



University of Tennessee, Knoxville
Trace: Tennessee Research and Creative
Exchange

Masters Theses

Graduate School

12-2009

Influence of Parenting Behavior on Behavioral and Psychological Associations of Proactive and Reactive Aggression

Jamie Lee Rathert

University of Tennessee - Knoxville

Recommended Citation

Rathert, Jamie Lee, "Influence of Parenting Behavior on Behavioral and Psychological Associations of Proactive and Reactive Aggression." Master's Thesis, University of Tennessee, 2009.
https://trace.tennessee.edu/utk_gradthes/552

This Thesis is brought to you for free and open access by the Graduate School at Trace: Tennessee Research and Creative Exchange. It has been accepted for inclusion in Masters Theses by an authorized administrator of Trace: Tennessee Research and Creative Exchange. For more information, please contact trace@utk.edu.

To the Graduate Council:

I am submitting herewith a thesis written by Jamie Lee Rathert entitled "Influence of Parenting Behavior on Behavioral and Psychological Associations of Proactive and Reactive Aggression." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Psychology.

Paula J. Fite, Major Professor

We have read this thesis and recommend its acceptance:

Jenny Macfie, Gregory L. Stuart

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

To the Graduate Council:

I am submitting herewith a thesis written by Jamie Lee Rathert entitled “Influence of Parenting Behavior on Behavioral and Psychological Associations of Proactive and Reactive Aggression.” I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts with a major in Psychology.

Paula J. Fite, Major Professor

We have read this thesis
and recommend its acceptance:

Jenny Macfie

Gregory L. Stuart

Accepted for the Council:

Carolyn R. Hodges
Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

Influence of Parenting Behavior on Behavioral and Psychological
Associations of Proactive and Reactive Aggression

A Thesis Presented for
the Master of Arts
Degree
The University of Tennessee

Jamie Lee Rathert
December 2009

Dedication
For Catherine: Who always knew I would.

Acknowledgements

I would like to thank Dr. Paula Fite for her support, guidance and patience along the way as well as the members of the UT Child Behavior Lab for their assistance with data collection. Additionally, I would like to thank the families who participated in the study.

Abstract

Child aggression is often categorized by the motivation behind the behavior, namely proactive and reactive aggression. Proactive aggression is goal oriented in nature whereas reactive aggression is in response to a perceived threat. There is some evidence to suggest that these subtypes are associated with distinct behavioral and psychological problems, with proactive aggression being associated with delinquency and reactive aggression being associated with depression. However, the behavioral and psychological correlates of these subtypes of aggression are not one to one relations and little research has examined the variables that impact these relations. This is a notable omission in the literature, as it is important to examine factors that influence these associations in order to identify targets for interventions. Parents play a role in the socialization process and are often targeted for intervention efforts. Accordingly, the current study examined the potential moderating effects of parenting behavior (i.e., corporal punishment, parental monitoring and positive parenting) on the associations between aggression subtypes and delinquency and depression. Participants include 69 children ranging from 9-12 ($M=10.35$, $SD=1.16$) years of age and their primary caregiver. First order effects indicated that proactive aggression is associated with delinquency. Only monitoring was found to moderate this relation; however this association was not in the expected direction. That is, proactive aggression was only associated with delinquency at low levels of poor monitoring. The first order effects model of depression indicated a marginally statistically significant association between reactive aggression and depression. However none of the parenting variables were found to moderate the relation between reactive aggression and depression.

Table of Contents

Introduction	1
Proactive and Reactive Aggression.....	2
Behavioral and Psychological Outcomes.....	4
Parenting as a Moderator.....	5
Corporal Punishment.....	7
Parental Monitoring.....	9
Positive Parenting.....	10
Method.....	12
Participants.....	13
Procedures.....	14
Measures.....	14
Data Analytic Strategy.....	16
Results.....	17
Descriptive Statistics.....	17
Regression Analyses.....	19
Discussion.....	24
Delinquency.....	24
Depression.....	24
Limitations.....	27
List of References.....	29

Introduction

Childhood aggression is associated with a host of negative psychological and behavioral outcomes (Moffitt, 1993; Schwartz, Dodge, Pettit, & Bates, 1997; Poulin & Boivin, 2000), suggesting that aggression is an important childhood behavior to understand. However aggression is not unidimensional, as researchers often examine aggressive behavior by utilizing a subtype framework. One common way in which researchers subdivide aggression is by the function or motivation behind the behavior, that is proactive (goal oriented) and reactive (hostile reactions to provocation) aggression. This distinction is important, as proactive and reactive aggression are associated with unique behavioral and psychological outcomes. In particular proactive aggression is predictive of delinquency in children and adolescents (e.g., Vitaro, Brendgen, & Tremblay, 2002). Reactive aggression, on the other hand, is predictive of depressive symptoms in children and adolescents (Card & Little, 2006; Vitaro et al., 2002). Little is known, however, about the factors that impact these distinct associations. It is important to investigate the potential moderators of these relations in order to further inform targeted interventions for children who engage in aggressive behavior and for the prevention of more severe behavior. Parents play an important role in their child's development and socialization, directly influencing problem behavior (Maccoby, 1992; Patterson, Reid, & Dishion, 1992). Therefore parents may play an important role in the relations between proactive and reactive aggression and other problem behavior. Accordingly, the current study proposes to examine the moderating effect of parenting

behavior (i.e., corporal punishment, parental monitoring, and positive parenting) on the relations between subtypes of aggression and problem behavior.

Proactive & Reactive Aggression

Aggressive behavior in children and adolescents has been categorized into two distinct function subtypes, proactive and reactive aggression. Proactive aggression is goal oriented and calculated in nature (Dodge, 1991). An example of proactive aggression would be a child hitting a peer in order to take their snack or toy. Another example of proactive aggression is a child threatening to physically harm a peer in order to get their way. Proactive aggression involves forethought, planning and delayed action. In contrast, reactive aggression is characterized by angry, defensive actions in response to perceived threat and attributing hostile attributions toward others (Dodge & Coie, 1987; Dodge, Lochman, Harnish, Bates, & Pettit, 1997). An example of reactive aggression is a child slapping or kicking another child after being accidentally pushed or touched. Furthermore reactive aggression could be expressed as a child accidentally tripping over an object and then shoving the closest person to them. Reactive aggression involves emotional arousal and instant gratification of anger or frustration driven impulses.

