also more recently supported by Pettit (2004) who stated that children learn that resisting parental demands leads to success, and begin to use this tactic with peers and in other situations outside the home.

Generalization of aggressive behavior from home to school could occur due to the development of outcome expectations. When parents withdraw commands or give in to child requests after coercive behavior, the child learns that negative behavior produces positive consequences. As children find that aggression is effective at home, they begin to develop a tendency to assume that aggression will be successful in other social interactions, or establish aggressive outcome expectations. Essentially, children attempt to use aggression or coercive behavior at home, either to avoid a punishment or a chore, or even to gain a reward. If their parent's discipline is inconsistent (i.e., the parent gives in to the behavior), the child's aggression succeeds and the child begins to establish aggressive outcome expectations (Reid & Patterson,

1989). This hypothesis was directly tested in a recent empirical study (Wojnaroski, 2007). Results indicated that high levels of inconsistent discipline in third grade predicted an increase in children's aggressive outcome expectations in fourth grade. The findings suggested that when parents removed discipline or commands in response to aggressive or coercive behavior (i.e., were inconsistent), they negatively reinforced their child and may have taught their children that aggression can produce positive consequences with parents.

Support for this hypothesis also exists in the study of proactive aggression. Dodge et al. (1997) posited that characteristics of proactive aggression often result from the reinforcement of aggressive behavior or a parenting style that either explicitly or implicitly endorses aggressive behavior. Work by Patterson (1986) and Dodge and colleagues (1991, 1997) also suggests that inconsistent discipline may encourage a child to behave in a proactively aggressive manner through reinforcement of aggressive behavior. Fite et al. (2006) demonstrated that self-reported inconsistent parenting of 9 -12 year old children predicted increased levels of parent-reported proactive aggression. The authors suggested that these children never learned to associate misbehavior with negative consequences. As mentioned before, outcome expectations often predict proactive aggression. Parenting that demonstrates to children that aggressive behavior is effective, specifically inconsistent discipline, can play a part in child's tendency to be proactively aggressive, often preceded by a child's belief that aggression will succeed (Dodge, 1991).

*Implications for current study.* Research supports the coercion cycle as an important precursor to the development of aggressive behavior (Snyder & Patterson, 1995; Snyder et al., 2003). Child aggression is negatively reinforced at home when parents give in (e.g., inconsistent discipline) to coercive or aggressive behavior. Subsequently, children become more aggressive

in peer and other social interaction settings. It is hypothesized that this generalization occurs due to the child's development of the belief that aggression is successful, or aggressive outcome expectations (Reid & Patterson, 1989; Wojnaroski, 2007).

**Child to parent effects – negative parenting in response to child behavior.** Children born with certain characteristics, such as a difficult temperament or certain disorders like ADHD, are often more difficult to parent (Collins, Maccoby, Steinberg, Heatherington, & Bornstein, 2000). Several studies have indicated a significant relation between biological parental psychopathology and the parenting their young child receives from adoptive parents (Ge et al. 1996; Jaffee, Caspi, Moffitt, Polo-Tomas, Price, & Taylor, 2004; O'Connor, Deater-Deckard, Fulker, Rutter, & Plomin, 1998). These results suggest that some children carry a genetic predisposition for psychopathology that elicits negative parenting from most any adult. This tendency to receive more negative parenting continues as children age. Anderson, Lytton, and Romney (1986) reported that 6-11 year old boys with a diagnosis of Conduct Disorder received significantly more requests and negative responses from mothers of boys with and without conduct problems. In essence, boys with conduct problems evoked more negative parenting from most adults. Children with high levels of behavior problems are more difficult to punish, and often evoke negative discipline from their parents (Patterson, 1986). Specifically, children's aggressive and coercive behavior brings forth increased inconsistent discipline (Fite et al., 2006; Patterson, 1982). Results from Fite et al. (2006) indicated that fourth grade boys with high levels of behavior problems elicited inconsistent discipline from their parents one year later. This effect continued through seventh grade (more inconsistent discipline received in eighth grade).

***Effect of child outcome expectations on parent inconsistent discipline with parent perception as a mediator.*** Research clearly indicates that actual child misbehavior can elicit negative parenting (Kandel & Wu, 1995; Fite et al., 2006). In addition, parents may also respond

to their children's biased cognitions and social schemas. Wojnaroski (2007) demonstrated that children's aggressive outcome expectations during third grade predicted an increase in the amount of inconsistent discipline received in fourth grade. Surprisingly, this was not due to increased aggression often associated with aggressive outcome expectations and inconsistent discipline. The current study attempts to explore parental cognitive processes, specifically, parent perception of the child's outcome expectations, that may mediate the relation between child outcome expectations and inconsistent discipline.

During discipline, parents engage in cognitive processes to determine their child's thoughts and possible reasons for the misdeed in question (Dix, 1993; Dix & Lochman, 1990; Dix & Reinhold, 1991). Parents make judgments about the appropriate discipline technique based on many characteristics about the actual misdeed, the context, and the child (Grusec, Goodnow, & Kuczynski, 2000). Parents decide if the child intended to commit the misdeed, the child's temperament and mood, and the child's cognitive interpretation of the situation.

Dix and colleagues have examined cognitive processes of mothers while determining appropriate discipline for a child's misbehavior. Basing their theory on correspondent inference theory, Dix, Ruble, Grusec, and Nixon (1986) posited that parents first determine their child's intentions for committing a misdeed. Parents logically use information from what their children actually do to try and understand their children's motives (Dix, 1993). They then use those inferences to make attributions about children's dispositions. Parents perceive that behavior reflects their children's underlying dispositions when the behavior is controllable and understood by the child, indicating knowledge and intent rather than a mistake.

After parents decide the reason for their child's misbehavior, they use that reason to choose what they believe is the most appropriate discipline technique. Research suggests that

parents rely on more power assertive techniques when they think their children knew the behavior was inappropriate, were in control of their behavior, and foresaw and intended the consequences (Dix et al., 1990, 1991, 1993). In contrast, when parents infer that their children were not fully competent, and therefore should not be held responsible for their behavior, they are more likely to use inductive discipline, explaining why the behavior was inappropriate. In several studies that examined this question empirically, mothers who attributed more intentionality and control over their negative behavior, knowledge of the consequences of their misdeed, and responsibility for the misdeed to their children endorsed more severe punishment (Dix & Lochman, 1990; Dix, et al., 1985; Dix & Reinhold, 1991). In summary, during discipline encounters, mothers make decisions about their child and the factors that may have contributed to their child's misbehavior. Parents then use these judgments to determine which discipline method to utilize.

In Dix and colleagues' research, parents first perceive their child's thought process during the misdeed (e.g., the child's intent and whether he or she knew it was wrong). Much of the research has examined parents' judgments about children's thoughts and intentions about in-the-moment misdeeds. However, it seems logical that parents would also be able to perceive their children's worldview and schemas about relationships based on long-term interactions with their children, rather than just the specifics of each situation, and that these judgments would also impact their discipline decisions (Hastings & Rubin, 1999). In partial support of this, mothers' retrospective reports of their fourth grade children's level of unmanageability (e.g., temper tantrums, disobedience, strong-willed) predicted their observed unskilled discipline (e.g., erratic, inconsistent, and haphazard) when the child was in fourth grade (Stoolmiller, 2001). Furthermore, parent's positive and negative perceptions of their kindergarten-aged children were

related to discipline decisions about misbehavior (Pinderhughes, Dodge, Bates, Pettit, & Zelli, 2000). Results from Snyder et al. (2005) suggest that parents who make negative attributions about reasons for their children's misbehavior become less likely to care about and monitor their children's behavior, which can often contribute to increased levels of inconsistent discipline. In an experimental analysis, Dix and Reinhold (1991) varied the context of the child's misdeed, including whether the child disobeyed immediately after instructions were given or 15 seconds later. Mothers were found to respond with more disapproval if the child misbehaved immediately. However, this relation between timing and parent disapproval was mediated by a general attribution measure (composite of intentionality, derogatory traits assigned to the child, and how much the behavior reflected underlying dispositions). These findings suggest that although situational factors affect parents' discipline judgments, parents also use their beliefs about the disposition and personality of the child to choose a discipline strategy. Parents may similarly be able to perceive aggressive outcome expectations in their children, characterize them as part of the child's negative disposition, and base discipline decisions on these internal characteristics.

Dix and colleagues research also mostly focuses on parental action during discipline encounters; either power assertive or inductive methods. However, as Patterson and colleagues posited (1982; 1986), parents may decide to not punish behavior they feel is inappropriate. They hypothesized that parents lose faith in their ability to control their children and either back down during conflictual interchanges, or decide to not even issue commands or initiate punishment. Parents' thought processes about the decision to be inconsistent are much less understood.

The parent's ability to perceive the child's outcome expectations may be responsible for the decision to engage in inconsistent discipline. A child's frequent aggressive acts even in the

face of parental discipline may provide evidence to parents that their child believes that aggression is effective in producing positive consequences. Bandura's (1986) social-cognitive theory posits that self-inefficacious individuals will be more likely to give up when faced with challenges; researchers have linked this idea to parents of children with behavior problems (Teti, O'Connell, & Reiner, 1996; Weaver, Shaw, Dishion, & Wilson, 2008). According to Dix and Grusec (1985), parents' beliefs about the efficacy of discipline strategies have an impact on which technique is selected. When parents have experienced a history of failed discipline attempts, they become less likely to confront a child about a misdeed due to this failure. According to Reid and Patterson (1989) and in support of Dix's (1985) second assertion above, parents of aggressive children have experienced a consistent history of failed discipline attempts and become thoroughly defeated in regards to obtaining child compliance. Research with increasingly noncompliant children suggests that parents may back down rather than continue to engage in conflict, especially if they expect that continued aversiveness will occur (Snyder, Edwards, McGraw, Kilgore, & Holton, 1994). Several other empirical articles support a relation between low parental self-efficacy and the decision to withdraw from conflictual or discipline encounters with their children (Sanders & Woolley, 2005; Teti & Gelfand, 1991).

Although several research studies indicate that mothers often respond to aggressive behavior with more forceful punishment, evidence also exists for an increased tendency to engage in inconsistent discipline. Del Vecchio and O'Leary (2008) reported that during 30-minute observation sessions, mothers of aggressive toddlers were more likely than mothers of non-aggressive toddlers to respond with lax or inconsistent discipline (i.e., responding to inappropriate toddler behavior by begging, coaxing, giving in after a warning, and failing to address a misbehavior) rather than harsh or appropriate punishment. In addition, mothers of

aggressive children provided punishment or verbal redirection only *after* their children escalated their misbehavior (i.e., displayed more severe misbehavior such as aggression or became emotionally upset), whereas mothers of non-aggressive children provided discipline *before* the child escalated his/her behavior. These studies suggest that the pattern of parents of aggressive children is to first respond laxly to misbehavior, and only wait to provide more forceful discipline after escalation by the child, rather than proactively addressing possible future misdeeds.

In a particularly note-worthy article, Ritchie (1999) examined maternal discipline behavior in extended power bouts versus single acts of noncompliance. Power bouts were described as interactions between mother and child where they become locked in a battle of wills. Mothers of three-year-old children involved in power bouts increasingly believed that the child's misbehavior was due to the child's negative personality and reported less confidence in their ability to control the behavior of their child after an extended power bout. Additionally, mothers also became more likely to choose aversive strategies by the end of the power bout (e.g., threatening and spanking). Although not tested in this analysis, it may be that children who engage in frequent power bouts with parents are more likely to hold aggressive outcome expectations. As discussed previously, research indicates that aggressive or coercive behavior is consistently related to aggressive outcome expectations (Perry et al., 1986; Schwartz et al., 1998). For parents, it is possible that their behavior is due not only to actual child behavior, but also their perception of child thoughts and beliefs, such as outcome expectations. While this research clearly indicates an increase in harsh discipline, the authors also noticed that parents involved in extended power bouts changed their discipline responses over the first seven response points (points when parents responded to child misbehavior), which can be

conceptualized as inconsistent discipline (i.e., their discipline response was not consistent or changed frequently). In addition, some mothers were noted to back down during power bouts, which often led to increased noncompliance from their children across discipline episodes. However, parental thought processes, such as parental perception of child social cognitive deficits that may occur during power bouts and their effect on *inconsistent discipline* rather than harsh punishment are not as well understood.

Parents also begin to see child behavior as more indicative of dispositional attributes as children age and enter late childhood (Dix, 1993; Dix, Ruble, & Zambarano, 1989). Parents who perceive aggressive outcome expectations in their 10- 12 year old children may feel that their child's beliefs are somewhat stabilized and there is little that can be done to change them. Research indicates that parents with low self-efficacy about parenting are more likely to withdraw from discipline encounters (Sanders & Woolley, 2005). The feeling of ineffectiveness may contribute to inconsistency, and parents may be less likely to follow through with punishment or even attempt to enact any type of consequence.

*Implications for current study.* Parents engage in several cognitive processes while deciding what type of discipline to use after child misbehavior (Dix et al., 1990, 1991, 1993). However, the research has mostly focused on parents' thoughts about children's behavior in-the-moment, rather than specific dispositional attributes of the child and on parent *action* during discipline encounters, rather than inaction. It is likely that parents can also view certain dispositional attributes of their children, including schemas for social interactions (i.e., outcome expectations), and use those as well in discipline decisions. Furthermore, it is well known that parents are not always active during the discipline process and instead, may decide to do nothing

at all in response to a misdeed. Parental ability to perceive aggressive outcome expectations in their children may be responsible for inconsistent discipline, as parents' repeated unsuccessful attempts to control their aggressive children have contributed to a poor sense of self-efficacy regarding parenting and avoidance of discipline encounters in general.

**Additional development of child outcome expectations.** As in much of the parenting literature, the research has focused on overt parenting behavior (Haskett & Willoughby, 2006) or parental cognitions that predict child behaviors (Del Vecchio & O'Leary, 2008). However, it is obvious that children not only view their parents' interaction styles with them, but also with other adults, possibly leading to the development of beliefs and schemas similar to their parents' beliefs in social interactions (Hoffman, 1970; Huesmann & Eron, 1989). For example, research on the effect of interparental conflict or marital discord on child aggressive behavior and adjustment problems indicates a strong positive relation (Rogers & Holmbeck, 1997). Furthermore, research also indicates a significant relation between the general level of parental aggressiveness and child aggression (Brook, Zheng, Whiteman, & Brook, 2001). In addition to presenting a model for how one should behave, these interactions also provide an opportunity for children to perceive their parent's worldview and develop schemas about how their parent interprets social interactions.

Limited research has begun to examine the relation between parent and child social cognitions. Halligan, Cooper, Healy, and Murray (2007) examined the relation between parent and child hostile attribution biases, one type of social cognition (step 2; Crick & Dodge, 1994). Their results did not support a relation between parental attributions and child attributions, but the authors suggested that this may be due to their use of a younger sample (age 5 – 7). As mentioned earlier, social cognitions in children often do not stabilize until after fourth or fifth

grade, which may have made it difficult to establish a reliable relation between parent and child attributions. In contrast, MacBrayer, Milich, and Hundley (2003) reported that mothers' tendency to attribute hostile intent to others predicted their daughters' (age 8-12) tendency to do the same. In an analysis of social goals, another social cognition (step 3; Crick & Dodge, 1994), McDowell, Parke, and Spitzer (2002) reported that fathers' social goals during interactions with their children predicted their kindergarteners' social goals with peers. However, father's social goals during encounters with adult peers did not predict their children's social goals.

Clearly, additional research on the transmission of parental social cognitive biases to children is needed. First, the results considering the direct relation between parent and child social cognitions are inconclusive. Some studies have found support for a relation between peer-related parent and child social cognitive distortions and deficiencies, while others have found that only parents' social cognitions during child-related incidents predicted child social cognitions. Secondly, the extant studies have only examined hostile attribution biases and social goals. It is important to understand the role that parents play in the development of other social cognitions that contribute to aggressive behavior, including outcome expectations. Lastly, past research has only analyzed a direct relation between parent and child social cognitions. Possibly, a mediating construct is responsible for a significant relation between parent and child cognitions. The current study examines the concordance between parent and child outcome expectations, a social cognition important for proactive aggressive, and implicates the child's perception of the parents' outcome expectations as a mediating construct.

*Child perception of parental outcome expectations.* According to Constanzo and Dix (1983), children watch how their parents interact with others and perceive the beliefs and values that govern parents' behaviors. Building on this finding, Grusec and Goodnow (1994) stated that

a child's accurate perception of those beliefs and values predicted the child's internalization of parental prosocial values. Accuracy of perception increased when the message was clear, redundant, and consistent. In addition, parents must make sure they have their child's attention, present material that fits with the child's existing schemas, and present material implicitly rather than explicitly, so the child has to decode the message, leading to better comprehension. Research has examined the child's perception of parental values and how that perception influences child beliefs and values. Empirical support exists for the idea that children can accurately perceive their parent's values; those values then predict the child's behavior (Knafo & Schwartz, 2003; Rodrigo, Janssens, & Ceballos, 1999; Whitbeck & Gecas, 1988).

Since children can often accurately perceive their parents' prosocial values, it seems likely that they are simultaneously exposed to and capable of distinguishing their parents' antisocial values. If the child accepts the parent's values, his or her perception of the parent's values will be similar to the child's own values, whether prosocial or antisocial (Grusec and Goodnow, 1994). No known studies have examined the transmission of parental antisocial social cognitive biases to the child through the child's perception and acceptance of those beliefs.

Aggressive outcome expectations, or the belief that aggression produces positive consequences or reduces aversive treatment, can be considered an antisocial value. Values have been defined as moral standards or attitudes of society that serve as guiding principles in people's lives and motivate socially acceptable or prosocial behavior (Grusec & Goodnow, 1994; Knafo & Schwartz, 2003). Outcome expectations also serve as guiding principles and motivate behavior, although the behavior they contribute to, aggression, is antisocial and not considered socially acceptable by most individuals. Although no literature has specifically examined adults' outcome expectations during social interactions, it is logical to assume that similarly to children,

some adults expect more positive consequences from aggression and therefore, are more likely to behave aggressively. In fact, prison literature indicates a significant relation between positive outcome expectancies for crime and criminal behavior (Walters, 2003) and bullying behavior while in prison (Ireland & Archer, 2002).

*Implications for current study.* Limited analysis of parent and child aggressogenic cognitions has demonstrated some concordance (MacBrayer et al., 2002). Since these beliefs are often developed from watching parental behavior and perceiving longstanding values, parents with aggressive outcome expectations may have children who also believe aggression produces positive consequences. In addition, the child's perceptions of their parents' outcome expectations may mediate the relation between child and parent outcome expectations. No known studies to date have examined the transmission of parental antisocial social cognitive biases to the child through the child's perception and acceptance of those beliefs.

### **Parent Depression and Inconsistent Discipline**

Maternal depression has long been associated with aggressive behavior in children (Barry, Dunlap, Cotton, Lochman, & Wells, 2005; Spieker, Larson, Lewis, Keller, & Gilchrist, 1999). Although there has been some debate about whether this is a true relation or simply reflects depressed mothers' tendency to report elevated levels of aggression in their children, evidence has accrued for an actual negative effect of maternal depression on child behavior (Barry et al., 2005; McCarty, McMahon, and Conduct Problems Prevention Group, 2003).

In fact, parental depression negatively affects parenting, and it is likely disrupted parenting that accounts for increased levels of childhood aggression (Berg-Nielsen, et al., 2002). Support for this assertion includes the finding that the negative effects of depression on child behavior problems in young children are lessened if depressed parents still use positive parenting

techniques (Zahn-Waxler, Iannotti, Cummings, & Denham, 1990). Typically, however, parenting by depressed mothers is negative, critical, and rejecting (Whitbeck, et al., 1992).

Maternal depression is related to the increased use of inconsistent discipline, which as discussed previously, is related to high levels of aggression in children (Hill & Herman-Stahl, 2002; Leung & Smith Slep, 2006). Nine to twelve year old boys at-risk for aggressive behavior and their mothers completed self-report measures of child aggression, maternal depression, and parenting (Barry et al., 2009). The relation between maternal depression and child aggression was partially mediated by inconsistent discipline, indicating that depression negatively impacts consistent discipline and this disruption leads to child aggression. Due to the influence of parental depression on inconsistent discipline and child aggression, which are both related to outcome expectations, its relation with the main variables in the study will also be examined.

**Subtypes of parental depression and inconsistent discipline.** Research on adult depression has suggested evidence for several subtypes of depression, each with their own set of specific symptoms (Ingram, Scott & Siegel, 1999). Research on most subtypes is inconclusive and depression is still mostly considered a unitary disorder. However, one distinction, between endogenous and non-endogenous depression, has received significant support. Endogenous depression has been defined as depression that occurs without a cause or precipitating event, and is often characterized by physiological symptoms, such as sleep disturbance and loss of appetite, whereas non-endogenous depression occurs after a precipitating event, such as a job loss or divorce (Haslam & Beck, 1994; Ingram et al., 1999). Haslam and Beck (1994) conducted a taxometric analysis to examine support for several subtypes of depression, including endogenous depression. The authors selected items from the Beck Depression Inventory (BDI-IA) that corresponded with endogenous depression; according to the authors, this selection was directed

by “classical descriptions and the *Diagnostic and Statistical Manual of Mental Disorders, 3<sup>rd</sup> Edition.*” The items selected were: loss of satisfaction, loss of interest in sex, early morning wakings, loss of appetite, and loss of weight. Results provided support only for endogenous depression as a separate taxon, with sleep disturbance and loss of appetite and weight as the key symptoms. However, the authors concluded that the results did not suggest a change to the nosology of depression, as only three indicators were associated with the subtype.

Psychological debate still continues as to whether depression should be considered a unitary or multifaceted construct. The BDI-IA assesses three separate factors of depression, which have been supported empirically (Beck & Steer, 1993; Beck, Steer, & Garbin, 1988). The factors are Negative Attitudes Toward Self, Performance Impairment, and Somatic Disturbance. Negative Attitudes Toward Self measures the respondent’s thoughts towards him/herself and includes items such as self-dislike (I hate myself) and self-accusations (I blame myself for everything bad that happens). Performance Impairment measures the extent to which the respondent’s ability to function is disrupted and includes social withdrawal (I have lost all of my interest in other people) and work difficulty (I can’t do any work at all). Finally, Somatic Disturbance measures physiological symptoms that accompany depression and includes such items as insomnia (I wake up several hours earlier than I used to and cannot get back to sleep) and loss of appetite (I have no appetite at all anymore). The factor structure offers a reliable and empirically supported method to assess for components of depression. The endogenous subtype of depression is most closely related to the Somatic Disturbance factor, as described by Haslam and Beck (1994), as it assesses for physiological symptoms of depression, rather than distorted cognitions or performance impairment, which may be related to a different type of depression.

Evidence exists for a consistent relation between parental depression and inconsistent

discipline. However, the components of depression responsible for this relation are unclear and no known studies to date have examined differential relations between factors or subtypes of depression and inconsistent discipline. Dix and Meunier (2009) highlighted the need to examine the cognitive factors responsible for disrupted parenting in a recent critical review. The authors stated that several hypotheses had been offered to explain the relation in previous research, but few had been tested empirically and the results were often conflicting or inconclusive. For example, depressed affect and negative mood are often related to irritable and hostile behavior with intimates and withdrawal from socially skilled parenting practices (Conger, Conger, Elder, Lorenz, Simons, & Whitbeck, 1992; Lyons-Ruth, Wolfe, & Lyubchik, 2000). In this case, it is possible that the withdrawal associated with depression is responsible for the disruption in consistent parenting. Other research suggests that depressed parents are more inattentive and unresponsive and that the sporadic attention given to their children may lead to inconsistencies in parenting (Downey & Coyne, 1990; Gelfand & Teti, 1990). Therefore, a secondary analysis will be performed to examine the differential relation between inconsistent discipline and the three factors, or symptom areas, of depression as measured by the BDI-IA.

*Implications for current study.* Parental depression leads to disrupted parenting, particularly inconsistent discipline, which in turn leads to increased aggressive behavior in children (Barry et al., 2009). However, less is known about the relations among parental depression, inconsistent discipline, and child cognitions, specifically outcome expectations. Additionally, few studies have examined which aspect of depression is related to inconsistent discipline (Dix & Meunier, 2009). The current study will examine the three factors of depression as measured by the BDI-IA to determine if differential relations exist between components of depression and inconsistent discipline.

## **Current Study**

Four mediational analyses will be conducted. Based on literature indicating the need for research on the differences between the variables of interest by gender as well as the theoretical distinction between two types of outcome expectations (e.g., reducing aversive treatment and attaining tangible rewards), analyses will be conducted separately by gender and then by type of outcome expectation. In addition, it must be noted that much of the extant literature does not specify whether the parent respondent is actually a biological parent, or a caregiver raising the child (e.g., other family member). In the current sample, a significant number of children were being raised by other family members. Therefore, “parent” was used in the review of the literature; when referring to the respondents in the current study, “caregiver” was used to reflect the diversity in current families.

The following hypotheses are made:

1. It is hypothesized that there will be a relation between caregiver outcome expectations and child outcome expectations (1a). Children often share prosocial values with their parents (Knafo & Schwartz, 2003); however, limited and inconclusive research exists on the congruence between social cognitive deficiencies (MacBrayer et al., 2003). It is also hypothesized that this relation will be mediated by child perception of caregiver outcome expectations (1b). Through observation, children should be able to perceive their caregiver’s beliefs about the effectiveness of aggression.
2. It is hypothesized that there will be a relation between child outcome expectations and inconsistent discipline (2a). It is also hypothesized that this relation will be mediated by caregivers’ perception of child outcome expectations (2b). Literature

- indicates that caregivers base discipline strategies on decisions about child thoughts during the misdeed (Dix et al., 1989; 1993). Logically, caregivers also perceive children's general social guiding principles (i.e., outcome expectations) and base discipline decisions on these perceptions.
3. It is hypothesized that there will be a relation between caregiver depression and child outcome expectations (3a); this relation will be mediated by inconsistent discipline (3b). Support for both links of the analysis exists in the literature, (Barry et al., 2009) although research on the relation between inconsistent discipline and outcome expectations is limited (Wojnaroski, 2007).
  4. It is hypothesized that there will be a relation between inconsistent discipline and proactive aggression (4a); this relation will be mediated by child outcome expectations (4b). Research is again limited on the relation between inconsistent discipline and outcome expectations, but clearly supports a relation between proactive aggression and outcome expectations (Crick & Dodge, 1996). Because of the competing thoughts about the utility of the proactive/reactive aggression distinction, this analysis will be completed first by controlling for the other form of aggression, and also without the control.

Exploratory analyses will be conducted to explore the relation between inconsistent discipline and reactive aggression, as mediated by child outcome expectations. Because research does not indicate a relation between outcome expectations and reactive aggression, no hypotheses are made about the results.

A second exploratory analysis will be conducted to determine relations between subtypes of depression and inconsistent discipline. As this is an exploratory analysis, no hypotheses are made.

A final exploratory analysis will be conducted to examine differences between caregivers' reports of how likely they would be to commit the aggressive acts on the Adult Outcome Expectations Questionnaire and their reports of how likely someone else would be to commit the acts. Research indicates that this form of indirect questioning is useful in reducing social desirability that occurs when participants are asked to report on "private" opinions or negative behavior (Fisher, 1993; Sprott, Spangenberg, & Fisher, 2003). However, no known research exists examining this behavior in parents of aggressive children. Again, no hypothesis is made concerning the results.

## CHAPTER 2

### METHOD

The current study consisted of two separate empirical investigations. The main study examined the relations between caregiver and child outcome expectations, caregiver and child perceptions of the other's outcome expectations, caregiver inconsistent discipline and depression, and child aggression. Sample characteristics, procedures, and proposed data analysis will be presented first. The second investigation, a pilot study, was conducted to gather information about and improve the measures created for the main study. The goals of the pilot study were to ensure that all questions were comprehensible, lacked ambiguous meanings, and to assess adults' perceptions of the realism of the vignettes. Sample characteristics, procedures, and results will also be presented. See Appendix A for pilot study results.

#### **Sample**

Children were recruited as part of a larger intervention effectiveness study, funded by the National Institute on Drug Abuse (NIDA). The sample consists of 132 fourth grade children from 20 schools in the Tuscaloosa, Alabama county and city school systems and Bessemer, Alabama city school systems who were rated by their fourth grade teachers as at-risk for aggressive behavior. One hundred and nineteen of the children were rated by their caregivers as within or above the average range of aggression for same-age children, while caregivers of the remaining 13 children rated their children in the below average range of aggression. Eighty-three children were boys (63%) and 49 were girls (37%). Caretakers were 108 mothers (81.8%),

8 fathers (6.1%), eight grandmothers (6.1%), three aunts (2.3%), three foster parents (2.3%), one step mother (0.8%), and one grandfather (0.8%). Boys' average age was 9.82 (range = 9-11). 77.1% of boys were African American, 14.5% were Caucasian, and 8.4% were Other. The largest percentage of families (15.7%) earned between \$20,000 and \$24,999 yearly. The average age of girls was 9.65 (range = 9-11). 81.6% of girls were African American, 16.3% were Caucasian and 2% were other. The largest percentage of families (20.4%) earned between \$25,000 and \$29,999 yearly.

### **Procedure**

During the recruitment process, fourth grade teachers rated their classroom children's aggressive behavior using a screener measure of proactive and reactive aggression (Dodge & Coie, 1987). Students scoring in the top 25% of aggressive behavior were identified as possible participants for the larger intervention study. Following the teacher screen, data collection for the intervention and current study began. During data collection, caregivers completed the BASC-Parent version. The Aggression subscale was used to identify children who displayed average or above average levels of aggression. A pair of interviewers visited each home and independently interviewed the child and caretaker to collect data. Informed consent was obtained prior to data collection and children and caretakers received monetary compensation (\$10 for the child, \$50 for the caretaker). Teachers also completed the BASC-Teacher version and received \$5 for each completed BASC (determined by the number of children enrolled in their classes). Children who met criteria for the teacher and caregiver screen were recruited for the intervention study, although data from all participants was used in the current study.

### **Measures.**

*Behavior Assessment System for Children (BASC).* Children's aggression was assessed

through the Behavior Assessment System for Children (BASC) – Parent Version (Reynolds & Kamphaus, 1992). The parent version consists of 138 phrases that describe possible behaviors. Caregivers responded on a 0 (*never*) to 3 (*almost always*) scale. The measure includes 16 subscales, ranging from Aggression and Conduct Problems to Anxiety and Withdrawal. Samples of questions include “Hits other children” and “Argues when denied own way.” This study used only the Aggression scale, where higher scores indicate that the child displays more aggressive behavior. Internal consistency estimates for this and all subsequent measures can be found in Table 2.1 following the description of all measures.

***Alabama Parenting Questionnaire (APQ).*** Inconsistent discipline was assessed through the Alabama Parenting Questionnaire (Shelton, Frick, & Wootton, 1996; APQ), which consists of 42 statements. Caregivers rated how often each behavior typically occurs in the home on a 5-point scale (0-*never* to 4-*always*). Five subscales are included: parent involvement, positive parenting, parental monitoring, inconsistent discipline, and corporal punishment. A higher score on the inconsistent discipline subscale, which consists of six items, indicates more inconsistent discipline practices. Caregivers rated their own behavior on items such as “You threaten to punish your child and then do not actually punish him/her” and “Your child talks you out of being punished after he/she has done something wrong.”

