

ANTECEDENTS AND CONSEQUENCES OF MATERNAL
SENSITIVITY TO THEIR ADOLESCENT'S VULNERABILITY
TO JEALOUSY OVER FRIENDS

by

BLAKE LAWRENCE NIELSEN

JEFFREY G. PARKER, COMMITTEE CHAIR

KRISTINA L. MCDONALD

JOHN E. LOCHMAN

MARY ELIZABETH CURTNER-SMITH

A THESIS

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

TUSCALOOSA, ALABAMA

2012

Copyright Blake Lawrence Nielsen 2012
ALL RIGHTS RESERVED

ABSTRACT

Recent research has highlighted the important role parents can play in facilitating adolescents' adjustment with their friends. To do so, however, parents need to have insight into their children's social difficulties. Yet past research has shown that parents as a group are not particularly accurate at gauging children's social problems and concerns. However, very few studies have looked closely at variability from parent to parent in this skill. This study examines mothers' abilities to anticipate children's vulnerability to jealousy over friends. It was hypothesized that mothers would vary in their ability to accurately anticipate the circumstances that make their adolescent jealous and that this variability would relate in systematic ways to aspects of the mother, the child, and their relationship. Consistent with some past research, as a group, mothers' judgments of their child's jealousy was not highly correlated with what children reported. Nonetheless, wide variability in accuracy existed across mothers. Regression analyses indicated that mothers' proneness to romantic jealousy was not an important predictor of their accuracy, but mothers of emotionally expressive children and mothers with close relationships with their children were more accurate than were mothers of children who inhibited their emotions or mothers who had less close relationships. In turn, when their mothers were more accurate, adolescents had closer friendships, less aggressiveness with peers, higher social self-esteem, and less loneliness. Results caution against broad generalizations about maternal accuracy and support efforts to better understand why some mothers are more effective social coaches of their children than are others.

DEDICATION

I want to dedicate this thesis to my family and friends that supported me throughout the process of creating this document. In particular, I want to thank my parents, Kevin and Sabrina for always encouraging me to be my best. I also want to thank my brothers Zach and Tyler and my sister McKenzie. Without your support, this thesis would not have been possible. This thesis is dedicated to you.

LIST OF ABBREVIATIONS AND SYMBOLS

α	Cronbach's index of internal consistency
F	Fisher's F ratio: A ration of two variances
M	Mean: the sum of a set of measurements divided by the number of measurements in the set
ns	Statistically nonsignificant probability of obtaining a test statistic, assuming the null hypothesis is true
p	Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value
r	Pearson product-moment correlation
R^2	Coefficient of determination: the proportion of variability in the data accounted by the statistical model
SD	Standard deviation
t	Computed value of t test
<	Less than
=	Equal to

ACKNOWLEDGMENTS

I would like to thank my advisor and thesis chair, Jeff Parker, for providing me with excellent advice, knowledge, and guidance throughout the entirety of this project. Additionally, I would like to thank the members of my committee, Kristina McDonald, John Lochman, and Mary Liz Curtner-Smith for their valuable input and suggestions throughout. Finally, I would like to thank all of the research assistants who devoted great time and effort in collecting the data for my thesis.

CONTENTS

ABSTRACT.....	ii
DEDICATION.....	iii
LIST OF ABBREVIATIONS AND SYMBOLS.....	iv
ACKNOWLEDGMENTS.....	v
LIST OF TABLES.....	vii
LIST OF FIGURES.....	viii
1. INTRODUCTION.....	1
a. HYPOTHESES.....	19
2. METHODOLOGY.....	21
3. RESULTS.....	29
4. DISCUSSION.....	36
REFERENCES.....	52

LIST OF TABLES

1. Sex Differences in Adjustment and Links to Child and Mother Report of Jealousy.....36

LIST OF FIGURES

1. Distance score distribution.....	32
-------------------------------------	----

INTRODUCTION

Recently, researchers have shifted their focus from the traditional views of parents and peers as competing influences on children's development toward understanding how the influence and contributions of the family and those of the peer group are connected (e.g., Brown & Bakken, 2011). It is recognized, for example, that children who develop secure and trusting relationships with their parents approach peers in open and resourceful ways and are relatively resilient to the minor disappointments and threats that inevitably surface in friendships (Kerns, 1994). As another example, children whose parents use harsh discipline or who witness inter-parental discord or violence, appear to have difficulties with conflict and competition with friends and are at risk for peer group rejection (Parker, Rubin, Erath, Wojslawowicz, & Buskirk, 1995).

Parents can also influence the success of their child's experiences with friends and peers in more direct ways however. The term *coaching* is often used to express the more intentional and direct influences that parents have on children's peer relationships (Ladd & Pettit, 2002; Lollis, Ross, & Tate, 1992). Social coaching refers to parents' deliberate efforts to advise, educate, and rehearse their children in social and emotional skills when they recognize that their child is experiencing a challenge or setback with friends or other peers (Mize & Ladd, 1990). Social coaching can occur spontaneously and on the spot, during a child's social situations with peers. Social coaching of this type might involve encouraging their child to share their toys with a visiting playmate. But social coaching can also occur behind the scenes. When social coaching

occurs behind the scenes the parent is removed from the situation, but discusses it later with the child. Such behind the scenes coaching includes efforts by the parent to encourage their child to be more sociable, to interact more smoothly, to be tolerant of others, or to resist peer pressure (Rubin & Sloman, 1984).

To study parental social coaching styles and success, researchers sometimes devise laboratory analogue sessions, during which parents interact with their child and an unacquainted peer. By placing parents in a position to make suggestions to their child or scaffold social interactions, parents' spontaneous direct coaching can be assessed and evaluated (Mize & Pettit, 1997). More often, researchers have assessed parental coaching by presenting parents with videotaped vignettes portraying social problems and asking them to discuss the situation with their child (Mize & Pettit, 1997; Pettit, Brown, Mize & Lindsey, 1998). The vignettes often depict hostile, accidental, or ambiguous examples of peer rebuff or provocation (e.g., Dodge, Bates, & Pettit, 1990). This allows parents to coach children across diverse social situations and enables researchers to assess the content of parents' discussion.

Research has linked parental social coaching behavior to important social outcomes in children (e.g., Mize & Pettit, 1997). For example, a study of 43 pairs of mother and preschool-kindergarten children, Mize and Pettit (1997) demonstrated that social coaching focused on helping children frame negative peer events and espouse prosocial strategies was associated with lower aggression, greater social skills, and higher peer acceptance in children. Pettit, Brown, Mize and Lindsey (1998) extended this work by finding that teacher ratings of 36 preschool-kindergarten children and their positive use of social skills with peers related back to a parent's social coaching, suggesting additional pathways in which a mother may promote social competency in her child.

Thus, parents that offer advice about peer interactions in the discussions with their children have better accepted and more socially competent children (Laird, Pettit, Mize, & Lindsey, 1994).

Although research has demonstrated that social coaching by parents can promote children's social adjustment, relatively little research has addressed one of the key prerequisites of effective parental social coaching, namely, parents' ability to accurately recognize when their children are experiencing difficulties with peers. Parents will not engage in coaching if they do not recognize when their child is having difficulty and they cannot be effective in social coaching their children if they do not accurately understand the nature and extent of the difficulty. This ability to recognize and respond when children are having difficulties with peers is important at all ages, but it presumably takes on even greater significance at the transition into adolescence. As children enter adolescence, their social world and social concerns increasingly move outside the home (Csikszentmihalyi & Larson, 1984). Increased autonomy is generally a normative and healthy development for adolescents, but it makes it more challenging for parents to be insightful about their child's peer adjustment and to be helpful when children encounter peer difficulties. Because nearly all of adolescents' interactions with peers are outside the home during this period, parents must rely upon their children to report their daily activities and behavior, including their problems with peers (Crouter, MacDermid, McHale, & Perry-Jenkins, 1990; Kerr, Stattin, & Trost, 1999). If their children are not forthcoming, even well-intentioned parents may be unaware of adolescent activities and behavior and lack a basis on which to respond.

The primary purpose of the present study is to examine parents' insight into their children's vulnerability to jealousy over friends. As such, the present study is designed to address the gap in the literature created by the robust evidence of the importance of effective parental

social coaching and the relative lack of evidence concerning parents' sensitivity to their child's difficulties with friends in the first place. Below I first review the broader literature on parent's utility as reporters on child behavioral problems. I will argue that this literature suggests that parents as a whole are not particularly accurate at gauging their children's social problems and concerns. However, I will also argue that a limitation of this literature is that the use of aggregate group comparisons may have obscured important parent-to-parent variability in this skill.

Whereas some parents may have limited insight, others may be more skilled. Following this, I review selected mother, child, and mother-child relationship variables that I hypothesize may be important to anticipating which mothers will be accurate at identifying their child's vulnerability to jealousy and which will not and how insight may also predict children's adjustment. Next, I briefly review the significance of children's friendship jealousy and suggest areas in which children who are vulnerable to jealousy will have difficulty with peers. Finally, I summarize the specific hypotheses of the study.

Parental Insight into Their Children's Social and Behavioral Problems

There is a long history of parents serving as an informant on the social behaviors of their children. Indeed, parents were being asked to identify the social faults of children (e.g., stubbornness, teasing, quarreling, etc.) as far back as the very founding of developmental psychology (e.g., Triplett, 1903). At present, even a cursory literature search on PsycINFO reveals hundreds of articles specifically relating to parent measures of behavioral and social adjustment indices (e.g., aggression: Kazdin, Esveldt-Dawson, Unis, & Rancurello, 1983; anxiety: Frick, Silverthorn, & Evans, 1994; depression: Angold, et al., 1987; internalizing problems: Bidault-Russell, et al., 1995; social functioning: Eisenberg, Fabes, & Murphy, 1996).