Note, that some question the validity and utility in distinguishing between proactive and reactive aggression because they are strongly correlated with one and other (Bushman & Anderson, 2001) however, factor analytic work supports these distinct subtypes (e.g., Fite, Colder and Pelham, 2006) and both aggression subtypes are correlated with distinct outcomes. Although proactive and reactive aggression have been

found to be highly correlated with one and other (rs ranging .10 to -.89; Fite & Colder, 2007; Fite, Colder, Lochman & Wells, 2008a) they represent distinct functions of aggression (Dodge & Coie, 1987, Dodge, 1991; Poulin & Boivin, 2000; Raine et al., 2006) that are best explained by different etiological theories (Dodge, 1991).

Proactive aggression may be best explained by social learning theory. According to social learning theory, aggression is likely reinforced by external rewards. That is, children learn to use aggression by being rewarded for committing aggressive acts (Bandura, 1973). Proactively aggressive children are believed to learn the benefits of aggression through modeling and socialization, specifically by exposure to role models who utilize aggression to meet their own needs (Dodge, 1991). Thus children who grow up witnessing others meeting their own needs through violence and aggression may be more likely utilize aggressive social tactics rather than pro-social tactics (Dodge, 1991; Patterson et al., 1992; Schwartz et al., 1997). Indeed Schwartz et al., (1997) found that boys who were identified as “non-victimized aggressors” had significant histories of witnessing violence and greater exposure to aggressive role models than non-aggressive children.

Reactive aggression, on the other hand, may be best explained by the frustration-aggression hypothesis model. This model posits that aggression is an angry and hostile reaction to frustration including threat or perceived threat (Berkowitz, 1978). Therefore, reactive aggression is believed to be the result of anger driven reactions to stimuli that cause frustration to the child. These reactions could be in proportion to an aversive event or greatly skewed. For example, a child may reactively aggress at home when they are

physically harmed by a sibling; however the same child may explode on a peer at school for accidentally bumping into them. According to Dodge, this is in line with the frustration aggression model “The goal of aggression is to defend oneself or to inflict harm on the source of the frustration” (Dodge, 1991 p. 202). This overreaction to ambiguous or benign stimuli may be the result of environmental factors that foster low frustration tolerance, increase vigilance and hostile attributions (Dodge, 1991). Indeed, reactive aggression is correlated with a history of trauma including, physical abuse, sexual abuse by an adult, and a chaotic home life (Dodge et al., 1997; Connor, Steingard, Cunningham, Anderson, & Melloni, 2004; Shields & Cicchetti, 1998).

Behavioral and Psychological Outcomes of Proactive and Reactive Aggression

Along with separate developmental etiology, proactive and reactive aggression have been repeatedly found to differentially relate to behavioral and psychological outcomes. Proactive aggression is associated with socialized delinquency and other externalizing behavior problems (Vitaro et al., 2002; Fite, Colder, Lochman & Wells, 2008a). More specifically, proactive aggression is associated with increases in delinquency over time, delinquent peer group affiliation, alcohol use and the initiation of tobacco and marijuana use (Fite, Colder, Lochman & Wells, 2007; Fite et al., 2008a & 2008b). Proactive aggression’s association with delinquency and delinquent peer affiliations is not unexpected; as proactive aggression has been theorized to develop via modeling mechanisms (Dodge, 1991). That is, children who are exposed to peers who meet their own needs through aggression may be more likely to model such behavior and be reinforced by peers. Along with delinquency, proactive aggression has also been

associated with psychopathic characteristics (e.g., narcissism, impulsivity, and callous-unemotional; Fite, Greening, & Stoppelbein, 2009). For example, Fite et al., (2009) found that child reports of proactive, not reactive, aggression were associated with narcissism, impulsivity, and callous-unemotional characteristics.

In contrast to proactive aggression, reactive aggression has been found to predict internalizing symptomology in children and adolescents. That is, reactively aggressive children are more likely to report more depressive symptoms than other children (Vitaro et al, 2002; Card & Little, 2006) as well as report more sadness when faced with social situations than proactively aggressive children (Dodge et al., 1997). Children who are victims of physical maltreatment, such as has been found for reactively aggressive youth (e.g., Shields & Cicchetti, 1998; Kaufman & Cicchetti, 1989), report more depressive symptoms, lower self-esteem and exhibit more aggression and withdrawn behavior than nonmaltreated comparison children (Finzi et al., 2001). Furthermore, depression in reactively aggressive children may be further exacerbated by the peer rejection and victimization that they suffer (Poulin & Boivin, 2000).

Thus, there is evidence to support distinct behavioral correlates of proactive and reactive aggression. However, although the literature supports distinct outcomes of proactive and reactive aggression, the factors that may impact these associations are not known.

Parenting As A Moderator

Parenting may be a particularly important factor to consider as a moderator of the relations between proactive and reactive aggression and behavioral and psychological

outcomes; as caregivers are an important mechanism of socialization (Maccoby, 1992). Indeed there is preliminary evidence to suggest that parenting may moderate the relations between proactive and reactive aggression and behavioral outcomes. To date only one study has examined such relations and found that increases in parental monitoring weakened the link between proactive aggression and delinquent violence (Brendgen, Vitaro, Tremblay, & Lavoie, 2001). Moreover, parental warmth moderated the link between reactive aggression and interpersonal dating violence, such that parental warmth weakened the association between reactive aggression and dating violence. These findings suggest that parenting behaviors do indeed influence the relation between aggressive subtypes and psychological and behavioral outcomes. However, more research is needed to fully understand the influence of parenting behavior on these associations.

Three parenting behaviors that have a rich research history in the development and exacerbation of problem behavior are corporal punishment, parental monitoring and positive parenting (Dishion & McMahon, 1998; Barber, 1996; Gardner, Dishion, Shaw, Burton, & Supplee, 2007; Koblinsky, Kovalanka, & Randolph, 2006; Gershoff, 2002). These behaviors also have theoretical support suggesting that they may be important in the development, and perhaps the exacerbation, of proactive and reactive aggression (Dodge, 1991). Accordingly the current study proposes to examine corporal punishment, parental monitoring and positive parenting as potential moderators of the relationship between proactive and reactive aggression and behavioral and psychological outcomes.

Corporal Punishment. Corporal punishment, conceptualized as the use of spanking or hitting to cause the child pain in order to extinguish a behavior, is a common discipline strategy used by caregivers (Gershoff, 2002). Research has shown, however, that although parents attempt to use physical punishment as a way to decrease aggressive behavior in their children, this is often not the result (Gershoff & Bitensky, 2007). Empirical evidence suggests that children who are physically punished are at a greater risk for subsequent mental health problems, adolescent delinquency, poor parent-child relationships, and adult manifestations of antisocial behavior (Gershoff & Bitensky, 2007; Bender et al., 2007; Loeber et al., 2000; Hipwell et al., 2008).