***Adult Outcome Expectations Questionnaire (AOEQ).*** This measure is based on the original Outcome Expectations Questionnaire (OEQ) developed by Perry, Perry, and Rasmussen (1986). Adults imagined themselves in 16 conflict situations with a same gendered adult. At the end of the situation, the main character behaves aggressively toward another person in the vignette (e.g., “You are at work and a male/female employee is playing music on a radio, making it hard for you to concentrate. You yell loudly at him/her to turn off the radio.”). The

interviewer selected and read the gender of the antagonist in the vignette that matched the respondent's gender. The caregiver was then asked "How likely is that you would do this?" and responded on a four-point scale [(0) *Very likely*; (1) *Somewhat likely*; (2) *Somewhat unlikely*; (3) *Very unlikely*]. As in the original OEQ, the caregiver then indicated what he or she thinks is likely to happen next in the scenario. The choices are: (0) *Very sure the target will get a desirable outcome*; (1) *Pretty sure the target will get a desirable outcome*; (2) *Pretty sure the target will get an undesirable outcome*; (3) *Very sure the target will get an undesirable outcome*. In the scenario mentioned above, caregivers rated how likely it is that the man/woman will turn off the radio. Higher scores indicate that the respondent expects a more undesirable outcome. Finally, the caregiver was asked "How likely is it that someone else would do this?" and responded with the same four-point scale detailed for this first item within each question. This question was added after initial data collection began and so was only collected on a subset of the larger sample. The two subscales of this measure are Reducing Aversive Treatment (RAT) and Attaining Tangible Rewards (TR). In the current sample, the intercorrelations between the RAT and TR subscales were .51( $p < .001$ ) for boys and .35 ( $p = .014$ ) for girls. See Appendix B.

The development of the AOEQ followed six steps. First, an extensive literature review was conducted to search for previous research on adult outcome expectations. Although no extant research has examined the exact construct, research conducted with prison populations has analyzed a similar topic (Ireland & Archer, 2002; Walters, 2000; Walters, 2003). Additionally, Reinhold (1990) developed several conflict scenarios to examine adult social interactions, similar to what was necessary for the current study. Therefore, the measures presented in these studies were used as a basis to develop the adult conflict scenarios for the AOEQ.

Next, a first draft of the AOEQ was completed. Situations included work conflict, theft

of one's property, rude or disrespectful verbal comments from others, and verbal and physical aggression directed at the target. Twenty-two scenarios were created, allowing for the removal of items that did not adequately measure adult outcome expectations. The items of the AOEQ follow the design of the original child OEQ (Perry et al., 1986). The format was preserved due to its success, to standardize procedures between caregiver and child, and to allow for comparisons between caregiver and child outcome expectations.

Fourth, feedback from several colleagues in the child aggressive behavior field was provided about the realism of the vignettes. Suggestions included adding details or minor changes to increase believability as well as significant changes to events in a limited number of scenarios. Next, many of these changes were incorporated to improve the measure and then were reread by colleagues. Lastly, feedback from a pilot study was incorporated, which is described in Appendix A.

***Parent Perception of Child Outcome Expectations Questionnaire (PPOEQ).*** Based on Perry et al.'s (1986) measure, this questionnaire assessed parent ability to perceive his/her child's outcome expectations. Caregivers responded to the same 12 items their child saw on the OEQ, but imagined their child in the situation and chose the same response they thought their child would choose (e.g., "Mike/Michelle is teasing your child at school by calling him/her names. To make Mike/Michelle stop, your child calls him/her names."). The choices are: (0) *Very sure your child will get a desirable outcome*; (1) *Pretty sure your child will get a desirable outcome*; (2) *Pretty sure your child will get an undesirable outcome*; (3) *Very sure your child will get an undesirable outcome*. Higher scores indicate that the respondent perceives that his/her child expects a more undesirable outcome. The two subscales of this measure are Reducing Aversive Treatment and Attaining Tangible Rewards. The intercorrelations between the TR and RAT

subscale in the current sample were .53 ( $p < .001$ ) for boys and .43 ( $p = .002$ ) for girls. See Appendix C.

***Measure of Proactive and Reactive Aggression.*** Caregivers and teachers completed the Measure of Proactive and Reactive Aggression, a shortened version of Dodge and Coie's measure (1987). The measure consists of six items, three that assess for proactive aggression, and three for reactive aggression. Respondents rated each statement on a five-point scale (0 - *never true* to 4 - *almost always true*). For parent ratings, intercorrelations between reactive and proactive aggression in the current sample were .58 ( $p < .001$ ) for boys and .67 ( $p < .001$ ) for girls; for teacher ratings, .64 ( $p < .001$ ) for boys and .41 ( $p = .004$ ) for girls.

***Beck Depression Inventory (BDI-IA).*** Caregivers completed the BDI-IA to assess for depression, which consists of 22 items (Beck & Steer, 1993). Each represents a symptom of depression and consists of four statements. Caregivers chose one statement that describes how they felt during the past two weeks (range 0 to 3). Higher scores indicate a greater level of depression. Previous research indicates average Total BDI scores of 6 to 11 for non-clinical samples. The mean total BDI score in similar research with at-risk children and their mothers that examined the relation between the BDI and inconsistent discipline as measured by the APQ was 5.58 (range 0 to 41; Barry et al., 2009). According to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Text Revision (DSM-IV-TR; American Psychiatric Association, 2000), point prevalence estimates for Major Depressive Disorder ranges from 5 to 9% in community samples. The mean total BDI score in the current sample is 8.8 ( $SD = 6.9$ , range 0 to 34). Thirty-nine caregivers (36%) obtained a score in the moderate to severe range of depressive symptoms (BDI total score  $\geq 10$ , Beck & Steer, 1993).

***Outcome Expectations Questionnaire (OEQ).*** Children's outcome expectations were

measured using a shortened version of Perry et al.'s (1986) scale. The scale consists of 12 conflict scenarios, where the respondent indicates what he or she believes will happen after the target child performs an aggressive act in a social situation. The choices are: (0) *Very sure the target will get a desirable outcome*; (1) *Pretty sure the target will get a desirable outcome*; (2) *Pretty sure the target will get an undesirable outcome*; (3) *Very sure the target will get an undesirable outcome*. Higher scores indicate that a child expects a more undesirable outcome. The two subscales are Reducing Aversive Treatment and Attaining Tangible Rewards. One scenario reads "Mike/Michelle is teasing you at school by calling you names. To make him/her stop, you call him/her names back." Respondents rated whether they thought the other child will stop or continue teasing. Intercorrelations between the TR and RAT subscales in the current sample were .33 ( $p=.002$ ) for boys and .41 ( $p=.003$ ) for girls. See Appendix D.

***Child Perception of Parent Outcome Expectations Questionnaire (CPOEQ)***. This measure is designed to assess the child's perception of parent outcome expectations. The measure consists of the same 16 adult conflict situations on the AOEQ. The respondent imagined the same caregiver who completed the caregiver portion of the interview in the situation, and was instructed to "Pretend you are your dad/mom... answer like you think he/she would." The same item presented above on the AOEQ now reads, "Your dad/mom is at work and a male/female worker is playing loud music on a radio, making it hard to concentrate. Your dad/mom yells loudly at him/her to turn off the radio." The respondent chose how sure his/her caregiver would be that the aggressive act would lead to a desirable outcome. The choices are: (0) *Very sure your dad/mom will get a desirable outcome*; (1) *Pretty sure your dad/mom will get a desirable outcome*; (2) *Pretty sure your dad/mom will get an undesirable outcome*; (3) *Very sure your dad/mom will get an undesirable outcome*. Higher scores indicate that the child

perceives that his/her caregiver expects a more undesirable outcome. The two subscales of this measure are Reducing Aversive Treatment and Attaining Tangible Rewards. In the current sample, intercorrelations between the RAT and TR subscale were .66 ( $p < .001$ ) for boys and .55 ( $p < .001$ ) for girls. See Appendix E.

Three steps were followed to create the CPOEQ. First, wording was changed on the AOEQ to reflect that the child was now answering rather than the caregiver (e.g., “you” was changed to “your dad/mom”). Second, colleagues were consulted and asked to give feedback about the ease with which late elementary school children would understand the instructions and items. Lastly, feedback from a pilot study was incorporated to finalize the measure, which is described in Appendix A.

### **Data Analysis**

To determine relations between the variables of interest, four sets of hypothesized mediational analyses were conducted, twenty in all. Analyses were conducted separately for each gender and outcome expectations subtype (reducing aversive treatment and attaining tangible rewards). The first set tested the relation between caregiver outcome expectations and child outcome expectations (1a), mediated by child perception of caregiver outcome expectations (1b). The second set assessed the relation between child outcome expectations and inconsistent discipline (2a) with the caregiver perception of the child’s outcome expectations as mediator (2b). The third set of analyses tested the relation between caregiver depression and child outcome expectations (3a) as mediated by the caregiver’s level of inconsistent discipline (3b). Lastly, the final set examined the relation between inconsistent discipline and parent and teacher rated proactive aggression (4a), mediated by child outcome expectations (4b). Four additional

Table 2.1

*Boys and Girls Internal Consistency for Adult Outcome Expectations Questionnaire (AOEQ), Parent Perception of Child Outcome Expectations Questionnaire (PPOEQ), Outcome Expectations Questionnaire (OEQ), Child Perception of Parent Outcome Expectations Questionnaire (CPOEQ), Alabama Parenting Questionnaire - Inconsistent Discipline subscale (APQ\_ID), Parent Depression (BDI-IA), Parent-Rated Proactive Aggression (PPA), Parent-Rated Reactive Aggression (PRA), Teacher-Rated Reactive Aggression (TRA), and Teacher-Rated Proactive Aggression (TPA)*

Variable	Boys	Girls
OEQ_TR	.58	.66
OEQ_RAT	.74	.69
AOEQ_TR	.67	.60
AOEQ_RAT	.61	.58
CPOEQ_TR	.67	.67
CPOEQ_RAT	.72	.58
PPOEQ_TR	.64	.60
PPOEQ_RAT	.72	.66
APQ_ID	.53	.59
BDI-IA	.82	.86
PPA	.82	.70
TPA	.93	.84
PRA	.77	.80
TRA	.89	.81

*Note.* TR indicates Tangible Rewards, RAT indicates Reducing Aversive Treatment.

exploratory analyses were conducted for Hypothesis 4, with reactive aggression as the outcome variable. Both parent and teacher-reported aggression will be used to test the final hypothesis and exploratory analysis. Mediation analyses were conducted with the Baron and Kenny (1986) causal steps method, the Sobel (1982) test of indirect effects and Preacher and Hayes' bootstrapped sampling distribution of the indirect effect (Preacher & Hayes, 2004). Baron and Kenny's method is most commonly used in psychological research; however, analyses of mediation suggest that this may not be the most appropriate test (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). The Sobel test (1982) corrects some limitations, but also has

drawbacks (Preacher & Hayes, 2004). Bootstrapping offers an alternative approach to address problems with both methods. The steps of each method and its limitations will be described. Finally, the hypotheses for the current study will be detailed following the tenets of both models. Because of the limitations presented in research, all methods were used to test for mediation.

Basic tenets of the Baron and Kenny model (1986) include: 1) The independent variable must be related to the dependent variable (direct effect), 2) the independent variable must be related to the mediator variable, 3) the mediator variable must be related to the dependent variable when controlling for the independent variable, and 4) the direct effect becomes nonsignificant or lessens when controlling for the mediator. This is the most widely used test of mediation in psychological research (MacKinnon et al., 2002).

Examination of causal steps models has uncovered several limitations. First, it is possible that there is substantial mediation even when the path between the independent and dependent variable is not significant (MacKinnon, 2008). Additionally, the traditional Baron and Kenny method has low statistical power, and therefore does not always identify true effects (MacKinnon et al., 2002; Preacher & Hayes, 2004). Finally, the Baron and Kenny (1986) test was initially designed only to determine if conditions were appropriate for mediation and does not test for the statistical significance of the mediated effect (MacKinnon et al., 2002).

In the current study, each of the four main hypotheses followed the same format (a represents the relation between the independent and dependent variables, and b represents the mediated effect). Therefore, steps for the Baron and Kenny test of mediation (1986) are presented only for the first set of hypotheses but were also used for the following three set of hypotheses. This method tests for mediation with a series of regression equations: regressing the dependent variable on the independent variable, regressing the mediator on the independent

variable, and regressing the dependent variable on both the independent variable and the mediator. In the first step, Hypothesis 1a was tested (caregiver outcome expectations will predict child outcome expectations) with a regression equation. If this effect is significant, Baron and Kenny (1986) posit that it is appropriate to test for mediation. To test for mediation (Hypothesis 1b), two regression equations were then tested: the effect of caregiver outcome expectations on child perception of caregiver expectations and the effect of caregiver outcome expectations and child perception of caregiver outcome expectations on child outcome expectations. If the effect of child perception of caregiver outcome expectations on child expectations is significant and the effect of caregiver outcome expectations on child outcome expectations lessens in significance or becomes non-significant, it can be concluded that there is a mediated effect. According to MacKinnon et al. (2002), 100 subjects are needed to obtain a power statistic of .8 when there is a large effect size.

In the Sobel test of indirect effects (1982), the path coefficient from the independent variable to the intervening variable and the coefficient from the intervening variable to the dependent variable are multiplied and then divided by the standard error of the indirect effect. If this coefficient is statistically significant, then it can be concluded that mediation exists. However, the Sobel test assumes that the ratio of the indirect effect to its standard error is normally distributed; research indicates that it might not even be symmetrical, but rather positively skewed (Preacher & Hayes, 2004).

Preacher and Hayes (2004) posit that bootstrapping the sampling distribution of the product of the coefficients and creating a confidence interval using the empirically derived bootstrapped sampling distribution will alleviate the problem of nonnormality. Bootstrapping makes no assumptions about normality of the independent or intervening variables nor the

normality of the sampling distribution of the statistic. In bootstrapping, a large number of samples are taken from the original sample size, and the indirect effect is computed for each sample. The point estimate, or the mean of the indirect effects calculated in the previous step, is computed and a 95% confidence interval is created around the point estimate, based on the distribution of all the indirect effects. If zero does not fall within the confidence interval, it can be concluded that the indirect effect is statistically significant at the  $p < .05$  level.

In the current study, because all four main set of hypotheses followed the same format, the Sobel method of indirect effects is only presented for Hypothesis 1a and 1b. In the Sobel method (1982), regression equations were conducted with the intervening variable regressed on the independent variable and the dependent variable regressed on the intervening variable. For the first hypothesis, this was accomplished by regressing child perception of caregiver outcome expectations on caregiver outcome expectations and regressing child outcome expectations on child perception of caregiver outcome expectations. These coefficients were then multiplied and divided by the standard error of the product of both paths. Bootstrapping of the product was also completed, by computing the indirect effect several times and then creating a 95% confidence interval around the mean of all the indirect effects. MacKinnon (2008) recommends using a minimum of 5000 bootstrap resamples. According to MacKinnon et al. (2002), 100 subjects are needed to detect a medium effect size using the Sobel method (power = .8). However, Preacher and Hayes (2004) report that much smaller sample sizes are needed when bootstrapping is used.

**Exploratory Analyses.** To determine relations between subtypes of depression and inconsistent discipline, correlations were conducted between the means of the three factors of the BDI-IA (Negative Attitudes Toward Self, Performance Impairment, and Somatic Disturbance) and the Inconsistent Discipline subscale of the APQ. Because this was an exploratory analysis,

no hypotheses were made. It was determined that if results indicated that one factor was significantly more related to inconsistent discipline than the others, that factor would be used in the mediation analyses.

A final exploratory analysis was conducted to determine differences between caregivers' reports of their likelihood of committing the aggressive acts presented on the AOEQ and their reports of someone else's' likelihood of committing the same act. T-tests were used to test for a significant difference. Because this was an exploratory analysis, no hypothesis was made.

## CHAPTER 3

### RESULTS

During preliminary examination of the data, different patterns of correlations emerged for boys and girls. Specifically, the direction of effect between many of the Outcome Expectations measures was reversed (e.g., negative correlation for girls, positive correlation for boys). Furthermore, significant differences between means of some variables existed for boys and girls. Therefore, all analyses are presented for both boys and girls separately. In addition, analyses are also presented separately for the Tangible Rewards and Reducing Aversive Treatment subscales of all Outcome Expectations measures, including the Outcome Expectations Questionnaire (OEQ), Adult Outcome Expectations Questionnaire (AOEQ), Parent Perception of Child Outcome Expectations (PPOEQ), and Child Perception of Parent Outcome Expectations (CPOEQ). The two subscales were designed to measure two different aspects of outcome expectations (Perry et al., 1986) and correlations between the two subscales were modest for each measure, providing further rationale for examining the subscales separately (see descriptions of measures, pp. 42-48).

#### **Descriptive Statistics**

Descriptive statistics for the variables can be found in Tables 3.1 and 3.2. The differing sample size for each variable is due to missing information from participants. T-tests examining differences in variables by gender are displayed in Table 3.3. Reliability coefficients for measures are displayed in Table 2.1. Correlations between variables are located in Table 3.4.

Table 3.1

*Boys Descriptive Statistics for Study Variables*

Variable	n	X (SD)	Min	Max	Skewness	Kurtosis
OEQ_TR	83	1.99(.572)	.33	3.00	-.281	-.014
OEQ_RAT	83	1.77(.729)	.17	3.00	-.350	-1.002
AOEQ_TR	82	1.44(.471)	.56	3.00	.920	1.397
AOEQ_RAT	82	1.51(.522)	.33	3.00	.435	.583
CPOEQ_TR	83	1.53(.569)	.00	2.89	-.163	.434
CPOEQ_RAT	83	1.48(.717)	.00	3.00	-.124	-.631
PPOEQ_TR	83	1.26(.517)	.00	2.83	.327	.632
PPOEQ_RAT	83	1.57(.583)	.00	3.00	.055	.284
APQ_ID	66	1.40(.571)	.00	2.83	-.116	.173
BDI-IA(total)	66	9.02(6.637)	.00	28.00	.953	.359
PPA	83	.59(.868)	.00	4.00	1.638	2.512
TPA	83	8.90(3.681)	3	15	.265	-1.068
PRA	83	2.47(1.046)	.33	4.0	-.225	-.962
TRA	82	11.82(2.475)	5	15	-.361	-.361

*Note.* TR indicates Tangible Rewards, RAT indicates Reducing Aversive Treatment.

Table 3.2

*Girls Descriptive Statistics for Study Variables*

Variable	n	X (SD)	Min	Max	Skewness	Kurtosis
OEQ_TR	49	1.82(.651)	.33	2.83	-.479	-.404
OEQ_RAT	49	1.53(.685)	.17	2.83	.064	-.969
AOEQ_TR	49	1.58(.469)	.67	2.67	.497	.055
AOEQ_RAT	49	1.57(.535)	.33	2.83	.012	-.496
CPOEQ_TR	49	1.56(.576)	.33	3.00	.370	.629
CPOEQ_RAT	49	1.39(.631)	.00	3.00	.340	.216
PPOEQ_TR	49	1.36(.513)	.00	2.50	-.523	.614
PPOEQ_RAT	49	1.51(.588)	.17	3.00	.108	.256
APQ_ID	41	1.25(.672)	.00	3.33	.378	1.045
BDI-IA(total)	41	8.63(7.602)	.00	34.00	1.897	3.794
PPA	49	.29(.609)	.00	2.67	2.416	5.564
TPA	49	7.96(2.944)	3	15	.190	-.185
PRA	49	1.72(1.110)	.00	4.00	.510	-.577
TRA	49	10.45(2.363)	6	15	.402	-.352

*Note.* TR indicates Tangible Rewards, RAT indicates Reducing Aversive Treatment.

Table 3.3

*T-Tests for Study Variables by Gender*

Variable	t-statistic
OEQ_TR	1.64 (p=.10)
OEQ_RAT	1.89 (p=.06)
AOEQ_TR	-1.63 (p=.11)
AOEQ_RAT	-.67 (p=.51)
CPOEQ_TR	-.29 (p=.77)
CPOEQ_RAT	.67 (p=.50)
PPOEQ_TR	-1.17 (p=.24)
PPOEQ_RAT	.72 (p=.47)
APQ_ID	1.25 (p=.21)
BDI-IA(total)	.27 (p=.76)
PPA	2.12 (p=.04)
TPA	1.53 (p=.13)
PRA	3.88 (p<.001)
TRA	3.11 (P=.002)

*Note.* TR indicates Tangible Rewards, RAT indicates Reducing Aversive Treatment.

**Correlations within OEQ measures TR and RAT subscales.**

**Boys.** AOEQ TR and OEQ TR were significantly positively correlated ( $r=.31$ ,  $p=.005$ ), indicating that boys share similar outcome expectations related to tangible rewards with their caregivers. AOEQ TR and CPOEQ TR were significantly positively correlated ( $r=.24$ ,  $p=.028$ ), indicating that high levels of caregiver tangible rewards aggressive outcome expectations were related to high levels of boys' perceptions of caregiver's tangible rewards outcome expectations. AOEQ TR and PPOEQ TR were significantly positively correlated ( $r=.26$ ,  $p=.04$ ), which indicates that caregiver's aggressive tangible rewards outcome expectations are related to their perceptions of their son's aggressive tangible rewards outcome expectations. OEQ TR and CPOEQ TR were significantly positively correlated ( $r=.51$ ,  $p<.001$ ); boys' aggressive tangible rewards outcome expectations were related to their perception of their caregivers' aggressive tangible rewards outcome expectations. CPOEQ TR and PPOEQ TR were significantly

positively correlated ( $r=.22$ ,  $p=.043$ ), indicating that boys' perceptions of caregivers' aggressive tangible rewards outcome expectations are related to caregivers' perceptions of aggressive tangible rewards outcome expectations in their sons. AOEQ RAT and PPOEQ RAT were significantly positively correlated ( $r=.29$ ,  $p=.008$ ), signifying that caregivers' reducing aversive treatment outcome expectations increase or decrease along with their perceptions of their sons' reducing aversive treatment outcome expectations.

**Girls.** AOEQ TR and OEQ TR were significantly negatively correlated ( $r=-.27$ ,  $p=.047$ ), indicating that as caregivers' tangible rewards outcome expectation become more aggressive, girls' tangible rewards outcome expectations become less aggressive. AOEQ TR and PPOEQ TR were significantly positively correlated ( $r=.32$ ,  $p=.027$ ), specifying that as caregivers' tangible rewards outcome expectations increase or decrease, so do their perceptions of their daughters' tangible rewards outcome expectations. OEQ TR and CPOEQ TR were significantly positively correlated ( $r=.55$ ,  $p<.001$ ), which indicates that girls' tangible rewards outcome expectations increase or decrease along with their perceptions of their caregivers' tangible rewards outcome expectations. OEQ RAT and CPOEQ RAT were significantly positively correlated ( $r=.38$ ,  $p=.006$ ), indicating that girls' reducing aversive treatment outcome expectations increase or decrease along with their perceptions of their parents' reducing aversive treatment outcome expectations.

#### **Correlations across OEQ measures TR and RAT subscales.**

**Boys.** AOEQ TR and CPOEQ RAT were significantly positively correlated ( $r=.22$ ,  $p=.045$ ), indicating that as caregivers' tangible rewards outcome expectations become more aggressive, boys' perceptions of their caregivers' reducing aversive treatment outcome expectations become more aggressive. AOEQ TR and PPOEQ RAT were significantly

positively correlated ( $r=.23$ ,  $p=.034$ ), indicating that as caregivers' tangible rewards outcome expectations increase or decrease, so do their perceptions of their sons' reducing aversive treatment outcome expectations. OEQ TR and CPOEQ RAT were significantly positively correlated ( $r=.38$ ,  $p<.001$ ); boys' tangible rewards outcome expectations increase or decrease along with their perceptions of their caregivers' reducing aversive treatment outcome expectations. OEQ RAT and CPOEQ TR were significantly positively correlated ( $r=.37$ ,  $p=.001$ ), indicating that boys' reducing aversive treatment outcome expectations and their perceptions of their caregivers' outcome expectations related to tangible rewards increase or decrease concurrently.

*Girls.* AOEQ TR and CPOEQ RAT were significantly negatively correlated ( $r=-.28$ ,  $p=.048$ ), indicating that girls' perceptions of their caregivers' level of aggressive reducing aversive treatment outcome expectations are opposite from their caregivers' actual level of aggressive tangible rewards outcome expectations. AOEQ TR and PPOEQ RAT were significantly positively correlated ( $r=.34$ ,  $p=.017$ ), which indicates that caregivers' tangible rewards outcome expectations increase or decrease along with their perceptions of their daughters' reducing aversive treatment outcome expectations. OEQ TR and CPOEQ RAT were significantly positively correlated ( $r=.36$ ,  $p=.011$ ), indicating that girls tangible rewards outcome expectations increase or decrease with their perceptions of their caregivers' reducing aversive treatment outcome expectations. OEQ RAT and CPOEQ TR were significantly positively correlated ( $r=.33$ ,  $p=.020$ ); girls' reducing aversive treatment outcome expectations increase or decrease simultaneously with their perceptions of their caregivers' tangible rewards outcome expectations.

### **Correlations between OEQ measures TR and RAT subscales and children's behavior**

**Boys.** AOEQ TR and TRA were significantly negatively correlated ( $r=-.34, p=.002$ ), indicating that boys of caregivers' with high levels of aggressive tangible rewards outcome expectations are more likely to display high levels of teacher-rated reactive aggression. CPOEQ TR and PPA were significantly negatively correlated ( $r=-.28, p=.009$ ), which indicates that boys who perceive caregiver aggressive tangible rewards outcome expectations are more likely to exhibit parent-rated proactive aggression. CPOEQ TR and PRA were significantly negatively correlated ( $r=-.22, p=.041$ ); boys who perceive caregiver aggressive tangible rewards outcome expectations are more likely to exhibit parent-rated reactive aggression. CPOEQ RAT and TRA were significantly negatively correlated ( $r=-.27, p=.041$ ), indicating that boys who perceive caregiver aggressive reducing aversive treatment outcome expectations are more likely to exhibit teacher-rated reactive aggression. PPOEQ TR and PPA were significantly negatively correlated ( $r=-.26, p=.018$ ), indicating caregiver perception of aggressive tangible rewards outcome expectations is related to high levels of parent-reported proactive aggression. PPOEQ TR and PRA were significantly negatively correlated ( $r=-.24, p=.031$ ), indicating caregiver perception of aggressive tangible rewards outcome expectations is related to high levels of parent-reported reactive aggression.

**Girls.** AOEQ RAT and TRA were significantly positively correlated ( $r=.30, p=.037$ ) indicating that girls of caregivers with high levels of aggressive reducing aversive treatment outcome expectations are more likely to display low levels of teacher-rated reactive aggression. CPOEQ RAT and PRA were significantly positively correlated ( $r=.33, p=.022$ ), indicating that girls' perception of caregiver aggressive reducing aversive treatment outcome expectations is related to low levels of parent-reported reactive aggression. CPOEQ RAT and PPA were

significantly positively correlated ( $r=.30, p=.0404$ ), indicating that girls' perception of caregiver aggressive reducing aversive treatment outcome expectation is related to low levels of parent-reported proactive aggression. PPOEQ TR and PPA were significantly negatively correlated ( $r=-.29, p=.041$ ), specifying that caregiver perception of girls' aggressive tangible rewards outcome expectations is related to high levels of parent-reported proactive aggression. PPOEQ RAT and TPA were significantly positively correlated ( $r=.37, p=.009$ ); parent perception of girls' aggressive reducing aversive treatment outcome expectations is related to low levels of teacher-reported proactive aggression.

#### **Correlations between Inconsistent Discipline, OEQ measures, and Child Aggression.**

**Boys.** Boys' CPOEQ TR was negatively correlated with inconsistent discipline ( $r=-0.25, p=.04$ ), indicating that boys' perception of caregivers' aggressive tangible rewards outcome expectations was related to high level of inconsistent discipline. Inconsistent discipline was significantly positively correlated with parent depression ( $r=0.24, p=.05$ ) and parent-rated reactive aggression ( $r=.33, p=.01$ ).

**Girls.** CPOEQ TR was significantly positively correlated with inconsistent discipline ( $r=.34, p=.03$ ), indicating that girls' perception of aggressive outcome expectations in their caregivers is related to low levels of inconsistent discipline. PPOEQ TR was significantly negatively related to inconsistent discipline ( $r=.34, p=.03$ ), indicating that parents' perceptions of their daughter's aggressive tangible rewards outcome expectations is related to high levels of inconsistent discipline. Inconsistent discipline is significantly positively related to parent depression ( $r=.35, p=.02$ ) and parent-rated reactive aggression ( $r=.32, p=.04$ ).

Table 3.4

*Correlations between Study Variables*

	AOEQ TR	AOEQ RAT	OEQ TR	OEQ RAT	CPOEQ TR	CPOEQ RAT	PPOEQ TR	PPOEQ RAT	APQ ID	BDI-IA	PPA	PRA	TPA	TRA
AOEQ TR	-	.51*	.31**	-.02	.24*	.22*	.26*	.23*	-.02	-.06	-.02	.07	-.20	-.34**
AOEQ RAT	.35*	-	.05	-.002	.02	-.01	.02	.29**	-.07	-.07	.04	.10	-.11	-.09
OEQ TR	-.27*	-.25	-	.33**	.51**	.54**	.20	.08	.03	.13	-.15	-.12	-.10	-.19
OEQ RAT	-.18	-.05	.41**	-	.37**	.49**	-.16	-.04	-.10	.005	.03	-.06	.03	-.07
CPOEQ TR	-.23	-.12	.55**	.33*	-	.66**	.22*	.03	-.25*	.08	-.28**	-.22*	-.11	-.24*
CPOEQ RAT	-.28*	-.07	.36**	.38**	.55**	-	.04	.09	-.04	.06	-.02	-.04	-.13	-.27*
PPOEQ TR	.32*	.10	.11	.13	.01	-.22	-	.53**	-.18	.01	-.26*	-.24*	-.19	-.09
PPOEQ RAT	.34*	.12	-.07	.05	.02	-.13	.43**	-	-.003	.06	.03	.05	-.01	.06
APQ ID	-.21	.18	.003	.10	.34*	.26	-.31*	-.20	-	.24*	.16	.33**	.14	.19
BDI-IA	-.05	.02	-.01	-.09	.25	0.0	-.29	.01	.36*	-	-.10	.09	-.09	.11
PPA	.10	-.03	-.04	-.12	.19	.30*	-.29*	.16	.22	.45**	-	.58**	.24*	.22
PRA	-.11	-.14	.009	-.26	.32	.33*	-.26	.10	.32*	.39*	.67**	-	.15	.21*
TPA	.20	.11	-.02	-.07	-.03	-.15	.05	.37**	-.15	0.0	.26	.03	-	.64**
TRA	.27	.30*	-.12	-.05	-.17	-.24	.09	.15	.09	-.04	.08	-.16	.41**	-

*Note.* Intercorrelations for boys are presented above the diagonal and intercorrelations for girls are presented below the diagonal.