Perhaps the best-known of these assessments is Achenbach's (1978) *Social Competency Scale*. This scale has received more than 900 citations in the period between its publication and present day. Achenbach developed this scale on the premise that parents are positioned to observe broad swaths of their children's behaviors across multiple situations and over longer periods of time, aiding their reporting. Past investigations of parental characteristics associated with informant reports focused solely on mothers rather than fathers because they appear more consistently available to provide information on their child's behavior (De Los Reyes & Kazdin, 2005). Mothers have also been shown to observe their children's behaviors more frequently across numerous circumstances (e.g., Richters, 1992).

Two pioneering studies examined mother reports and how they related to the reports of their children when rating the children's emotional, behavioral, and social functioning. Lapouse and Monk (1958) conducted an early study examining descriptive data on children. The researchers interviewed 482 mothers and 193 children ages 6 through 12. Using follow up interviews with a subset of their sample, Lapouse and Monk found that mothers could reliably report on their child's observable behaviors including bedwetting, temper tantrums, and thumb sucking. However, mothers could not reliably report on their child's internal states (e.g., fears and worries).

Another landmark study, conducted by Rutter and Graham in 1968, established the first structured interview process specifically for children (Rutter & Graham, 1968). This interview aimed to capture descriptive assessments of the child's emotional, behavioral and social functioning through direct questioning of the child as well as the parent. The interview schedule for the parent and child paralleled each other with similar content and rating procedures. After interviewing both informants separately, interviewers rated the child's mental status. The

findings displayed low to modest reliabilities for items related to anxiety and depression ($r = .30$), hyperactivity ($r = .61$), and social relations ($r = .64$). Thus, reliabilities appeared generally higher for overt behaviors like hyperactivity compared to children's internal states (e.g., depression and anxiety). These findings were replicated in studies as structured interview schedules incorporating children and their parents proliferated into the 1980's onward (Edelbrock & Costello, 1990), displaying similar low concordances for anxiety (Barbosa, Tannock, & Manassis, 2002) and depression (Angold et al., 1987).

The lack of concordance between children and their mothers on different types of behavior prompted further investigation examining where reporting discrepancies arise, leading some researchers to suggest a child's age might factor into reporting agreement. This was based partly on the early support of researchers arguing that young children lack the cognitive abilities and insight to accurately report on some of their feelings and behaviors (Edelbrock & Costello, 1990; Herjanic, Herjanic, Brown, & Wheatt; 1975; Schwab-Stone, Fallon, Briggs, & Crowther, 1994). Mothers, on the other hand, are cognitively mature and presumably have a deeper and wider swath of experience to draw upon when judging the significance of negative feelings, events, and behaviors. It was also assumed that mothers do not have the same motivation to deny difficulties that their young children may have. However, this optimism of mothers appearing as an accurate informant for some behaviors does not appear to remain constant as children enter into adolescence.

As children age their cognitive, memory, and language skills continue to mature, suggesting that children are better able to reliably report on their emotional, behavioral, and social experiences (Edelbrock & Costello, 1990; Edelbrock, Costello, Dulcan, Kalas, & Conover, 1985; Herjanic, Herjanic, Brown, & Wheatt; 1975; Schwab-Stone, Fallon, Briggs, & Crowther,

1994). Achenbach and his colleagues' (1987) meta-analysis of 119 informant studies found that agreement of reporters' ratings was greater for children ages 6 through 11 compared to those of adolescents ranging from 12-19 years of age. Thus the transition from preadolescence into adolescence relating to increases found in informant discrepancies lends support to the suggestion that as children age they are more competent to accurately report their own functioning compared to their parents. Achenbach and his colleagues (1987) also suggested that this discrepancy might exist because younger children's behaviors appear more observable for parents. De Los Reyes and Kazdin (2005) interpreted Achenbach et al.'s (1987) findings as suggesting that younger children's behaviors can be constrained to situations where they are more easily observed. That is, younger children spend more time at the home where parents can provide information on their behavior compared to the period of adolescence, where children spend increasing amounts of time outside of the home.

Notably, the age differences uncovered by Achenbach's meta-analysis have not been found in numerous studies (e.g., Choudhury, et al., 2003; Engel, Rodrigue, & Geffken, 1994; Kolko & Kazdin, 1993). Studies have even shown the opposite pattern, where parent-child agreement is greater for older children than younger (e.g., Grills & Ollendick, 2003). De Los Reyes and Kazdin (2005) attributed these inconsistent findings as possibly relating to the inconsistent methods utilized by researchers to analyze this developmental pattern. For example, other studies used smaller sample sizes which appeared less powerful to identify any age effects (e.g., Choudhury et al., 2003; Engel et al., 1994). Other studies also limited the range of children's ages used for investigation, appearing different from the range utilized by Achenbach et al.'s (1987) analyses (e.g., Engel et al., 1994; Kolko & Kazdin, 1993). Thus, additional research to learn more about these age related discrepancies appears necessary.

In addition to the age of the target, other informant characteristics have been investigated as contributing factors to differences in reporting. The sex of the child, parent, or both during examinations have all been found to relate to discrepancies (e.g., Angold et al., 1987; Crouter, Helms-Erikson, Updegraff, & McHale, 1999; Grills & Ollendick, 2003). That is, gender may be an additional characteristic leading to decreases in agreement between parents and their children. For example, an investigation by Kolko and Kazdin (1993) measured children's problem behaviors and found that for both parents the parent-child agreement was greater for daughters compared to sons. Another study found that knowledge about children's experiences differed by the parents' gender, finding that fathers knew more about sons and mothers about daughters (Crouter et al., 1999).

In addition, while some studies have gender contributing to discrepancies among some informant populations (e.g., Angold et al., 1987; Grills & Ollendick, 2003), research investigating identical or similar populations have not shown gender related discrepancies (e.g., Choudhury, Pimentel, & Kendall, 2003; Engel, Rodrigue, & Geffken, 1994). Across the literature, relationships between gender and discrepancies appear generally inconclusive (Achenbach, McConaughy, & Howell, 1987).

In sum, there appears to be a long tradition within developmental psychology of asking parents to supply information on the experiences and adjustment of their children, especially those focused on peer relations. Indeed, inconsistent or null findings exist for many informant characteristics reviewed (e.g., child age, child gender, parent gender, etc.). Proponents of using parents as reporters have stressed how valuable parent informants can be in this process because they have access to a broad swath of their child's behavior with peers and a long history of making observations. They also point out that parents' may be less inclined than their children to

deny problems with peers. As children get older, however, parents may face greater challenges staying abreast of how their child's is faring with peers. For this and other reasons, other authors have favored using child self-reports over parental reports. Importantly, past research has shown that when both parental and child self-reports of social adjustment are available, they show very poor agreement. In Achenbach et al.'s (1987) meta-analysis using children and parents as informants, ratings of children's social adjustment problems only displayed a mean correlation of .25. This level of agreement compares to correlations of .59 between two parents and of .74 in child re-testing. Indeed, parents do not seem to be any more accurate at anticipating what their children will say about their social adjustment than teachers (average $r = .20$), another peer (average $r = .26$) or a mental health worker (average $r = .27$). Although it has been argued that it is unreasonable to expect much higher correlations, given the differing perspectives, contexts, and attributions that parents have about their children, the poor insight that parents as a group have of their children's social adjustment has important implications for the phenomenon of social coaching. As noted earlier, both conceptually and operationally, social coaching presupposes that parents are monitoring their children's social experiences and recognizing and responding to difficulties that arise. But how is social coaching related to adjustment if parents as a group are so vastly inaccurate at identifying the social difficulties in their children? Apparently many successful children receive parental attention and intervention unnecessarily whereas many struggling children escape parental notice.

Although parental social coaching may in fact occur arbitrarily, an important issue left unaddressed by the parental accuracy literature is the more general issue of whether the ability to recognize children's social problems is an attribute that all parents are equally poor or good at. For strong correlations to emerge across a group, uniformity on social judgment must exist such

that the parents of children with few problems must be as skilled at judging their child as parents of children with few problems. That is, the accuracy at judging social difficulty must be a general and shared quality among parents for the parents of children without difficulty to report less problems than do the parents of children who are struggling. If some parents are accurate at knowing the social adjustment of their children and others are not, overall correlations between parents and their children will be low. To date, however, pair-to-pair differences in parents' ability to recognize social difficulties experienced by their children have not been explored. Correlations across a group between parents and their children obscure these differences. Instead, as Kenny, Kashy, and Cook (2006) have argued, indices of dyadic agreement must be computed for each mother and child pair. These resulting dyadic scores, in turn, can then be analyzed directly to determine factors that influence high versus low accuracy between mother-child pairs and whether mother-child agreement is predictive of other outcomes in children. Accordingly, after examining the correlation between mother's and child's reports of the child proneness to jealousy in specific social situations, in the present study we compute a dyadic index of accuracy for each mother-child pair and examine it directly in subsequent analyses.