Because the definition of corporal punishment is subjective, physical punishment has become a controversial issue among researchers. Specifically, individuals find it difficult to distinguish between physical punishment and physical abuse. Moreover, abuse is difficult to assess in research settings due to the accuracy of informant reports of abuse because of fear of mandated reporting. That is, many individuals may not accurately report incidences of abuse they have committed. As such, researchers often assess a list of specific behaviors of corporal punishment (i.e. hitting, slapping, kicking) rather than label the behavior as abusive or non abusive. In their review of corporal punishment literature, Gershoff and Bitensky (2007) posit that spanking serves as a modeling mechanism. That is, the act of spanking to extinguish a behavior, models for children a way to utilize force in order to achieve goals. This is particularly important to consider in the development of proactive aggression being that proactively aggressive children learn to expect positive outcomes when utilizing aggressive strategies.

In addition to modeling and proactive aggression, physical punishment may play a special role in the development and exacerbation of reactive aggression via social information processing. More specifically, hostile attributions may influence reactive aggression in children who experience physical punishment and abuse, as reactive aggression has been linked to hostile attribution biases (e.g., Dodge, Price, Bachorowski, & Newman, 1990; Dodge, 1991), and children who experience high levels of physical punishment exhibit social information processing deficits, including hostile attributions (Weiss, Dodge, Bates & Pettit, 1992).

Thus corporal punishment may play a role in the development and exacerbation of both proactive and reactive aggression. Indeed, there is evidence that corporal punishment is related to the development of both aggressive subtypes, for example, Fite, Colder, and Pelham (2006) found that corporal punishment was related to co-occurring proactive-reactive aggression. Moreover, corporal punishment may play a role in the association between these subtypes of aggression and later problem behavior and psychological difficulties. More specifically, if corporal punishment helps to exacerbate proactive aggression through modeling, it may also increase proactive aggression's association with delinquency. That is, children who learn to achieve their goals through physical aggression could also be at risk for such antisocial behavior as stealing and violating other's rights in order to get their way. On the other hand if corporal punishment fosters emotional dysregulation and hostile attributions, it may increase the strength of the relationship between reactive aggression and depression. Specifically, children with emotion regulation deficits are more likely to experience internalizing

difficulties and experience corporal punishment as a traumatic experience that is associated with internalizing difficulties such as depression (Mrug, Loosier, & Windle, 2008). Therefore in the current study we expect that at high levels of corporal punishment, proactive aggression will be more strongly associated with delinquency and reactive aggression will be more strongly associated with depression than at low levels of corporal punishment.

Parental Monitoring. Parental monitoring is a disciplinary procedure carried out by parents to investigate the whereabouts and happenings of their children (Stattin and Kerr, 2000, Barber, 1996). Numerous studies have found monitoring to be an effective parental practice to aid children and adolescents in healthy development (for a reviews see Barber, 1996 and Dishion & McMahon, 1998). In their review of monitoring literature Dishion and McMahon (1998) conclude that monitoring is an important practice that parents utilize from their child's birth to early adulthood, with monitoring practices adapting and changing along with the child's development. Empirical research has repeatedly demonstrated that monitoring is associated with low levels of aggression, substance use, and delinquency (Griffin, Gilber, Botivin, Scheier, & Diaz 2000; Barnes, Welt, Hoffman and Dintcheff, 2005; Flannery Williams, and Vazsonyi, 1999).

Because parental monitoring is negatively associated with aggression and other antisocial behavior, parental monitoring may be a relevant practice to consider when investigating the relation between proactive, but not necessarily reactive aggression, and delinquency. When parents utilize effective monitoring strategies they are able to reduce their child's exposure to delinquent peers and antisocial activities. Proactive, not reactive,

aggression is posited to develop through modeling, therefore a reduction in a child's exposure to delinquent peers may weaken the relation between proactive aggression and delinquency. That is, children whose parents engage in poor monitoring may have more exposure to peers who exacerbate their aggressive tendencies. Previous research has indicated that parental monitoring moderates the relationship between proactive, not reactive aggression and delinquency related violence (Brendgen et al., 2001). Therefore in the current study it is expected that at high levels of poor monitoring proactive aggression and delinquency will be more strongly related than at low levels of poor parental monitoring.

Positive Parenting. In contrast to discipline strategies, it is also important to examine the reinforcing and relational aspects of parenting. Positive parenting is conceptualized as the use of warmth, recognition and reinforcement in contingent and non-contingent based positive reactions to the child (Patterson et al., 1992). Positive parenting has been found to be a protective factor for children at risk of behavioral and internalizing problems (Gardner et al., 2007; Koblinsky et al., 2006). In an exploration of parenting practices in a high-risk urban population, Jones et al., (2008) found maternal warmth was negatively associated with aggressive behavior and depressive symptoms. Similarly, Koblinsky et al., (2006) found that positive parenting was associated with more prosocial behavior as well as predictive of lower levels of internalizing and externalizing behavior problems.

Positive parenting may be an important practice to explore as a potential moderator of the association between reactive, not necessarily proactive, aggression and

depression. In contrast to proactive aggression being linked to aggressive role models, reactive aggression is posited to be associated with poor parent-child interactions and the emotional dysregulation associated with these interaction (Dodge, 1991). Thus low levels of positive parenting may be associated with reactive aggression as well as the relation between reactive aggression and child depression.

There is preliminary evidence suggesting that positive parenting does indeed moderate the relationship between reactive aggression and subsequent behavior. Brendgen et al., (2001) found that warmth moderated the relation between reactive aggression and adolescent dating violence (interpersonal emotional conflicts). The relation between reactive aggression and dating violence was stronger at low levels of warmth when compared to higher levels of warmth. When a child is able to experience positive interactions and reinforcement from a parent they may be less likely to develop subsequent problem behavior. Thus the relation between reactive aggression and depression is expected to be stronger at low levels of positive parenting.

The Current Study

It is important to examine the role of caregiver behavior in the associations between proactive and reactive aggression and other problem behavior in order to further inform targeted prevention and intervention strategies for child and adolescent problem behavior. Accordingly the current study examines the moderating effects of caregiver practices (i.e. corporal punishment, parental monitoring, and positive parenting) on relations between proactive and reactive subtypes of aggression and delinquency and depression.