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

### **Correlations between Inconsistent Discipline and Depression (BDI-IA) Factors.**

The correlation coefficients between the Inconsistent Discipline subscale and the factors of the BDI were: Total BDI score ( $r=.293$ ,  $p=.002$ ), Negative Attitudes towards Self ( $r=.295$ ,  $p=.002$ ), Performance Impairment ( $r=.214$ ,  $p=.027$ ), and Somatic Disturbance ( $r=.137$ ,  $p=.160$ ). Because two of the factors (Negative Attitudes towards Self and Performance Impairment) were similar to the Total Score and no one factor was significantly different from the Total score, the Total score was used in all analyses.

### **Mediational Analyses**

Analyses will first be presented as tested by the Baron and Kenny method (1986). Subsequently, analyses will be presented as tested by the Sobel test of indirect effects with bootstrapping (1982; Preacher & Hayes, 2004).<sup>1</sup>

**Baron and Kenny causal steps method.** Twenty mediations were tested using the Baron and Kenny model. Mediations were conducted separately by gender and outcome expectations subtype. Parent-and teacher-rated measures of aggression were both used. Only one significant partial mediation emerged using the Baron and Kenny (1986) method. For boys and the tangible rewards subscale, child perception of caregiver outcome expectations partially mediated the relation between caregiver outcome expectations and child outcome expectations [Step 1:  $t=2.89$  ( $p=.005$ ), Step 2:  $2.23$  ( $p=.028$ ), Step 3:  $4.82$  ( $p<.001$ ), Step 4:  $2.00$  ( $p=.049$ )]. No other significant mediation emerged with this method. However, although no other complete models were significant (all four requirements were satisfied), several significant regression coefficients emerged between variables (see Tables 3.5 and 3.6).

Four exploratory mediational analyses were also conducted to test the relation between

---

<sup>1</sup> All analyses involving proactive and reactive aggression were first run while controlling for the other form of aggression to determine unique associations. These were not significant, so analyses were re-run without controlling for the other form of aggression and these results are reported.

inconsistent discipline and reactive aggression, as opposed to proactive aggression, as the outcome variable. Child outcome expectations were tested as a mediator of this relation. Parent and teacher-reported aggression measures were used. Using the Baron and Kenny method (1986), no mediations were significant (see Tables 3.7 and 3.8).

Table 3.5

*Boys Summary Table of Regression Coefficients for 10 Hypothesized Mediation Models Assessed with Baron and Kenny Procedure*

IV	Mediator	DV	IV → DV	IV → M	M → DV	IV & M → DV
<u>Hypothesis 1a and 1b</u>						
AOEQ TR	CPOEQ TR	OEQ TR	2.89**	2.23**	4.82**	2.00*
AOEQ RAT	CPOEQ RAT	OEQ RAT	-.01	-.12	4.98**	.05
<u>Hypothesis 2a and 2b</u>						
OEQ TR	PPOEQ TR	ID	.21	1.61	-1.54	.51
OEQ RAT	PPOEQ RAT	ID	-.76	-.17	-.04	-.75
<u>Hypothesis 3a and 3b</u>						
BDI-IA	ID	OEQ TR	1.05	1.98*	-.04	1.02
BDI-IA	ID	OEQ RAT	.04	1.98*	-.79	.23
<u>Hypothesis 4a and 4b</u>						
ID	OEQ TR	PPA	1.30	.21	-1.71 <sup>+</sup>	1.37
ID	OEQ RAT	PPA	1.30	-.76	-.16	1.27
ID	OEQ TR	TPA	1.16	.21	-1.53	1.22
ID	OEQ RAT	TPA	1.16	-.76	.29	1.18

\*\* indicates correlation is significant at the .01 level; \* indicates correlation is significant at the .05 level; <sup>+</sup> indicates correlation is significant at the .10 level.

*Note.* TR indicates Tangible Rewards, RAT indicates Reducing Aversive Treatment.

Table 3.6

*Girls Summary Table of Regression Coefficients for 10 Hypothesized Mediation Models Assessed with Baron and Kenny Procedure*

IV	Mediator	DV	IV → DV	IV → M	M → DV	IV & M → DV
<u>Hypothesis 1a and 1b</u>						
AOEQ TR	CPOEQ TR	OEQ TR	-2.04*	-1.60	4.09**	-1.37
AOEQ RAT	CPOEQ RAT	OEQ RAT	-.35	-.48	2.81**	-.17
<u>Hypothesis 2a and 2b</u>						
OEQ TR	PPOEQ TR	ID	.02	1.10	-2.21*	.40
OEQ RAT	PPOEQ RAT	ID	.64	.75	-1.38	.81
<u>Hypothesis 3a and 3b</u>						
BDI-IA	ID	OEQ TR	-.09	2.37	.05	-.09
BDI-IA	ID	OEQ RAT	-.59	2.37*	.91	-.87
<u>Hypothesis 4a and 4b</u>						
ID	OEQ TR	PPA	1.41	.02	-.28	1.39
ID	OEQ RAT	PPA	1.41	.64	-.66	1.46
ID	OEQ TR	TPA	-.96	.02	-1.09	-.96
ID	OEQ RAT	TPA	-.96	.64	-.51	-.90

\*\* indicates correlation is significant at the .01 level; \* indicates correlation is significant at the .05 level; + indicates correlation is significant at the .10 level.

*Note.* TR indicates Tangible Rewards, RAT indicates Reducing Aversive Treatment.

Table 3.7

*Boys Summary Table of Regression Coefficients for 4 Reactive Aggression Exploratory Analyses Assessed with Baron and Kenny Procedure*

IV	Mediator	DV	IV → DV	IV → M	M → DV	IV & M → DV
ID	OEQ TR	PRA	2.82**	.21	-.60	2.83**
ID	OEQ RAT	PRA	2.82**	-.76	.05	2.79**
ID	OEQ TR	TRA	1.51	.22	-2.28*	1.62
ID	OEQ RAT	TRA	1.51	-.79	.71	1.45

\*\* indicates correlation is significant at the .01 level; \* indicates correlation is significant at the .05 level; + indicates correlation is significant at the .10 level.

*Note.* TR indicates Tangible Rewards, RAT indicates Reducing Aversive Treatment.

Table 3.8

*Girls Summary Table of Regression Coefficients for 4 Reactive Aggression Exploratory Analyses Assessed with Baron and Kenny Procedure*

IV	Mediator	DV	IV → DV	IV → M	M → DV	IV & M → DV
ID	OEQ TR	PRA	2.10**	.02	-.47	2.08**
ID	OEQ RAT	PRA	2.10**	.64	-2.16*	2.40*
ID	OEQ TR	TRA	.54	.02	-.51	.53
ID	OEQ RAT	TRA	.54	.64	-.93	.63

\*\* indicates correlation is significant at the .01 level; \* indicates correlation is significant at the .05 level; + indicates correlation is significant at the .10 level.

*Note.* TR indicates Tangible Rewards, RAT indicates Reducing Aversive Treatment.

#### **Sobel test of indirect effects and bootstrapping.**

**Boys (*Tangible Rewards subscale*).** Twenty mediational analyses were conducted using the Sobel test of indirect effects; they were conducted separately by gender and outcome expectations subtype. Parent-and teacher-rated aggression measures were both used. Only one hypothesized mediation reached significance using the Sobel test of indirect effects. The relation between caregiver outcome expectations and child outcome expectations (1a) mediated by child perception of caregiver outcome expectations (1b) using the tangible rewards subscale for all measures was significant ( $ab=.136$ ,  $z=2.04$ ,  $p=.041$ ). The 95% confidence interval around the estimated effect is significantly different from zero (.038, .298).

The remaining three sets of mediation analyses for boys using the tangible rewards subscale were nonsignificant. The relation between child outcome expectations and inconsistent discipline (2a) with the caregiver perception of the child's outcome expectations as a mediator (2b) using the tangible rewards subscale was not significant ( $ab=-.037$ ,  $z=-1.127$ ,  $p>.05$ , 95% confidence interval = -.122, .004). The relation between caregiver depression and child outcome

expectations tangible rewards subscale (3a) mediated by inconsistent discipline (3b) was not significant ( $ab = -.0001$ ,  $z = -.042$ ,  $p > .05$  95% confidence interval =  $-.007$ ,  $.006$ ). The relation between inconsistent discipline and caregiver-rated proactive aggression (4a) with child outcome expectations tangible rewards subscale as a mediator (4b) was not significant ( $ab = -.007$ ,  $z = -.210$ , 95% confidence interval =  $-.139$ ,  $.052$ ). The relation between inconsistent discipline and teacher-rated proactive aggression with child tangible rewards outcome expectations as a mediator was not significant ( $ab = -.033$ ,  $z = -.155$ ,  $p > .05$ ). The 95% bootstrapping confidence interval was not significantly different from zero ( $-.596$ ,  $.268$ ).

To explore the relation between outcome expectations and reactive aggression, Hypothesis 4a and 4b were also conducted with caregiver-rated reactive aggression; the effect was not significant ( $ab = -.003$ ,  $z = -.120$ ,  $p > .05$ ) and the bootstrapping confidence interval was not significantly different from zero ( $-.099$ ,  $.060$ ). This mediation was also conducted with teacher-rated reactive aggression. The tangible rewards subscale did not significantly mediate the relation between inconsistent discipline and teacher-rated reactive aggression ( $ab = -.034$ ,  $z = -.223$ ,  $p > .05$ , 95% confidence interval =  $-.440$ ,  $.267$ )

**Boys (*Reducing Aversive Treatment subscale*).** All four sets of mediation analyses were nonsignificant. The relation between caregiver outcome expectations and child outcome expectations (1a) mediated by child perception of caregiver outcome expectations (1b) using the reducing aversive treatment subscale for all measures was not significant ( $ab = -.009$ ,  $z = -.122$ ,  $p > .05$ , 95% confidence interval =  $-.187$ ,  $.187$ ). The relation between child outcome expectations and inconsistent discipline (2a) with the caregiver perception of the child's outcome expectations as a mediator (2b) using the reducing aversive treatment subscale was not significant ( $ab = .0001$ ,  $z = .007$ ,  $p > .05$ , 95% confidence interval =  $-.049$ ,  $.019$ ). The relation between caregiver

depression and child outcome expectations reducing aversive treatment subscale (3a) mediated by inconsistent discipline (3b) was not significant ( $ab=-.003$ ,  $z=-.742$ ,  $p>.05$ , 95% confidence interval =  $-.014$ ,  $.004$ ). The relation between inconsistent discipline and caregiver-rated proactive aggression (4a) with child outcome expectations reducing aversive treatment subscale as a mediator (4b) was not significant ( $ab=.003$ ,  $z=.162$ ,  $p>.05$ , 95% confidence interval =  $-.033$ ,  $.119$ ). When using teacher-rated proactive aggression, the mediated effect was not significant ( $ab=-.023$ ,  $z=-.273$ ,  $p>.05$ , 95% confidence interval =  $-.514$ ,  $.158$ ).

The exploratory analyses with reactive aggression were not significant. The mediated effect was not significant with the substitution of caregiver-rated reactive aggression ( $ab=-.001$ ,  $z=-.051$ ,  $p>.05$ , 95% confidence interval =  $-.097$ ,  $.065$ ). The child outcome expectations reducing aversive treatment subscale did not significantly mediate the relation between inconsistent discipline and teacher-rated reactive aggression ( $ab=.020$ ,  $z=.337$ ,  $p>.05$ , 95% confidence interval =  $-.081$ ,  $.354$ ).

***Girls (Tangible Rewards subscale).*** All four sets of mediation analyses were nonsignificant. The relation between caregiver outcome expectations and child outcome expectations (1a) mediated by child perception of caregiver outcome expectations (1b) was not significant when using the tangible rewards subscale ( $ab=-.160$ ,  $z=-1.506$ ,  $p=.132$ , 95% confidence interval =  $-.356$ ,  $.004$ ). The relation between child outcome expectations and inconsistent discipline (2a) with the caregiver perception of the child's outcome expectations as a mediator (2b) was not significant when using the tangible rewards subscale ( $ab=-.065$ ,  $z=1.01$ ,  $p>.05$ , 95% confidence interval =  $-.267$ ,  $.039$ ). The relation between caregiver depression and child outcome expectations tangible rewards subscale (3a) mediated by inconsistent discipline (3b) was not significant ( $ab=-.0002$ ,  $z=.051$ ,  $p>.05$ , 95% confidence interval =  $-.009$ ,  $.012$ ). The

relation between inconsistent discipline and caregiver-rated proactive aggression (4a) with child outcome expectations tangible rewards subscale as a mediator (4b) was not significant ( $ab=-.0001$ ,  $z=-.017$ ,  $p>.05$ , 95% confidence interval =  $-.053, .036$ ). The mediated effect between inconsistent discipline and teacher-rated proactive aggression was not significant ( $ab=-.002$ ,  $z=-.017$ ,  $p>.05$ , 95% confidence interval =  $-.320, .293$ ).

This analysis was also conducted with caregiver-rated reactive aggression; the effect was not significant ( $ab=-.0003$ ,  $z=-.017$ ,  $p>.05$ ) and the bootstrapping confidence interval was not significantly different from zero ( $-.101, .096$ ). The mediated effect with the substitution of teacher-rated reactive aggression was also not significant ( $ab=-.0007$ ,  $z=-.017$ ,  $p>.05$ , 95% confidence interval =  $-.151, .187$ ).

***Girls (Reducing Aversive Treatment subscale).*** All four sets of mediation analyses were nonsignificant. The relation between caregiver outcome expectations and child outcome expectations (1a) mediated by child perception of caregiver outcome expectations (1b) was not significant when using the reducing aversive treatment subscale ( $ab=-.034$ ,  $z=-.478$ ,  $p>.05$ , 95% confidence interval =  $-.193, .117$ ). The relation between child outcome expectations and inconsistent discipline (2a) with the caregiver perception of the child's outcome expectations as a mediator (2b) was not significant with the reducing aversive treatment subscale ( $ab=-.026$ ,  $z=-.672$ ,  $p>.05$ , 95% confidence interval =  $-.145, .046$ ). The relation between caregiver depression and child outcome expectations reducing aversive treatment subscale (3a) mediated by inconsistent discipline (3b) was not significant ( $ab=-.005$ ,  $z=-.868$ ,  $p>.05$ , 95% confidence interval =  $-.002, .027$ ). The relation between inconsistent discipline and caregiver-rated proactive aggression (4a) with child outcome expectations reducing aversive treatment subscale as a mediator (4b) was not significant ( $ab=-.010$ ,  $z=-.470$ ,  $p>.05$ , 95% confidence interval = -

.112, .020). Child outcome expectations reducing aversive treatment subscale did not significantly mediate the relation between inconsistent discipline and teacher-rated proactive aggression ( $ab=-.036$ ,  $z=-.407$ ,  $p>.05$ , 95% confidence interval =  $-.447$ ,  $.092$ ).

Exploratory analyses were conducted with reactive aggression as the outcome variable. The mediated effect using parent-rated reactive aggression was not significant ( $ab=-.054$ ,  $z=-.623$ ,  $p>.05$ , 95% confidence interval =  $-.310$ ,  $.050$ ). The mediated effect was also not significant with the substitution of teacher-rated reactive aggression ( $ab=-.048$ ,  $z=-.537$ ,  $p>.05$ , 95% confidence interval =  $-.431$ ,  $.059$ ).

### **Secondary Analyses**

The cross-sectional nature of the current study does not allow for determinations to be made about order of effects; therefore, all proposed mediations were conducted with each variable in the IV, mediator, and DV position. Only one significant mediation emerged as an alternative to the significant mediation described earlier (caregiver outcome expectations and child outcome expectations, mediated by child perception of caregiver outcome expectations, for boys and the tangible rewards subscale). Alternatively, the relation between caregiver outcome expectations and child perception of caregiver outcome expectations as mediated by child outcome expectations was also significant ( $ab=.178$ ,  $z=2.50$ ,  $p=.013$ ). The 95% confidence interval around the estimated effect is significantly different from zero ( $.036$ ,  $.371$ ).

**AOEQ Likelihood vs. AOEQ Other Likelihood.** A paired-samples t-test was conducted to analyze the difference between caregiver judgments of the likelihood of the respondent committing the aggressive act detailed on the AOEQ and the caregiver's judgment of the likelihood of "someone else" committing the same act. Caregivers' judgment of "someone else's" likelihood of committing an aggressive act was significantly higher than their judgment

of their own likelihood of committing the same aggressive act ( $t=5.80$ ,  $p<.001$ ). It must be noted that this test was conducted with only the fifteen participants who completed the version of the AOEQ with questions about the likelihood of someone else completing each aggressive act. Because of the small sample size and caregivers as respondents rather than children, this analysis was not completed separately for boys and girls.

## CHAPTER 4

### DISCUSSION

The current study examined the relation between child and parent outcome expectations, child and parent perceptions of the other's outcome expectations, and the impact of those perceptions on child and parent behavior. In addition, the effect of two parent behaviors, parent inconsistent discipline and parent depression, on child aggression and outcome expectations was also examined. A total of twenty mediation analyses were run to test the four mediational hypotheses. Three sets of exploratory analyses were conducted: (1) relation between child outcome expectations and reactive aggression, (2) differential relations between subtypes of caregiver depression and inconsistent discipline, and (3) differences between caregivers' reports of how likely they would be to commit the aggressive acts on the measure of adult outcome expectations and their reports of how likely someone else would be to commit the acts.

Different patterns of relations between the outcome expectations constructs in the current study were evident for boys versus girls, including some significant findings that were in opposite directions for boys versus girls. Therefore, all mediations and subsequent analyses were conducted separately for boys and girls. Out of the 20 hypothesized mediation paths, support emerged for one aspect of the first central hypothesis. As hypothesized, the relation between parent outcome expectations and child outcome expectations was mediated by child perception of parent outcome expectations, but only for boys and only for attaining tangible rewards

outcome expectations.<sup>2</sup> No other proposed mediations were significant for boys. For girls, although no mediations were significant, correlations between several of the outcome expectations variables were significant. These and several other interesting correlations that emerged during exploratory analyses will be discussed.

### **Parent Outcome Expectations and Child Outcome Expectations, Mediated by Child Perception of Parent Outcome Expectations**

As hypothesized, for boys and attaining tangible rewards outcome expectations, the effect of caregiver outcome expectations on child outcome expectations was mediated by child perception of caregiver outcome expectations. It must be mentioned that this was the only significant finding out of several completed analyses, raising concern that this finding may be due to chance; however, this has important implications for child aggression research.

Caregivers who have aggressive tangible rewards outcome expectations are more likely to have boys who perceive those outcome expectations, and in turn, are more likely to hold aggressive tangible rewards outcome expectations themselves. This provides support for the transmission of parent antisocial values or social cognitive deficiencies to children through the children's perception or belief of what their parent would do, similar to limited research on the concordance between parent and child social cognitive deficiencies and distortions (Halligan et al., 2007; MacBrayer et al., 2003; McDowell et al., 2002). The current study replicates and extends the current research, first by demonstrating similar outcome expectations between boys and their caregivers', but also by highlighting the boys' perceptions as the operating mechanism in the relation.

Research has sporadically and inconsistently examined the role of parent's own antisocial

---

<sup>2</sup>Given the large number of analyses, it must be noted that this finding may be due to chance, or the family wise error.

values and aggressogenic cognitions in the development of the same variables in their children, more often exploring parenting behavior, socioeconomic status or neighborhood disadvantage, and family structure (Del Vecchio & O'Leary, 2006; Fite et al., 2009; Snyder et al., 2005). Furthermore, most studies have examined the effect of the previous variables on child *behavior* as opposed to their impact on child beliefs and values, which are often responsible for the behavior. However, of the few research studies that have examined these parent variables, most have found a relation between parent social cognitions, child social cognitions, and child aggressive behavior. For example, research has indicated a positive relation between mothers' and daughters' normative beliefs about aggression (Werner & Grant, 2009), between mother's and daughter's hostile attribution biases (MacBrayer et al., 2003), and between maternal endorsement of aggression and sons' poor problem solving (Pettit, Dodge, & Brown, 1988). These findings reinforce the need for studying this important method of development of aggressogenic cognitions and beliefs in children.

Even though evidence for transmission of aggressogenic cognitions between parent and child exists, the specific methods of transmission are less clear and less studied. The current study implicates boy's perceptions as an important mechanism. Children of aggressive parents are exposed to their parent's aggressive behavior, and it may be that boys perceive their parent's cognitions about aggression, including outcome expectations, during these encounters. All people make attributions or develop perceptions about reasons for others' behavior, including personality traits, motives, and contextual factors (Heider, 1958; Reeder, Vonk, Ronk, Ham, & Lawrence, 2004). Boys who see their parents frequently engage in aggression to attain tangible rewards likely begin to perceive that their parent thinks this is an acceptable behavior. Without direct instruction or explanation of the parent's motives for aggression, the message about the

effectiveness of aggression is presented implicitly, causing the child to decode the parent's position, which can lead to better comprehension (Grusec & Goodnow, 1994). Once this message is perceived, children who identify with their parents are likely to subscribe to a similar belief (Grusec & Goodnow, 1994; Grusec et al., 2000).

Parents are likely also discussing their cognitions about the effectiveness of aggressive behavior to attain tangible rewards with their children, providing an explicit message, and an obvious method of socialization. Because this was not tested during the current examination, the effect of parental discussions regarding outcome expectations on the children's perception of those outcome expectations, and their subsequent contribution to the development of the child's own outcome expectations is unknown. To fully comprehend how children perceive parental outcome expectations, future research could ask children how they determined what their parent's response would be. In addition, researchers can ask specific questions about what parents have told them about the effectiveness of aggression as well as attributions made during situations where they have seen a parent behave aggressively. An important distinction for this research should be the different messages parents provide about the effectiveness of their own aggression in peer situations as opposed to messages regarding how their children should attain tangible rewards in peer situations. These messages may be similar (e.g., parents and children should use aggression equally) or different (e.g., one should use aggression more than the other), which may have different effects on children's perception of parent outcome expectations.

### **Outcome Expectations Subtype - Attaining Tangible Rewards vs. Reducing Aversive Treatment**

As mentioned previously, for boys and attaining tangible rewards outcome expectations, the relation between parent outcome expectations, child perception of parent outcome expectations, and child outcome expectations followed the expected pattern. Boys are able to

accurately perceive caregiver's tangible rewards outcome expectations, as evidenced by a significant positive relation between child perception of outcome expectations and actual caregiver outcome expectations; for reducing aversive treatment, this relation is close to zero for both boys and girls. Furthermore, there is no relation between caregiver and children's actual outcome expectations for reducing aversive treatment, suggesting that not only do children not perceive their caregivers' reducing aversive treatment outcome expectations, they also do not share them with their parents either. For girls, although the relation between child perception of caregiver tangible rewards outcome expectations and actual caregiver outcome expectations was stronger than the same relation for the reducing aversive treatment subscale, the two constructs were negatively correlated, indicating that there is a trend for girls to *consistently inaccurately* perceive caregiver tangible reward outcome expectations. This will be discussed in the next section.

Young children have a natural tendency to think of others in concrete behavioral and physical characteristics rather than in terms of invisible psychological qualities (Hart et al., 1990; Shantz, 1987). It may be that tangible rewards outcome expectations are easier to perceive given that parent's motives for aggression are more clear; specifically the aggression is enacted to obtain an actual object, which is visible. In contrast, children may not be able to perceive caregiver's motives for aggression enacted to reduce aversive treatment. If the aversive treatment responsible for the caregiver's aggressive behavior is not obvious or the parent misinterpreted an action as hostile, children may not understand the reason for their parent's aggression. This lack of clear motive for caregiver aggressive behavior may contribute to children's difficulty perceiving reducing aversive treatment outcome expectations in caregivers. In addition, more items on the tangible rewards subscale described caregiver physical aggression

as opposed to verbal aggression. Given that the frequency of physical aggression decreases in adolescence and adulthood (Bailey & Ostrov, 2008), caregiver physical aggression may be much more salient to children, likely drawing child attention and providing a clear experience for children to learn caregiver outcome expectations, and in turn, increasing their ability to accurately report on caregiver outcome expectations in those situations.

The current study did not examine the influence of peers on children's development of outcome expectations. As children age, they increasingly attend to peers as models for their behavior (Rah & Parke, 2008). In fact, peer interaction may be one of the most important contexts for human development of aggression in children (Hartup, 1974). It may be that children learn reducing aversive treatment outcome expectations from peers rather than parents, explaining the lack of relation between child outcome expectations and parent outcome expectations or child perception of parent outcome expectations for reducing aversive treatment. As mentioned earlier, caregivers' use of aggression to attain tangible rewards may be salient and easier to perceive, and through modeling, parents provide clear examples for their children to witness and learn tangible rewards outcome expectations.

In contrast, given the difficulty of perceiving reducing aversive treatment outcome expectations, children may look to peers for appropriate behavior when treated unfairly or negatively by another person. Peer transmission of reducing aversive treatment outcome expectations likely occurs through positive reinforcement, negative reinforcement, modeling, and the child's perception of peer beliefs or social cognitions regarding aggressive behavior; each process will be discussed. First, peers may be more clear in their support of aggression, even offering positive reinforcement for aggressive behavior. Consider fights on the playground surrounded by children chanting "Fight, fight, fight!" or the influence of deviant peers discussing

the importance of retaliation in response to aversive treatment. Dishion and colleagues (1999; 2010) have collected extensive research supportive of “deviancy training” in groups, where children exhibit increased aggression after positive reinforcement by group members for such behavior. Negative reinforcement is provided when aversive treatment is discontinued in response to aggressive behavior. Children who find their aggression successful with peers are likely to continue aggressive behavior in future conflict scenarios. Modeling has long been implicated in the development of child aggression (Snyder et al., 2005; Vitaro et al., 2006). Children learn behavior from classmates and other peers; therefore, children who witness peer aggression enacted to reduce aversive treatment are more likely to exhibit aggression in similar contexts. All of these processes likely contribute to the development of aggressive outcome expectations.

Finally, and of particular importance to the current study, research has supported the role of group and individual social cognitions in the development of aggressogenic cognitions and aggressive behavior (Barth, Dunlap, Dane, Lochman, & Wells, 2004). Henry, Guerra, Huesmann, Tolan, VanAcker, and Eron (2000) indicated that children in classrooms with norms supportive of overt aggression were more likely to engage in overt aggressive behavior and have individual norms supportive of overt aggression two years later. Elementary and middle aged children who were in peer groups supportive of relational aggression exhibited higher levels of aggression-supporting cognitions and aggressive behavior one year later (Werner & Crick, 2004; Werner & Hill, 2010). Similarly, children may also be affected by peers’ level of aggressive outcome expectations. Classroom environments supportive of aggression as an effective way to obtain positive consequences likely contribute to the development of aggressive outcome expectations. It must be noted that it is likely that children also learn tangible rewards outcome

expectations from peers through negative and positive reinforcement, modeling, and perceptions of peers' tangible rewards outcome expectations; for example, when their own or peer's aggression results in attainment of a tangible reward. However, in addition to development in peer situations, children may also be able to learn tangible rewards outcome expectations from parents.

Interestingly, and in support of the differential development of outcome expectations subtypes, effectiveness studies for the Coping Power program have demonstrated that one of the active mechanisms for behavioral change is a decrease in reducing aversive treatment outcome expectations (Lochman & Dodge, 1994; Lochman, et al., 2009). If children are exposed early in development to their parents' aggressive outcome expectations, as with tangible rewards, the child's own outcome expectations may be solidified early, making them more resistant to change. Outcome expectations related to reducing aversive treatment may emerge from children's reactions to aversive provocation during the course of development, and may make them more amenable to change during intervention. Interventions focused on assisting children's reactions to provocations may have a particular effect on this form of outcome expectations. However, the lack of change in tangible rewards outcome expectations during intervention programs is concerning, given that those outcome expectations are also responsible for aggressive behavior. Treatment of these outcome expectations may require a different approach.

In conclusion, although children likely learn tangible rewards outcome expectations from peers and parents, it may be more difficult to learn reducing aversive treatment outcome expectations from parents given their inconsistent behavior and unclear motives for aggression with adult peers. Therefore, children may turn to peers to learn how to behave in response to

aversive treatment, and develop reducing aversive treatment outcome expectations through modeling, perception of peers' outcome expectations, and positive and negative reinforcement for their aggressive behavior enacted to stop negative treatment. Unfortunately, current data do not allow testing of this hypothesis; further research should include peer outcome expectations and children's perceptions of their peers' outcome expectations to explore this hypothesis, as well as longitudinal research to examine the course of outcome expectations development during childhood.

### **Outcome Expectations and Gender**

Although boys' development of outcome expectations followed the expected pattern (for tangible rewards, the relation between parent outcome expectations and child outcome expectations was mediated by child perception of caregiver outcome expectations), this mediation was not significant for girls. In fact, for tangible rewards, girls' outcome expectations and perception of parent outcome expectations were significantly opposite from caregiver outcome expectations. It must be noted that the caregivers in the current sample were overwhelmingly female. Therefore, the stronger concordance between caregivers and sons' outcome expectations is in contrast with past research which shows a stronger relation between same-sex parent-child dyads social cognitive variables, often explained by social learning theory and children's identification with their same-sex parent (MacBrayer et al., 2003; Werner & Grant, 2009). In addition, research on aggressive behavior also shows a stronger concordance within same sex-dyads. Studies by Farrington and colleagues (Farrington, Coid, & Murray, 2009; Farrington, Joliffe, Loeber, Stouthamer-Loeber, & Kalb, 2001) indicated that convicted parents are more likely to have children who have also been convicted and additionally report a high level of delinquency, defined as minor and major theft, carrying weapons, gang fighting,

burglary, forced sexual contact, selling drugs, and physical assault or murder.. This relation was stronger within same-sex parent-child dyads. However, the relation between parent and child offending remained significant after controlling for family, socio-economic, and individual risk factors for aggressive behavior for fathers and sons only. Similarly, Farrington et al. (2001) reported that fathers' arrests are most important for sons' convictions; father's arrests predicted boys' delinquency and convictions independently of all other relatives.

However, other research has found a stronger relation between social cognitions for boys and their mothers rather than girls and their mothers (Duman & Margolin, 2007; Hart et al., 1990). Authors did not propose an explanation for these gender effects, and the current study does not have measures to definitely explain the reverse effect for girls. It may be that overtly aggressive girls have caregivers who are disengaged in general, making it difficult for girls to perceive their outcome expectations. In support of the greater overall level of disengaged parenting that girls receive, results indicated that parent perception of aggressive tangible rewards outcome expectations in daughters was related to high levels of inconsistent discipline. Given the correlational nature of the results, no definitive direction of effect can be described. However, it is possible that parents who perceive aggressive tangible rewards outcome expectations in their daughters are even more likely to be inconsistent, given the gender non-normativeness of aggression in girls (Crick, 1997). Given that the current study did not test this specific hypothesis and previous research is limited, caution is warranted in interpreting these findings. Future research should explore the impact of parent and child gender when examining the relation between parent and child social cognitive deficiencies and distortions.