Parental Insight into Their Children's Friendship Jealousy

With adults, jealousy is characterized as the negative emotional, cognitive, and behavioral reaction triggered by a valued partner's actual or anticipated relationship with another (e.g., Guerrero & Andersen, 1998; Salovey & Rodin, 1989; Sharpsteen & Kirkpatrick, 1997). Related to the present study, friendship jealousy in late childhood and adolescence can be identified along similar terms. Parker, Low, Walker, and Gamm (2005) define friendship jealousy as *a negative reaction triggered by a close friend's actual or anticipated interest in a relationship with another peer and based upon the target's perception that the partner's*

relationship with someone else threatens their own, existing relationship with him or her. As with the defining characteristics of jealousy in adults, children's friendship jealousy can also be characterized by emotional, cognitive, and behavioral components.

Accompanied with feelings of jealousy, children experience a blend of negative emotions in their friendship disappointments. Undoubtedly, negative emotions arise in the many disappointments that children encounter, however, those resulting from the interference of third party interloper appear particularly acute, often displaying a unique emotional character (Parker, Kruse, & Aikins, 2010). Past research examined this claim by presenting children with hypothetical vignettes, where time spent with a current best friend appears encroached upon by a fictional, same-sex peer (Roth & Parker, 2001). Parker and colleagues (2005) have also utilized vignettes to uncover the emotional states of jealousy in hypothetical social situations to identify the perceived friendship disappointments. In addition to examining the affective components of childhood jealousy, studies have also examined jealousy's relationship to intra- and interpersonal adjustment in children and adolescents.

Past research has found that jealousy over one's friendships appears connected to various expressions of aggression. The forms of aggression in question include direct (acts of intimidation and physical assault), passive (whining, threats of friendship termination, and silent treatments), and indirect (spreading rumors, gossiping, and excluding others). In terms of gender differences, boys' friendship jealousy is found to positively associate with passive and indirect expressions of aggression, while all forms of aggression are found to positively associate with girls' jealousy (Parker et al., 2005).

Generally, girls report more vulnerabilities to being jealous than boys (Parker et. al, 2005). Additionally, jealousy is also linked to other negative aspects in their friendships.

Negative behaviors such as engaging in more surveillance, reporting more conflict and reduced closeness, and experiencing increased intrapersonal distress in the form of loneliness, depression, and unhealthy rumination over the prospects of one's friendships (Lavalley & Parker, 2009; Parker et al., 2005).

Parker et al. (2010) indicated that situations involving jealousy often include social comparisons and self-evaluations. Adolescents with chronically low levels of self-esteem habitually overestimate partners' attraction to others, appear prone to experiencing threat, and report being jealous in response. Comparatively, individuals with higher self-regard presumably feel less competitive with friends' other friendships and offer more benign interpretations of their friends' activities with others. Related to this view, negative correlations between vulnerabilities to jealousy and preadolescents' global self-esteem have appeared in past studies (e.g., Ebrahimi, Parker, Lavalley, & Seiffke-Krenke, 2005; Lavalley & Parker, 2009, Parker, et al., 2005; Parker, McGuire, Rosen, & Underwood, 2009).

These linkages between friendship jealousy and adjustment appear strong. In terms of what this means for friendships, research has indicated that those unable to form and maintain friendships appear at risk of additional negative interpersonal and intrapersonal outcomes (Parker & Asher, 1987). It is assumed that some encounter friendship difficulties because they fail to handle challenges with their friends effectively. That is, to maintain a friendship, individuals must possess the social skills to effectively manage disagreements, express concern and affection in appropriate ways, and participate in self-disclosure (Rose & Asher, 2000). These social skills underlying successful peer involvement in childhood and adolescence have been examined extensively in past research (Asher, Parker, & Walker, 1996; Parker, Saxon, Asher, & Kovacs, 1999).

Considering the amount of research conducted on children and adolescents it may be surprising that, to date, almost no research has been conducted on parents' insight into their children's jealousy. Thus, this paper sets out to fill in the gaps found in the literature by examining the correlates related to mothers' accuracy of their child's friendship jealousy.

Present Study and Hypotheses

As noted earlier, mothers as a whole do not appear to be good informants of their children's social behaviors and adjustment. The generally modest correlations between mothers and children in past research may however obscure important mother-to-mother differences in accuracy. Accordingly, in the present study, following Kenny et al. (2006), a statistical strategy is employed to identify mother-to-mother variability and the factors that are related to that variability. Mothers' impressions will be compared to their children's reports within individual mother-child dyads as well as for the group as a whole. Concordance between mothers and their children will be generated from reports on the child's jealousy.

Thus, the first purpose of this study was to examine mothers' abilities to anticipate their children's vulnerability to jealousy over friends. We expected mothers to vary in their ability to accurately anticipate the circumstances that make their adolescent jealous and our specific interest was if this variability related in systematic ways to aspects of the mother, adolescent, and their relationship. In particular, we hypothesized that a mother's accuracy in judging her child's friendship jealousy would increase when her adolescent preferred to express their emotions, when she was prone to jealousy in her romantic relationships, and when her parent-child relationship was warm and secure. In addition, it is hypothesized that the more accurate the mother appears, the better social adjustment her child will exhibit. Exploratory analyses will also

examine the demographic variables of the child and mother to identify any associations with accuracy. These hypotheses are described further below.

Children's Emotional Expressiveness. Communicating emotional states to others is essential for successful interpersonal functioning (Gross & Levenson, 1997). Theorists since Darwin (1872) have identified that the emotional expression of social partners provides rich feedback about other's preferences. Relatedly, Gross and Levenson (1997) suggested that inhibiting emotions may interfere with successful social adjustment, in that, emotional inhibition limits partners' abilities to accurately estimate and appropriately respond to another's exhibited behaviors. Emotional inhibition may have important implications for parental social coaching. For example, if a child is having difficulty with peers at school and discusses her feelings of sadness with her mother, the mother can engage in corrective behaviors to help her child effectively cope. However, if the child is reluctant to discuss their feelings of sadness, her mother may consequently miss the child's social difficulties.

Past research has documented gender differences in emotional expressiveness. In general, findings suggest that boys are less emotionally expressive than girls (Fabes & Martin, 1991; Zeman & Shipman, 1997) and inhibit certain emotions (e.g., sadness) due to expectancies of negative social consequences (Fuchs & Thelen, 1988). In contrast, Zeman and Shipman (1997) found that girls, more than boys, report improved affect following the emotional expressions of some feelings (e.g., sadness). Another study, Underwood, Coie, & Herbsman (1992) argued that children's preference to not discuss the emotion of sadness appeared to increase over time for boys, but decrease for girls. These gender differences may arise from familial and peer socialization histories of boys and girls, wherein girls receive supportive interpersonal reactions for expression, whereas boys face negative responses (Zeman & Shipman, 1996).

In the present study, we reasoned that a child's tendency to inhibit rather than express their strong emotions with others would understandably interfere with mother's insight into their child's vulnerability to jealousy. That is, we anticipated that when emotional inhibition is chronic, mothers will not pick up on the nuanced cues to jealousy in their child's social behaviors and as a result would not have an accurate knowledge of how jealous their child typically becomes and in what circumstances.

Mothers' Vulnerability to Romantic Jealousy. Researchers in clinical contexts have debated the role that shared symptoms plays in the accuracy of maternal reports on children (Frick, Silverthorn, & Evans, 1994; Manassis, Tannock, & Monga, 2009; Krain & Kendall, 2000; Reuterskiöld, Öst, & Ollendick, 2008). One viewpoint is that parents' accuracy will be highest when the parents themselves share the same disorder with their children. For example, Reuterskiöld, Öst, and Ollendick (2008) reported stronger parent-child agreement on the severity of anxiety when parents were also diagnosed with this disorder. Reuterskiöld et al.'s interpretation was that this high concordance results because children with anxiety have learned to recognize anxiety symptoms in their parents, thus recognizing the disorder more readily in themselves. However an alternative interpretation is that parents with shared psychopathology are more tuned in to these same symptoms in their children. The opposing viewpoint, however, suggests that parental psychopathology can lower accuracy because the mental health problems of parents interfere with their ability to read social information or encourage parents to project their own symptoms onto their children (Briggs-Gowan, Carter, & Schwab-Stone, 1996). Consistent with this, experimental evidence suggests that parental anxiety may bias ratings of child psychopathology and influence discrepancies among both child and parent informant (Frick, et al., 1994; Manassis, Tannock, & Monga, 2009). For example, Frick, et al. (1994)

demonstrated that high levels of maternal anxiety related to mothers' over reporting the anxiety symptoms of their children. Relatedly, structured interviews conducted by Briggs-Gowan et al. (1996) revealed that maternal anxiety only significantly correlated with mother's reports of anxiety symptoms in their children. That is, maternal anxiety did not relate to the reports of other informants, suggesting that some degree of misinterpretation and projection occurred. One limitation of this work, however, is that research to date has been largely limited to relatively severe parental disorders such as depression and anxiety. It is not clear whether more routine and prosaic social problems, like a tendency to be possessive in relationships, will similarly bias perceptions.

In short, the literature examining whether sharing symptoms improves parent-child agreement appears mixed, with some authors supporting this view and others disputing it (De Los Reyes & Kazdin, 2005; Grills & Ollendick, 2002). In the present study, we reasoned that a vulnerability to romantic jealousy in parents might facilitate their recognition of friendship jealousy in their children on the logic that romantic jealousy is not so debilitating as to strongly distort parental perceptions but may in fact facilitate recognition of many of the subtle cues that jealous individuals give off when they are upset. We also surmised that children might be more forthcoming about their friendship jealousy with their parents when they recognized that their parent can sometimes feel the same way toward their romantic partner. We reasoned that this contribution will be over and above the emotional expressiveness of the child, as we anticipate the unique variance to contribute to maternal accuracy.