Proactive aggression is expected to be positively associated with delinquency, and corporal punishment and poor parental monitoring are expected to moderate this relationship. At low levels of corporal punishment and high levels of poor parental monitoring, the association between proactive aggression and delinquency is expected to be weaker than at high levels of corporal punishment and high levels of poor parental monitoring. Reactive aggression is expected to be positively associated with high levels of depressive symptoms, and corporal punishment and positive parenting are expected to moderate this relationship. At low levels of corporal punishment and high levels of positive parenting, the association between reactive aggression and depression is expected to be weaker than at high levels of corporal punishment and low levels of positive parenting

Method

Participants

Participants were 69 children (54% male) ranging from 9-12 years of age ($M = 10.35$, $SD = 1.16$) recruited from the community via flyers posted at local daycares, physician's offices, and eateries. The sample is racially representative of the area in which the data was collected; with the majority of children (74%) identified as Caucasian. The majority of caregiver respondents were mothers (87%). The sample included a variety of socioeconomic backgrounds, with annual household income ranging from \$3,000 to \$240,000 ($Mdn = \$55,000$) and approximately 26% of the sample receiving public assistance.

Families were phone screened to ensure the child was the appropriate age and did not meet exclusionary criteria. Exclusionary criteria included the child taking medication that interfered with reaction time, developmentally delayed, and non-English speaking.

Procedures

Children and their caregivers were invited to come to the laboratory for approximately one and a half hours for study completion. Caregiver consent and child assent was obtained prior to participation. Caregivers and children were then interviewed simultaneously in separate rooms in order to ensure confidentiality. All questionnaires were read aloud to child and adult participants to ensure that reading level was not a concern. In addition caregivers were asked to sign a release of information that allowed study staff to contact the child's teacher to obtain information regarding the child's school behavior. Families were compensated with \$45 and children received a prize for participation. Teacher packets were mailed directly to the school with a copy of the release of information. Teachers were compensated with \$10 gift cards for their participation.

The current study focused on teacher reports of aggression, child reports of delinquency and depression and caregiver reports of parenting behavior. Teacher's rating of aggression were chosen because teacher's are able to observe children in social settings, where aggressive behavior is likely to occur. Previous research has relied on teacher reports of proactive and reactive aggression, and have found them to be valid raters of aggression subtypes (Dodge & Coie, 1987; Fite et al., 2007; Lochman & Wells, 2002). Although many investigations of child psychopathology rely on adult informants,

recent research indicates that children are better reporters of their internalizing behavior than caregivers (Shin, Cho, Lim and Choo, 2008); therefore child reports of depression were utilized. In addition to depression, child reports of delinquency were utilized. Youth self-reports of delinquency have been found to be more predictive of legal involvement than probation officers or parent reports (Jolliffe et al., 2003; Cashel, 2003). Caregiver reports of parenting behaviors were chosen to assess corporal punishment, monitoring and positive parenting. Caregivers have been found to be more reliable and consistent reporters of their parenting behaviors than children (Shelton, Frick, & Wootton, 1996). Furthermore, utilizing distinct informants for each construct of interest reduces the chances of spurious relations as a result of shared variance due to the same informant.

Measures

Proactive and Reactive Aggression. Proactive and reactive aggression were assessed using teacher report on Dodge and Coie's (1987) aggression questionnaire. This six-item questionnaire consists of 3 items for each aggression subtype. The measure uses a 5-point Likert Scale, (1= never, to 5=almost always), to rate how often the child engages in aggressive behavior. An example of a proactive item is "This child uses physical force or threatens to use physical force in order to dominate other kids" and a reactive item is "When this child has been teased or threatened, he/she gets angry easily and strikes back." Items were averaged to form scale scores. Internal consistencies for this sample were good, α s=.94 & .91 respectively.

Parenting Behavior. Parenting behavior was assessed using caregiver report of the Alabama Parenting Questionnaire (APQ), which has been found to be a valid and reliable measure of parenting (Shelton et al., 1996). This questionnaire asks caregivers to respond using a 5 point Likert scale (1= never, to 5=almost always) on how often they engage in specific parenting behavior. The corporal punishment subscale consists of 3 items. An example of a corporal punishment item from the APQ is “You hit your child with a belt, switch or other object when s/he has done something wrong.” The corporal punishment scale has been found to have low to moderate internal consistency due to the limited number of items (Shelton et al., 1996). Items were averaged for analyses.

Consistent with previous research the internal consistency was modest $\alpha=.65$ in the current sample. The parental monitoring subscale includes 10 items. An example item is “You get so busy that you forget where your child is and what s/he is doing.” A high score on this scale indicates poor monitoring and supervision. Items were averaged for analyses. Internal consistency for the current sample was modest $\alpha=.67$. The positive parenting subscale consists of six items. An example of a positive parenting item is “You let your child know when s/he is doing a good job with something.” High scores indicate positive parenting. Items were averaged and used for analyses. Internal consistency was adequate in the current sample, $\alpha=.76$.

Child Depression. Depression was assessed using child report on the Child Depression Inventory (CDI; Kovacs, 1992). The CDI is a 27 item self report inventory that requires children to select one of three sentences that best describes how they have been feeling within the past six months. For example, a child would choose from the

following options “I am sad once in awhile, I am sad many times or I am sad all the time.” The CDI is a commonly used and empirically validated measure of childhood depression (Kovacs, Goldston, & Gatsonis, 1993; Myers & Winters, 2002). Previous research has demonstrated that approximately 3% of children ages 9-12 experience childhood depression (Costello, Erkanli, & Angold, 2006). In our sample, 7% of children had above average t-scores, indicating subclinical to clinical levels of depression. Items were averaged and used for analysis. Internal consistency was good in the current sample $\alpha=.81$.

Delinquency. Delinquency was assessed using child self report on Fergusson’s (1999) delinquency items. Children were asked to indicate whether or not they had engaged in 14 behaviors in the past year by responding yes or no. A sample item is “Stolen or tried to steal something worth more than fifty dollars.” Previous research indicates that youth under the age of 15 account for one third of all non-violent and violent juvenile arrests (Snyder, 2008). Thirty two percent of the current sample indicated that they had engaged in delinquent activity. Items were summed to form a delinquency scale. Children’s scores ranged from 0-4.

Data Analytic Strategy

All analyses were conducted using SAS 9.1 statistical software. First, correlation analysis were estimated in order to examine simple relations between study variables. Multiple regression analyses were then conducted in order to examine unique relations between aggression subtypes and delinquency and depression. Moreover multiple regression were used to examine the moderating effects of the parenting behaviors.