Consistent with prior research, girls were less aggressive than boys in the current study; interestingly, they were more likely to have aggressive outcome expectations. Although caution

should again be warranted when interpreting these results given limited research, it is possible that girls have protective factors against enacting their aggressive outcome expectations. Differential socialization of boys and girls often teaches girls that aggression is inappropriate, limiting the likelihood of aggressive behavior even in the presence of aggressive outcome expectations. Girls are also more adept at emotion regulation, experience faster development of their frontal cortex, have better social skills, and higher effortful control (Zahn-Waxler, Shirtcliff, & Marceau, 2008), which also limit the display of aggression.

### **Inconsistent Discipline**

Contrary to expectations and previous research (Wojnaroski, 2007), inconsistent discipline was not related to outcome expectations, with the exception of the significant correlation between inconsistent discipline and parent perception of tangible rewards outcome expectations. Furthermore, this relation was only present for girls. The current measure of inconsistent discipline asks about objective measures of inconsistent discipline (e.g., “you threaten to punish your child and then do not actually punish him/her”) or questions related to parent energy or mood (e.g., “you feel that getting your child to obey is more trouble than it’s worth”). However, several types or reasons for inconsistent discipline have been proposed. For example, some parents may be inconsistent due to depression (Barry et al., 2005; 2009) while others may be inconsistent due to low self-efficacy and a history of failed discipline attempts with aggressive children (Anderson et al., 1986). Including only two items that describe a similar motivation for inconsistent discipline (e.g., mood and energy) may not provide a complete picture of inconsistent discipline and its relation with other variables, leading to inconsistent findings between samples.

Characteristics of the measure or the administration method may have also affected

responses and therefore influenced relations between inconsistent discipline and other variables of interest. First, inconsistent discipline is difficult to measure, as it is by definition, inconsistent. Inconsistent discipline is often a spontaneous decision based on several factors operating at the moment (e.g., parent mood, energy level, type of child transgression), which may make it difficult for parents to reliably and accurately report on their behavior on a questionnaire. In support of this, internal consistency estimates for inconsistent discipline in the current sample were below optimal levels for internal consistency in social science research (.53 for boys, .59 for girls). Although a relation between inconsistent discipline and child outcome expectations has been found (Wojnarowski, 2007), variations in sample characteristics may have affected results. Another explanation may be social desirability, which may have impacted caregiver responses, as parents may have answered questions inaccurately in order to present themselves in a more favorable light to the interviewer.

**Inconsistent discipline and caregiver depression.** Although the overall mediation involving caregiver depression was not significant (relation between caregiver depression and child outcome expectations mediated by inconsistent discipline), correlations between caregiver depression and inconsistent discipline were significant for both boys and girls, consistent with previous research (Barry et al., 2009). Although caregiver depression has been shown to be related to inconsistent discipline and inconsistent discipline has been shown to be related to child outcome expectations, the form of inconsistent discipline that may be responsible for this relation may not be related to depression. Given Patterson's work (1986) describing the process between harsh and inconsistent parenting and the reinforcement parents receive when inconsistent in response to their children's misbehavior, it may be that inconsistent discipline is caused by a history of failed discipline attempts and the reinforcement that occurs when parents remove

discipline in response to coercive behavior (Patterson, 1986). Reasons for the lack of relation between inconsistent discipline and outcome expectations, the second path of the mediation, have been described earlier.

The correlations between the BDI factors and inconsistent discipline were not significantly different from each other or the total score which indicates no single factor should have been used in the analyses instead of the total score. However, the Somatic Disturbance subscale was not significantly related to inconsistent discipline, although the other two subscales and total score were. This indicates that the cognitive and performance symptoms and not the physiological symptoms of depression (e.g., insomnia, loss of appetite) are more likely to be responsible for the disturbance in parenting.

### **Outcome Expectations and Aggressive Behavior**

In contrast to prior research (Fontaine et al., 2002; Lochman & Dodge, 1994; Perry et al., 1986), there was no correlation between children's outcome expectations and aggressive behavior in the current sample. Although the reason for the lack of a significant relation is unclear, three possibilities should be considered. First, most of the studies that have examined this relation have either used peer-reported aggression or behavioral observations, and not parent or teacher-rated aggression as in the current sample (Perry et al., 1986; Perry et al., 1989). The items on the current measures (BASC and Reactive and Proactive Aggression Screener) may tap into different aspects of aggression that are less related to outcome expectations. This possibility should continue to be explored through attempted replication of the current finding using teacher and parent-rated aggression. Next, previous research has not studied relations between outcome expectations and aggression in an at-risk sample screened for aggressive behavior. Many studies have compared outcome expectations between at-risk populations and typically developing

controls or examined outcome expectations in community or correctional settings. It may be that variability in outcome expectations in this type of sample is not very meaningful as most children who are at-risk for aggression have some type of aggressive outcome expectations. Thus, aggressive outcome expectations may not be useful for predicting differences in aggression in the current type of sample (Egan et al., 1998; Lochman & Dodge, 1994; Marsee & Frick, 2007). Finally, several studies that have examined the relation between outcome expectations and aggression have used adolescent samples. Although studies that have used similarly aged and younger children have found a relation between outcome expectations and aggression, it is known that social cognitions are continuing to stabilize during this age which may make it difficult to find a significant and reliable finding (Crick & Ladd, 1990; Dodge & Price, 1994; Stickle et al., 2009).

Interestingly, children's perception of their caregiver's outcome expectations was related to parent and teacher rated aggressive behavior. For boys, perception of aggressive outcome expectations related to tangible rewards and reducing aversive treatment was related to high levels of teacher-reported reactive aggressive behavior, while for girls, child perception of reducing aversive treatment outcome expectations was related to parent-rated reactive and proactive aggression. An explanation for this finding is not clear, but results clearly indicate that child perceptions of caregiver outcome expectations impact child behavior and should be a focus of intervention.

### **Exploratory Findings**

**Caregiver report of the likelihood of their aggressive behavior.** When completing the self-report measure of outcome expectations, parents also reported the likelihood of their enacting the aggressive act described in the item. In addition, a small subset of caregivers also

reported the likelihood of “someone else” completing the aggressive act. This represents an indirect question, as opposed to the direct nature of the first question (Fisher, 1993). Theorists have proposed that indirect questions are an appropriate method to reduce social desirability bias and often provide a more accurate report of the respondent’s actual beliefs and behaviors due to classical projection theory. This has been demonstrated with previous research that indicates individuals provide different responses for themselves and ‘typical others’ for socially sensitive variables but not socially neutral variables (Fisher, 1993).

Caregiver report of someone else’s likelihood of completing the act was significantly higher than their report of their own likelihood. Although the small sample size limits strong interpretations of these findings, they are commensurate with previous research that indicates respondents are less likely to answer direct questions about sensitive subjects honestly due to social desirability bias. Indirect questioning can be an important tool to reduce social desirability bias and obtain more accurate information about respondents’ beliefs and behaviors. Further validation of the Adult Outcome Expectations Questionnaire (AOEQ) should compare direct questioning with indirect questioning (e.g., What do you think *someone else* thinks happens next?) and differential relations with other variables of interest, including child outcome expectations and child perceptions of parent outcome expectations.

**Additional correlations between outcome expectations measures.** For both children and parents, correlations between the respondents’ own outcome expectations and their perception of someone else’s outcome expectations were much larger in magnitude than correlations between respondents’ perceptions of outcome expectations and the actual outcome expectations that were being perceived. This is consistent with previous research that has

described the false-consensus effect (Wetzel & Walton, 1985). This occurred within each outcome expectation subscale and across subscales, which is expected, given the moderate to strong correlations between respondents' reducing aversive treatment and tangible rewards outcome expectations.

Caregivers' tangible rewards outcome expectations and boy's perceptions of their caregivers' reducing aversive treatment outcome expectations were positively related, while for girls, the two constructs were negatively related. This follows the pattern described above for relations within subscales for boys and girls, and is also expected given the strong positive relation between the two subtypes in the current sample.

### **Effects of Psychometric Properties and Measure on Findings**

Although initial internal consistency estimates collected during the pilot study were high, final alphas for the newly created measures ranged from .58 to .74, with some estimates below the standard for adequate reliability. Although psychometric guidelines for alpha cut-offs range from .6 to .8, .7 is widely accepted as the cut-off for alpha in social science research (Cronbach, 1951; Streiner & Norman, 2008). Low reliability in measures makes it more difficult to find a significant relation, even when one exists due to increasing standard error. However, these coefficients are similar to those obtained in other studies of social cognition (Dodge et al., 2002; Lochman & Dodge, 1994) and indicate that social cognitive deficiencies, including outcome expectations, are dynamic and can change in response to different situations and contextual factors. In addition, moderate internal consistency is desired as opposed to total or very high consistency given that this could be a reflection of redundancy in items (Dodge et al., 2002). However, continued refinement of measures used to assess outcome expectations and parent and child perceptions of outcome expectations should be conducted to determine if low reliability is a

function of the construct of outcome expectations or the newly developed measure. In either case, more studies are needed before final conclusions are made regarding the lack of findings.

Research on outcome expectations and aggression in children, although extensive, has not used one measure of outcome expectations, but rather several different measures that assess different types of outcome expectations (e.g., expectation for tangible reward or reduction of aversive treatment, expectation of victim suffering, expectation of satisfaction after engaging in aggressive act). Fontaine and colleagues have developed a comprehensive measure that includes several types of outcome expectations that have been linked to aggression (2006; 2009; 2010). These evaluative processes include: (1) a primary threshold of acceptability, (2) response efficacy and valuation, (3) outcome expectancy and valuation, (4) response comparison, and (5) response selection. Measuring only one type of outcome expectation, although initially important to determine the predictive ability of each, may miss some of the complex processes and interactions that occur among each type. Given the likely interaction between all of types of outcome expectations, it will be important for future studies to be inclusive of all types, and may consider developing a model that can determine which outcome expectations are most important for which specific interactions (peer, parent, conflict, etc.) and settings.

### **Limitations**

Current analyses were conducted with cross-sectional data rather than longitudinal data. Given that data was collected at one point at time, it is appropriate to provide tentative conclusions about the direction of effect and development of outcome expectations. Finally, the majority of the participants were African American, which could limit the generalizability of the results.

## **Implications**

The limited and correlational findings warrant caution in discussing implications. However, it appears that parents have outcome expectations about aggression that can be reliably measured. Furthermore, results from the current study indicate that boys' tangible rewards outcome expectations are likely influenced by parents' outcome expectations through child perceptions of caregiver aggressogenic cognitions. These findings contribute to the literature aiming to determine the process of development of social cognitive deficiencies and distortions in general, and outcome expectations in particular. With regard to implications for intervention, it will be important for clinicians to target parent outcome expectations for aggression when possible as well as child perception of caregiver outcome expectations, given their ability to impact children's outcome expectations and behavior.

## **Future Research**

Given the knowledge that social cognitive deficiencies and distortions are multiply determined, future research should examine the predictive ability of a set of key variables to predict the development of children's outcome expectations. This model could include variables known to be associated with children's aggressogenic social cognitions, including parent, teacher and peer social cognitions (MacBrayer et al., 2003; Werner & Hill, 2010), the child's perceptions of those social cognitions (Grusec & Goodnow, 1994), parenting behavior (Haskett & Willoughby, 2006), parent's social cognitive deficiencies and distortions related to effective parenting (Rah & Parke, 2008), and victimization and acceptance by peers (Egan et al., 1998). Given differences in the development of aggressive behavior as well as types of aggressive behavior demonstrated in the current study and extant research, these analyses should be conducted separately for boys and girls (Bussey & Bandura, 1992; McFayden-Ketchum et al.,

1996; Ostrov & Godleski, 2010). These studies should be longitudinal to examine differential importance in predictors of children's social cognitive deficiencies and distortions over time.

## REFERENCES

- Acker, M. M., & O'Leary, S. G. (1996). Inconsistency of mothers' feedback and toddlers' misbehavior and negative affect. *Journal of Abnormal Child Psychology, 24*, 703-714.
- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders* (4<sup>th</sup> -TR ed.). American Psychiatric Association: Washington, DC.
- Anderson, K. E., Lytton, H., & Romney, D. M. (1986). Mothers' interactions with normal and conduct-disordered boys: Who affects whom? *Developmental Psychology, 22*, 604-609.
- Bailey, C. A., & Ostrov, J. M. (2008). Differentiating forms and functions of aggression in emerging adults: Associations with hostile attribution biases and normative beliefs. *Journal of Youth and Adolescence, 37*, 713-722.
- Bandura, A. (1986). *Social Foundations of Thought and Action: A Social-Cognitive Theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A., & Barab, P. G. (1971). Conditions governing nonreinforced imitation. *Developmental Psychology, 5*, 244-255.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.
- Barry, T. D., Dunlap, S. T., Cotton, S. J., Lochman, J. E., & Wells, K. C. (2005). The influence of maternal stress and distress on disruptive behavior problems in boys. *Journal of American Academy of Child and Adolescent Psychiatry, 44*, 265-273.
- Barry, T. D., Dunlap, S. T., Lochman, J. E., & Wells, K. C. (2009). Inconsistent discipline as a mediator between maternal distress and aggression in boys. *Child and Family Behavior Therapy, 31*, 1-19.
- Barth, J. M., Dunlap, S. T., Dane, H., Lochman, J. E., & Wells, K. C. (2004). Classroom environment influences on aggression, peer relations, and academic focus. *Journal of School Psychology, 42*, 115-133.
- Beck, A. T. & Steer, R. A. (1993). BDI: Beck Depression Inventory Manual. Harcourt Brace and Company: San Antonio, TX.

- Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review, 8*, 77-100.
- Bell, R. Q. (1968). A reinterpretation of the direction of effects in studies of socialization. *Psychological Review, 75*, 81-95.
- Berg-Nielsen, T. S., Vikan, A., & Dahl, A. A. (2002). Parenting related to child and parental psychopathology: A descriptive review of the literature. *Clinical Child Psychology and Psychiatry, 7*, 529-552.
- Brook, J. S., Zheng, L., Whiteman, M., & Brook, D. W. (2001). Aggression in toddlers: Associations with parenting and marital relations. *Journal of Genetic Psychology, 162*, 228-241.
- Boldizar, J. P., Perry, D. G., & Perry, L. C. (1989). Outcome values and aggression. *Child Development, 60*, 571-579.
- Bushman, B. J., & Anderson, C. A. (2001). Is it time to pull the plug on the hostile versus instrumental aggression dichotomy? *Psychological Review, 108*, 273-279.
- Bussey, K., & Bandura, A. (1992). Self-regulatory mechanisms governing gender development. *Child Development, 63*, 1236-1250.
- Collins, W. A., Maccoby, E. E., Steinberg, L., Heatherington, E. M., & Bronstein, M. H. (2000). Contemporary research on parenting: The case for nature and nurture. *American Psychologist, 55*, 218-232.
- Costanzo, P. R., & Dix, T. H. (1983). Beyond the information processed: Socialization in the development of attributional processes. In G. T. Higgins, D. N. Ruble, & W. W. Hartup (Eds.), *Social cognition and social development: A socio-cultural perspective* (pp. 63-81). New York: Cambridge University Press.
- Conger, R. D., Conger, K. J., Elder, G. H., Lorenz, F. O., Simons, R. L., & Whitbeck, L. B. (1992). A family process model of economic hardship and adjustment of early adolescent boys. *Child Development, 63*, 526-541.
- Crapanzano, A. M., Frick, P. J., & Terranova, A. M. (2010). Patterns of physical and relational aggression in a school-based sample of boys and girls. *Journal of Abnormal Child Psychology, 38*, 433-445.
- Crick, N. R. (1997). Engagement in gender normative versus nonnormative forms of aggression: Links to social-psychological adjustment. *Developmental Psychology, 33*, 610-617.

- Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social-information processing mechanisms in children's social adjustment. *Psychological Bulletin, 115*, 74-101.
- Crick, N. R., & Dodge, K. A. (1996). Social information-processing mechanisms in reactive and proactive aggression. *Child Development, 67*, 993-1002.
- Crick, N. R., & Ladd, G. W. (1990). Children's perceptions of the outcomes of social strategies: Do the ends justify being mean? *Developmental Psychology, 26*, 612-620.
- Crick, N. R. & Werner, N. E. (1998). Response decision processes in relational and overt aggression. *Child Development, 69*, 1630-1639.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*, 297-334.
- Davies, P. T., Sturge-Apple, M. L., & Cummings, E. M. (2004). Interdependencies among interparental discord and parenting practices: The role of adult vulnerability and relationship perturbations. *Development and Psychopathology, 16*, 773-797.
- Del Vecchio, T., & O'Leary, S. G. (2006). Antecedents of toddler aggression: Dysfunctional parenting on mother-toddler dyads. *Journal of Clinical Child and Adolescent Psychology, 35*, 194-202.
- Del Vecchio, T., & O'Leary, S. G. (2008). Predicting maternal discipline responses to early child aggression: The role of cognitions and affect. *Parenting: Science and Practice, 240-256*.
- Dishion, T. J., French, D. C., & Patterson, G. R. (1995). The development and ecology of antisocial behavior. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology* (pp. 421-471). Hoboken, New Jersey: John Wiley & Sons, Inc.
- Dishion, T. J., McCord, J., & Poulin, F. (1999). When interventions harm: Peer groups and problem behavior. *American Psychologist, 54*, 755-764.
- Dishion, T. J., Véronneau, M. H., & Myers, M. W. (2010). Cascading peer dynamics underlying the progression from problem behavior to violence in early to late adolescence. *Development and Psychopathology, 22*, 603-619.
- Dix, T. (1993). Attributing dispositions to children: An interactional analysis of attribution in socialization. *Personality and Social Psychology Bulletin, 19*, 633-643.
- Dix, T. H., & Grusec, J. E. (1985). Parent attribution processes in the socialization of children. In Sigel, I. E. (Ed.), *Parental belief systems: The psychological consequences for children*, (pp. 201-233). Hillsdale, NJ: Lawrence Erlbaum Associates.

- Dix, T., & Lochman, J. E. (1990). Social cognition and negative reactions to children: A comparison of mothers of aggressive and nonaggressive boys. *Journal of Social and Clinical Psychology, 9*, 439-455.
- Dix, T. & Meunier, L. N. (2009). Depressive symptoms and parenting competence: An analysis of 13 regulatory processes. *Developmental Review, 29*, 45-68.
- Dix, T., & Reinhold, D. P. (1991). Chronic and temporary influences on mothers' attributions for children's disobedience. *Merrill-Palmer Quarterly, 37*, 251-271.
- Dix, T., Ruble, D. N., Grusec, J. E., & Nixon, S. (1986). Social cognition in parents: Inferential and affective reactions to children of three age levels. *Child Development, 57*, 879-894.
- Dix, T., Ruble, D. N., & Zambarano, R. J. (1989). Mothers' implicit theories of discipline: Child effects, parent effects, and the attribution process. *Child Development, 60*, 1373-1391.
- Dodge, K. A. (1991). The structure and function of reactive and proactive aggression. In Peplar, D. J., & Rubin, K. H. (Eds.), *The development and treatment of childhood aggression* (pp. 201-218). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Dodge, K. A., Bates, J. E., & Pettit, G. S. (1990). Mechanisms in the cycle of violence. *Science, 250*, 1678-1684.
- Dodge, K. A., & Coie, J. D. (1987). Social-information processing factors in reactive and proactive aggression children's peer groups. *Journal of Personality and Social Psychology, 53*, 1146-1158.
- Dodge, K. A., Greenberg, M. T., Malone, P. S., & Conduct Problems Prevention Research Group. (2008). Testing an idealized dynamic cascade model of the development of serious violence in adolescence. *Child Development, 79*, 1907-1927.
- Dodge, K. A., Lochman, J. E., Harnish, J. D., Bates, J. E., & Pettit, S. (1997). Reactive and proactive aggression in school children and psychiatrically impaired chronically assaultive youth. *Journal of Abnormal Psychology, 106*, 37-51.
- Dodge, K. A., & Pettit, G. S. (2003). A biopsychosocial model of the development of chronic conduct problems in adolescence. *Developmental Psychology, 39*, 349-371.
- Dodge, K. A., Pettit, G. S., Bates, J. E., & Valente, E. (1995). Social information-processing patterns partially mediate the effect of early physical abuse on later conduct problems. *Journal of Abnormal Psychology, 104*, 632-643.
- Downey, G., & Coyne, J. C. (1990). Children of depressed parents: An integrative review. *Psychological Bulletin, 108*, 50-76.

- Duman, S., & Margolin, G. (2007). Parents' aggressive influences and children's aggressive problem solutions with peers. *Journal of Child and Adolescent Psychology, 36*, 42-55.
- Egan, S. K., Monson, T. C., Perry, D. G. (1998). Social-cognitive influences on change in aggression over time. *Developmental Psychology, 34*, 996-1006.
- Farrington, D. P., Jolliffe, D., Loeber, R., Stouthamer-Loeber, M., & Kalb, L. M. (2001). The concentration of offenders in families and family criminality in the prediction of boys' delinquency. *Journal of Adolescence, 24*, 579-596.
- Farrington, D. P., Coid, J. W., & Murray, J. (2009). Family factors in the intergenerational transmission of offending. *Criminal Behavior and Mental Health, 19*, 109-124.
- Fisher, R. J. (1993). Social desirability bias and the validity of indirect questioning. *Journal of Consumer Research, 20*, 303-315.
- Fite, P. J., Colder, C. R., Lochman, J. E., & Wells, K. C. (2006). The mutual influence of parenting and boys' externalizing behavior problems. *Journal of Applied Developmental Psychology, 27*, 456-467.
- Fite, P. J., Colder, C. R., Lochman, J. E., & Wells, K. C. (2008). Developmental trajectories of proactive and reactive aggression from fifth to ninth grade. *Journal of Clinical Child and Adolescent Psychology, 37*, 412-421.
- Fite, P. J., Colder, C. R., & Pelham, W. E. (2006). A factor analytic approach to distinguish pure and co-occurring dimensions of proactive and reactive aggression. *Journal of Clinical Child and Adolescent Psychology, 35*, 578-582.
- Fite, P. J., Stoppelbein, L., & Greening, L. (2009). Proactive and reactive aggression in a child psychiatric inpatient population. *Criminal Justice and Behavior, 36*, 481-493.
- Fite, P. J., Wynn, P., Lochman, J. E., & Wells, K. C. (2009). The effect of neighborhood disadvantage on proactive and reactive aggression. *Journal of Community Psychology, 37*, 542-546.
- Fontaine, R. G. (2006b). Evaluative behavioral judgments and instrumental antisocial behaviors in children and adolescents. *Clinical Psychology Review, 26*, 956-967.
- Fontaine, R. G. (2007a). Disentangling the psychology and law of instrumental and reactive subtypes of aggression. *Psychology, Public Policy, and Law, 13*, 143-165.
- Fontaine, R. G., Burks, V. S., & Dodge, K. A. (2002). Response decision processes and externalizing behavior problems in adolescents. *Development and Psychopathology, 14*, 107-122.

- Fontaine, R. G., & Dodge, K. A. (2006). Real-time decision making and aggressive behaviors in youth: A heuristic model of response evaluation and decision (RED). *Aggressive Behavior, 32*, 604-624.
- Fontaine, R. G., Tanha, M., Yang, C., Dodge, K. A., Bates, J. E., Pettit, G. S. (2010). Does response evaluation and decision (RED) mediate the relation between hostile attributional style and antisocial behavior in adolescence? *Journal of Abnormal Child Psychology, 38*, 615-626.
- Fontaine, R. G., Yang, C., Dodge, K. A., Pettit, G. S., & Bates, J. E. (2009). Development of response evaluation and decision (RED) and antisocial behavior in childhood and adolescence. *Developmental Psychology, 45*, 447-459.
- Frick, P. J., Cornell, A. H., Barry, C. T., Bodin, S. D., Dane, H. E. (2003). Callous-unemotional traits and conduct problems in the prediction of conduct problem severity, aggression, and self-report of delinquency. *Journal of Abnormal Child Psychology, 31*, 457-470.
- Gardner, F. E. M. (1989). Inconsistent parenting: Is there evidence for a link with children's conduct problems? *Journal of Abnormal Child Psychology, 17*, 223-233.
- Ge, X., Conger, R. D., Cadoret, R. J., Neiderhiser, J. M., Yates, W., Troughton, E., & Stewart, M. A. (1996). The developmental interface between nature and nurture: A mutual influence model of child antisocial behavior and parent behaviors. *Developmental Psychology, 32*, 574-589.
- Gelfand, D. M., & Teti, D. M. (1990). The effects of maternal depression on children. *Clinical Psychology Review, 10*, 329-353.
- Gonzales, N. A.M., Pitts, S. C., Hill, N. E., & Roosa, M. W. (2000). A mediational model of the impact of interparental conflict on child adjustment in a multiethnic, low-income sample. *Journal of Family Psychology, 14*, 365-379.
- Grant, K. E., McCormick, A., Poindexter, L., Simpkins, T., Janda, C. M., Thomas, K. J., Campbell, A., Carleton, R., & Taylor, J. (2005). Exposure to violence and parenting as mediators between poverty and psychological symptoms in urban African American adolescents. *Journal of Adolescence, 28*, 507-521.
- Grusec, J. E., & Goodnow, J. J. (1994). Impact of parental discipline methods on the child's internalization of values: A reconceptualization of current points of view. *Developmental Psychology, 30*, 4-19.
- Grusec, J. E., Goodnow, J. J., & Kuczynski, L. (2000). New directions in analyses of parenting contributions to children's acquisition of values. *Child Development, 71*, 205-211.
- Hall, J. A., Herzberger, S. D., & Skowronski, K. J. (1998). Outcome expectancies and outcome

- values as predictors of children's aggression. *Aggressive Behavior*, 24, 439-454.
- Halligan, S. L., Cooper, P. J., Healy, S. J., & Murray, L. (2007). The attribution of hostile intent in mothers, fathers, and their children. *Journal of Abnormal Child Psychology*, 35, 594-604.
- Hart, C. H., Ladd, G. W., Burleson, B. R. (1990). Children's expectations of the outcomes of social strategies: Relations with sociometric status and maternal disciplinary styles. *Child Development*, 61, 127-137.
- Hartup, W. W. (1974). Aggression in childhood: Developmental perspectives. *American Psychologist*, 29, 336-341.
- Haskett, M. E., & Willoughby, M. (2006). Paths to child social adjustment: Parenting quality and children's processing of social information. *Child Care: Health and Development*, 33, 67-77.
- Haslam, N., & Beck, A. T. (1994). Subtyping major depression: A taxometric analysis. *Journal of Abnormal Psychology*, 103, 686-692.
- Hastings, P. D., & Rubin, K. H. (1999). Predicting mothers' beliefs about preschool-aged children's social behavior: Evidence for maternal attitudes moderating child effects. *Child Development*, 70, 722-741.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.
- Henry, D., Guerra, N., Huesmann, R., Tolan, P., Van Acker, R., & Eron, L. (2000). Normative influences on aggression in urban elementary school classrooms. *American Journal of Community Psychology*, 28, 59-81.
- Hill, J. (2002). Biological, psychological and social processes in the conduct disorders. *Journal of Child Psychology and Psychiatry*, 43, 133-164.
- Hill, N. E., Bush, K. R., Roosa, M. W. (2003). Parenting and family socialization strategies and children's mental health: Low-income Mexican-American and Euro-American mothers and children. *Child Development*, 2003, 189-204.
- Hill, N. E., & Herman-Stahl, M. A. (2002). Neighborhood safety and social involvement: Associations with parenting behaviors and depressive symptoms among African American and Euro-American mothers. *Journal of Family Psychology*, 16, 209-219.
- Hoffman, M. L. (1970). Moral development. In P. H. Mussen (Ed.), *Carmichael's manual of child psychology* (vol. 2, pp. 261-360.) New York: Wiley.
- Holmes, S. J., & Robins, L. N. (1988). The role of parental disciplinary practices in the development of depression and alcoholism. *Psychiatry: Journal for the Study of*

- Interpersonal Processes*, 51, 24-36.
- Huesmann, L. R., & Eron, L. D. (1989). Individual differences and the trait of aggression. *European Journal of Personality*, 3, 95-106.
- Huesmann, L. R., & Guerra, N. G. (1997). Children's normative beliefs about aggression and aggressive behavior. *Journal of Personality and Social Psychology*, 72, 408-419.
- Ireland, J. L., & Archer, J. (2002). The perceived consequences of responding to bullying with aggression: A study of male and female adult prisoners. *Aggressive Behavior*, 28, 257-272.
- Ingram, R. E., Scott, W., & Siegle, G. (1999). Depression: Social and cognitive aspects. In T. Millon, P. H. Blaney, & R. D. Davis (Eds.), *Oxford Textbook of Psychopathology* (pp. 203-226). Oxford University Press: Oxford.
- Jaffee, S. R., Caspi, A., Moffitt, T. E., Polo-Tomas, M., Price, T. S., & Taylor, A. (2004). The limits of child effects: Evidence for genetically mediated child effects on corporal punishment but not on physical maltreatment. *Developmental Psychology*, 40, 1047-1058.
- Kandel, D. B., & Wu, P. (1995). Disentangling mother-child effects in the development of antisocial behavior. In J. McCord (ed.), *Coercion and punishment in long-term perspectives*. Cambridge University Press: New York.
- Kendall, P. C., & MacDonald, J. P. (1993). Cognition in the psychopathology of youth and implications for treatment. In K. S. Dobson & P. C. Kendall (Eds.), *Psychopathology and cognition* (pp. 387-489). San Diego, CA: Academic Press.
- Kochanska, G., Aksan, N., & Nichols, K. E. (2003). Maternal power assertion and moral discourse contexts: Commonalities, differences, and implications for children's moral conduct and cognition. *Developmental Psychology*, 39, 949-963.
- Knafo, A., & Schwartz, S. H. (2003). Parenting and adolescent's accuracy in perceiving parental values. *Child Development*, 74, 595-611.
- Kruh, I. P., Frick, P. J., Clements, C. B. (2005). Historical and personality correlates to the violence patterns of juveniles tried as adults. *Criminal Justice and Behavior*, 32, 69-96.
- Lansford, J. E., Malone, P. S., Dodge, K. A., Crozier, J. C., Pettit, G. S., & Bates, J. E. (2006). A 12-year prospective study of patterns of social information processing problems and externalizing behaviors. *Journal of Abnormal Child Psychology*, 34, 715-724.
- Lengua, L. J., & Kovacs, E. A. (2005). Bidirectional associations between temperament and parenting and the prediction of adjustment problems in middle childhood. *Applied Developmental Psychology*, 26, 21-38.