Mother-Child Relationship Closeness. As noted earlier, considerable research supports the premise that children who develop secure and trusting relationships with their parents or who grow up in homes with warm and responsive parents are more successful with peers and more

resilient in the face of peer setbacks and minor disappointments with friends. Warm and secure relationships with parents are also associated with a lower vulnerability to friendship jealousy (Parker et al., 2010). It has typically been assumed that close parental relationships are associated with positive peer outcomes because children growing up in those circumstances develop positive models of themselves and others and therefore are more resourceful, optimistic, prosocial, and persistent with peers. This interpretation, however, is not incompatible with the possibility that another advantage of warm and secure relationships with parents is that the parents in those homes are more effective social coaches.

And, indeed, relational warmth and security does appear to be positively related to parental knowledge. For example, Pettit, Laird, Dodge, Bates, and Criss (2001) reported that high levels of parental nurturance and warmth measured during kindergarten was positively associated with maternal knowledge of adolescent behavior in eighth grade. As another example, Gondoli, Grundy, Salafia, and Bonds (2008) demonstrated longitudinal links between maternal warmth in the fourth grade and a less severe decrease than normal in mothers' knowledge of children at the transition from fifth to sixth grades. Likewise, Fletcher, Steinberg, and Williams-Wheeler (2004) reported that positive perceptions of parental warmth held by adolescents related to more parental knowledge of their high school students.

There do not appear to be any direct studies of the social coaching of warm parents. Nonetheless, Gondoli, Grundy, Salafia, and Bonds (2008) suggested that children experiencing a warm relationship might appear more willing to spend time in the company of their mother, providing more depth to her knowledge of the child's experiences away from the home. Presumably, warm relationships not only motivate parents to remain informed in their children's lives (Dishion & McMahon, 1988), but cultivate environments where adolescents feel free to

self-disclose to parents (Soenens, Vansteenkiste, Luyckx, & Goossens, 2006; Stattin & Kerr, 2000). It may be that children who perceive their mothers as kind, nurturing, and emotionally warm in their day-to-day activities, self-disclose information more regularly, thus facilitating parental knowledge (Crouter & Head, 2002; Kerr & Stattin, 2000). Disclosure appears in relationships when high levels of trust and acceptance are also present (Smetana, Metzger, Gettman, and Campione-Barr, 2006). Positive parent-child relationships might also promote other behaviors that associate with knowledge and accuracy (Crouter & Head, 2002), such as children's willingness to bring forth relevant information, parental nurturance, and parents' sensitivity toward identifying changes in their child's behaviors (e.g., Crouter et al, 1999; Formoso, Gonzales, & Aiken, 2000). Therefore, knowledgeable parents maintain the potential to ameliorate the problems their children face in their social environments by staying informed and acting on that information.

Accordingly, in the present study we reasoned that children who perceived their parents to be warm and felt secure with their parents would have parents who could more accurately report the specific situations that would cause their children to feel jealous over a friend and how jealous the child might feel in these circumstances. Moreover, warmth and security will increase accuracy over and above the contributions of emotional expressiveness and mothers' vulnerability to romantic jealousy. That is, we anticipated that the unique variance of warmth and security contributed to maternal accuracy.

Child Intrapersonal and Interpersonal Adjustment. At the outset, I argued the importance of social coaching. The critical issue for parents is to know when their children are experiencing difficulties before they can engage in coaching. The value of social coaching is known as it translates to improved adjustment outcomes for children. As noted, Mize & Pettit (1997)

demonstrated that children benefit when their mothers provide poignant feedback about social relationships and how to deal with problematic peer situations. It is unclear, however, if parents' accuracy about these social difficulties, in the first place, is mediating the child's outcomes. One important investigation in this study is to determine the predictive capabilities of accurately reporting on a child's difficulty.

The key adjustment outcomes of aggression, loneliness, social self-esteem, friendship closeness, and social skills will be of primary focus, as they are known to associate with children's vulnerabilities to jealousy. Presumably, mothers that appear informed on their children's vulnerability to jealousy will help ameliorate their children's social difficulties relating to jealousy. Thus, it is hypothesized that as maternal accuracy increases children will report less aggressiveness, higher social self-esteem, closer friendships, increased social skills, and less loneliness. The child's jealousy will be controlled for to determine the unique variance contributing to accuracy.

Hypotheses

Consistent with past research, mothers' perceptions of their child's friendship jealousy at the aggregate level will vary widely in the extent to which their responses mirror those of their children, producing low or only modest correlations between reporters. Additionally, we set to examine the following hypotheses.

1. Mothers' accuracy in judging friendship jealousy will be related to children's emotion expression such that accuracy will decrease as children prefer not to express their emotions, as fewer cues are displayed.

2. Mothers' accuracy in judging their child's friendship jealousy will increase the more she is prone to jealousy in her romantic relationships. This contribution will be over and above the emotional expressiveness of the child.
3. Mothers' accuracy in judging their child's friendship jealousy will increase as the parent-child relationship increases in warmth and children perceive more security in that relationship (3a). Moreover, it is predicted that warmth and security will increase accuracy over and above the contributions of emotion expressiveness and mothers' jealousy in romantic relationships (3b).
4. Finally, as mothers' accuracy increases, the social adjustment of their children will also increase. Presumably, accuracy enhances mothers' ability to intervene when their children are experiencing difficulties after controlling for the child's jealousy.

METHODOLOGY

Participants and Recruitment

Participants were 72 mother-child dyads, including 39 early adolescent girls and 33 early adolescent boys with their mothers. Children ranged in age from 10 years to 15 years ($M = 12.3$ years; $SD = 1.30$). Participants were recruited as part of a larger, observational project on the family correlates of early adolescent friendship adjustment. Specifically, the names, addresses, and telephone numbers of 1738 families were obtained from a commercial service specializing in data mining of census data. The families represented all families in a single county with children in the target age, according to official census data. The county was located in the southern United States and was largely rural or small communities, but also contained a city of about 200,000 residents. From this comprehensive pool of potential families, a smaller sample of 760 potential families was selected at random and mailed a recruitment letter outlining the study and inviting their participation. Six hundred and sixty five of these families who were mailed information on the study were subsequently telephoned in the three months following the mailing to ascertain their eligibility and interest. To be eligible for the larger study, families were required to have a child in the target age range with at least one sibling within five years of age living in the home. Twenty-nine (40%) of the children were first-borns, 24 (33%) were second borns, 13 (18%) were third borns, and 6 (8%) had three to five older siblings. Of the 665 families telephoned, 383 (58%) were not able to be contacted due to incorrect or outdated contact information or were never reached by phone despite several call backs. A further 192 (28%) were telephoned, but

declined to participate or were ineligible. Of the remaining 90 eligible and willing families, a final sample of 72 was able to be scheduled and tested in a timely manner.

Consistent with the larger county, 78% of the participating children were Caucasian, 17% African-American, 3% Hispanic-American, and 2% Asian-American, other, or mixed race. Virtually all mothers were the biological parents, ranging in age from 29 to 55 years ($M = 42.5$, $SD = 5.40$). One Caucasian child's mother was Native American and one mixed-race child's mother was African-American. Otherwise, all mothers were the same race as their child. Eighty-nine percent of the children's mothers were currently married; the remaining were either never married (6%), were divorced and not remarried (4%), or widowed and not remarried (1%). All participating mothers reported being the primary caretakers of the child, and, in instances of divorce (whether remarried or not), were the child's legal custodian. Participants' households ranged in size from 3 to 9 individuals, including parents, and varied widely in socioeconomic status from lower class to upper-middle class, according to self-reports. One mother did not finish high school, 32 (44%) were high school graduates with no or only limited community college experience, 21 (29%) graduated from a four-year college or a university, and 18 (25%) had either graduate or advanced professional schooling.

Measures

Children's Vulnerability to Friendship Jealousy

Children's self-reports of their vulnerability to friendship jealousy were assessed using 15 jealousy vignettes from the *Friendship Jealousy Questionnaire* (FJQ) developed by Parker et al. (2005). In each of these short vignettes, subjects are presented with a hypothetical social situation involving an actual best friend and one or more hypothetical other children who are described as acquaintances and who serve as potential interlopers. Events in the vignette unfold

in such a way that the actions or presence of the other same-sex child or children poses a threat to the exclusivity of the established best friendship. In two vignettes, a peer interloper preempts the target's plans for their friend by doing a social activity (trip to a new store, a movie) with the friend first. In three other vignettes, the best friend joined a social club without the target, was placed in another child's study group, and was assigned to a class project with a partner other than the target. In two vignettes, the target overheard someone else claim they were best friends with the best friend or make plans to walk home with the best friend. In another, the best friend's family invited a different peer to accompany the best friend and his or her family on a camping trip. Three vignettes portrayed another peer engaging in dyadic friendship behaviors with the best friend, such as sharing confidences, discussing personal problems together, and providing advice on homework. In two vignettes, a peer upstaged the target by hosting a birthday party for the friend or by getting the friend a better birthday gift. Finally, in two vignettes the friend didn't seem to have time for the target because they were walking to school with another peer or busy hanging out with another peer on a bike ride. The behavior of the best friend in the vignettes is ambiguous, but it was possible for the target to interpret events as rejection by the friend, or, at the very least, to view the friend as receptive to the interloper's advances.