Demographic variables (age, gender, and race) were also considered as covariates in the models as these variables have been found to be associated with aggression (Dodge & Coie, 1998). Also note that depression was controlled for in the delinquency model and delinquency was controlled for in the depression model due to their comorbidity, as problem behavior is often co-occurring (e.g. Fite, Stoppelbein, Greening, & Dhossche, 2008). A first order effects model was first examined. Then aggression X parenting behavior interactions were added to the models separately in order to reduce the number of parameters being estimated in a single model. Significant interactions were conditioned and probed at high (1 + SD) and low (-1SD) values, according to standard procedure (Aiken & West, 1991), in order to understand the nature of the interactions. Note that all variables were standardized in order to aid in the interpretation of interaction effects. Effect sizes f^2 were calculated for each model. An effect size of $.02 > f^2 < .15$ was considered small, $.15 > f^2 < .35$ moderate, and $f^2 > .35$ large (Cohen, 1988). Effect size is calculated for multiple regression analyses and represents the proportion of variance accounted for by each variable relative to the proportion of error (Cohen, 1988).

Results

Descriptive Statistics

For correlations, means and standard deviations of variables please refer to Table 1. As expected proactive and reactive aggression were highly correlated. Proactive aggression was positively associated with depression, delinquency and corporal punishment. Reactive aggression was positively associated with depression, delinquency, and corporal punishment.

Table 1. *Correlations, Means, Standard Deviations*

Variable	1	2	3	4	5	6	7	8	9	10
1. Age	-									
2. Gender	-.10	-								
3. Race	-.04	.11	-							
4. Proactive Aggression	-.01	-.16	.26*	-						
5. Reactive Aggression	-.04	-.21	.29*	.79*	-					
6. Depression	-.01	.08	.29*	.24*	.35*	-				
7. Delinquency	.07	-.21	.09	.43*	.34*	.30*	-			
8. Corporal Punishment	-.16	-.02	.54*	.36*	.42*	.36*	.18	-		
9. Positive Parenting	.08	.09	.09	-.02	.01	.00	-.03	.05	-	
10. Parental Monitoring	.17	.12	.34*	.01	.03	.27*	.06	.29*	.48*	-
Mean	10.35	1.46	1.26	1.42	1.99	.20	.57	1.56	1.69	1.28
Standard Deviation	1.16	.50	.44	.83	1.10	.17	.99	.59	.44	.31

* $p \leq .05$

Race was positively associated with both aggression subtypes, suggesting that minority children exhibited higher levels of aggression than Caucasian youth. Race was also associated with depression, suggesting that minority children reported higher levels of depressive symptoms than Caucasian children. Race was also associated with corporal punishment and parental monitoring, suggesting that minority children experienced more corporal punishment and more poor monitoring than Caucasian children. Parental monitoring was positively associated with depression, corporal punishment and positive parenting. Delinquency and depression were correlated, suggesting that children who reported high levels of internalizing problems also reported engaging in more delinquent behavior. Age, and gender were not correlated with any study variables.

Regression Analyses

Age and gender were originally included as covariates in both delinquency and depression models; however neither age nor gender were significantly associated with proactive and reactive aggression or depression and delinquency ($p > .14$). Therefore both variables were removed from the models in order to reduce the number of parameters estimated.

Delinquency. In the first order effects delinquency model proactive aggression was a significant predictor of child reported delinquency ($B = .46, p = .02$). There was also a marginally statistically significant trend for depression to predict delinquency as well ($B = .23, p = .08$). Neither race nor caregiver behaviors predicted delinquency. As found in Table 2, these associations produced small effect sizes.

Table 2. *Standardized Betas, Standard Errors, and Effect Sizes*

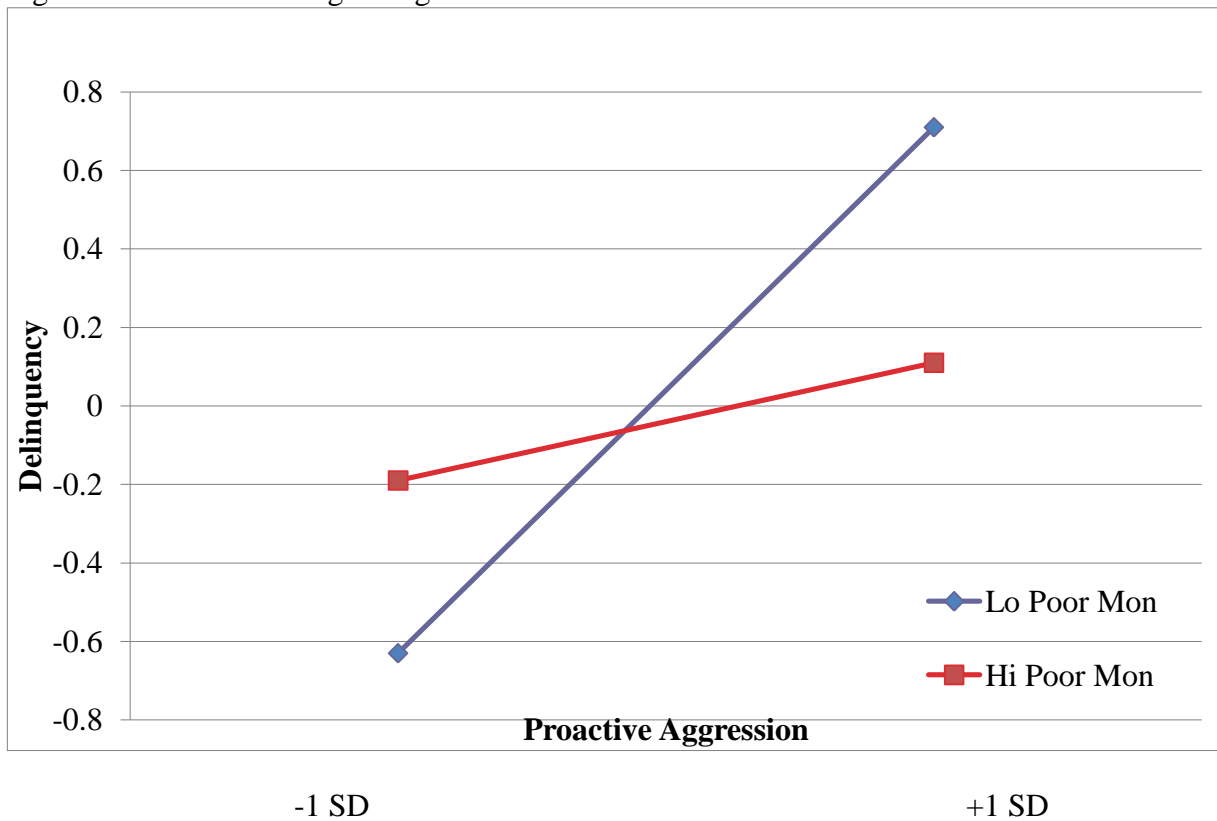
	β	SE	f^2
Outcome: Delinquency			
Race	-.08	.14	.01
Proactive	.46*	.19	.10
Reactive	-.09	.20	0
Depression	.23†	.13	.05
Corporal Punishment	.01	.15	0
Positive Parenting	-.03	.13	0
Monitoring	.03	.14	0
Outcome: Depression			
Race	.08	.13	.01
Proactive	-.21	.19	.02
Reactive	.36†	.19	.06
Delinquency	.21†	.12	.05
Corporal Punishment	.14	.14	.02
Positive Parenting	-.13	.13	.02
Monitoring	.25†	.14	.05

Note: * $p \leq .05$, † $\leq .08$; f^2 in bold = small effect size.