- Leung, D. W., & Smith Slep, A. M. (2006). Predicting inept discipline: The role of parental depressive symptoms, anger, attributions. *Journal of Consulting and Clinical Psychology, 74*, 524-534.
- Lindahl, K. M. (1998). Family process variables and children's disruptive behavior problems. *Journal of Family Psychology, 12*, 420-436.
- Lochman, J. E. (2006). Social cognition and self regulation: Changes in outcome expectations and aggressive behavior over time. In W. Koops & A. F. Sanders (Eds.), *The development and structure of conscience*. Brighton, United Kingdom: Psychology Press, Taylor & Francis.
- Lochman, J. E., & Barry, T. D. (2004). Conduct disorder. In W.E. Craighead & C.B. Nemeroff (Eds.), *Concise Corsini encyclopedia of psychology and behavioral science* (pp. 212-214). New York: Wiley.
- Lochman, J. E., Boxmeyer, C., Powell, N. Qu, L., Wells, K. C., & Windle, M. (2009). Dissemination of the Coping Power program: Importance of intensity of counselor training. *Journal of Consulting and Clinical Psychology, 77*, 397-409.
- Lochman, J. E., & Dodge, K. A. (1994). Social-cognitive processes of severely violent, moderately aggressive, and nonaggressive boys. *Journal of Consulting and Clinical Psychology, 62*, 366-374.
- Lochman, J. E., Powell, N. R., Clanton, N. & McElroy, H. K. (2006). Anger and aggression. In G. G. Bear & K. M. Minke (Eds.), *In Children's needs III: Development, prevention, and intervention* (pp. 115-133). Washington D.C.: National Association of School Psychologist.
- Lochman, J. E., Powell, N. R., Whidby, J. M., & Fitzgerald, D. P. (2006). Aggressive children: Cognitive-behavioral assessment and treatment. In P. C. Kendall (Ed.), *Child and adolescent therapy: Cognitive-behavioral procedures* (pp. 33-81). New York: Guilford Press.
- Lochman, J. E., & Wells, K. C. (2002a). Contextual-social cognitive mediators and child outcome: A test of the theoretical model in the Coping Power program. *Development and Psychopathology, 14*, 945-967.
- Lochman, J. E., & Wells, K. C. (2002b). The Coping Power program at the middle-school transition: Universal and indicated prevention effects. *Psychology of Addictive Behaviors, 16*, S40-S54.
- Lyons-Ruth, K., Wolfe, R., & Lyubchik, A. (2000). Depression and the parenting of young children: Making the case for early preventive mental health services. *Harvard Review of Psychiatry, 8* 148-153.

- MacBrayer, E. K., Milich, R., & Hundley, M. (2003). Attributional biases in aggressive children and their mothers. *Journal of Abnormal Psychology, 112*, 698-708.
- MacKinnon, D. P. (2008). *Introduction to Statistical Mediation Analysis*. New York: Lawrence Erlbaum Associates.
- MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods, 7*, 83-104.
- Marsee, M.A., & Frick, P. J. (2007). Exploring the cognitive and emotional correlates to proactive and reactive aggression in a sample of detained girls. *Abnormal Child Psychology, 35*, 969-981.
- McCarty, C. A., McMahon, R. J., & Conduct Problems Prevention Research Group. (2003). Mediators of the relation between maternal depressive symptoms and child internalizing and disruptive behavior disorders. *Journal of Family Psychology, 17*, 545-556.
- McConville, D. W., & Cornell, D. G. (2003). Aggressive attitudes predict aggressive behavior in middle school students. *Journal of Emotional and Behavioral Disorders, 11*, 179-187.
- McDowell, D., J., Parke, R. D., & Spitzer, S. (2002). Parent and child cognitive representations of social situations and children's social competence. *Social Development, 11*, 469-486.
- McFayden-Ketchum, S. A., Bates, J. E., Dodge, K. A., & Pettit, G. S. (1996). Patterns of change in early childhood aggressive-disruptive behavior: Gender differences in predictions from early coercive and affectionate mother-child interactions. *Child Development, 67*, 2417-2433.
- Musher-Eizenman, D. R., Boxer, P., Danner, S., Dubow, E. F., Goldstein, S. E., & Heretick, D. M. L. (2004). Social-cognitive mediators of the relation of environmental and emotional regulation factors to children's aggression. *Aggressive Behavior, 30*, 389-408.
- Neimark E. D. (1982). Adolescent thought: Transition to formal operations. In B. B. Wolman (Ed.), *Handbook of developmental psychology* (pp. 486-502). Englewood Cliff, NJ: Prentice-Hall.
- O'Connor, T. G., Deater-Deckard, K., Fulker, D., Rutter, M., & Plomin, R. (1998). Genotype-environment correlations in late childhood and early adolescence: Antisocial behavioral problems and coercive parenting. *Developmental Psychology, 34*, 970-981.
- Ostrov, J. M., & Godleski, S. A. (2010). Toward an integrated gender linked model of aggression subtypes in early and middle childhood. *Psychological Review, 117*, 233-242.
- Pardini, D. A. (2006). The callousness pathway to severe violent delinquency. *Aggressive*

*Behavior*, 32, 590-598.

- Pardini, D. A. (2008). Novel insights into longstanding theories of bidirectional parent-child influences: Introduction to the special section. *Journal of Abnormal Child Psychology*, 36, 627-631.
- Pardini, D. A., Fite, P. J., & Burke, J. D. (2008). Bidirectional associations between parenting practices and conduct problems in boys from childhood to adolescence: The moderating effect of age and African-American ethnicity. *Journal of Abnormal Child Psychology*, 36, 647-662.
- Pardini, D. A., Lochman, J. E., & Frick, P. J. (2003). Callous/unemotional traits and social-cognitive processes in adjudicated youths. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42, 364-371.
- Patterson, G. R. (1982). *A social learning approach: Coercive family processes* (Vol. 3). Eugene, OR: Castalia Publishing Company.
- Patterson, G. R. (1986). Performance models for antisocial boys. *American Psychologist*, 41, 432-444.
- Patterson, G. R. (1995). Coercion as a basis for early age of onset for arrest. In J. McCord (Ed.), *Coercion and punishment in long-term perspectives* (pp. 81-105). New York: Cambridge University Press.
- Patterson, G. R., Littman, R. A., & Bricker, W. (1967). Assertive behavior in children: A step toward a theory of aggression. *Monographs of the Society for Research in Child Development*, 32, (5, Serial No. 113).
- Patterson, G. R., Shaw, D. S., Snyder, J. J., Yoerger, K. (2005). Changes in maternal ratings of children's overt and covert antisocial behavior. *Aggressive Behavior*, 31, 473-484.
- Perry, D. G., Perry, L. C., & Rasmussen, P. (1986). Cognitive social learning mediators of aggression. *Child Development*, 57, 700-711.
- Perry, D. G., Perry, L. C., & Weiss, R. J. (1989). Sex differences in the consequences that children anticipate for aggression. *Developmental Psychology*, 25, 312-319.
- Pettit, G. S. (2004). Violent children in developmental perspective: Risk and protective factors and the mechanisms through which they (may) operate. *Current Directions in Psychological Science*, 13, 194-197.
- Pettit, G. S., & Arsiwalla, D. D. (2008). Commentary on special section on 'Bidirectional parent-child relationships': The continuing evolution of dynamic, transactional models of parenting and youth behavior problems. *Journal of Abnormal Child Psychology*, 36, 711-718.

- Pettit, G. S., Dodge, K. A., & Brown, M. M. (1988). Early family experiences, social problem solving patterns, and children's social competence. *Child Development, 59*, 107-120.
- Pillow, B. H. (1991). Children's understanding of biased social cognition. *Developmental Psychology, 27*, 539-551.
- Pinderhughes, E. E., Dodge, K. A., Bates, J. E., Pettit, G. S., & Zelli, A. (2000). Discipline responses: Influences of parents' socioeconomic status, ethnicity, beliefs about parenting. Stress, and cognitive-emotional processes. *Journal of Family Psychology, 3*, 380-400.
- Poulin, F., & Boivin, M. (2000). Reactive and proactive aggression: Evidence of a two-factor model. *Psychological Assessment, 12*, 115-122.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior and Research Methods, Instruments, & Computers, 36*, 717-731.
- Price, J. M., & Dodge, K. A. (1989). Reactive and proactive aggression in childhood: Relations to peer status and social context dimensions. *Journal of Abnormal Child Psychology, 17*, 455-471.
- Pulkkinen, L. (1996). Proactive and reactive aggression in early adolescence as precursors to anti- and prosocial behaviors in young adults. *Aggressive Behavior, 22*, 241-257.
- Rah, Y. & Parke, R. D. (2008). Pathways between parent-child interactions and peer acceptance: The role of children's social information processing. *Social Development, 17*, 341-357.
- Ramsey, E., Patterson, G. R., & Walker, H. W. (1990). Generalization of the antisocial trait from home to school settings. *Journal of Applied Developmental Psychology, 11*, 209-223.
- Reeder, G. D., Vonk, R., Ronk, M. J., Ham, J., & Lawrence, M. (2004). Dispositional attribution: Multiple inferences about motive-related traits. *Journal of Personality and Social Psychology, 86*, 530-544.
- Reid, J. B., & Patterson, G. R. (1989). The development of antisocial behavior patterns in childhood and adolescence. *European Journal of Personality, 3*, 107-119.
- Reinhold, D. (1990). *Attributions and affect in the parent-child context of childhood aggression*. Unpublished doctoral dissertation, University of Alabama, Tuscaloosa, Alabama.
- Reynolds, C. R., & Kamphaus, R. W. (1992). Behavior Assessment System for Children:

Circle Pines, MN: AGS Publishing.

- Rodrigo, M., J., Janssens, J. M., & Ceballos, E. (1999). Do children's perceptions and attributions mediate the effects of mothers' child-rearing actions?. *Journal of Family Psychology, 13*, 50-522.
- Ritchie, K. L. (1999). Maternal behaviors and cognitions during discipline episodes: A comparison of power bouts and single acts of noncompliance. *Developmental Psychology, 35*, 580-589.
- Rogers M. J., & Holmbeck, G. N. (1997). Effects of interparental aggression on children's adjustment: The moderating role of cognitive appraisal and coping. *Journal of Family Psychology, 1*, 125-130.
- Sanders, M. R., & Woolley, M. L. (2005). The relationship between maternal self-efficacy and parenting practices: Implications for parent training. *Child: Care, Health, and Development, 31*, 65-73.
- Scarr, S., & McCartney, K. (1983). How people make their own environments: A theory of genotype-environment effects. *Child Development, 54*, 424-435.
- Schrepferman, L., & Snyder, J. (2002). Coercion: The link between treatment mechanisms in behavioral parent training and risk reduction in child antisocial behavior. *Behavior Therapy, 33*, 339-359.
- Schwartz, D., Dodge, K. A., Coie, J. D., Hubbard, J. A., Cillessen, A. H. N., Lemerise, E. A., & Bateman, H. (1998). Social-cognitive and behavioral correlates of aggression and victimization in boys' play groups. *Journal of Abnormal Child Psychology, 26*, 431-440.
- Shaffer, D. R. (2009). *Social and personality development* (6<sup>th</sup> ed.). Belmont, CA: Wadsworth.
- Shantz, C. U. (1987). Conflicts between children. *Child Development, 58*, 283-305.
- Shelton, K. K., Frick, P. J., & Wootton, J. (1996). Assessment of parenting practices in families of elementary school-age children. *Journal of Clinical Child Psychology, 25*, 317-329.
- Slaby, R. G., & Guerra, N. G. (1988). Cognitive mediators of aggression in adolescent offenders: I. Assessment. *Developmental Psychology, 24*, 580-588.
- Snyder, J., Cramer, A., Afrank, J., & Patterson, G. R. (2005). The contributions of ineffective discipline and parental hostile attributions of child misbehavior to the development of conduct problems at home and school. *Developmental Psychology, 41*, 30-41.
- Snyder, J., Edwards, P., McGraw, K., Kilgore, K., & Holton, A. (1994). Escalation and reinforcement in mother-child conflict: Social processes affiliated with the development of physical aggression. *Development and Psychopathology, 6*, 305-321.

- Snyder, J., Schrepferman, L., & St. Peter, C. (1997). Origins of antisocial behavior: Negative reinforcement and affect dysregulation of behavior as socialization mechanisms in family interaction. *Behavior Modification, 21*, 187-215.
- Snyder, J., & Patterson, G. R. (1995). Individual differences in social aggression: A test of a reinforcement model of socialization in the natural environment. *Behavior Therapy, 26*, 371-391.
- Snyder, J., Reid, J., & Patterson, G. (2003). A social learning model of child and adolescent antisocial behavior. In B. B. Lahey, Moffitt, T. E., & Caspi, A. (Eds.), *Causes of Conduct Disorder and Juvenile Delinquency*. (pp. 27-48). New York: Guilford.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology, 13*, 290-312.
- Spieker, S. J., Larson, N. C., Lewis, S. M., Keller, T. E., & Gilchirst, L. (1999). Developmental trajectories of children with disruptive behavior problems in preschool children of adolescent mothers. *Child Development, 70*, 443-458.
- Sprott, D. E., Spangenberg, E. R., & Fisher, R. (2003). The importance of normative beliefs to the self-prophecy effect. *Journal of Applied Psychology, 88*, 423-431.
- Stickle, T. R., Kirkpatrick, N. M., & Brush, L. N. (2009). Callous-unemotional traits and social information processing: Multiple risk-factor models for understanding aggressive behavior in antisocial youth. *Law and Human Behavior, 33*, 515-529.
- Stoolmiller, M. (2001). Synergistic interaction of child manageability problems and parent-discipline tactics in predicting future growth in externalizing behavior for boys. *Developmental Psychology, 37*, 814-825.
- Stoolmiller, M., Patterson, G. R., & Snyder, J. (1997). Parental discipline and child antisocial behavior: A contingency-based theory and some methodological refinements. *Psychological Inquiry, 8*, 223-229.
- Streiner, D. L., & Norman, G. R. (2008). *Health measurement scales: A practical guide to their development and use*. (4<sup>th</sup> edition; pp. 167-207). New York: Oxford University Press.
- Stormshak, E. A., Bierman, K. L., McMahon, R. J., Lengua, L. J., & the Conduct Problems Prevention Research Group. (2000). Parenting practices and child disruptive behavior problems in early elementary school. *Journal of Clinical Child Psychology, 29*, 17-29.
- Sutton, S. E., Cowen, E. L., Crean, H. F., & Wyman, P. A. (1999). Pathways to aggression in young, highly stressed urban children. *Child Study Journal, 29*, 49-67.

- Teti, D. M., & Gelfand, D. M. (1991). Behavioral competence among mothers of infants in the first year: The meditational role of maternal self-efficacy. *Child Development, 62*, 918-929.
- Teti, D. M., O'Connell, & Reiner, C. D. (1996). Parenting sensitivity, parental depression and child health: The meditational role of parental self-efficacy. *Early Development and Parenting, 5*, 237-250.
- Vitaro, F., Brendgen, M., & Barker, E. D. (2006). Subtypes of aggressive behaviors: A developmental perspective. *International Journal of Behavioral Development, 30*, 12-19.
- Vitaro, F., Brendgen, M., & Tremblay, R. E. (2002). Reactively and proactively aggressive children: Antecedent and subsequent characteristics. *Journal of Child Psychology and Psychiatry, 43*, 495-506.
- Vitaro, F., Gendreau, P. L., Tremblay, R. E., & Oligny, P. (1998). Reactive and proactive aggression differentially predict later conduct problems. *Journal of Child Psychology and Psychiatry, 3*, 377-385.
- Walters, G., D. (2000). Outcome expectancies for crime. Their relationship to fear and the negative consequences of criminal involvement. *Legal and Criminological Psychology, 7*, 73-86.
- Walters, G., D. (2003). Development of a self-report measure of outcome expectancies for crime. *Journal of Offender Rehabilitation, 37*, 1-10.
- Weaver, C. M., Shaw, D. S., Dishion, T. J., & Wilson, M. N. (2008). Parenting self-efficacy and problem behavior in children at high-risk for early conduct problems: The mediation role of maternal depression. *Infant Behavior and Development, 31*, 594-605.
- Werner, N. E., & Crick, N. R. (2004). Maladaptive peer relationships and the development of relational and physical aggression during middle childhood. *Social Development, 13*, 495-514.
- Werner, N. E., & Grant, S. (2009). Mothers' cognitions about relational aggression: Associations with discipline responses, children's normative beliefs, and peer competence. *Social Development, 18*, 77-98.
- Werner, N. E., & Hill, L. G. (2010). Individual and peer group normative beliefs about relational aggression. *Child Development, 81*, 826-836.
- Wetzel, C. G., & Walton, M. D. (1985). Developing biased social judgments: The false-consensus effect. *Journal of Personality and Social Psychology, 49*, 1352-1359.
- Whitbeck, L. B., Gecas, V. (1988). Value attributions and value transmission between parents and children. *Journal of Marriage and the Family, 50*, 829-840.

- Whitbeck, L. B., Hoyt, D. R., Simons, R. L., Conger, R. D., Elder, G. H., Lorenz, F., Huck, S. (1992). Intergenerational continuity of parental rejection and depressed affect. *Journal of Personality and Social Psychology*, *63*, 1036-1045.
- Wojnaroski, M. (2007). *Inconsistent discipline and outcome expectations related to children's outcome expectations: A test of predictive pathways*. Unpublished master's thesis, University of Alabama, Tuscaloosa, AL.
- Zahn-Waxler, C., Iannotti, R. J., Cummings, E. M., & Denham, S. (1990). Antecedents of problem behaviors in children of depressed mothers. *Developmental Psychopathology*, *2*, 271-291.
- Zahn-Waxler, C., Shirtcliff, E. A., & Marceau, K. (2008). Disorders of childhood and adolescence: Gender and psychopathology. *Annual Review of Clinical Psychology*, *4*, 275-303.

## APPENDICIES

### *Appendix A*

#### **Pilot Study**

**Sample.** Procedures to recruit participants for the pilot study followed those that were used in the main study. Briefly, children with elevated teacher ratings of aggressive behavior were recruited from Tuscaloosa, Alabama city and county schools for inclusion in a larger intervention effectiveness study. However, the pilot study sample was recruited at an earlier time and therefore, consists of different participants. Additionally, schools were randomly assigned to either the intervention or control condition. In the pilot study, only the intervention participants were used for convenience. Thirteen students participated in the study; 69% were African American and 69% were males. All caregivers were mothers. The average age of participants was 10.4 (range = 10-12).

**Procedures.** At the beginning of the pilot study, children's caregivers were contacted by phone to schedule a time to complete the interview for the larger intervention study. During that conversation, caregivers were told that there was an optional series of questionnaires to complete. Two participants for the pilot study were recruited in this manner. Before beginning the main caregiver interview, the author explained the purpose of the current study and nature of the additional measures. At that point, informed consent was obtained from the caregiver. After the completion of the caregiver and child main interview, the author interviewed the caregiver and child separately for the current pilot study, also obtaining child assent. After completion of

interviews for the larger study, caregivers whose children were in the intervention program and who had agreed to be re-contacted for additional studies were called and asked to participate in the current pilot study. A pair of interviewers visited the caregivers' homes, although both the child and caregiver interview were completed by the author. Children and caregivers received compensation for their participation (\$5 for the caregiver, a small prize for the child).

### **Methods and results.**

*Adult Outcome Expectations Questionnaire (AOEQ)*. See Appendix AA for the original 22 items presented to caregivers. Five sets of changes were made to the AOEQ during the course of the pilot study due to feedback from participants and the author's observations (see Table A1).

To finalize the measure, a reliability analysis was conducted. With all 22 items, internal consistency for the Total AOEQ score, the TR subscale, and the RAT subscale were .90, .72, and .92, respectively. Item-total correlations and the expected alpha if each item were deleted were calculated. Because the reliability of the CPOEQ was lower than the AOEQ and the measures were designed to mirror each other, it was decided to eliminate items from the CPOEQ first to increase reliability and to subsequently examine the effect those decisions had on the reliability of the AOEQ. During this process, the author examined items on the CPOEQ that children appeared to have difficulty understanding and items on the AOEQ where caregivers expressed concerns about the realism. Six items were excluded from the RAT subscale based on low internal consistency on the CPOEQ and caregiver feedback, leaving six remaining items. Because the reliability of the TR subscale was low, no items were excluded, leaving ten items in the final measure. The primary goal is to improve reliability and leaving all TR items will allow for reliability estimates to be recalculated after data collection with a larger sample and a more

stable measure. With 16 items, the reliability for the total AOEQ, TR subscale, and RAT subscale are .87, .76, and .84, respectively. However, due to the changing nature of the measure and the small sample size, these are not considered final estimates of internal consistency.

*AOEQ feedback.* After completion of the caregiver interviews, the author asked each caregiver for feedback regarding the newly developed measures, particularly the AOEQ (see Appendix AB). Caregivers then rated four questions on a four-point scale (see Table A2). Lastly, caregivers were asked to point out any vignettes that were particularly unrealistic and provide suggestions for improvement (see Table A3).

*Child Perception of Outcome Expectations Questionnaire (CPOEQ).* During the course of the pilot study, nine sets of changes were made to the measure based on feedback from participants and the author's observations during administration (see Table A4).

To finalize the measure, a reliability analysis was conducted. With all 22 items included, internal consistency for the total CPOEQ, the TR subscale, and the RAT subscale were .79, .56, and .65, respectively. Item-total correlations and the expected alpha if each item were deleted were calculated. Based on item-total correlations, ease of comprehension, and caregiver feedback concerning the realism of vignettes, items were deleted from this measure, leaving ten items on the TR subscale and six items on the RAT subscale (the same 16 items on the AOEQ). With 16 items, the reliability for the total CPOEQ, TR subscale, and RAT subscale are .85, .68, and .84, respectively. Again, due to the changing nature of the measure and the small sample size, these are not considered final estimates of reliability for this measure.

*CPOEQ feedback.* After the child interviews, feedback was again solicited, mainly to assess the child's understanding of the measure (see Appendix AC). Children first provided a summary of the directions for the CPOEQ to evaluate comprehension of directions for the

measure. They then rated three specific questions on a four-point scale (see Table A5). Finally, children paraphrased three randomly selected items from the questionnaire and explained the reason for their response (see Table A6 for responses; see Appendix AD for items that were presented for child respondents to summarize).

***Parent Perception of Outcome Expectations Questionnaire (PPOEQ).*** There are no differences between the form of this measure used during the pilot study and the form that was administered during the main study. Reliability for the total scale, the TR subscale and the RAT subscale are .92, .89, and .77, respectively.

***Adult Aggression Questionnaire (AAQ).*** This questionnaire measures aggressive behaviors displayed by the respondent (Buss & Perry, 1992). It consists of four scales – Physical Aggression, Verbal Aggression, Anger, and Hostility. For this study, only the 14 questions that comprise the Physical and Verbal Aggression subscales were used. Each item is rated by the respondent on a 5-point scale.

**Pilot Study Data.** Descriptive statistics for the AOEQ, PPOEQ, OEQ, CPOEQ, and AAQ are presented in Table A7. Scores for each participant are presented in Tables A8 and A9. Due to the changing nature of the measures and small sample size, correlations between constructs are not presented.

Table A1

*Changes Made to Adult Outcome Expectations Questionnaire (AOEQ) during Pilot Study*

Change #	Time Point	Change Made
1	After 1 <sup>st</sup> participant	Added question “How likely is it that you would do this?” (1=Very Likely, 2=Somewhat Likely, 3=Somewhat Unlikely, 4=Very Unlikely) -added to decrease effect of social desirability and allow respondents to indicate that it was unlikely they would behave aggressively 17) Changed from “Mind your business” to “Stop staring at me” 21) Changed from co-worker telling antagonist he/she will do anything to get the raise to “You find out the co-worker is spreading rumors about you.”
2	After 2 <sup>nd</sup> participant	Added directions – “Although in reality, there may be other things that would affect the outcome, please use only the information provided to pick a response.”
3	After 4 <sup>th</sup> participant	5) Changed from “you spread rumors” to “you say you have heard negative things about the man/woman’s work” 21) Changed from “co-worker is spreading rumors about you” to “your co-worker is telling lies about you”
4	After 10 <sup>th</sup> participant	2) “Demand to not have to pay for the meal” changed to “demand to not have to pay full price” 13) ”Push back the other way” changed to “move back the other way” 15) “I was here first” changed to “You’ll have to wait your turn” 18) “You yell loudly at him/her to let you join” changed to “you yell loudly that they’re being rude and that you should be able to join”
5	After 12 <sup>th</sup> participant	12) “Angrily shout at him/her about laziness” changed to “Angrily shout at him/her about taking credit for your work” 22) “Elbow” removed from “you elbow and push your way in front to get the item”

*Note.* See items administered to parents in Appendix AA.

Table A2

*Adult Outcome Expectations Questionnaire (AOEQ) Feedback Results*

Item #	Item	Mean(SD)	n
1	“How realistic were the scenarios presented on the AOEQ?”	3.33 (.49)	8
2	“What is the likelihood that these scenarios would happen to you?”	2.42 (.51)	8
3	“What is the likelihood that these scenarios might happen to other people?”	3.25 (.62)	8
4	“What is the likelihood that someone would perform the last action described in the scenario?”	2.63 (.67)	8

*Note.* Question #1 (1=Very Unrealistic, 2=Somewhat Unrealistic, 3=Somewhat Realistic, 4=Very Realistic); Question #2, 3, 4 (1=Very Unlikely, 2=Somewhat Unlikely, 3=Somewhat Likely, 4=Very Likely).

Table A3

*Adult Outcome Expectations Questionnaire (AOEQ) Narrative Feedback*

Participant	Narrative Feedback
1	6) Could not see neighbor taking paper 14) Sounds like high school 16) Would never push someone 17) Can't see saying "mind your business" 18) Can't see herself yelling at them 21) Person would not be honest about what they were doing face-to-face Most situations are realistic, but reported that she could not see herself doing many of the things
2	Reported that the situations were believable but one issue was that there were several more things that could affect the outcome than were included in each vignette
3	16) Unrealistic to push someone on a bus 15, 22) Unlikely that she would perform the last action in the vignette
4	5) She would not spread rumors, but could see others doing so 14) Could see others performing the last aggressive act, although she would not 7, 16) Told about actual experiences where she had performed the last action in the story
5	4) Thought she would ask nicely first before becoming angry 6) Unlikely to push someone in driveway 14) Can't be sure the person is talking about you 17) Don't know why the person is staring at you 20) Would not perform the last aggressive act, but others might
6	2) She would leave the restaurant before becoming angry, others might yell 6) Unlikely to shove someone in driveway 14) Can't know if people are talking about you 16) Unlikely to push someone on the bus Thought some of the responses should be "more calm," not sure many adults would behave aggressively
7	Reported that she could see herself in all the vignettes, but would probably walk away rather than engage in conflict
8	10) Not enough information to know what she would do 11) Response may be too forceful 14) Wouldn't care, sounds childish 17) Don't really know why the person is staring at you
9	Most vignettes seemed realistic and could see others behaving that way, even though she probably would not

10	Most situations seemed realistic, but thought it unlikely that many would perform the last aggressive act, and might be more likely to ask before becoming angry
11	<p>3) Not sure an adult would elbow someone</p> <p>6) Most people wouldn't push someone for taking their paper</p> <p>11) Unlikely someone would tell them to move forcefully, would probably say excuse me first</p> <p>12) Confront them about taking credit, not laziness</p> <p>14) Don't really know what they're talking about, unlikely to walk over and say something offensive</p> <p>15) Most people would let the other person go in front</p> <p>16) Most people would let the other person have the seat</p> <p>17) Don't know why they are looking, may not curse and yell just because someone is looking</p> <p>19) Most people would look for a reason before pushing back</p> <p>20) Most people would ask nicely to be called if there was a cancellation</p> <p>22) Might push but not elbow</p>
12	Reported that these things would happen because there are some people with a very angry attitude. Stated that she would let most of the things slide, but they were good questions.
13	Reported that the scenarios were realistic. Stated that people should know how to look over things, but depends on the person, people react differently. Could see most of the stories happening.

*Note.* See items administered to parents in Appendix AA.

Table A4

*Changes Made to Child Perception of Parent Outcome Expectations (CPOEQ) during Pilot Study*

Change #	Time Point	Change Made
1	After 1 <sup>st</sup> participant	Added the words “Is your dad/mom” before each response option -added to emphasize and remind participants that they were to answer questions from their parent’s point of view
2	After 4 <sup>th</sup> participant	“Is your dad/mom” removed before each response option because of added words which increased length of items
3		Changed question asked after vignette to “How sure is your dad/mom that he/she...[will receive a desirable outcome?] Response options significantly shortened -changed to decrease length of each item and increase comprehension of each response choice
4		Directions revised and shortened, now begin with “Pretend you are your dad/mom.” -changed to emphasize that child should answer as parent and to increase likelihood that child will be able to take parent’s perspective
5		Several details included on the AOEQ were removed from the stories on the CPOEQ to shorten each item
6	After 6 <sup>th</sup> participant	Interviewer began to ask children to retell directions immediately after they were read to ensure children would answer the questions from their parent’s perspective and to clarify any misconceptions
7	After 8 <sup>th</sup> participant	Simple stick figures drawn for certain vignettes on the measure -done to enhance children’s understanding of the items
8	After 10 <sup>th</sup> participant	Removed question asked after each vignette, replaced with “Is your dad/mom” read once and then followed by response options -removed to shorten items
9	Throughout	Minor word changes to mirror words changed in parent measure (AOEQ)

Table A5

*Child Perception of Parent Outcome Expectations Questionnaire (CPOEQ) Feedback Results*

Question	Mean(SD)	n
“How believable were the stories on the CPOEQ?”	2.63 (1.19)	8
“How easy was it for you to understand the questions?”	3.58 (.90)	8
“How easy would it be for other kids to understand the questions?”	3.25 (.87)	8

*Note.* Question #1 (1=Not at all Believable, 2=Somewhat Not Believable, 3 = Somewhat Believable, 4=Very Believable); Question #2, 3 (1=Very Hard, Somewhat Hard, Somewhat Easy, Very Easy).

Table A6

*Child Perception of Parent Outcome Expectations Questionnaire (CPOEQ) Narrative Feedback*

Participant	Directions Summary	Item Summary and Reason for Response Choice
1	“Could answer what my mom would say”	Summarized items correctly 5) PNDO – “Mom would think if she spread rumors, she would get a bad reputation” 15) PDO – “Mom might think she could tell the manager.” 19) PNDO – “Mom would not think they would stop if she bumped into them.”
2	“I liked it. It was fun to see what my mom would say.”	Summarized items correctly 3) PNDO – “The person got mad.” 12) PDO - “They could find out the woman didn’t work, maybe there was sleep in her eyes or her hair was messy, so they know she wasn’t working.”
3	“You’re supposed to answer by thinking about things that happen in real life.” (Q – Were you to answer like you or you mom?) “My mom.”	Summary – referred to mom as “somebody” 7) PDO - “She has a job to do, like my mom.” 10) VNDO - “My mom might not be paying attention and might shove her back.” 17) VDO - “People don’t want to be looked at by somebody who is mean because they might turn mean on them.”
4	“I listened to the choices and thought about what my mom would do, but I answered like I thought a kid would.”	Summarized correctly 4) PDO - “I was thinking about what a kid would do, some would keep talking, some would stop.” 5) PNDO - “I was thinking of a kid again.” 10) PNDO - “I was thinking of what a kid would do.”
5	“Answer the question and pick one answer. I had to answer it like somebody else.”	Summary – Left some important details out of #2 and #8 2) PNDO - “You can’t just eat food and leave, you have to pay for it.” 8) VDO - “If somebody says something back, they’ll probably stop being mean.” 13) VDO - “When somebody pushes somebody back, they’ll probably stop.”
6	“I had to tell what my mom would or wouldn’t do in those situations.”	Summarized appropriately 1) PNDO - “People don’t like it when people yell at them.” 6) PNDO - “Grown-ups like reading the morning paper.” 21) PNDO - “The woman probably needed the extra money.”
7	“I listened to the story and answered the questions like my mom would.”	Summarized 2 vignettes correctly, #14 incorrectly 9) VDO – “My mom screamed at her so she will stop.” 14) PNDO – “My mom will just keep on yelling.” 18) PNDO – “My mom was yelling at her and she probably won’t let her join.”