After reading the vignette, subjects were asked to indicate the level of jealousy they would feel using a 5-point scale ranging from "Would never be jealous over that" (0) to "Would definitely be really jealous" (4). Children's responses to each individual vignette were used directly in the computation of child-mother agreement (see below). In addition, total jealousy scores were computed by averaging responses across all 15 items. The Cronbach alpha coefficient of internal consistency for the total score was .90.

The FJQ was also employed to assess mother's perceptions of their children's vulnerability to friendship jealousy. Specifically, mothers were presented with the same 15 vignettes given to their children and asked to estimate the likelihood that the child would respond with jealousy in these situations. Like their children, mother's responses to each vignette could range from "Would never be jealous over that" (0) to "Would definitely be really jealous" (4). Mother's responses to these individual vignettes were used in the computation of child-mother agreement and total jealousy scores were computed as the average across all 15 items. The Cronbach alpha coefficient of internal consistency for the total scores for mothers was .93.

Children's Emotional Expressiveness

Eight items from the *Children's Emotion Management Scale* (CEMS) developed by Zeman, Shipman, and Penza-Clyve (2001) were used to assess children's preference to suppress or inhibit their feelings of sadness and anger rather than share them with others. In the present study, the 3-point Likert response format of the original measure was expanded to a 5-point scale that maintained consistency with the other measures. This response scale ranged from 1 (That is not at all like me) to 5 (That is exactly like me). Inhibition items included "I hide my anger," "I get mad inside but I don't show it," and "I hold my sad feelings in." Internal consistency for the Inhibition scale was $\alpha = .83$ and total Inhibition scores were computed by averaging the standardized items.

Mother Romantic Jealousy

Mothers' vulnerability to feelings of jealousy in their romantic relationships was assessed using six items inspired by several earlier measures (e.g., Sharpsteen & Kirkpatrick, 1997; White, 1981). The items asked mothers to imagine their current or a recent romantic partner complimenting, working together with, expressing admiration for, flirting with, spending time

alone, or having contact with someone of the opposite sex and to indicate how jealous and possessive they would feel using a 5-point scale ranging from 1 (Absolutely not, never) to 5 (A great deal; all the time; almost too much). Total scores were computed by averaging the six items. The internal consistency was $\alpha = .84$. Mothers of boys ($M = 1.97, SD = .65$) and mothers of girls ($M = 1.88, SD = .57$) did not differ significantly in romantic jealousy, $t(70) = .65, ns$.

Relationship Closeness

Children's reports of the security they felt in their relationship with their mother were assessed using a modified version of the *Kerns Security Scale* (KSS; Kerns, Klepac, & Cole, 1996). The original KSS consists of 15 forced-choice items that tap children's perceptions of their mothers' availability and responsiveness, their tendency to rely on mothers when stressed, and the degree of ease and interest they feel in communicating with their mothers. Respondents are presented with items consisting of contrasting statements representing positive versus negative assessments of security with their mother and asked to first decide which of these broad alternatives is most like their relationship and then refine that decision to indicate whether that is really true or only somewhat true. In the present study, however, items were presented as declarative statements and respondents were asked to indicate how well each statement fit their relationship on a 5-point scale from "Does not describe me well" (1) to "Describes me very well" (5). Total attachment security scores were computed as the average of the 15 items, after reverse scoring as appropriate. Internal consistency was $\alpha = .90$.

In addition, children's reports of their mothers' warmth were assessed using five items developed by Lamborn, Mounts, Steinberg, and Dornbusch (1991). These items tapped children's perceptions of their mothers as being warm, responsive, and involved in parenting them (e.g., "I can count on her to help me out if I have some kind of problem" and "She spends

time just talking with me”). To maintain consistency with other measures in the battery, the original response format was altered from having participants select true or false to a 3-item scale ranging from “Not at all” (1) to “Really true” (3). Internal consistency was .74.

Children’s attachment security was strongly positively related to their reports of maternal warmth, $r = .78, p < .001$. Thus, security and warmth scores were aggregated into a single closeness composite for further analyses by standardizing each and averaging the two scales together.

Child Intrapersonal and Interpersonal Adjustment.

Aggression. Mothers reported on their child’s aggression toward peers using the Behavior Assessment System for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004). The scale consisted of 10 items tapping mothers’ assessment of their children’s aggressive behavior (e.g., “Bullies others” or “Hits other adolescents”). Mothers indicated the frequency of aggressive behavior on a 4-point scale ranging from “Never” (1) to “Almost Always” (4). Raw scores were converted to t-scores ($M = 73.25; SD = 7.91$) by using nonclinical normative samples to facilitate comparisons to children in the general population. Internal consistency for the ten items was high, $\alpha = .76$.

Loneliness. Children’s feelings of loneliness were gauged using 16 items from the *Peer Network and Dyadic Loneliness Scale* (Hoza, Bukowski, & Beery, 2000). Items assessed the children’s sense of social belonging and perceived loneliness while interacting with friends and children their age. Children rated each question using a 5-point scale ranging from “This is not at all like me” (1) to “This is exactly like me” (5). A total loneliness score was computed as the average of all 16 items, after reverse-scoring items, where necessary. Internal consistency (alpha) across items was .86.

Friendship Closeness and Conflict. Children provided reports on the closeness and conflict they typically experience with their best same-sex friend using items taken from the *Friendship Quality Questionnaire* (Parker & Asher, 1993). Parker and Asher's (1993) original scale consists of 41 items designed to assess the quality of a child's perceived best friendship along six dimensions: Conflict, and five dimensions of closeness (companionship and recreation, personal validation and caring, help and guidance, intimate disclosure, and conflict resolution). Respondents were asked to think of their best friend and indicate whether each item was accurate for this friendship using a continuous scale from 0 (not at all true) to 4 (really true). Sample items include "We get mad at each other a lot," and "We make each other feel important and special." In the present study, the original three-item conflict scale was retained. However, this scale displayed inadequate internal consistency, $\alpha = .59$, and was dropped from further analysis. Due to time constraints, only 10 of the 38 original closeness items were retained by selecting five items from the help and guidance domain and five items from the personal validation and caring and intimacy domains. These 10 items had high internal consistency, $\alpha = .90$, and were averaged to yield a single scale of friendship closeness.

Social self-esteem. Children's social self-worth was assessed by combining items from the friendship (5 items) and group acceptance (4 items) subscales of the *Self Perception Profile for Adolescents* (SPPA; Harter, 1988). The response format of the SPPA was slightly altered from the original in this study to reduce confusion in respondents and to maintain consistency with other questionnaires in the battery. Whereas the original measure required respondent to review contrasting positive and negative evaluations and indicate the degree to which each of the polar choices characterized themselves, in the present study, one choice from each of the polar pair of choices was presented as a declarative statement and respondents selected how well that

statement fit them on a 4-point scale from “Not at all like me” (1) to “Really like me” (4). Internal consistency was adequate for the social self-esteem subscale ($\alpha = .77$).

Social skills. Using the Behavior Assessment System for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004), mothers indicated how frequently their children displayed behavior indicative of positive social skills, using a 4-point scale ranging from “Never” (1) to “Almost Always” (4). Sample items include “Congratulates others when good things happen to them” and “Tries to bring out the best in other people.” Raw scores were converted to t-scores ($M = 64.74$; $SD = 7.19$). The eight item scale had high internal consistency, $\alpha = .89$.

Procedure

As part of the larger project, children and their mothers were scheduled for a 3-hour assessment session at their convenience in our on-campus lab. Upon arrival to the lab, the child and his or her mother were introduced to the facilities, staff, and procedures and given an informed consent briefing. They were then escorted to separate rooms for individual testing. During this testing, children and their mothers completed a battery of paper-and-pencil questionnaires that included all the measures used in the present study. After their separate individual interviews, the pair was reunited for a lengthy sequence of videotaped interactive activities that were not used in this report. Individual testing lasted approximately one hour. Mother participants were compensated \$75 for their participation in the larger study and preadolescents were compensated \$25.

RESULTS

Preliminary Analyses: Mother- versus Child-Perceived Child Friendship Jealousy

Compared to their children, mothers as a group underestimated the extent to which their child would be jealous if his or her best friend consulted someone else about a problem with parents ($Child_{mean} = 1.89, SD = 1.12$; $Mother_{mean} = 1.50, SD = 1.19$; $t(71) = 2.00, p < .05$) and overestimated their child's potential jealousy at overhearing someone else say they were the best friend of the child's best friend ($Child_{mean} = 1.15, SD = 1.29$; $Mother_{mean} = 1.54, SD = .98$; $t(71) = 2.01, p < .05$). These were isolated exceptions, however, as there were no significant group differences on any of the remaining vignettes. Not surprisingly, there were also no differences between mothers as a group and children as a group on the scores for total jealousy across all 15 vignettes, $F(1, 70) = 3.71, ns$. Consistent with past research, girls ($M = 1.52, SD = .74$) reported significantly higher total friendship jealousy scores than did boys ($M = 1.10, SD = .74$); $t(70) = 10.91, p < .001, t(70) = 2.42, p < .01$. By contrast, there were no significant differences in jealousy between girls ($M = 1.41, SD = .71$) and boys ($M = 1.37, SD = .73$), according to their mothers ($t(70) = .24, ns$). Of more specific interest, on the whole, mothers' reports of their child's friendship jealousy were not strongly associated with those of their child. The strongest mother-child correlation for any single vignette for either sex was $r = .16$. Likewise, mothers' total jealousy scores across vignettes were almost completely unrelated to those of their children, $r(71) = -.12, ns$. This was true for both the sample of mother-daughters and that of mother-sons.