Interactions between the three caregiver behaviors and aggression subtypes were added to the delinquency model one at a time. Corporal punishment and positive parenting did not interact with the aggression subtypes to predict delinquency. However, there was a marginally statistically significant interaction between monitoring and both aggression subtypes (Proactive Aggression X Monitoring $B = -.26$, $p = .088$) and (Reactive Aggression X Parental Monitoring $B = -.23$, $p = .086$). This trend was probed to further examine these relations at high = (+1 SD) and low = (-1 SD) levels of poor parental monitoring.

At high levels of poor parental monitoring proactive aggression was not associated with child reports of delinquency ($B = .15$, $p = .56$). However at low levels of poor parental monitoring proactive aggression was associated with delinquency ($B = .68$, $p = .004$; see Figure 1). At high levels of poor parental monitoring reactive aggression was not associated with delinquency ($B = -.29$, $p = .20$). Moreover, at low levels of parental monitoring reactive aggression was not associated with delinquency ($B = .18$, $p = .46$). These findings for reactive aggression indicate the association between reactive aggression and delinquency are in opposite directions at high versus low levels of monitoring. However, the slopes of these lines are not significantly different from zero.

Figure 1. Poor Monitoring at High and Low Levels



Depression. In the first order effects depression model there were no significant predictors of depression ($ps = .06 - .57$). However, as expected, there was a marginally significant trend suggesting that reactive aggression predicted depression ($B = .36, p = .06$). There was also a marginally significant association between delinquency and depression ($B = .21, p = .08$). Additionally monitoring was marginally significantly associated with depression ($B = .25, p = .07$). As seen in Table 2 all these association produced small effects sizes.¹ Interactions between the three parenting variables and the aggression subtypes were then added to the depression model one at a time. However no significant interactions were found.

Discussion

The primary purpose of this study was to examine the potential influence of caregiver behavior on relations between proactive and reactive aggression and psychological and behavioral outcomes for children. Specifically we examined the association between proactive and reactive aggression, delinquency and depression; as well as the potential moderating effects of corporal punishment, poor parental monitoring, and positive parenting on these relations. As expected proactive aggression was related to delinquency and reactive aggression was linked to depression. However, findings pertaining to parenting behaviors were unexpected. Specific findings and their implications are reviewed below.

Delinquency

As expected, first order effects indicated that proactive not reactive aggression was associated with child reported delinquency. These findings are consistent with previous research that has established a link between proactive aggression and delinquency (Brendgen et al., 2001). Note, that none of the parenting variables were related to delinquency. This may be the result of the low internal consistencies associated with the parenting variables. Alternatively, it may be that rates of child delinquency were quite low in the community sample, with only a handful of children endorsing more than one delinquent item. As a result these associations may have been attenuated.

Of the three caregiver behaviors examined, only poor parental monitoring marginally significantly interacted with both proactive and reactive aggression to predict delinquency. However, the indices of the slopes were not significant for reactive

aggression at high and low levels of poor monitoring. Furthermore, the direction of the effects for proactive aggression were opposite of what was hypothesized. That is, we found that at high levels of poor parental monitoring proactive aggression was not associated with delinquency, whereas at low levels of poor monitoring proactive aggression was positively associated with delinquency. Note, that this data was cross sectional in nature and may have captured an inaccurate picture of the relationship between proactive aggression and delinquency. It may be that parents are attempting to counteract elevated levels of proactively aggressive behavior and subsequent delinquency by demonstrating higher levels of monitoring. Alternatively, it could be that children who receive intense monitoring experience it as an intrusive behavior and engage in aggression and delinquency in an attempt to rebel against their parent's attempts at control. There is some evidence suggesting that monitoring behaviors can often be perceived by children as psychologically controlling (e.g. Stattin and Kerr, 2000) and this may be particularly true for proactively aggressive children. Moreover, it is well known that children who engage in delinquent activities are often involved in a coercive cycle with their parents that may include rebelling against attempts at parental control (Patterson, 1992).

Depression

Our hypotheses regarding reactive aggression's association with depression was supported by the first order effects model, however this association was only marginally significant. Findings are consistent with previous research supporting a link between reactive aggression and depression (e.g. Fite, Stoppelbein, & Greening, 2009). Both

correlation and regression analyses indicated a link between poor monitoring and depression. It may be that monitoring is construed as a positive supporting caregiver behavior by children and when parents do not engage in this behavior internalizing behaviors may occur. While corporal punishment was positively correlated with depression, as is consistent with previous research (e.g. Bender et al., 2007) the relation was not found in the regression model. Lastly, positive parenting was not linked to depression in correlation or regression analyses. Positive parenting may not have been related to depression because the most extreme poor parenting behaviors may not have been captured in this sample; as very few caregivers endorsed zero to very low amounts of positive parenting.

Moreover, neither proactive nor reactive aggression interacted with any caregiver behavior to predict depression. It may be that the association between reactive aggression and depression is more driven by negative emotionality, and biological temperamental traits than negative parenting practices. Indeed there is evidence to suggest that reactive aggression is associated with negative emotionality and poor emotional regulation (Dodge et al., 1997, Eisenburg et al., 1994). Alternatively, it is possible that the negative caregiver behavior (e.g. high corporal punishment and low positive parenting) that are associated with reactive aggression and its developmental sequale (i.e. depression) were not accurately captured in this sample. More specifically, reactive aggression is thought to develop from abusive and neglectful parenting practices that contribute to emotional dysregulation (Dodge, 1991), and we did not capture such extreme behaviors in the current sample.

Limitations and Conclusions

This study has several limitations that need to be considered when interpreting the results. First, the sample was community recruited. Although our sample's endorsement of both depression and delinquency is comparable with the population base rates for this age group, findings may have been attenuated due to the low base rates of behavior. Second, this study was cross sectional in nature and may have failed to capture the most accurate picture of these relations, as they may be best demonstrated over time. Third, although the current study had power to detect moderate to large effects, the small sample size of 69 may have limited fully understanding the relation between the variables of interests. Fourth the low internal consistencies associated with the parenting variables may have attenuated relations. Lastly, there is no gold standard of measurement for proactive and reactive aggression. Although it is common to use teacher reports, they may not fully capture the true motivation underlying the behavior.