8	“You were supposed to try to describe what your mom would say or would she get it.”	Minor detail incorrect in #11, others summarized correctly 11) VNDO - “Maybe the cashier would tell the lady to go to the end.” 16) PNDO - “The bus driver might tell her to get off the bus.” 20) VNDO - “The lady will hang up on her.”
9	“You were supposed to answer the questions like your mom would.”	Summarized vignettes correctly 4) PDO - “I don’t know why I picked that one.” 17) PDO - “Because lots of people don’t listen to others.” 22) PDO - “My mom is a little mean. Because elbowing isn’t nice.”
10	“I was supposed to be my mom.”	Summarized appropriately Said that it was difficult to answer items because his mother would not do many of the aggressive actions 7) PDO - “Because it’s a command and would scare the other person.” 11) PDO - “She’d probably scoot over a little bit.” 19) PNDO - “If you just let it go, it’s not going to happen anymore.”
11	“After you read the story, you gotta tell which one you think your parent would do.”	Summarized correctly 6) VDO – “She’ll get the paper back.” 15) VDO – “She’s gotta wait until my mom gets done and then it will be her turn.” 20) PNDO – “I don’t believe the woman would give away someone else’s spot that they already have.”
12	“Act like you’re your mother and act like what she would do if somebody being mean and say if she gets mad or if she will or won’t get it back.”	Summarized appropriately 12) VNDO – “The lady probably keep telling her boss that she did it so the boss believes her and she ends up getting an extra paycheck that was really my mom’s. That’s what mostly happens.” 18) PNDO – “They probably end up letting her play after they finish their game.” 22) PNDO - “The other lady probably won’t let her get it, she could go tell the person at the front that it should have been hers but my mom pushed her.”
13	“I was supposed to act like I’m my mom.”	Summarized correctly, added that mom might hit the other person in the story in #21 2) PNDO - “If she doesn’t pay, she might go to jail.” 13) PDO - “If she pushes her, the other woman might move.” 21) PNDO - “If my mom hits her, she might still tell lies about my mom.”

*Note.* VDO = Very sure target will get a desirable outcome, PDO = Pretty sure target will get a desirable outcome, PNDO = Pretty sure target will get an undesirable outcome, VNDO = Very sure target will get an undesirable outcome.

*Note.* See items administered to children for narrative feedback in Appendix AD.

Table A7

*Descriptive Statistics for Adult Outcome Expectations Questionnaire (AOEQ), Parent Perception of Child Outcome Expectations Questionnaire (PPOEQ), Outcome Expectations Questionnaire (OEQ), Child Perception of Parent Outcome Expectations Questionnaire (CPOEQ), AOEQ Likelihood, and Adult Aggression Questionnaire (AAQ)*

Measure	X (SD)	Min	Max	Skewness	Kurtosis	n
AOEQ total	2.45(.56)	1.45	3.64	.17	1.15	13
AOEQ TR	2.37(.53)	1.40	3.60	.57	2.13	13
AOEQ RAT	2.53(.67)	1.50	3.67	-.05	-.65	13
PPOEQ total	2.60(.67)	1.50	4.00	.62	.35	13
PPOEQ TR	2.60(.72)	1.50	4.00	.58	-.20	13
PPOEQ RAT	2.59(.67)	1.50	4.00	.60	.54	13
OEQ total	2.92(.45)	2.17	3.67	.16	-.84	13
OEQ TR	3.01(.57)	2.33	4.00	.48	-1.02	13
OEQ RAT	2.83(.49)	2.00	3.33	-.70	-.92	13
CPOEQ total	2.69(.40)	2.05	3.23	-.48	-1.16	13
CPOEQ TR	2.67(.45)	1.80	3.20	-.76	-.76	13
CPOEQ RAT	2.70(.16)	2.00	3.25	-.23	-1.22	13
AOEQ likely	3.36(.53)	2.27	4.00	-.97	.20	12
AAQ	2.00(.63)	1.4	3.2	1.08	.23	10

*Note.* TR indicates Tangible Rewards, RAT indicates Reducing Aversive Treatment.

Table A8

*Mean Scores for Child and Parent Participants on Adult Outcome Expectations Questionnaire (AOEQ) and Child Perception of Parent Outcome Expectations Questionnaire (CPOEQ)*

Participant	AOEQ_ total	CPOEQ_ total	AOEQ_ TR	CPOEQ_ TR	AOEQ_ RAT	CPOEQ_ RAT
1	3.05	2.82	2.80	2.60	3.25	3.00
2	2.41	2.09	2.10	2.20	2.67	2.00
3*	3.64	2.77	3.60	2.90	3.67	2.67
4*	1.64	2.73	1.80	3.00	1.5	2.50
5*	2.18	3.23	2.60	3.20	1.83	3.25
6	2.27	3.05	2.30	3.10	2.25	3.00
7*	2.77	2.68	2.10	2.80	3.33	2.58
8	2.64	3.09	2.30	3.00	2.92	3.17
9*	2.45	2.23	2.60	2.10	2.33	2.33
10	2.41	2.28	2.20	2.20	2.58	2.33
11	1.45	2.05	1.40	1.80	1.50	2.25
12	2.68	3.04	2.60	3.00	2.75	3.08
13	2.36	2.86	2.40	2.80	2.33	2.92

*Note.* \* indicates concerns about child respondent's comprehension of the measure.

*Note.* 1 = Very sure target will get a desirable outcome, 2 = Pretty sure target will get a desirable outcome, 3 = Pretty sure target will get an undesirable outcome, 4 = Very sure target will get an undesirable outcome

Table A9

*Mean Scores for Child and Parent Participants for Outcome Expectations Questionnaire (OEQ) and Parent Perception of Child's Outcome Expectations Questionnaire (PPOEQ)*

Participant	OEQ_total	PPOEQ_total	OEQ_TR	PPOEQ_TR	OEQ_RAT	PPOEQ_RAT
1	3.67	1.5	4.0	1.5	3.33	1.50
2	3.25	2.17	3.17	2.17	3.33	2.17
3	2.83	4.00	2.33	4.00	3.33	4.00
4	2.75	2.42	2.83	2.33	2.67	2.50
5	2.5	1.92	2.5	1.83	2.5	2.00
6	3.5	2.17	3.83	2.33	3.17	2.00
7	2.75	3.5	3.17	3.33	2.33	3.67
8	2.92	2.47	2.67	2.67	3.17	2.17
9	3.17	2.67	3.33	2.50	3.00	2.83
10	2.67	2.50	2.50	2.33	2.83	2.67
11	2.17	2.33	2.33	2.17	2.00	2.50
12	3.42	3.17	3.67	3.00	3.17	3.33
13	2.42	3.00	2.83	3.17	2.00	2.83

*Note.* 1 = Very sure target will get a desirable outcome, 2 = Pretty sure target will get a desirable outcome, 3 = Pretty sure target will get an undesirable outcome, 4 = Very sure target will get an undesirable outcome

Appendix AA

Adult Outcome Expectations Questionnaire (AOEQ)  
administered to parents during pilot study

Instructions: “I am going to read some imaginary situations that adults are sometimes faced with. I am interested in hearing your point of view as if you were in that situation. First, answer how likely you would be to do the action described in the story. Then, please respond to each situation with what you think is most likely to happen next. Although in reality, there may be other things that would affect the outcome, please use only the information provided to pick a response.”

(Interviewer: Please read the gender in the scenario that matches the respondent’s gender. Please fill in the bubble corresponding to their answer as completely as possible).

1. 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 co-workers drinking it. You go over to him/her, yell loudly, and demand he/she buy you another drink.

If you were to do this, what do you think he/she would do?

Very sure he/she would buy you another drink

Pretty sure he/she would buy you another drink

Pretty sure he/she WOULD NOT buy you another drink

Very sure he/she WOULD NOT buy you another drink

2. You are eating dinner at a restaurant and feel the service has been poor. When the waiter comes back to your table, you shout angrily that the service has been terrible and demand that you should not have to pay for the meal.

If you were to do this, do you think you would have to pay for the meal?

Very sure you wouldn’t have to pay for the meal

Pretty sure you wouldn’t have to pay for the meal

Pretty sure you WOULD STILL have to pay for the meal

Very sure you WOULD STILL have to pay for the meal

3. You are playing a pick-up game of basketball with people in your neighborhood. A person on the other team elbows you on purpose. To get even, you elbow him/her back.

If you were to do this, what do you think he/she would do next?

Very sure he/she would not elbow you anymore

Pretty sure he/she would not elbow you anymore

Pretty sure he/she WOULD STILL keep trying to elbow you

Very sure he/she WOULD STILL keep trying to elbow you

4. 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. You shout at them to be quiet.

If you were to do this, what do you think they would do next?

- Very sure they would stop talking loudly
- Pretty sure they would stop talking loudly
- Pretty sure they WOULD KEEP talking loudly
- Very sure they WOULD KEEP talking loudly

5. You find out that you are competing against one other person for a job. Your friend already has a job there so the next time you talk to him/her, you spread rumors about the person you are competing against.

If you were to do this, do you think you would get the job?

- Very sure you would get the job
- Pretty sure you would get the job
- Pretty sure you WOULD NOT get the job
- Very sure you WOULD NOT get the job

6. You look out your window and see your neighbor taking your paper from your driveway. You run up to him/her, push him/her, and demand him/her to return your paper.

If you were to do this, do you think that you would get your paper back?

- Very sure you would get your paper back
- Pretty sure you would get your paper back
- Pretty sure you WOULD NOT get your paper back
- Very sure you WOULD NOT get your paper back

7. You are at work and another employee is playing music on a radio, making it hard for you to concentrate on your work. You yell loudly at him/her to turn off the music.

If you were to do this, do you think he/she would turn off the radio?

- Very sure he/she would turn off the radio
- Pretty sure he/she would turn off the radio
- Pretty sure he/she WOULD NOT turn off the radio
- Very sure he/she WOULD NOT turn off the radio

8. One day, you are standing with some co-workers when one of them says something insulting about you. To get even, you say insulting things back to him/her.

If you were to do this, what do you think he/she would do?

- Very sure he/she would stop saying insulting things
- Pretty sure he/she would stop saying insulting things
- Pretty sure he/she WOULD NOT STOP saying insulting things
- Very sure he/she WOULD NOT STOP saying insulting things

9. Someone cuts you off in traffic. You speed up next to them and shout and make an obscene gesture at them.

If you were to do this, what do you think he/she would do next?

Very sure he/she would not try to cut you off again  
Pretty sure he/she would not try to cut you off again  
Pretty sure he/she WOULD TRY to cut you off again  
Very sure he/she WOULD TRY to cut you off again

10. You are standing in the aisle at a concert. Someone behind you shoves you. You turn around and shove him/her back as hard as you can.

If you were to do this, what do you think he/she would do next?

Very sure he/she wouldn't shove you again  
Pretty sure he/she wouldn't shove you again  
Pretty sure he/she WOULD TRY to shove you again  
Very sure he/she WOULD TRY to shove you again

11. You are looking at some items in a store, deciding which to select. Someone comes up and stands in front of you, blocking your view. You forcefully tell him/her to move and wait until you're done.

If you were to do this, what do you think he/she would do next?

Very sure he/she would stop blocking your view  
Pretty sure he/she would stop blocking your view  
Pretty sure he/she WOULD KEEP blocking your view  
Very sure he/she WOULD KEEP blocking your view

12. You find out that someone at work has taken credit for something that you did. You angrily shout at him/her about his/her laziness.

If you were to do this, what do you think he/she would do next?

Very sure he/she would stop taking credit for your work  
Pretty sure he/she would stop taking credit for your work  
Pretty sure he/she WOULD STILL try to take credit for your work  
Very sure he/she WOULD STILL try to take credit for your work

13. 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. You push back the other way to get him/her to move.

If you were to do this, do you think you would keep your place?

Very sure you would keep your place  
Pretty sure you would keep your place  
Pretty sure you WOULD NOT keep your place  
Very sure you WOULD NOT keep your place

14. You are at a party with friends when you see someone laughing and looking at you with a group of other people. You walk over, say something offensive and threaten him/her.

If you were to do this, what do you think he/she would do?

Very sure he/she would stop talking about you

Pretty sure he/she would stop talking about you

Pretty sure he/she WOULD KEEP talking about you

Very sure he/she WOULD KEEP talking about you

15. You and another customer are walking toward a line to check out and you are clearly closer. The other person tries to hurry up and push past you to get there first. You angrily shout "I was here first."

If you were to do this, do you think you would get to be first in line?

Very sure you would be first in line

Pretty sure you would be first in line

Pretty sure you WOULD NOT be first in line

Very sure you WOULD NOT be first in line

16. You and another passenger get on the local bus at the same time. There is only one seat left. You push that person out of the way to get the seat.

If you were to do this, do you think you would get that seat?

Very sure you would get that seat

Pretty sure you would get that seat

Pretty sure you WOULDN'T get that seat

Very sure you WOULDN'T get that seat

17. You are at a sporting event and notice the person next to you staring at you with a scowl on his/her face. You angrily tell him/ her to "mind your own business."

If you were to do this, do you think he/she would keep staring at you?

Very sure he/she would stop staring at you

Pretty sure he/she would stop staring at you

Pretty sure he/she WOULD KEEP staring at you

Very sure he/she WOULD KEEP staring at you

18. You are at a party and ask to join a game of cards that has already started. Someone playing says meanly that you'll have to wait until they're done, even though they have let other people join since they started playing. You go over and yell loudly at him/her to let you join.

If you were to do this, do you think you would get to join the game?

Very sure you would get to join the game

Pretty sure you would get to join the game

Pretty sure you WOULD NOT get to join the game  
Very sure you WOULD NOT get to join the game

19. You are standing in line waiting for a ride at an amusement park. The person behind you keeps bumping into you. You bump back into him/her.

If you were to do this, what do you think he/she would do next?  
Very sure he/she wouldn't bump you again  
Pretty sure he/she wouldn't bump you again  
Pretty sure he/she WOULD STILL keep bumping into you  
Very sure he/she WOULD STILL keep bumping into you

20. You are trying to make a reservation for Saturday night at your favorite restaurant where you go frequently. The receptionist tells you that they are booked for that night. You shout angrily at him/her over the phone, saying that you could be fit in if he/she really tried.

If you were to do this, what do you think would happen next?  
Very sure you would get a reservation  
Pretty sure you would get a reservation  
Pretty sure you WOULD NOT get a reservation  
Very sure you WOULD NOT get a reservation

21. During annual evaluations at work, you know that you are ahead of another co-worker for a raise. On your way to your boss's office, that co-worker cuts you off and tells you that he/she will do whatever it takes to make sure you don't get the raise. You say you'll get back at him/her if he/she tries anything.

If you were to do this, do you think your co-worker would still try to stop you from getting the raise?  
Very sure he/she would stop interfering  
Pretty sure he/she would stop interfering  
Pretty sure he/she WOULD KEEP trying to interfere  
Very sure he/she WOULD KEEP trying to interfere

22. You are shopping for a birthday present. You see someone else who wants the same item you want and there is only one left. You elbow and push your way in front of the person and run to grab the item.

If you were to do this, do you think you would get the item?  
Very sure you would get the item  
Pretty sure you would get the item  
Pretty sure you WOULD NOT get the item  
Very sure you WOULD NOT get the item

AOEQ Feedback

We are interested in feedback regarding the development of a new measure, the AOEQ. Please think about the AOEQ (the second questionnaire you completed today) while responding to the following items. Use the scales provided to give your opinions about the questionnaire. The first set of response choices are Very Unrealistic, Somewhat Unrealistic, Somewhat Realistic, and Very Realistic.

1	2	3	4
Very Unrealistic	Somewhat Unrealistic	Somewhat Realistic	Very Realistic

1. How realistic were the scenarios presented on the AOEQ? \_\_\_\_\_

The response options are now Very Unlikely, Somewhat Unlikely, Somewhat Likely, and Very Likely.

1	2	3	4
Very Unlikely	Somewhat Unlikely	Somewhat Likely	Very Likely

2. What is the likelihood that these scenarios would happen to you? \_\_\_\_\_

3. What is the likelihood that these scenarios might happen to other people? \_\_\_\_\_

4. What is the likelihood that someone else might perform the last action presented in the story? \_\_\_\_\_

5. Any scenarios that stood out to you as particularly unrealistic?

Time to complete CPOEQ \_\_\_\_\_

Time to complete AOEQ \_\_\_\_\_

CPOEQ Feedback

We are interested in your thoughts about the measure that you just completed. This is a new measure that we are making and we would appreciate hearing your feedback.

Please tell me the directions of the questionnaire in your own words. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

For the next question, your choices are Not at all Believable, Somewhat Not Believable, Somewhat Believable, and Very Believable.

1	2	3	4
Not at All Believable	Somewhat Not Believable	Somewhat Believable	Very Believable

1. How believable were the scenarios presented on the CPOEQ? \_\_\_\_\_

Now the choices are Very Hard, Somewhat Hard, Somewhat Easy, and Very Easy.

1	2	3	4
Very Hard	Somewhat Hard	Somewhat Easy	Very Easy

2. How easy was it to understand the stories on the questionnaire? \_\_\_\_\_

3. How easy would it be for other kids your age to understand the stories? \_\_\_\_\_

Read the following items on the questionnaire and summarize it in your own words. Then tell me why you chose the answer you did.

Time to complete CPOEQ \_\_\_\_\_

*Appendix AD*

Child Perception of Outcome Expectations Questionnaire (CPOEQ) items  
administered for narrative feedback

Participant 1

5. Your mom/dad finds out that he/she and one other person are trying to get the same job. Your mom/dad's friend works there so the next time you mom/dad talks to his/her friend, your mom/dad spread rumors about the other person.

Does your mom/dad think he/she will get the job?

- Very sure he/she will get the job
- Pretty sure he/she will get the job
- Pretty sure he/she WON'T get the job
- Very sure he/she WON'T get the job

15. At the store, your mom/dad and another customer are walking toward a line to check out and your mom/dad is closer to the line. The other person tried to hurry up and push past your mom/dad to get there first. Your mom/dad angrily shouts "I was here first."

Does your mom/dad think he/she will be first in line?

- Very sure he/she will be first in line
- Pretty sure he/she will be first in line
- Pretty sure he/she WON'T be first in line
- Very sure he/she WON'T be first in line

19. Your mom/dad is standing in line waiting for a ride at an amusement park. The person behind your mom/dad keeps bumping into him/her. Your mom/dad bumps back into him/her.

What does your mom/dad think he/she will do next?

- Very sure he/she won't bump your mom/dad again
- Pretty sure he/she won't bump your mom/dad again
- Pretty sure he/she WILL STILL keep bumping into your mom/dad
- Very sure he/she WILL STILL keep bumping into your mom/dad

---

Participant 2

3. Your dad/mom is playing a pick-up game of basketball with people in the neighborhood. A man/woman on the other team elbows your dad/mom on purpose. To get even, you dad/mom elbows the man/woman back.

What does your dad/mom think the man/woman will do now?

Is your dad/mom very sure the man/woman will not elbow your dad/mom anymore?

Is your dad/mom pretty sure the man/woman will not elbow your dad/mom anymore?

Is your dad/mom pretty sure the man/woman WILL STILL keep trying to elbow your dad/mom?

Is your dad/mom very sure the man/woman WILL STILL keep trying to elbow your dad/mom?

12. Your dad/mom finds out that a man/woman at work says he/she did work that your dad/mom really did. Your dad/mom angrily shouts at the man/woman about how lazy he/she is.

What does your dad/mom think the man/woman will do next?

Is your dad/mom very sure the man/woman will stop saying he/she did the work?

Is your dad/mom pretty sure the man/woman will stop saying he/she did the work?

Is your dad/mom pretty sure the man/woman WILL STILL say he/she did the work?

Is your dad/mom very sure the man/woman WILL STILL say he/she did the work?

---

### Participant 3

7. Your dad/mom is at work and a male/female worker is playing music on a radio, making it hard for your dad/mom to concentrate. Your dad/mom yells loudly at the man/woman to turn off the radio.

Does your dad/mom think the man/woman will turn off the radio?

Is your dad/mom very sure he/she will turn off the radio?

Is your dad/mom pretty sure he/she will turn off the radio?

Is your dad/mom pretty sure he/she WON'T turn off the radio?

Is your dad/mom pretty sure he/she WON'T turn off the radio?

10. Your dad/mom is standing in the aisle at a concert. A man/woman behind your dad/mom shoves him/her. Your dad/mom turns around and shoves the man/woman back.

What does your dad/mom think the man/woman will do now?

Is your dad/mom very sure the man/woman won't shove your dad/mom again?

Is your dad/mom pretty sure the man/woman won't shove your dad/mom again?

Is your dad/mom pretty sure the man/woman WILL TRY to shove your dad/mom again?

Is your dad/mom very sure the man/woman WILL TRY to shove your dad/mom again?

17. Your dad/mom is at a sporting event and notices a man/woman staring at your dad/mom with a mean look on his/her face. Your dad/mom screams "stop staring at me."

Does your dad/mom think the man/woman will stop staring?

Is your dad/mom very sure the man/woman will stop staring?  
Is your dad/mom pretty sure the man/woman will stop staring?  
Is your dad/mom pretty sure the man/woman WILL KEEP staring?  
Is your dad/mom pretty sure the man/woman WILL KEEP staring?

---

#### Participant 4

4. Your dad/mom is at a restaurant with family members and the people at the table next to them are talking loudly, making it hard for your dad/mom to hear what family members are saying. Your dad/mom shouts at them to be quiet.
- What does your dad/mom think they will do next?
- Is your dad/mom very sure they will stop talking loudly?  
Is your dad/mom pretty sure they will stop talking loudly?  
Is your dad/mom pretty sure they WILL KEEP talking loudly?  
Is your dad/mom very sure they WILL KEEP talking loudly?
5. Your dad/mom finds out that he/she and one other man/woman are trying to get the same job. Your dad/mom's friend already has a job there so the next time your dad/mom talks to his/her friend, your dad/mom spreads rumors about the other man/woman trying to get the same job.
- Does your dad/mom think he/she will get the job?
- Is your dad/mom very sure he/she will get the job?  
Is your dad/mom pretty sure he/she will get the job?  
Is your dad/mom pretty sure he/she WON'T get the job?  
Is your dad/mom very sure he/she WON'T get the job?
10. Your dad/mom is standing in the aisle at a concert. A man/woman behind your dad/mom shoves him/her. Your dad/mom turns around and shoves the man/woman back.
- What does your dad/mom think the man/woman will do now?
- Is your dad/mom very sure the man/woman won't shove your dad/mom again?  
Is your dad/mom pretty sure the man/woman won't shove your dad/mom again?  
Is your dad/mom pretty sure the man/woman WILL TRY to shove your dad/mom again?  
Is your dad/mom pretty sure the man/woman WILL TRY to shove your dad/mom again?
- 

#### Participant 5

2. Your dad/mom is eating dinner at a restaurant and thinks the service has been poor. When the waiter/waitress comes back to your dad/mom's table, your dad/mom shouts angrily that the service has been terrible and demands to not have to pay for the meal.

How sure is your dad/mom that he/she won't have to pay for the meal?

Is your dad/mom:

- Very sure he/she won't have to pay
- Pretty sure he/she won't have to pay
- Pretty sure he/she WILL STILL have to pay
- Very sure he/she WILL STILL have to pay

8. One day, your dad/mom is standing with some people when one of the men/women says something mean about your dad/mom. Your dad/mom says mean things back.

How sure is your dad/mom that the man/woman will stop saying mean things?

Is your dad/mom:

- Very sure the man/woman will stop
- Pretty sure the man/woman will stop
- Pretty sure the man/woman WON'T STOP
- Very sure the man/woman WON'T STOP

13. Your dad/mom is sitting on the end of a bench in the lobby of a crowded restaurant waiting for a table. A man/woman next to your dad/mom keeps moving closer so that your dad/mom is getting closer to the edge. Your dad/mom pushes back the other way to get the man/woman to move.

How sure is your dad/mom that he/she will keep his/her place?

Is your dad/mom:

- Very sure he/she will keep his/her place
- Pretty sure he/she will keep his/her place
- Pretty sure he/she WON'T keep his/her place
- Very sure he/she WON'T keep his/her place

---

## Participant 6

1. Your dad/mom has been saving a drink for lunch in the refrigerator at work. When your dad/mom goes to get the drink, it is missing. Your dad/mom looks around the break room and notices a male/female co-worker drinking it. Your dad/mom goes over to the person drinking it, yells loudly, and demands another drink.

How sure is your dad/mom that the co-worker will buy your dad/mom another drink?

Is your dad/mom:

- Very sure the co-worker will
- Pretty sure the co-worker will
- Pretty sure the co-worker WON'T
- Very sure the co-worker WON'T

6. Your dad/mom looks out the window and sees a man/woman taking the paper from your dad/mom's driveway. Your dad/mom runs up to the man/woman, pushes him/her, and demands him/her to return the paper.

How sure is your dad/mom that he/she will get the paper back?

Is your dad/mom:

- Very sure he/she will get the paper back
- Pretty sure he/she will get the paper back
- Pretty sure he/she WON'T get the paper back
- Very sure he/she WON'T get the paper back

21. Your dad/mom knows that he/she is ahead of another man/woman for a raise at their job. Your dad/mom finds out that the other man/woman is telling lies about your dad/mom so he/she doesn't get the raise. Your dad/mom confronts the man/woman and says "If you don't stop, you're going to get what's coming to you."

How sure is your dad/mom that the man/woman will stop telling lies?

Is your dad/mom:

- Very sure the man/woman will stop
- Pretty sure the man/woman will stop
- Pretty sure the man/woman WILL NOT stop
- Very sure the man/woman WILL NOT stop

---

Participant 7

9. A man/woman cuts your dad/mom off in traffic. Your dad/mom speeds up next to the man/woman and yells rudely at him/her.

How sure is your dad/mom that the man/woman won't try to cut him/her off again?

Is your dad/mom:

- Very sure the man/woman will not try
- Pretty sure the man/woman will not try
- Pretty sure the man/woman WILL TRY
- Very sure the man/woman WILL TRY

14. Your dad/mom is at a party with friends when he/she sees a man/woman laughing and looking at him/her with a group of other people. Your dad/mom walks over, says something mean, and threatens the man/woman.

How sure is your dad/mom that the man/woman will stop talking about him/her?

Is your dad/mom:

- Very sure the man/woman will stop
- Pretty sure the man/woman will stop
- Pretty sure the man/woman WILL NOT stop
- Very sure the man/woman WILL NOT stop

18. At a party, a man/woman won't let your dad/mom join a game of cards, even though they have let other people join. Your dad/mom yells loudly at the man/woman to let him/her join.

How sure is your dad/mom that that he/she will get to join the game?

Is your dad/mom:

- Very sure he/she will get to join

Pretty sure he/she will get to join  
Pretty sure he/she WILL NOT get to join  
Very sure he/she WILL NOT get to join

---

Participant 8

11. Your dad/mom is at the store, looking at things, when a man/woman comes up and stands in front of your dad/mom, blocking the view. Your dad/mom angrily tells the man/woman to move and wait until he/she is done.

How sure is your dad/mom that the man/woman will stop blocking the view?

Is your dad/mom:

Very sure the man/woman will stop  
Pretty sure the man/woman will stop  
Pretty sure the man/woman WILL NOT stop  
Very sure the man/woman WILL NOT stop

16. Your dad/mom and another man/woman get on the local bus at the same time. There is only one seat left. Your dad/mom pushes the man/woman out of the way to get the seat.

How sure is your dad/mom that he/she will get the seat?

Is your dad/mom:

Very sure he/she will get the seat  
Pretty sure he/she will get the seat  
Pretty sure he/she WON'T get the seat  
Very sure he/she WON'T get the seat

20. Your dad/mom is trying to make a reservation for Saturday night at his/her favorite restaurant where he/she goes all the time. The man/woman on the phone tells your dad/mom they are booked for the night. Your dad/mom shouts angrily over the phone, demanding a reservation.

How sure is your dad/mom that he/she will get a reservation?

Is your dad/mom:

Very sure he/she will get a reservation  
Pretty sure he/she will get a reservation  
Pretty sure he/she WON'T get a reservation  
Very sure he/she WON'T get a reservation

---

Participant 9

4. Your dad/mom is at a restaurant and the people at the table next to them are talking loudly.

Your dad/mom shouts at them to be quiet.

How sure is your dad/mom that they will stop talking loudly?

Is your dad/mom:

Very sure they will stop talking loudly  
Pretty sure they will stop talking loudly  
Pretty sure they WILL KEEP talking loudly  
Very sure they WILL KEEP talking loudly

17. Your dad/mom notices a man/woman staring at your dad/mom with a mean look on his/her face.

Your dad/mom yells loudly at the man/woman to let him/her join.

How sure is your dad/mom that he/she will get to join the game?

Is your dad/mom:

Very sure the man/woman will stop staring  
Pretty sure the man/woman will stop staring  
Pretty sure the man/woman WILL KEEP staring  
Very sure the man/woman WILL KEEP staring

22. Your dad/mom sees another man/woman who wants the same thing at the store but there is only one left.

Your dad/mom elbows and pushes his/her way in front of the man/woman and runs to grab the item.

How sure is your dad/mom that he/she will get the item?

Is your dad/mom:

Very sure he/she will get the item  
Pretty sure he/she will get the item  
Pretty sure he/she WON'T get the item  
Very sure he/she WON'T get the item

---

#### Participant 10

7. Your dad/mom is at work and a male/female worker is playing loud music on a radio, making it hard to concentrate.

Your dad/mom yells loudly at the man/woman to turn off the radio.

How sure is your dad/mom that the man/woman will turn off the radio?

Is your dad/mom:

Very sure he/she will turn off the radio  
Pretty sure he/she will turn off the radio  
Pretty sure he/she WON'T turn off the radio  
Very sure he/she WON'T turn off the radio

11. Your dad/mom is at the store, looking at things, when a man/woman comes up and blocks the view.

Your dad/mom angrily tells the man/woman to move and wait until he/she is done.

How sure is your dad/mom that the man/woman will stop blocking the view?