Agreement on Child Friendship Jealousy within Mother-Child Pairs

Following Kenney et al. (2006), variability from pair-to-pair in the congruence of mother and child reports of child vulnerability to friendship jealousy was assessed using an index of dyadic distance. Specifically, a distance score was computed for each mother-child pair by first subtracting the mother's estimate of the child's vulnerability to jealousy from that reported by the child for each of the 15 vignettes, then squaring each deviation, summing these across vignettes, and taking the square root of these summed deviations. Hence, distance scores of zero theoretically indicated that mother's responses across the vignettes agreed perfectly with their child's and values increased as these responses increasingly departed in pattern or absolute magnitude.

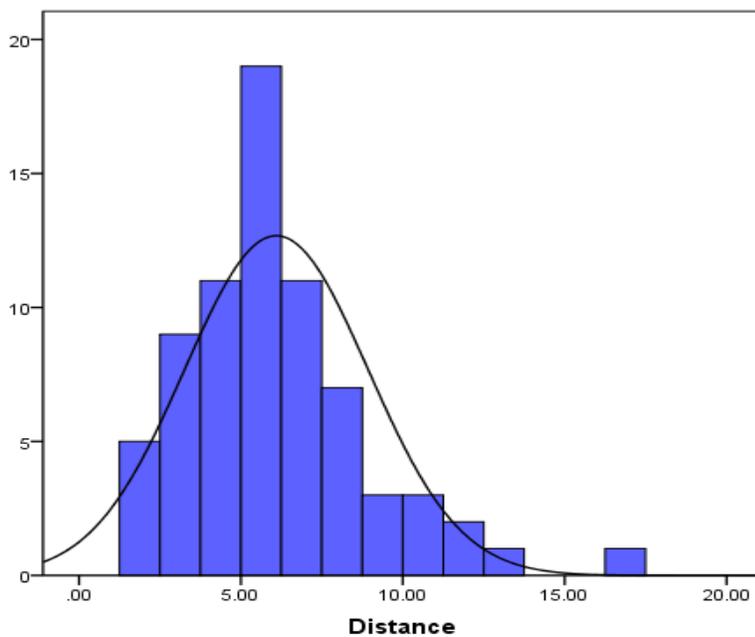
Distance scores were preferable to correlation-based indices (e.g., Pearson, intraclass, Lin's correspondence coefficient) and interrater agreement coefficients (e.g., kappa) in the present context because, unlike correlational measures, distance scores are not adversely affected when mothers or children give highly consistent responses across vignettes (e.g., reported moderate jealousy in response to every potential jealous situation). Likewise, we preferred distance scores to correlational indices because we were interested in not only whether mothers' reports could anticipate which friendship situations were the most and least upsetting to their children, but also if they could anticipate the absolute level of jealousy their children anticipated.

No mothers' responses exactly matched the pattern and absolute magnitude of those provided by their child. Instead, and as expected, mothers varied widely in the extent to which their responses mirrored those of their child. A one-sample Kolmogorov-Smirnov test indicated that the distribution of distance scores within the sample was approximately normal (Figure 1). For interpretive purposes, distance scores for each pair were converted to agreement scores for

subsequent analyses by standardizing across the sample and multiplying by -1. There were no significant differences between mother-daughter and mother-son pairs, $t(70) = 1.34$, ns, in agreement. Correlational analyses also indicated that agreement was not significantly associated with the child's age, child's birth order, mothers' education, or household size. There was a tendency for older mothers to have better agreement with their children ($r = .21$), but this association did not reach statistical significance ($p < .08$).

Figure 1

Distance score distribution.



Hypothesis 1: Children's Emotional Expressiveness

Boys ($M = .16$, $SD = .51$) were slightly more likely to inhibit their emotions than were girls ($M = -.13$, $SD = .77$), $t(70) = 1.86$, $p < .06$. The preference to inhibit negative emotion was not significantly related to the child's age or birth order, mothers' education, or household size.

Jealousy. For both sexes, mothers' perceptions of their child's vulnerability to jealousy were not significantly related to their child's preference to inhibit rather than express negative

emotions ($r = .17$). Children's preference for inhibiting negative emotions was also unrelated to their own reported vulnerability to jealousy, $r = -.01$, ns, for either sex.

Jealousy Agreement. A hierarchical multiple regression analysis was conducted to evaluate the role of emotional expression in the agreement between mother's and child's reports of child jealousy. Agreement scores for the pairs of mothers and children served as the dependent variable. In the regression, child sex was entered as a control variable. Children's emotional inhibition scores were entered next, followed by the sex by inhibition interaction. Results indicated, as predicted, that inhibition of emotions was strongly negatively predictive of agreement, $\beta = -.25$, $p < .05$. There was no sex by emotional inhibition interaction, $p < .87$. Thus, while children's tendency to avoid discussing emotions did not contribute to their reports of their vulnerability to jealousy, it did contribute negatively to how closely a mother's reports matched the reports of her child.

Hypothesis 2: Mother Romantic Jealousy

Mothers of boys ($M = 1.97$, $SD = .65$) and mothers of girls ($M = 1.88$, $SD = .57$) did not differ in their reported vulnerability to romantic jealousy, $t(70) = .65$, ns. Romantic jealousy increased as household size increased, $r = .27$, $p < .05$, but otherwise was not associated with demographic variables including mother's age or education and the child's age and birth order.

Jealousy. Romantic jealousy was also not associated with children's or mother's reports of child's friendship jealousy.

Jealousy Agreement. Finally, contrary to hypotheses, stepwise hierarchical multiple regression did not reveal a significant relation between mother's romantic jealousy and how closely their estimates of their child's jealousy matched those of the child for either sex.

Hypothesis 3a: Mother-Child Relationship Closeness

Boys and girls did not differ significantly in their perceptions of mother-child relationship closeness. Children's reports of closeness with their mother were also unrelated to their age, the mother's age, their birth order, mother's education, and the household size.

Jealousy. Children's reports of closeness were not associated with children's or mothers' reports of child jealousy for either sex.

Jealousy Agreement. Hierarchical multiple regression analysis was again used to evaluate the role of children's reports of closeness in the agreement on the child's jealousy. In the regression, agreement scores were the dependent variable and sex, child-reported closeness, and the sex by child-reported closeness interaction were entered sequentially. As children's perceptions of closeness increased, mother's reports of their child's vulnerability to jealousy increasingly matched those of their child, $\beta = .33, p < .01$. This relation was not moderated by sex.

Hypothesis 3b: Relationship Closeness and Emotional Expressiveness

Finally, hierarchical regression analysis was also used to consider the combined and unique contributions of the child emotion expressiveness and mother-child closeness to agreement. Mother romantic jealousy was not considered in this combined regression because it did not predict individually. Agreement remained the dependent variable in this final regression and sex was again entered on the first step. Children's emotional inhibition score and their reports of maternal relationship closeness were entered on the second step. The two-way interactions between sex and these variables were entered on the third step as well as the emotion inhibition X closeness interaction. Finally, the three way sex X emotion inhibition X closeness interaction was entered.

Results indicated significant and additive main effects for emotional inhibition and closeness but no significant two- or three-way interactions. The model consisting only of these main effects and sex was significant, $F(3, 68) = 5.01, p < .001$. After controlling for closeness, emotional inhibition continued to significantly reduce agreement, $\beta = -.29, p < .01$. Likewise, with inhibition controlled, closeness continued to enhance agreement, $\beta = .36, p < .001$. Taken together, these two variables (plus sex) accounted for $R^2 = .21$ of the variance from pair to pair in child-mother agreement.

Hypothesis 4: Agreement and Child Social Adjustment

Table 1 presents the simple relations between mothers' and children's perceptions of the child's vulnerability to friendship jealousy and each of the five child adjustment indices. The correlations shown are for boys and girls combined, as these correlations did not differ significantly by sex. Table 1 also presents comparisons between boys and girls on each of the adjustment indices. Girls reported significantly lower loneliness and greater social self-esteem and best friend closeness than did boys.

Jealousy. As shown in Table 1, mother's estimates of their child's jealousy were significantly positively related to their reports of their child's aggression with peers, but not related to the remaining indices. Children's reports of their jealousy were not related to aggression, but were related to their self-esteem and loneliness. Reports of social skills were marginally related to the child's report of their vulnerability to jealousy, while reports of friendship closeness were not related to either report of vulnerability to jealousy.

Jealousy Agreement. Five parallel hierarchical multiple regressions were used to examine how agreement between mothers and their child in reports of child jealousy predicted child social adjustment. The five adjustment scores served in turn as the dependent variable in each. Child's

sex was entered on the first step of each as a control variable. Mother and self-reported jealousy vulnerability were entered on the second. Agreement scores were entered on the third step, followed by the sex by agreement interaction term.

The regressions for aggression, loneliness, and best friend closeness produced significant main effects for agreement. When mothers' reports of their child's jealousy on the 15 vignettes closely matched those given by their child, children were less aggressive, $\beta = -.29, p < .05$, less lonely, $\beta = -.26, p < .05$, and had greater friendship closeness, $\beta = .33, p < .01$. The regression of agreement on children's social self-esteem also indicated that, even after controlling for sex and self-reported jealousy, agreement was significantly positively related to social self-esteem. When agreement was high, children had higher social self-esteem ($\beta = .35, p < .01$). Social skills appeared unrelated to agreement, $\beta = .13, ns$.