Future research should use more internally consistent measures of parenting and additional measures of aggression, such as child and/or parent report as well as observational techniques, before concluding that parenting does not moderate the relation between the aggression subtypes and subsequent developmental sequelae.

Despite these limitations this study contributes to existing literature by examining the influence of caregiver behavior on the association between proactive and reactive aggression and delinquency and depression by utilizing multiple informants. It was found that parental monitoring did interact with proactive aggression's association with delinquency, however this association was not in the expected direction. Relations should

be examined further in order to better inform delinquency prevention and intervention efforts. Future studies should examine these relations longitudinally with larger more ethnically diverse samples. Another important future direction to consider is the implementation of more internally consistent measures as well as additional techniques to measure the aforementioned constructs. For example, there is evidence to suggest the ways in which parents obtain knowledge (e.g. child disclosure vs. parental solicitation) is as important as the knowledge of behavior itself (Stattin & Kerr, 2000). Thus, future directions should include monitoring strategies as potential moderators of this association. The use of observational data to examine proactive and reactive aggression as well as parenting behaviors in comparison to self report measures may lend more insight into the validity of the current techniques used to assess these constructs. A larger multi-informant, multi assessment study may provide a more accurate picture of the relations between proactive and reactive aggression and psychological and behavioral outcomes for children. These are important constructs that need further evaluation in order to better inform prevention and intervention efforts for children and adolescents.

List of References

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury, CA: Sage Publications.
- Bandura, A. (1973). *Aggression: A Social Learning Analysis*. Englewood Cliffs, NJ: Prentice-Hall.
- Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child Development, 67*(6), 3296-3319.
- Barnes, G. M., Welte, J. W., Hoffman, J. H., & Dintcheff, B. A. (2005). Shared Predictors of Youthful Gambling, Substance Use, and Delinquency. *Psychology of Addictive Behaviors, 19*(2), 165-174.
- Bender, H. L., Allen, J. P., McElhaney, K. B., Antonishak, J., Moore, C. M., Kelly, H. O. B., et al. (2007). Use of harsh physical discipline and developmental outcomes in adolescence. *Development and Psychopathology, 19*(1), 227-242.
- Berkowitz, L. (1978). Whatever happened to the frustration-aggression hypothesis? *American Behavioral Scientist, 32*, 691-708.
- Brendgen, M., Vitaro, F., Tremblay, R. E., & Lavoie, F. (2001). Reactive and proactive aggression: Predictions to physical violence in different contexts and moderating effects of parental monitoring and caregiving behavior. *Journal of Abnormal Child Psychology, 29*(4), 293-304.
- Bushman, B. J., & Anderson, C. A. (2001). Is it time to pull the plug on hostile versus instrumental aggression dichotomy? *Psychological Review, 108*(1), 273-279.

- Card, N. A., & Little, T. D. (2006). Proactive and reactive aggression in childhood and adolescence: A meta-analysis of differential relations with psychosocial adjustment. *International Journal of Behavioral Development, 30*(5), 466-480.
- Cashel, M. L. (2003). Validity of self-reports of delinquency and socio-emotional functioning among youth on probation. *Journal of Offender Rehabilitation, 37*(1), 11-23.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ:Lawrence Erlbaum.
- Connor, D. F., Steingard, R. J., Cunningham, J. A., Anderson, J. J., & Melloni, R. H. (2004). Proactive and Reactive Aggression in Referred Children and Adolescents. *American Journal of Orthopsychiatry, 74*(2), 129-136.
- Costello, J., Erkanl, A., & Angold, A. (2006). Is there an epidemic of child or adolescent depression? *Journal of Child Psychology and Psychiatry, 47*(12), 1263-1271.
- Dishion, T. J., & McMahon, R. J. (1998). Parental monitoring and the prevention of child and adolescent problem behavior: A conceptual and empirical formulation. *Clinical Child and Family Psychology Review, 1*(1), 61-75.
- Dodge, K. A. (1991). The structure and function of proactive and reactive aggression. In D. J. Pepler & K. H. Rubin (Eds.), *The Development and Treatment of Childhood Aggression* (pp. 201-218). Hillsdale, NJ: Erlbaum.
- Dodge, K. A., & Coie, J. D. (1987). Social-information-processing factors in reactive and proactive aggression in children's peer groups. *Journal of Personality and Social Psychology, 53*(6), 1146-1158.

- Dodge, K. A., Lochman, J. E., Harnish, J. D., Bates, J. E., & Pettit, G. S. (1997). Reactive and proactive aggression in school children and psychiatrically impaired chronically assaultive youth. *Journal of Abnormal Psychology, 106*(1), 37-51.
- Dodge, K. A., Price, J. M., Bachorowski, J.-A., & Newman, J. P. (1990). Hostile attributional biases in severely aggressive adolescents. *Journal of Abnormal Psychology, 99*(4), 385-392.
- Fergusson, D. M., Woodward, L. J., & Horwood, L. (1999). Childhood peer relationship problems and young people's involvement with deviant peers in adolescence. *Journal of Abnormal Child Psychology, 27*(5), 357-369.
- Finzi, R., Ram, A., Shnit, D., Har-Even, D., Tyano, S., & Weizman, A. (2001). Depressive symptoms and suicidality in physically abused children. *American Journal of Orthopsychiatry, 71*(1), 98-107.
- Fite, P. J., Colder, C. R., Lochman, J. E., & Wells, K. C. (2007). Pathways from proactive and reactive aggression to substance use. *Psychology of Addictive Behaviors, 21*(3), 355-364.
- 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*(2), 412-421.
- Fite, P. J., Colder, C. R., Lochman, J. E., & Wells, K. C. (2008). The relation between childhood proactive and reactive aggression and substance use initiation. *Journal of Abnormal Child Psychology, 36*(2), 261-271.