Is your dad/mom:

Very sure the man/woman will stop  
Pretty sure the man/woman will stop

Pretty sure the man/woman WILL NOT stop  
Very sure the man/woman WILL NOT stop

19. Your dad/mom is standing in line. The man/woman behind your dad/mom keeps bumping into him/her.  
Your dad/mom bumps back into the man/woman.  
How sure is your dad/mom that the man/woman won't bump your dad/mom again?  
Is your dad/mom:  
Very sure the man/woman won't bump him/her again  
Pretty sure the man/woman won't bump him/her again  
Pretty sure the man/woman WILL bump him/her again  
Very sure the man/woman WILL bump him/her again
- 

#### Participant 11

6. Your dad/mom looks out the window and sees a man/woman taking the paper from your dad/mom's driveway.  
Your dad/mom runs up to the man/woman, pushes him/her, and demands him/her to return the paper.  
Is your dad/mom:  
Very sure he/she will get the paper back  
Pretty sure he/she will get the paper back  
Pretty sure he/she WON'T get the paper back  
Very sure he/she WON'T get the paper back
15. At the grocery store, a man/woman tries to push past your dad/mom to be first in the checkout line.  
Your dad/mom angrily shouts "You'll have to wait your turn."  
Is your dad/mom:  
Very sure he/she will be first in line  
Pretty sure he/she will be first in line  
Pretty sure he/she WON'T be first in line  
Very sure he/she WON'T be first in line
20. Your dad/mom is trying to make a reservation for Saturday night at his/her favorite restaurant where he/she goes all the time. The man/woman on the phone tells your dad/mom they are booked for the night.  
Your dad/mom shouts angrily over the phone, demanding a reservation.  
Is your dad/mom:  
Very sure he/she will get a reservation  
Pretty sure he/she will get a reservation  
Pretty sure he/she WON'T get a reservation  
Very sure he/she WON'T get a reservation
-

Participant 12

12. Your dad/mom finds out that a man/woman at work says he/she did work that your dad/mom really did.

Your dad/mom angrily shouts at the man/woman about how lazy he/she is.

Is your dad/mom:

- Very sure the man/woman will stop saying he/she did the work
- Pretty sure the man/woman will stop saying he/she did the work
- Pretty sure the man/woman WILL NOT stop saying he/she did the work
- Very sure the man/woman WILL NOT stop saying he/she did the work

18. At a party, a man/woman won't let your dad/mom join a game of cards, even though they have let other people join since they started playing.

Your dad/yells loudly at the man/woman to let her play.

Is your dad/mom:

- Very sure he/she will get to play
- Pretty sure he/she will get to play
- Pretty sure he/she WILL NOT get to play
- Very sure he/she WILL NOT get to play

22. Your dad/mom sees another man/woman who wants the same thing at the store, but there is only one left.

Your dad/mom elbows and pushes his/her way in front of the man/woman and runs to grab the item.

Is your dad/mom:

- Very sure he/she will get the item
- Pretty sure he/she will get the item
- Pretty sure he/she WON'T get the item
- Very sure he/she WON'T get the item

---

Participant 13

2. Your dad/mom is at a restaurant and thought the food was bad.

When the waiter/waitress comes back to your dad/mom's table, your dad/mom shouts angrily that he/she won't pay full price.

Is your dad/mom:

- Very sure he/she won't have to pay full price
- Pretty sure he/she won't have to pay full price
- Pretty sure he/she WILL STILL have to pay full price
- Very sure he/she WILL STILL have to pay full price

13. A man/woman sitting next to your dad/mom on a bench keeps moving closer so that your dad/mom is getting closer to the edge.

Your dad/mom moves back the other way to get the man/woman to move.

Is your dad/mom:

Very sure he/she will keep his/her place  
Pretty sure he/she will keep his/her place  
Pretty sure he/she WON'T keep his/her place  
Very sure he/she WON'T keep his/her place

21. Your dad/mom finds out that a man/woman at work is telling lies about your dad/mom so he/she doesn't get a raise.

Your dad/mom tells the man/woman "If you don't stop, you're going to get what's coming to you.

Is your dad/mom:

Very sure the man/woman will stop telling lies  
Pretty sure the man/woman will stop telling lies  
Pretty sure the man/woman WILL NOT stop telling lies  
Very sure the man/woman WILL NOT stop telling lies

Appendix B

AOEQ

Instructions: “I am going to read some imaginary situations that adults are sometimes faced with. I am interested in hearing your point of view as if you were in that situation. First, answer how likely you would be to do the action described in the story. Then, please respond to each situation with what you think is most likely to happen next. Although in reality, there may be other things that would affect the outcome, please use only the information provided to pick a response.”

(Interviewer: Please read the gender in the scenario that matches the respondent’s gender.)

1. 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 co-workers drinking it. You go over to him/her, yell loudly, and demand he/she buy you another drink.

How likely is that you would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

If you were to do this, what do you think he/she would do?

Very sure he/she would buy you another drink

Pretty sure he/she would buy you another drink

Pretty sure he/she WOULD NOT buy you another drink

Very sure he/she WOULD NOT buy you another drink

How likely is that someone else would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

2. You are eating dinner at a restaurant and feel the service has been poor. When the waiter comes back to your table, you shout angrily that the service has been terrible and demand that you should not have to pay full price.

How likely is that you would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

If you were to do this, do you think you would have to pay full price?

Very sure you would not have to pay full price

Pretty sure you would not have to pay full price

Pretty sure you WOULD STILL have to pay full price

Very sure you WOULD STILL have to pay full price

How likely is that someone else would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

3. You are playing a pick-up game of basketball with people in your neighborhood. A man/woman on the other team elbows you on purpose. The next time he/she is close to you, you elbow him/her back.

How likely is that you would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

If you were to do this, what do you think he/she would do next?

Very sure he/she would not elbow you anymore

Pretty sure he/she would not elbow you anymore

Pretty sure he/she WOULD STILL keep trying to elbow you

Very sure he/she WOULD STILL keep trying to elbow you

How likely is that someone else would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

4. 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. You shout at them to be quiet.

How likely is that you would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

If you were to do this, what do you think they would do next?

Very sure they would stop talking loudly

Pretty sure they would stop talking loudly

Pretty sure they WOULD KEEP talking loudly

Very sure they WOULD KEEP talking loudly

How likely is that someone else would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

5. You find out that you are competing against one other man/woman for a job. Your friend already has a job there so the next time you talk to your friend, you say you have heard negative things about the man/woman's work.

How likely is that you would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

If you were to do this, do you think you would get the job?

Very sure you would get the job

Pretty sure you would get the job

Pretty sure you WOULD NOT get the job

Very sure you WOULD NOT get the job

How likely is that someone else would do this?

Very Likely                  Somewhat Likely                  Somewhat Unlikely                  Very Unlikely

6. You look out your window and see a man/woman taking your paper from your driveway. You run up to him/her, push him/her, and demand him/her to return your paper.

How likely is that you would do this?

Very Likely                  Somewhat Likely                  Somewhat Unlikely                  Very Unlikely

If you were to do this, do you think that you would get your paper back?

Very sure you would get your paper back

Pretty sure you would get your paper back

Pretty sure you WOULD NOT get your paper back

Very sure you WOULD NOT get your paper back

How likely is that someone else would do this?

Very Likely                  Somewhat Likely                  Somewhat Unlikely                  Very Unlikely

7. You are at work and a male/female employee is playing music on a radio, making it hard for you to concentrate. You yell loudly at him/her to turn off the radio.

How likely is that you would do this?

Very Likely                  Somewhat Likely                  Somewhat Unlikely                  Very Unlikely

If you were to do this, do you think he/she would turn off the radio?

Very sure he/she would turn off the radio

Pretty sure he/she would turn off the radio

Pretty sure he/she WOULD NOT turn off the radio

Very sure he/she WOULD NOT turn off the radio

How likely is that someone else would do this?

Very Likely                  Somewhat Likely                  Somewhat Unlikely                  Very Unlikely

8. You are looking at some items in a store, deciding which to select. A man/woman comes up and stands in front of you, blocking your view. You forcefully tell him/her to move and wait until you're done.

How likely is that you would do this?

Very Likely                  Somewhat Likely                  Somewhat Unlikely                  Very Unlikely

If you were to do this, what do you think he/she would do next?

Very sure he/she would stop blocking your view

Pretty sure he/she would stop blocking your view

Pretty sure he/she WOULD KEEP blocking your view

Very sure he/she WOULD KEEP blocking your view

How likely is that someone else would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

9. You find out that a man/woman at work has taken credit for something that you did. You angrily shout at him/her about taking credit for your work.

How likely is that you would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

If you were to do this, what do you think he/she would do next?

Very sure he/she would stop taking credit for your work

Pretty sure he/she would stop taking credit for your work

Pretty sure he/she WOULD STILL try to take credit for your work

Very sure he/she WOULD STILL try to take credit for your work

How likely is that someone else would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

10. You are sitting on the end of a bench in the lobby area of a crowded restaurant waiting for a table. The man/woman next to you keeps moving closer so that you are getting nearer to the edge. You move back the other way to get him/her to move.

How likely is that you would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

If you were to do this, do you think you would keep your place?

Very sure you would keep your place

Pretty sure you would keep your place

Pretty sure you WOULD NOT keep your place

Very sure you WOULD NOT keep your place

How likely is that someone else would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

11. You and another man/woman get on the local bus at the same time. There is only one seat left. You push the man/woman out of the way to get the seat.

How likely is that you would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

If you were to do this, do you think you would get the seat?

Very sure you would get the seat

Pretty sure you would get the seat

Pretty sure you WOULD NOT get the seat

Very sure you WOULD NOT get the seat

How likely is that someone else would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

12. You are at a party and ask to join a game of cards that has already started. A man/woman playing says meanly that you'll have to wait until they're done, even though they have let other people join since they started playing. You yell that they're being rude and that you should be able to join.

How likely is that you would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

If you were to do this, do you think you would get to join the game?

Very sure you would get to join the game

Pretty sure you would get to join the game

Pretty sure you WOULD NOT get to join the game

Very sure you WOULD NOT get to join the game

How likely is that someone else would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

13. You are standing in line waiting for a ride at an amusement park. The man/woman behind you keeps bumping into you. You bump back into him/her.

How likely is that you would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

If you were to do this, what do you think he/she would do next?

Very sure he/she wouldn't bump into you again

Pretty sure he/she wouldn't bump into you again

Pretty sure he/she WOULD BUMP into you again

Very sure he/she WOULD BUMP into you again

How likely is that someone else would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

14. You are trying to make a reservation for Saturday night at your favorite restaurant where you go frequently. The receptionist tells you that they are booked for that night. You shout angrily at him/her over the phone, saying that you could be fit in if he/she really tried.

How likely is that you would do this?

Very Likely                  Somewhat Likely          Somewhat Unlikely      Very Unlikely

If you were to do this, what do you think would happen next?

Very sure you would get a reservation

Pretty sure you would get a reservation

Pretty sure you WOULD NOT get a reservation  
Very sure you WOULD NOT get a reservation

How likely is that someone else would do this?

Very Likely                  Somewhat Likely                  Somewhat Unlikely                  Very Unlikely

15. You and another man/woman are walking toward a checkout line at the grocery store and you are clearly closer. The man/woman tries to hurry up and push past you to get there first. You angrily shout "You'll have to wait your turn!"

How likely is that you would do this?

Very Likely                  Somewhat Likely                  Somewhat Unlikely                  Very Unlikely

If you were to do this, do you think you would get to be first in line?

Very sure you would be first in line

Pretty sure you would be first in line

Pretty sure you WOULD NOT be first in line

Very sure you WOULD NOT be first in line

How likely is that someone else would do this?

Very Likely                  Somewhat Likely                  Somewhat Unlikely                  Very Unlikely

16. You are shopping for a birthday present. You see another man/woman who wants the same item you want and there is only one left. You push your way in front of him/her and run to grab the item.

How likely is that you would do this?

Very Likely                  Somewhat Likely                  Somewhat Unlikely                  Very Unlikely

If you were to do this, do you think you would get the item?

Very sure you would get the item

Pretty sure you would get the item

Pretty sure you WOULD NOT get the item

Very sure you WOULD NOT get the item

How likely is that someone else would do this?

Very Likely                  Somewhat Likely                  Somewhat Unlikely                  Very Unlikely

*Appendix C*

PPOEQ

Instructions: "I am going to read some situations that your child might happen to your child at school. I would like you to try and imagine what you think your child might think would happen next if he/she were in that situation. Tell me which solution your child would think most likely to happen. Although other things may affect the outcome in real life, please use only the information provided to choose a response. Do you have any questions?"

(Interviewer: Please choose the name that corresponds with the gender of the parent's child.)

1. Mike/Michelle is teasing your child at school by calling him/her names. To make Mike/Michelle stop, your child calls him/her names.

What does your child think Mike/Michelle will do now?

- Very sure Mike/Michelle will stop teasing
- Pretty sure Mike/Michelle will stop teasing
- Pretty sure Mike/Michelle WILL KEEP on teasing
- Very sure Mike/Michelle WILL KEEP on teasing

2. Your child and his/her class are in the library. Kevin/Kathy wants to look at the same book that your child wants to look at. Your child elbows and pushes his/her way in front of Kevin/Kathy and runs to grab the book.

Does your child think he/she will get the book?

- Very sure he/she will get the book
- Pretty sure he/she will get the book
- Pretty sure he/she WILL NOT get the book
- Very sure he/she WILL NOT get the book.

3. Your child is at the front of a long lunch line at school. James/Jane comes up and meanly tries to cut in front of your child. Your child yells and calls James/Jane bad names.

Does your child think he/she will keep his/her place?

- Very sure he/she will keep his/her place
- Pretty sure he/she will keep his/her place
- Pretty sure he/she WILL NOT keep his/her place
- Very sure he/she WILL NOT keep his/her place

4. Jack/Jill keeps making noises, banging his/her pencil against his/her desk, so that your child can't think or get work done. Your child yells really loudly at him/her.

Does your child think Jack/Jill will stop making noises?

- Very sure he/she will stop making noises
- Pretty sure he/she will stop making noises
- Pretty sure he/she WON'T stop making noises

Very sure he/she WON'T stop making noises

5. During school one day, Josh/Joan angrily takes away a picture that your child is working on. Your child gets mad and yells at him/her.

Does your child think he/she will get his/her picture back?

Very sure he/she will get his/her picture back  
Pretty sure he/she will get his/her picture back  
Pretty sure he/she WON'T get his/her picture back  
Very sure he/she WON'T get his/her picture back

6. While your child is playing at school, Bob/Barbara starts pushing him/her. Your child pushes Bob/Barbara down.

What does your child think Bob/Barbara will do?

Very sure Bob/Barbara won't push him/her again  
Pretty sure Bob/Barbara won't push him/her again  
Pretty sure Bob/Barbara WILL PUSH him/her again  
Very sure Bob/Barbara WILL PUSH him/her again

7. Tim/Tina calls your child a bad player and laughs at your child while he/she is playing softball with friends. Your child calls Tim/Tina a name and threatens to sock him/her.

What does your child think Tim/Tina will do?

Very sure Tim/Tina won't bother him/her again  
Pretty sure Tim/Tina won't bother him/her again  
Pretty sure Tim/Tina WILL BOTHER him/her again  
Very sure Tim/Tina WILL BOTHER him/her again

8. One day your child and Chris/Christy are walking along together. Your child spots a dollar bill. Your child and Chris/Christy both bend down to get it but Chris/Christy picks it up first. Your child thinks the dollar should have been his/hers. Your child screams and yells at Chris/Christy.

Does your child think he/she will get the dollar?

Very sure he/she will get the dollar  
Pretty sure he/she will get the dollar  
Pretty sure he/she WON'T get the dollar  
Very sure he/she WON'T get the dollar

9. Your child is really thirsty and needs a drink of water. Steve/Mary is already in front of your child at the drinking fountain. Your child elbows and pushes his/her way to the front of the line.

Does your child think he/she will get a drink first?

Very sure he/she will get a drink first

Pretty sure he/she will get a drink first  
Pretty sure he/she WON'T get a drink first  
Very sure he/she WON'T get a drink first

10. Your child scored a goal in the soccer game. Jeff/Jennifer, who is on the other team, begins angrily hitting your child on the arm. Your child hits back as hard as he/she can.

What does your child think Jeff/Jennifer will do now?  
Very sure Jeff/Jennifer won't hit him/her again  
Pretty sure Jeff/Jennifer won't hit him/her again  
Pretty sure Jeff/Jennifer WILL HIT him/her again  
Very sure Jeff/Jennifer WILL HIT him/her again

11. Bill/Wilma trips your child while your child is playing ball. Your child gets even and trips him/her back.

What does your child think Bill/Wilma will do now?  
Very sure Bill/Wilma will not trip him/her anymore  
Pretty sure Bill/Wilma will not trip him/her anymore  
Pretty sure Bill/Wilma WILL STILL keep trying to trip him/her  
Very sure Bill/Wilma WILL STILL keep trying to trip him/her

12. At school, your child and his/her friends want to play soccer. John/Joan has the only soccer ball, and he/she meanly says he/she doesn't want to play with your child. Your child goes over and pushes him/her down, and takes the ball from him/her.

Does your child think he/she will get to play with the ball?  
Very sure he/she will get to play with the ball  
Pretty sure he/she will get to play with the ball  
Pretty sure he/she WON'T get to play with the ball  
Very sure he/she WON'T get to play with the ball

*Appendix D*

OEQ

Instructions: "I am going to read some situations that sometimes happen to kids when they are at school. I would like you to think about what sorts of things are likely to happen next, especially if you were in that situation. Tell me which solutions if most likely to happen. Do you have any questions?"

(Interviewer: Please use the correct names that corresponds with TC's gender. Please fill in the bubble corresponding to their answer as completely as possible.)

1. Mike/Michelle is teasing you at school by calling you names. To make him/her stop, you call him/her names back.

What do you think he/she will do now?

- Very sure he/she will stop teasing you
- Pretty sure he/she will stop teasing you
- Pretty sure he/she WILL KEEP on teasing you
- Very sure he/she WILL KEEP on teasing you

2. You and your class are in the library. Kevin/Kathy wants to look at the same book that you want to look at. You elbow and push your way in front of him/her and run to grab the book.

Do you think you will get the book?

- Very sure you will get the book
- Pretty sure you will get the book
- Pretty sure you WON'T get the book
- Very sure you WON'T get the book

3. You are at the front of a long lunch line at school. James/Jane comes up and meanly tries to cut in front of you. You yell and call him/her bad names.

Do you think you will keep your place?

- Very sure you will keep your place
- Pretty sure you will keep your place
- Pretty sure you WON'T keep your place
- Very sure you WON'T keep your place

4. Jack/Jill keeps making noises, banging his/her pencil against his/her desk so that you can't think or get your own work done. You yell really loudly at him/her.

Do you think he/she will stop making noises?

- Very sure he/she will stop making noises
- Pretty sure he/she will stop making noises
- Pretty sure he/she WON'T stop making noises
- Very sure he/she WON'T stop making noises

5. During school one day, Josh/Joan angrily takes away a picture that you are working on. You get mad and yell at him/her.

Do you think you will get your picture back?

Very sure you will get your picture back  
Pretty sure you will get your picture back  
Pretty sure you WON'T get your picture back  
Very sure you WON'T get your picture back

6. While you're playing at school, Bob/Barbara starts pushing you. You push him/her down.

What do you think he/she will do?

Very sure he/she won't push you again  
Pretty sure he/she won't push you again  
Pretty sure he/she WILL PUSH you again  
Very sure he/she WILL PUSH you again

7. Tim/Tina calls you a bad player and laughs at you while you are playing softball with your friends. You call him/her a name and threaten to sock him/her.

What do you think he/she will do?

Very sure he/she won't bother you again  
Pretty sure he/she won't bother you again  
Pretty sure he/she WILL BOTHER you again  
Very sure he/she WILL BOTHER you again

8. One day you and Chris/Christy are walking along together. You spot a dollar bill lying on the sidewalk. You and Chris/Christy both bend down to get it, but he/she picks it up first. You think the dollar should have been yours. You scream and yell at him/her.

Do you think you will get the dollar?

Very sure you will get the dollar  
Pretty sure you will get the dollar  
Pretty sure you WON'T get the dollar  
Very sure you WON'T get the dollar

9. You are really thirsty and need a drink of water. Steve/Mary is already in front of you at the drinking fountain. You elbow and push your way to the front of the line.

Do you think you will get a drink first?

Very sure you will get a drink first  
Pretty sure you will get a drink first  
Pretty sure you WON'T get a drink first  
Very sure you WON'T get a drink first

10. You scored a goal in the soccer game. Jeff/Jennifer, who is on the other team, begins angrily hitting you on the arm. You hit back as hard as you can.

What do you think he/she will do now?

Very sure he/she won't hit you again

Pretty sure he/she won't hit you again

Pretty sure he/she WILL HIT you again

Very sure he/she WILL HIT you again

11. Bill/Wilma trips you while you are playing ball. You get even and trip him/her back.

What do you think he/she will do now?

Very sure he/she will not trip you anymore

Pretty sure he/she will not trip you anymore

Pretty sure he/she WILL STILL keep trying to trip you

Very sure he/she WILL STILL keep trying to trip you

12. At school, you and your friends want to play soccer. John/Joan has the only soccer ball, and he/she meanly says he/she doesn't want to play with you. You go over and push him/her down and take the ball from him/her.

Do you think you will get to play with the ball?

Very sure you will get to play with the ball

Pretty sure you will get to play with the ball

Pretty sure you WON'T get to play with the ball

Very sure you WON'T get to play with the ball

*Appendix E*

CPOEQ

Instructions: “Pretend you are your dad/mom. Listen to each story and tell me what your dad/mom might think would happen next. Choose what your dad/mom would think. Do you have any questions?”

(Interviewer: Please read the parent figure (mom or dad) that is completing the parent portion of the interview. Also, please pick the gender of the other person that corresponds to the gender of the parent figure.)

Ask the child to retell the directions in their own words. Make sure he/she understands he/she is to answer the questions like his/her dad or mom would.

1. Your dad/mom is at work and sees a male/female co-worker drinking one of your dad/mom’s drinks.  
Your dad/mom goes over to the person drinking it, yells loudly, and demands another drink.

Is your dad/mom:

- Very sure the co-worker will buy another drink
- Pretty sure the co-worker will buy another drink
- Pretty sure the co-worker WON’T buy another drink
- Very sure the co-worker WON’T buy another drink

2. Your dad/mom is at a restaurant and thought the food was bad.  
When the waiter/waitress comes back to your dad/mom’s table, your dad/mom shouts angrily that he/she won’t pay full price.

Is your dad/mom:

- Very sure he/she won’t have to pay full price
- Pretty sure he/she won’t have to pay full price
- Pretty sure he/she WILL STILL have to pay full price
- Very sure he/she WILL STILL have to pay full price

3. Your dad/mom is playing a game of basketball with people. A man/woman on the other team elbows your dad/mom on purpose.  
Your dad/mom elbows him/her back.

Is your dad/mom:

- Very sure he/she will stop elbowing
- Pretty sure he/she will stop elbowing
- Pretty sure he/she WILL NOT stop elbowing
- Very sure he/she WILL NOT stop elbowing

4. Your dad/mom is at a restaurant and the people next to them are talking loudly. Your dad/mom shouts at them to be quiet.

Is your dad/mom:

Very sure they will stop talking loudly  
Pretty sure they will stop talking loudly  
Pretty sure they WILL KEEP talking loudly  
Very sure they WILL KEEP talking loudly

5. Your dad/mom finds out that he/she and one other man/woman are trying to get the same job.  
Your dad/mom says he/she has heard bad things about the other man/woman trying to get the job.

Is your dad/mom:

Very sure he/she will get the job  
Pretty sure he/she will get the job  
Pretty sure he/she WON'T get the job  
Very sure he/she WON'T get the job

6. Your dad/mom looks out the window and sees a man/woman taking the paper from the driveway.  
Your dad/mom runs up to the man/woman, pushes him/her, and demands him/her to return the paper.

Is your dad/mom:

Very sure he/she will get the paper back  
Pretty sure he/she will get the paper back  
Pretty sure he/she WON'T get the paper back  
Very sure he/she WON'T get the paper back

7. Your dad/mom is at work and a male/female worker is playing loud music on a radio, making it hard to concentrate.  
Your dad/mom yells loudly at him/her to turn off the radio.

Is your dad/mom:

Very sure he/she will turn off the radio  
Pretty sure he/she will turn off the radio  
Pretty sure he/she WON'T turn off the radio  
Very sure he/she WON'T turn off the radio

8. Your dad/mom is at the store, looking at things, when a man/woman comes up and blocks the view.  
Your dad/mom angrily tells the man/woman to move and wait until he/she is done.

Is your dad/mom:

Very sure the man/woman will move  
Pretty sure the man/woman will move  
Pretty sure the man/woman WILL NOT move  
Very sure the man/woman WILL NOT move

9. Your dad/mom finds out that someone at work says he/she did something that your dad/mom really did.  
Your dad/mom angrily shouts at the man/woman about stealing other people's work.

Is your dad/mom:

Very sure the man/woman will stop saying he/she did the work  
Pretty sure the man/woman will stop saying he/she did the work  
Pretty sure the man/woman WILL STILL say he/she did the work  
Very sure the man/woman WILL STILL say he/she did the work

10. A man/woman sitting next to your dad/mom on a bench keeps moving closer so that your dad/mom is getting closer to the edge.  
Your dad/mom moves back the other way to get the man/woman to move.

Is your dad/mom:

Very sure he/she will keep his/her place  
Pretty sure he/she will keep his/her place  
Pretty sure he/she WON'T keep his/her place  
Very sure he/she WON'T keep his/her place

11. Your dad/mom and another person get on the local bus at the same time. There is only one seat left.  
Your dad/mom pushes the man/woman out of the way to get the seat.

Is your dad/mom:

Very sure he/she will get the seat  
Pretty sure he/she will get the seat  
Pretty sure he/she WON'T get the seat  
Very sure he/she WON'T get the seat

12. At a party, a man/woman won't let your dad/mom join a game of cards, even though they have let other people join.  
Your dad/mom yells loudly at the man/woman to let him/her play.

Is your dad/mom:

Very sure he/she will get to play  
Pretty sure he/she will get to play  
Pretty sure he/she WON'T get to play  
Very sure he/she WON'T get to play

13. Your dad/mom is standing in line. The man/woman behind your dad/mom keeps bumping into him/her.  
Your dad/mom bumps back into the man/woman.

Is your dad/mom:

Very sure the man/woman won't bump him/her again  
Pretty sure the man/woman won't bump him/her again  
Pretty sure the man/woman WILL bump him/her again  
Very sure the man/woman WILL bump him/her again

14. Your dad/mom is trying to make a reservation for Saturday night at his/her favorite restaurant where he/she goes all the time. The man/woman on the phone tells your dad/mom they are booked for that night.  
Your dad/mom shouts angrily over the phone, demanding a reservation.

Is your dad/mom:

Very sure he/she will get a reservation  
Pretty sure he/she will get a reservation  
Pretty sure he/she WON'T get a reservation  
Very sure he/she WON'T get a reservation

15. At the grocery store, a man/woman tries to push past your dad/mom to be first in the checkout line.  
Your dad/mom angrily shouts "You'll have to wait your turn."

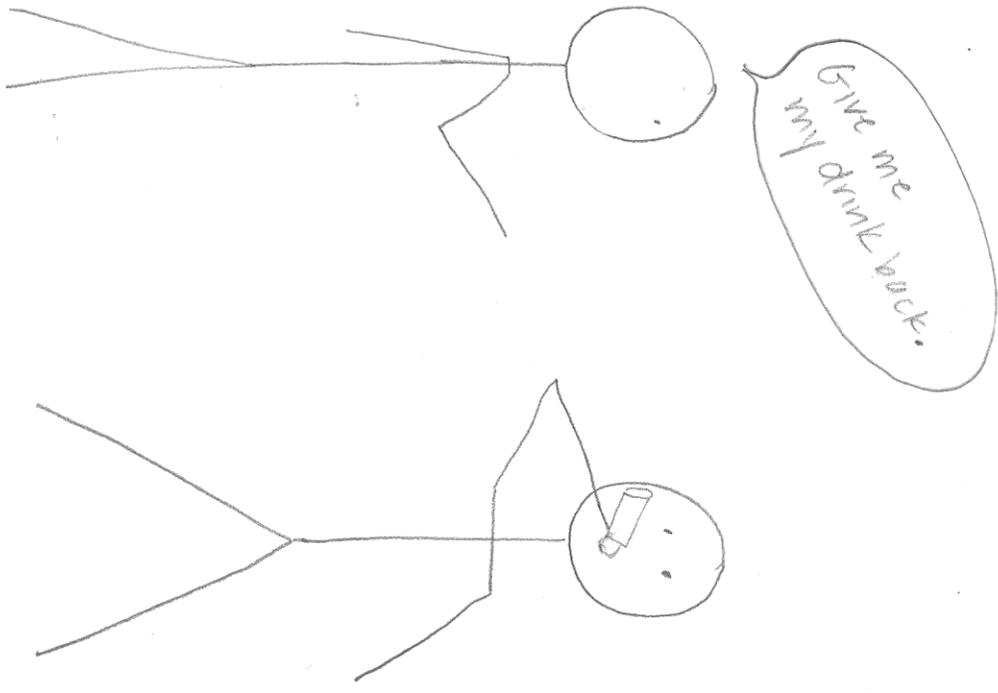
Is your dad/mom:

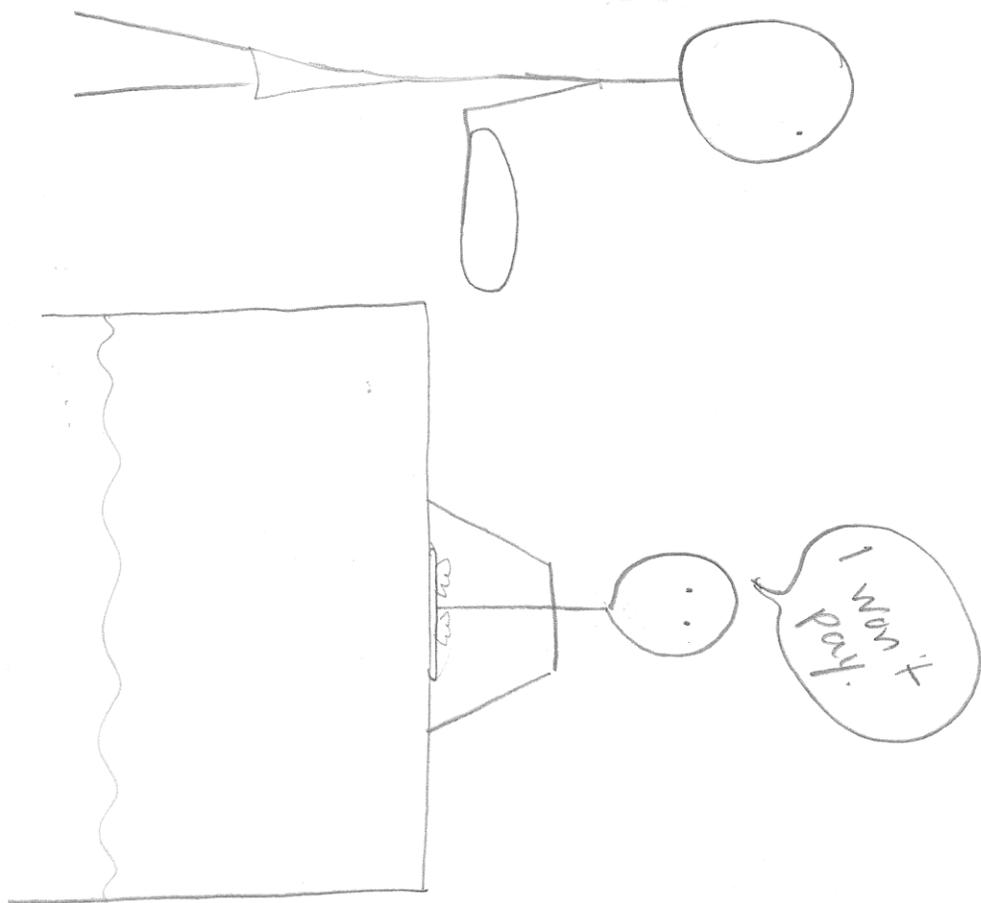
Very sure he/she will be first in line  
Pretty sure he/she will be first in line  
Pretty sure he/she WON'T be first in line  
Very sure he/she WON'T be first in line

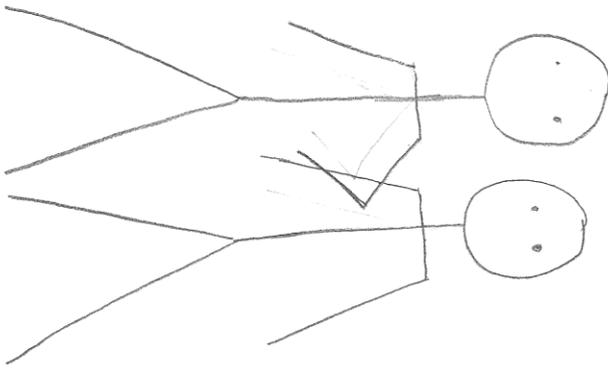
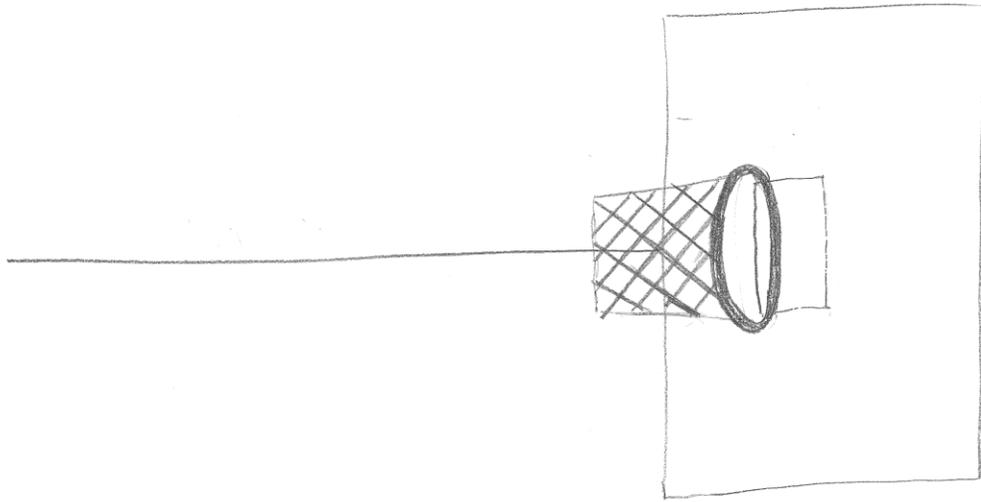
16. Your dad/mom sees another man/woman who wants the same thing at the store, but there is only one left.  
Your dad/mom pushes his/her way in front of the man/woman to grab the item.