Table 1

Sex Differences in Adjustment and Links to Child and Mother Report of Jealousy.

	Correlations		Mean (SD)		<i>t</i> (70)
	Child-Report Jealousy	Mother-Report Jealousy	Girls	Boys	
Loneliness (child report)	.35**	.02	1.69 (.58)	2.04 (.64)	-2.46*
Best Friend Closeness (child report)	-.05	.02	4.16 (.71)	3.29 (.18)	4.84***
Child Aggression (mother report)	-.06	.29*	72.29 (7.88)	74.41 (7.92)	-1.11
Social Self-Esteem (child report)	-.35**	.11	3.49 (.45)	3.26 (.48)	2.08*
Social Skills (mother report)	-.21	-.03	65.63 (6.41)	63.65 (8.02)	1.14

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

DISCUSSION

Consistent with previous research, children in this study who admitted to being vulnerable to jealousy over close friends also had several wider social adjustment difficulties (Parker et al., 2010). They had lower social self-esteem, more loneliness, and poorer social skills. Children's self-reports of jealousy were not significantly related to mother's reports of aggressiveness in this study, but self-reported jealousy has been strongly linked to self- and peer-reported aggression in other research and to children's group acceptance and peer victimization (Parker et al., 2005).

Given the links between jealousy and social adjustment in this and other studies, the question of whether mothers can recognize jealousy in their child becomes an interesting one. If mothers are not aware of their child's difficulties with jealousy over friends, it is hard to see how they might intervene effectively on behalf of the child, at least explicitly. In this study, mothers did have highly reliable opinions of their child's jealousy in various social situations involving friends. However, at first glance it is hard to be encouraged by these opinions. If the group is considered as a whole, there was almost no relation between what mothers were estimating and what their children were reporting. Many of the mothers who were reporting the most jealous children had children who were reporting little to no jealousy, and vice versa. A sex difference appeared in child-reported friendship jealousy, as in past research, but was not mirrored in the reports of their mothers. Also, mothers who perceived their children as jealous also perceived

them as aggressive, but by and large mothers' perceptions of jealousy by themselves did not predict the child's wider social adjustment. Finally, it did not appear that mothers' as a group were poor judges of their adolescent's jealousy because they tended to over- or under-estimate jealousy. Mothers may underreport symptoms to conceal their child's behavioral problems (Victor, Halverson, & Wampler, 1988) or prevent them from being negatively stigmatized (e.g., having their child being labeled as jealous). There was one vignette in the present study where mothers as a group overestimated how jealous their child would be at overhearing someone else say they were the best friend of the child's best friend. On another vignette, mothers underestimated how jealous their child would be if his or her best friend consulted someone else about a problem with parents. However, as these instances are isolated and in opposite directions, it is unwise place much stock in this interpretation.

Overall, an important first conclusion from our findings is that mothers as a group are not well described by general statements regarding their sensitivity to their child's jealousy. Just as mothers in our sample varied in age, education, family size, sensitivity to jealousy also appeared to vary widely. Indeed, none of the specific vignettes produced a correlation between mothers and children that was statistically non-zero. In light of the almost wholesale absence of uniformity in agreement across mothers, it is not surprising that their responses by themselves were not predictive of much else about the child. In this regard, our results are consistent with what has been reported in the literature. Specifically, past research has also shown that only poor to moderate agreement exists between children's and parents' reports. As noted, the poor accuracy that has been described in the past has fueled efforts to understand why mothers as a group are such poor reporters. For example, De Los Reyes and Kazdin (2005) suggested that attributions made about other's behaviors contribute to the discrepancies between parent-child

informants. Mothers, for example, attribute children's behavioral problems to their disposition, and less so to the environment. Whereas, children attribute the exact opposite, focusing more on the environment and less on their disposition. If De Los Reyes and Kazdin (2005) are right, we could understand why there is such a disparity between parents' and children's reporting on the experience of jealousy. To illustrate, if a child came home clearly distraught after school and told her mother they she was upset that another friend got to attend the town fair with her best friend, the mother might assume that the child has a vulnerability to jealousy. The child, however, might not even consider the situation as involving jealousy, as she attributed her emotions to her living in the country outside of town and not being able to attend the fair with her friends after school. Thus the attributions made by both informants related to less concordance about the situation.

Along with this theoretical argument, low concordance in the present study might also be related to mothers and their adolescent children being asked for their opinion of their child's potential for jealousy in specific friendship circumstances. As a group, mothers' accuracy might have been higher if they had been asked to make a single, abstract judgment regarding their child's jealousy. That is, instead of focusing on a particular circumstance, mothers may have been able to draw upon their broader knowledge of the child to produce a global estimate more closely aligned with the tendencies of their children. We asked specific circumstances because we thought they would give a better estimate of a child's vulnerabilities to jealousy. For instance, one might expect that mothers have better ideas about their children's intelligence if a specific, not global, circumstance are presented (e.g., "Is your child proficient in cellular biology" versus "Is your child smart?").

However, mothers in our study might have been distracted with the ancillary issues presented in the vignettes and determining how their child would perceive the interloper, if their child would risk losing this friend by becoming upset, what social priorities would appear important to their child, how their child would balance social goals among other considerations, and so on.

Relatedly, it is also worth noting that mothers as a group were asked to indicate how jealous they believed their child would become in specific circumstances. Mothers were not directly asked to anticipate what their children would report in the same circumstances. This distinction is subtle but significant. Most children's reports of their jealousy are good guides to their experience of jealousy, but children also deny and exaggerate these feelings (Parker et al., 2010). It may be easier to anticipate what children will say rather than anticipate what they will experience. For example, mothers might rate their children as appearing jealous in given situations even though they recognize that their children do not endorse the notions of their own jealousy (e.g., "My child might say that they would not get jealous over that situation, but I know deep down they would actually be jealous"). This suggests that mothers may recognize behaviors in which children are not yet self-aware. Perhaps children at this age do not know themselves as well as their mothers, thus introducing reporting discrepancies.

However, the main objective of this study was to determine whether any robust individual differences from family to family appeared. And indeed there were. Dyadic indexing showed that some mothers did a poor job at predicting their child's jealousy while others were, in fact, quite accurate. Thus, the findings demonstrated that the analysis of aggregate data cannot correctly characterize information about each individual mother-child dyad within the sample. As such, our findings suggest that group level reporting often misses variability and obscures individual differences. At present, dyadic indexing is a relatively new procedure designed to

measure two people's agreement on the same set of variables. Although dyadic research is becoming more common in social and behavioral sciences, it is still not widespread. This absence in the literature is not surprising, given the difficulties of analyzing dyadic data at the individual level. Dyadic agreement is laborious to do and requires restructuring the data in ways that are unfamiliar to most social scientists. Although the process can appear arduous the key implication of this study is that researchers must conduct dyadic level comparisons, as the aggregate approach assumed all dyads to have poor concordance patterns.

Our findings revealed some mothers to be sensitive to their child's jealousy, whereas others were not. Why is this the case? We examined first the possibility that children's emotional expressiveness surrounding anger and sadness contribute to these differences. Like most traits, pair-to-pair differences in agreement over the child's jealousy were distributed essentially normally, according to formal tests. It appeared that children's preference to inhibit their feelings rather than share them with others did significantly relate to less maternal insight. This finding supports the claim that as a way of inhibiting emotions, children display fewer cues for their mothers to identify. Thus while children engage in fewer conversations with mothers about their emotional worlds, mothers are left in the dark about the exact feelings their children are experiencing.

We also explored whether mothers who were vulnerable to jealousy in their romantic relationships had better insight into jealousy in their child. Our findings indicated that jealous mothers were not necessarily better at anticipating the circumstance and level of their child's jealousy over friends. We expected such a link in the assumption that mothers who struggle themselves with jealousy might better recognize the factors causing their child to feel jealous. It is possible that our null finding reflects that jealous mothers are self-absorbed and less in tune

with others including their children. However, a negative relationship suggesting more romantically jealousy mothers having less insight did not appear. This null finding might also relate to the difficulties in symptom matching between the two types of jealousy. It is possible that romantic jealousy and friendship jealousy are sufficiently distinct social vulnerabilities. These questions should be addressed in the future.

A third issue explored in this study was the closeness of the relationship. It appears that mothers are more accurate about their child's friendship jealousy when the mother-child relationship is close. This is consistent with previous literature. Indeed, in this study, closeness was shown to increase accuracy over and above the contributions of emotional inhibition. Additionally, emotional inhibition which was shown to display a negative relationship to agreement in previous analyses continued to reduce accuracy with closeness controlled for. Hence, this finding suggests that while cultivating closeness, mothers may be taking extra efforts to remain informed in their adolescents' lives (Dishion & McMahon, 1988) or shaping the environments around their parent-child relationship to promote disclosure about feelings (Soenens, et al., 2006; Stattin & Kerr, 2000).

Lastly, we conducted analyses to learn whether mothers' accuracy was an important predictor of a child's social adjustment. Our results indicate that as mother's accuracy about their child's jealousy increases, children appear to have better social adjustment outcomes. Specifically, after controlling for the child's sex along with the mother and child-report of friendship jealousy, children appeared less aggressive, less lonely, had greater friendship closeness, and displayed higher social self-esteem when their mother appeared accurate about jealousy. Our interpretation is that these mothers are helping their children. However, the direction of the effect could operate in the opposite direction. While controlling for jealousy,

when children are experiencing less social difficulties than expected, mothers were more accurate, as opposed to those children experiencing more social difficulties. One example of why mothers are less accurate when their child is experiencing more social difficulties might include that a child have few or no friends. Mothers in this instance do not have a lot of information to base their decisions upon the child's social difficulties, thus can appear inaccurate.