- Fite, P. J., Colder, C. R., & Pelham, J. W. E. (2006). A Factor Analytic Approach to Distinguish Pure and Co-Occurring Dimensions of Proactive and Reactive Aggression. *Journal of Clinical Child & Adolescent Psychology, 35*(4), 578-582.
- Fite, P. J., Greening, L., Stoppelbein, L., & Fabiano, G. A. (2009). Confirmatory Factor Analysis of the Antisocial Process Screening Device With a Clinical Inpatient Population. *Assessment, 16*(1), 103-114.
- Fite, P. J., Stoppelbein, L., Greening, L., & Dhossche, D. (2008). Child internalizing and externalizing behavior as predictors of age at first admission and risk for repeat admission to a child inpatient facility. *American Journal of Orthopsychiatry, 78*(1), 63-69.
- Fite, P. J., Stoppelbein, L., & Greening, L. (2009). Proactive and Reactive Aggression in a Child Psychiatric Inpatient Population. *Journal of Clinical Child & Adolescent Psychology, 38*(2), 199 - 205.
- Flannery, D. J., Williams, L. L., & Vazsonyi, A. T. (1999). Who are they with and what are they doing? Delinquent behavior, substance use, and early adolescents' after-school time. *American Journal of Orthopsychiatry, 69*(2), 247-253.
- Gardner, F., Shaw, D. S., Dishion, T. J., Burton, J., & Supplee, L. (2007). Randomized prevention trial for early conduct problems: Effects on proactive parenting and links to toddler disruptive behavior. *Journal of Family Psychology, 21*(3), 398-406.

- Gershoff, E. T. (2002). Corporal punishment by parents and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin*, *128*(4), 539-579.
- Gershoff, E. T., & Bitensky, S. H. (2007). The case against corporal punishment of children: Converging evidence from social science research and international human rights law and implications for U.S. public policy. *Psychology, Public Policy, and Law*, *13*(4), 231-272.
- Griffin, K. W., Botvin, G. J., Scheier, L. M., Diaz, T., & Miller, N. L. (2000). Parenting practices as predictors of substance use, delinquency, and aggression among urban minority youth: Moderating effects of family structure and gender. *Psychology of Addictive Behaviors*, *14*(2), 174-184.
- Hipwell, A., Keenan, K., Kasza, K., Loeber, R., Stouthamer-Loeber, M., & Bean, T. (2008). Reciprocal influences between girls' conduct problems and depression, and parental punishment and warmth: A six year prospective analysis. *Journal of Abnormal Child Psychology*, *36*(5), 663-677.
- Jolliffe, D., Farrington, D. P., Hawkins, J., Catalano, R. F., Hill, K. G., & Kosterman, R. (2003). Predictive, concurrent, prospective and retrospective validity of self-reported delinquency. *Criminal Behaviour and Mental Health*, *13*(3), 179-197.
- Jones, D. J., Forehand, R., Rakow, A., Colletti, C. J., McKee, L., & Zalot, A. (2008). The specificity of maternal parenting behavior and child adjustment difficulties: A study of inner-city African American families. *Journal of Family Psychology*, *22*(2), 181-192.

- Kaufman, J., & Cicchetti, D. (1989). Effects of maltreatment on school-age children's socioemotional development: Assessments in a day-camp setting. *Developmental Psychology*, 25(4), 516-524.
- Koblinsky, S. A., Kovalanka, K. A., & Randolph, S. M. (2006). Social Skills and Behavior Problems of Urban, African American Preschoolers: Role of Parenting Practices, Family Conflict, and Maternal Depression. *American Journal of Orthopsychiatry*, 76(4), 554-563.
- Kovacs, M. (1992). *Children's Depression Inventory*. Toronto: Multi-Health Systems.
- Kovacs, M., Goldston, D., & Gatsonis, C. (1993). Suicidal behaviors and childhood-onset depressive disorders: A longitudinal investigation. *Journal of the American Academy of Child & Adolescent Psychiatry*, 32(1), 8-20.
- Lochman, J. E., & Wells, K. C. (2002). The Coping Power program at the middle-school transition: Universal and indicated prevention effects. *Psychology of Addictive Behaviors*, 16(4, Suppl), S40-S54.
- Loeber, R., Drinkwater, M., Yin, Y., Anderson, S. J., Schmidt, L. C., & Crawford, A. (2000). Stability of family interaction from ages 6 to 18. *Journal of Abnormal Child Psychology*, 28(4), 353-369.
- Maccoby, E. E. (1992). The role of parents in the socialization of children: An historical overview. *Developmental Psychology*, 28(6), 1006-1017.
- Moffitt, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, 100(4), 674-701.

- Mrug, S., Loosier, P. S., & Windle, M. (2008). Violence exposure across multiple contexts: Individual and joint effects on adjustment. *American Journal of Orthopsychiatry*, 78(1), 70-84.
- Myers, K., & Winters, N. C. (2002). Ten-year review of rating scales. II. Scales for internalizing disorders. *Journal of the American Academy of Child & Adolescent Psychiatry*, 41(6), 634-659.
- Patterson, G. R., Reid, J. B., & Dishion, T. J. (1992). *Antisocial Boys*. Eugene, OR: Castalia.
- Poulin, F., & Boivin, M. (2000). Reactive and proactive aggression: Evidence of a two-factor model. *Psychological Assessment*, 12(2), 115-122.
- Raine, A., Dodge, K., Loeber, R., Gatzke-Kopp, L., Lynam, D., Reynolds, C., et al. (2006). The reactive-proactive aggression questionnaire: Differential correlates of reactive and proactive aggression in adolescent boys. *Aggressive Behavior*, 32(2), 159-171.
- Schwartz, D., Dodge, K. A., Pettit, G. S., & Bates, J. E. (1997). The early socialization of aggressive victims of bullying. *Child Development*, 68(4), 665-675.
- 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(3), 317-329.
- Shields, A., & Cicchetti, D. (1998). Reactive aggression among maltreated children: The contributions of attention and emotion dysregulation. *Journal of Clinical Child Psychology*, 27(4), 381-395.

- Shin, Y. M., Cho, H., Lim, K. Y., & Choo, S. M. (2008). Predictors of self-reported depression in Korean children 9 to 12 years of age. *Yonsei Med*, 49(1), 37-45.
- Snyder, H. (2008). Juvenile Arrests 2006. *Office of Juvenile Justice and Delinquency Prevention*.
- Stattin, H., & Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child Development*, 71(4), 1072-1085.
- Vitaro, F., Brendgen, M., & Tremblay, R. E. (2002). Reactively and proactively aggressive children: Antecedent and subsequent characteristics. *Journal of Child Psychology and Psychiatry*, 43(4), 495-506.
- Weiss, B., Dodge, K. A., Bates, J. E., & Pettit, G. S. (1992). Some consequences of early harsh discipline: Child aggression and a maladaptive social information processing style. *Child Development*, 63(6), 1321-1335.

Vita

Jamie Lee Rathert was born in Scottsburg, Indiana in 1982. She received her Bachelor's degree in Psychology in 2005 from Saint Mary's College. She then went on to work with adjudicated youth before returning to school at The University of Tennessee in 2008 where she is currently pursuing her doctoral degree in Clinical Psychology.