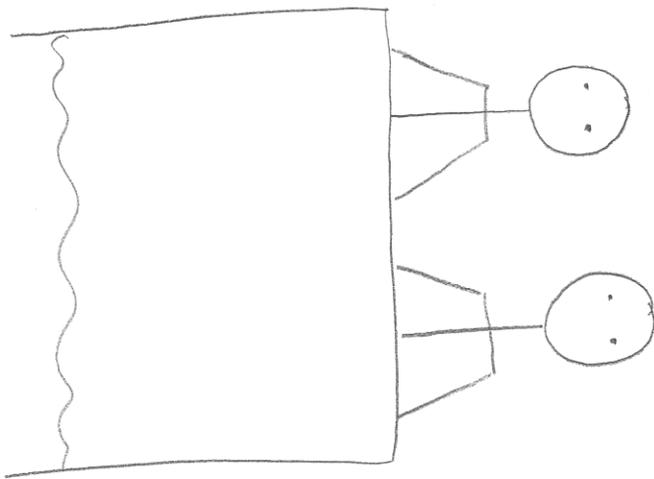
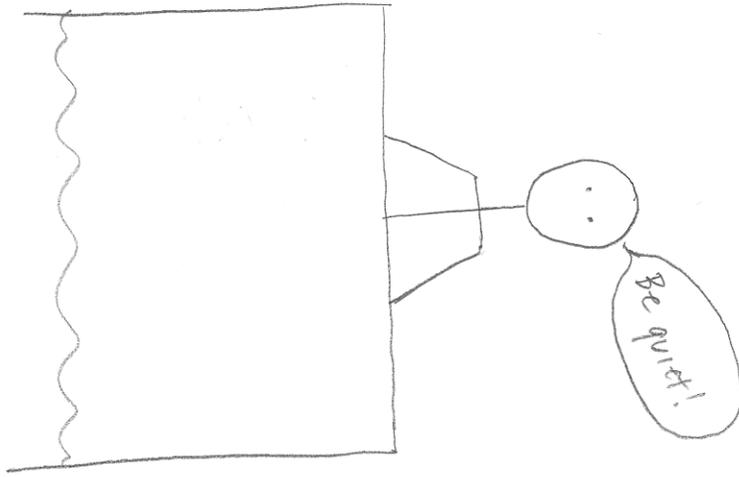
Is your dad/mom:

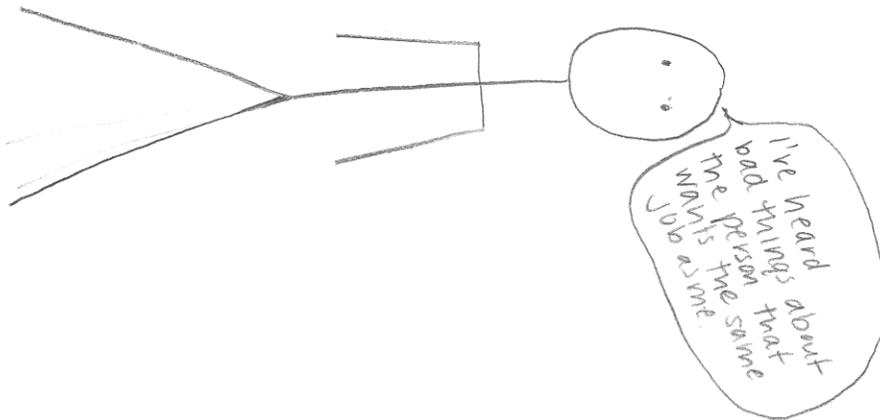
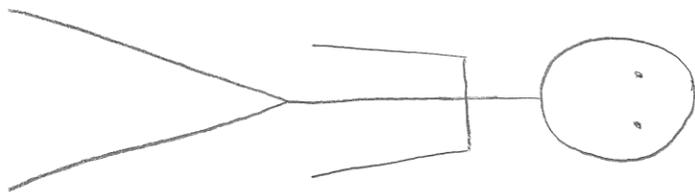
Very sure he/she will get the item  
Pretty sure he/she will get the item  
Pretty sure he/she WON'T get the item  
Very sure he/she WON'T get the item

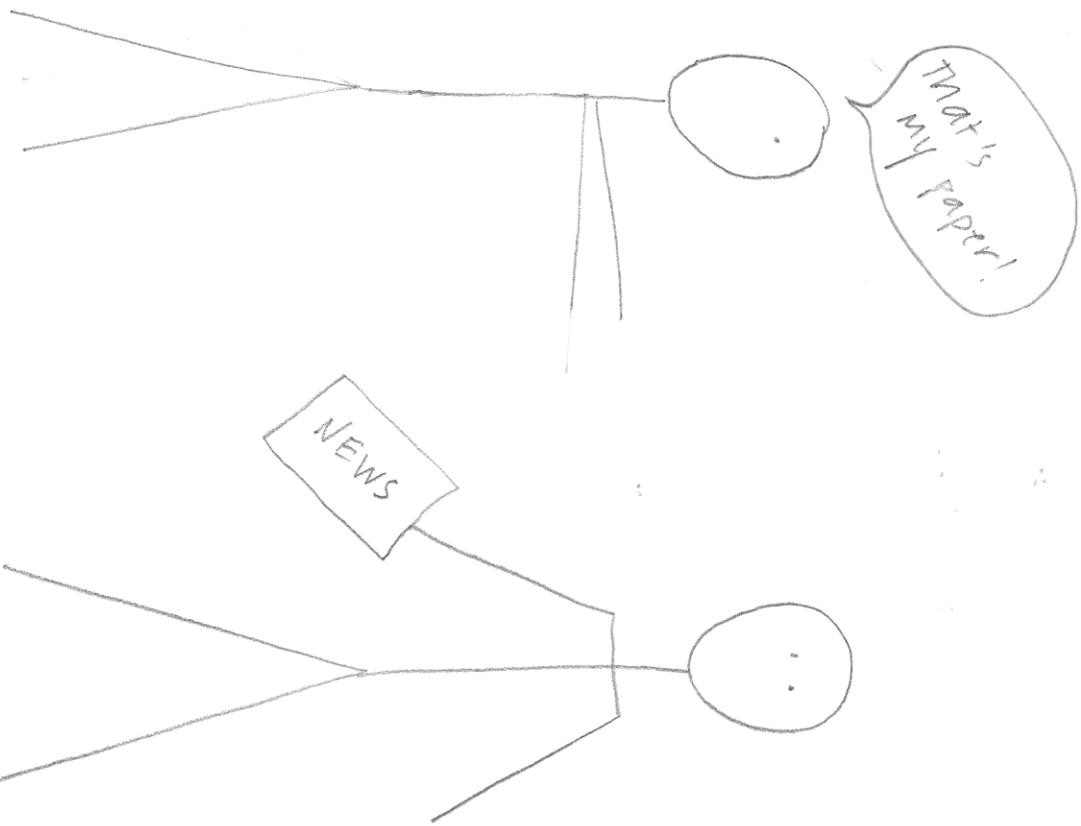




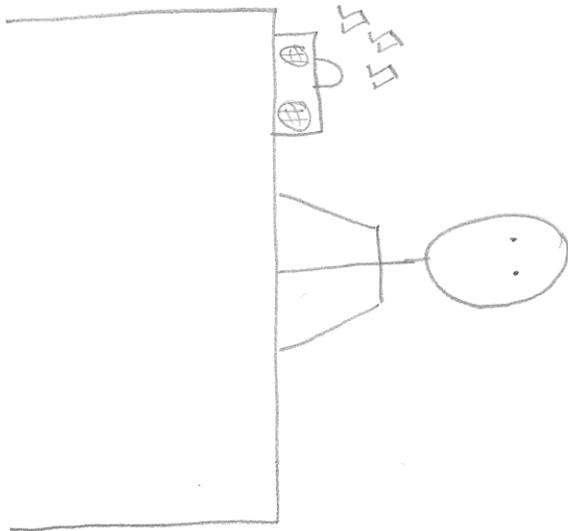
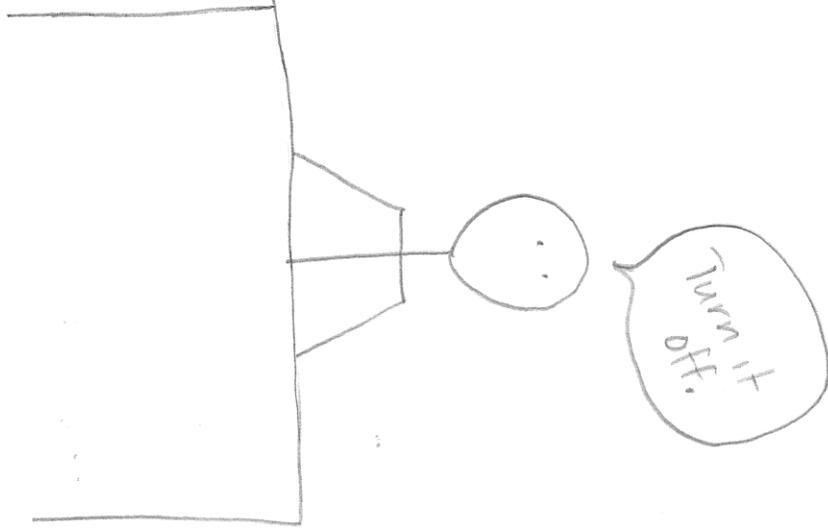




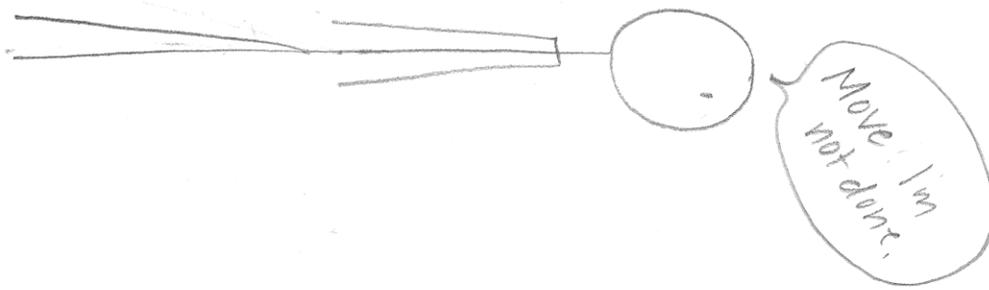




6

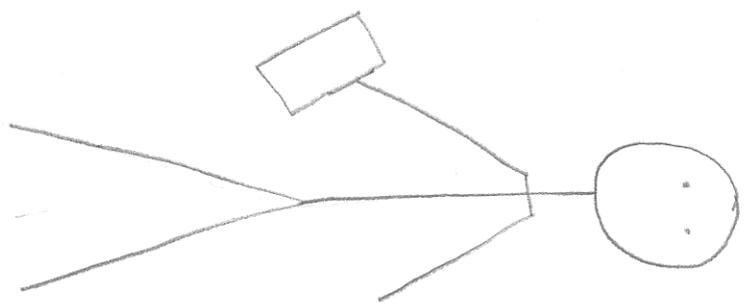
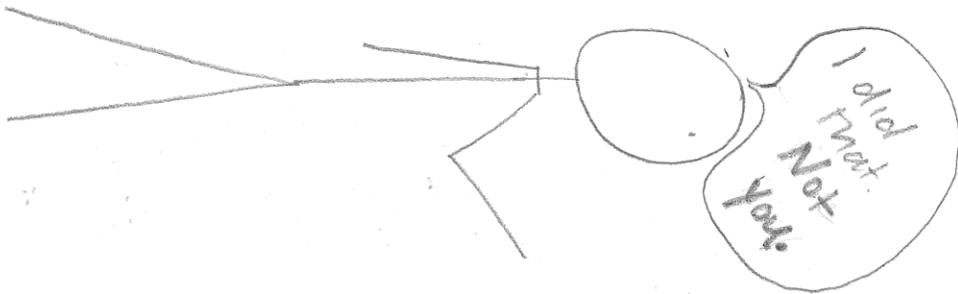


1

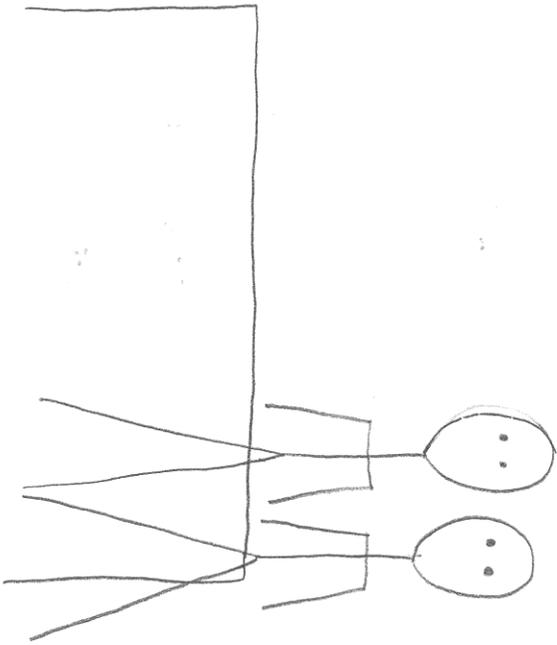


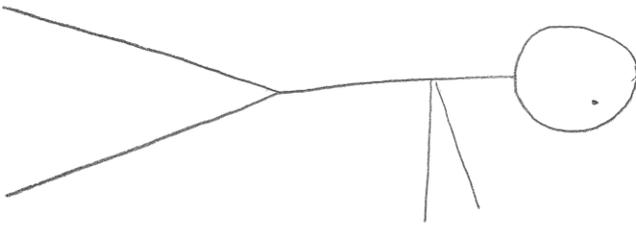
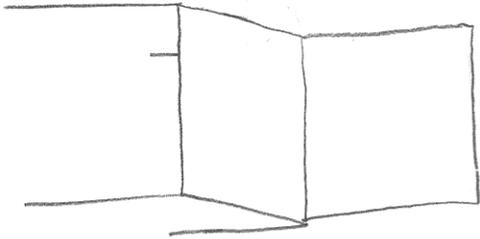
Q T O T O T Q

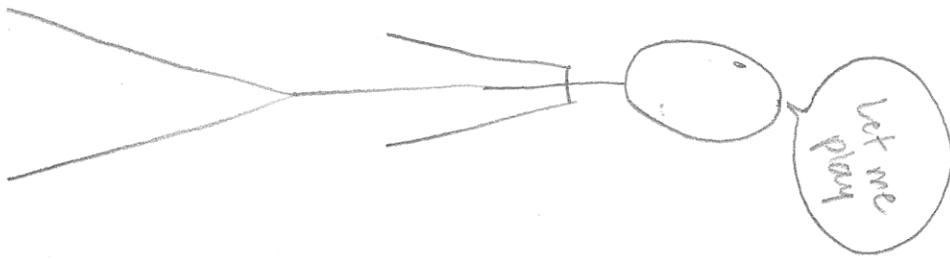
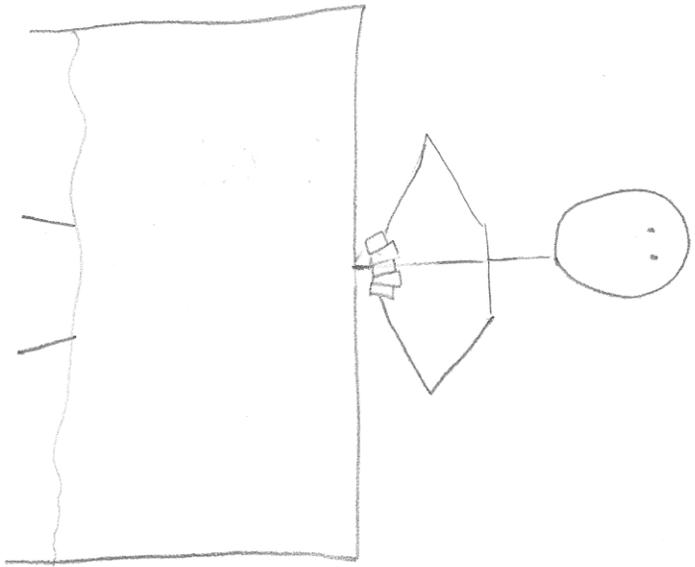
||

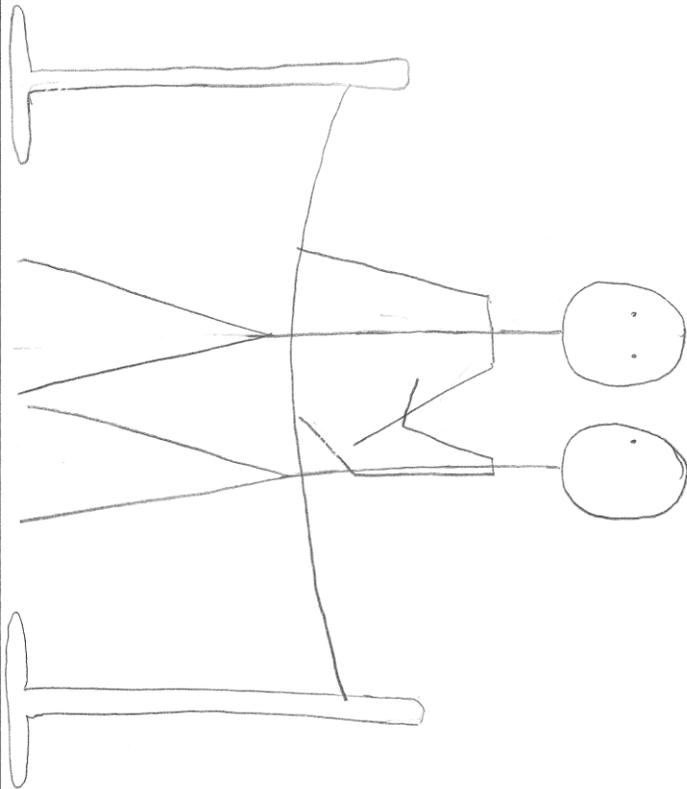


12

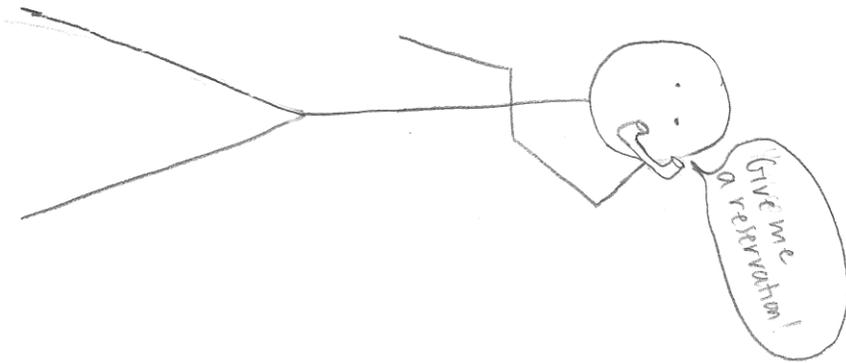


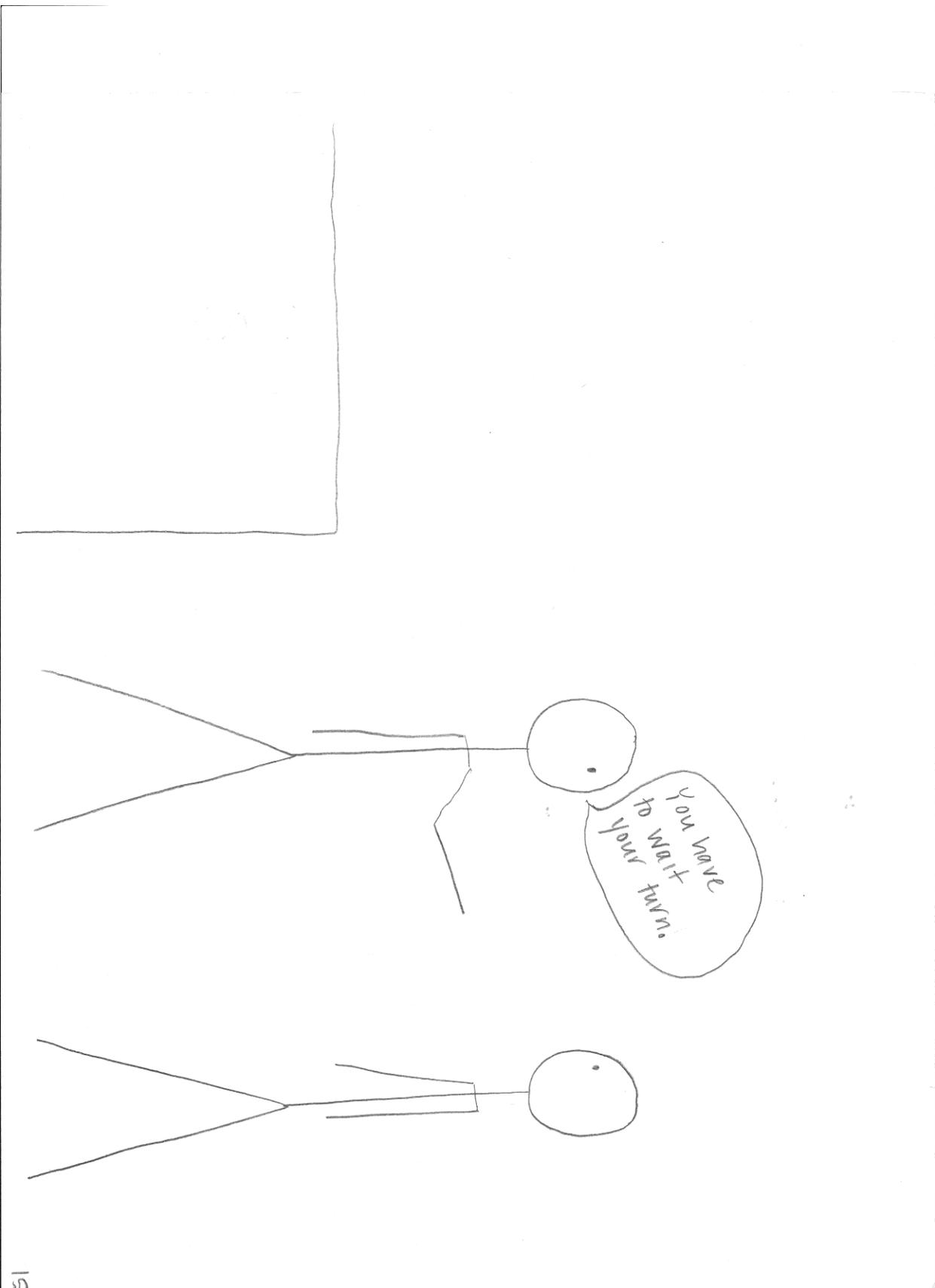




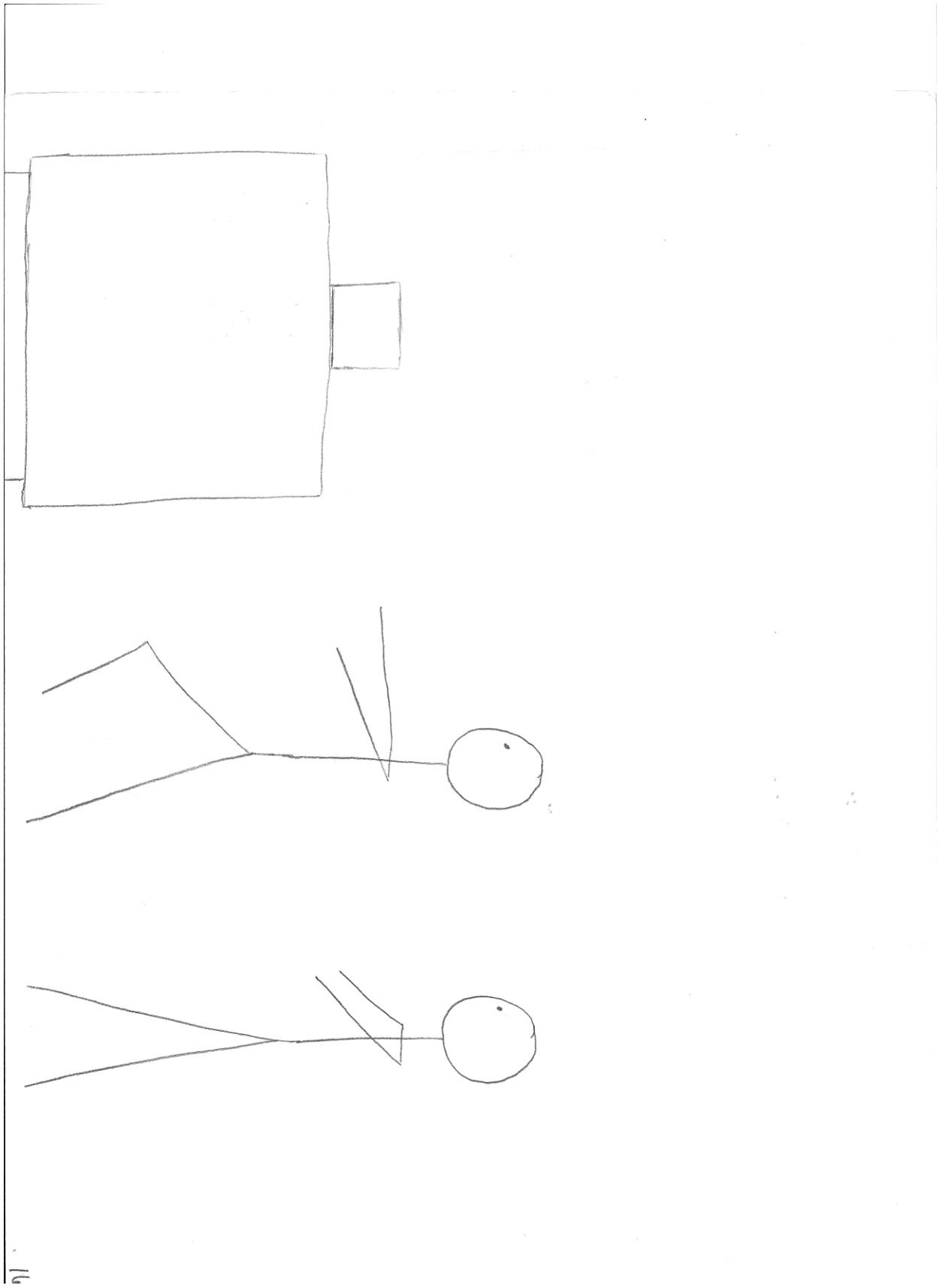


13





51



16

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

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

April 10, 2009

John Lochman, Ph.D.  
Department of Psychology  
College of Arts and Sciences  
Box 870348

Re: IRB Protocol # 08-016 (Revision 3)  
"Individual and Group Intervention Formats with Aggressive  
Children"

Dear Dr. Lochman:

The University of Alabama Non-Medical IRB has received the revisions requested by the full board on 3/13/09. The board has reviewed the revisions and your protocol revision is now approved. Please remember that your approval period expires one year from the date of your original approval, October 22, 2008, not the date of this revision approval.

Should you need to submit any further correspondence regarding this proposal, please include the assigned IRB application number.

Good luck with your research.

Sincerely,

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



152 Rose Administration Building  
Box 870117  
Tuscaloosa, Alabama 35487-0117  
(205) 348-5152  
FAX (205) 348-8882