To aid children that experience social difficulties, there is a long history of social skills training used as a treatment method in adolescence (Strayhorn, 1988) where in young people can be taught skills that can directly influence how they interact with other into the future. Given that our findings on social adjustment outcomes were related to maternal accuracy, mothers might be motivated to intervene and improve their child's adjustment when more accurate. However, in attempting to enhance adjustment, mothers may also face difficulties, as some of their child's qualities may be hard to change (e.g., temperament). Thus, it appears that additional studies are needed to uncover additional factors related to accuracy and how possible treatment methods (e.g., social skills training) could be enacted to improve social adjustment if mothers can accurately recognize when their children are having problems.

Our findings do support the claims of social coaching researchers, although they do not test those claims directly. Suggested by the adjustment findings, increased maternal accuracy appears to predict better social adjustment. Although not directly examined in this study, it is presumed these children with better social adjustment are also receiving social coaching in their parent-child relationship. As conveyed in the social coaching review, parents engaged in proximal or distal social coaching behaviors help their children frame their negative peer events and espouse prosocial strategies. Children who receive effective social coaching appear to have

increased social competency with their peers. Our dyadic comparisons can suggest that accurate mothers appear quite skillful with coaching their children, while others maintain limited insight.

Taken together, our findings suggest that dyadic indexing should be an important tool in investigations into mother's reports of their children's social adjustment. Some mothers are clearly better at this than are others. In the future, however, more information on the process of making accuracy judgments is required. For example, parental monitoring literature has highlighted the methods parents have been known to engage in to remain knowledgeable about their children's behaviors. Different from early conceptualizations of monitoring through tracking and surveying children's activities, monitoring in this sense denotes the knowledge parents possess of those activities (e.g., Keijsers & Laird, 2010; Kerr & Stattin, 2000; Stattin & Kerr, 2000). Stattin & Kerr (2000) suggested that parents gain knowledge of children's activities in three conceivable methods: asking their children or children's friends (parental solicitation), controlling their children's activities (parental control), or having their children spontaneously inform on their activities without prompting (child disclosure). Interestingly, Stattin and Kerr argued that only the latter serves as the primary source of knowledge parents use to gain information about children's friends, whereabouts, and activities. That is, parental knowledge of a child's daily behavior hinges on the child feeling comfortable to disclose that information apart from parental prompting or control. Stattin and Kerr also propose that parents using a child-centered approach might establish two-way dialogues with children. With this approach, children might be encouraged to bring forth and share information with their parents about their everyday activities, as well as information about their mental lives. This could then provide opportunities for parents to act on the social cues given by their child, based on their previous dialogues focused on the child's internal states and everyday experiences. As Kerr and Stattin (2000)

argued, adolescents are not only active agents in providing information to their parents, they are the primary suppliers in this process. Empirical research has shown that high levels of parental monitoring over children's activities have been linked to fewer adolescent behavioral problems (e.g., Crouter, MacDermid, McHale, & Perry-Jenkins, 1990; Forehand, Miller, Dutra, & Chance, 1997; Sampson & Laub, 1994). Thus, it is possible that maternal accuracy is facilitated through mothers' monitoring their children's behaviors. Further studies should incorporate monitoring scales to investigate how monitoring relates to maternal accuracy.

Future directions with this research should also investigate moderated relationships when jealousy is low to identify if accuracy plays similar roles, as it did in this study. Or does the relationship between jealousy vulnerabilities and accuracy only matter when jealousy is high? Future studies examining this moderated effect in regression analyses could covary mothers' vulnerability to jealousy, step in the child's vulnerability to jealousy, step in the accuracy index, and add an accuracy x child jealousy interaction to identify if varying levels of the child's vulnerability to jealousy relates to our findings on maternal accuracy. That is, if a child has low jealousy and an accurate mother, does accuracy still ameliorate some of the negative adjustment outcomes found in this study (e.g., lower aggression, less loneliness, etc.)? Thus, it is suggested that investigations into moderated relationships is needed.

By examining accuracy, our study looked at the first stage of appraising a social problem. An argument could be made that mothers' abilities to effectively coach might mimic many of the same steps involved in social information-processing used to solve social difficulties. That is, effective coaching behavior might first involve monitoring the child's behavior and recognizing the social cues that indicate a problem, devising an effective plan on how to respond to those cues, setting a behavioral plan for the child, and implementing and monitoring the effective

follow through on that set plan (e.g., Crick & Dodge, 1994). This is not terribly surprising but it does suggest that parents need to first monitor and recognize the cues children exhibit to effectively engage in social coaching behavior. Parents that have difficulty with this first step of appraising social problems may not engage in coaching if they do not accurately recognize when their child is having difficulties.

One factor that might influence parents' effective appraisal includes the emotional expressiveness of their child. Our findings suggested that when children preferred to inhibit their emotions rather than discuss them, mothers were less accurate about their vulnerability to jealousy. At one level, this finding is not surprising. It is significant however in that mother's accuracy in turn predicted their child's social adjustment and did so even after accounting for emotional inhibition and the propensity to being jealous in the first place. Children who have a tendency to inhibit their emotions, then, may be preempting their mothers' ability to step in and effectively assist them when they experience difficulties with friends. Children that habitually remain unresponsive while faced with provocative events could be a source of concern, as the expression of negative emotions in positive and constructive ways appears to have adaptive capabilities (Cole, Zahn-Waxler, & Smith, 1994). With respect to limiting emotional inhibition to increase maternal accuracy, child therapy may want to develop approaches where both children and parents appear comfortable with discussing or expressing emotions. For children, the ability to effectively discuss their emotions with a parent appears to increase the likelihood that the parent will recognize when the child is facing emotionally difficult circumstances, thus facilitating suggestions of corrective behaviors.

Researchers may tailor treatment interventions to alter emotional expression through a variety of techniques (e.g., highlighting feelings) suggested to the child in either private sessions

or group settings while being videotaped. The child could then glean from videotaped feedback and practice new emotion expression behaviors with researchers and family members before generalizing this new skill set in their interactions with others (e.g., peers). Treatment could also help children and their parents recognize when expressiveness is appropriate, helping the child connect links between the expression of their emotions and their social outcomes. For example, learning that discussions focused on jealous behaviors may help regulate an emotion may help a child express their feelings more openly with a parent. In turn, parents that have open forms of communication with their child might maintain increased capabilities to act if they recognize trouble.

To test these techniques, researchers could invite children that have difficulty expressing emotions to visit a lab with their parents. By videotaping children as they engage in activities known to relate to particular negative emotions, researchers could review and instruct children and parents on appropriate methods for discussing that emotion. In that, if a child is known to have a difficulty expressing their feelings of jealousy, researchers could offer suggestions as to how the child might approach their parent with this difficulty. Parents could learn strategies on how they could structure corrective behaviors by coaching their children with positive emotional alternatives. Thus, in effect, children learn new methods to emotionally express their feelings which also aids coping with overwhelming emotions, as parents also become bettered positioned to coach children through situations with this valuable insight. Sessions could continue over time to identify if improvements appear in children's social lives.

It should be noted that our work only addressed mothers' accuracy on one specific type of social problem, friendship jealousy. Although we have argued that insight is important as a prerequisite to successful social coaching in this domain, we do not mean to suggest that insight

is important only with regard to this domain. On the contrary, the social coaching literature would suggest that parents are directly involved in the instruction of numerous emotional expressions and experiences (e.g., Gottman, Katz, & Hoover, 1996). For example, there has been some interest in parent's insight into their children's peer victimization, where research has similarly demonstrated that by using parent reports at the aggregate level, poor to moderate concordance ratings appeared between mothers and their children (e.g., Ladd & Kochenderfer-Ladd, 2002; Shakoor, et al., 2011). In their study examining multiple informant reports on children's peer victimization, Ladd & Kochenderfer-Ladd (2002) reported that, in relation to self-, peer, and teacher reports, aggregated parent reports provided little additional information. However, as this current examination demonstrated, the findings were disregarded as null. In fact, some mothers may appear to accurately estimate children's peer victimization difficulties. Thus instead of relying upon aggregate level comparisons, future studies should identify when some individual mothers can anticipate their child's social experiences, and if the factors related to accuracy ultimately improve the instruction that mothers give with these experiences.

In conclusion, findings of the present study suggest that researchers who do not look at dyad to dyad variability risk overlooking important individual differences. It appeared that mothers as a group were not particularly accurate at gauging their children's vulnerability to jealousy over friends, however, mothers did vary in their ability to accurately anticipate the circumstances that make their children jealous. Our results indicated that mothers with emotionally expressive children and close relationships maintained higher levels of accuracy than mothers of children who suppressed their emotions or had less close relationships. Accuracy, in turn, appeared important in that accurate mothers predicted adolescents appearing less lonely, having closer friendships with their friends, appearing less aggressive with peers, and

having higher social self-esteem. Interestingly, the direction of social self-esteem may appear in the opposite direction. That is, a child with higher self-esteem might have a mother with more insight into her child's social behaviors through other factors related to self-esteem. Perhaps their emotion regulation or discussions with their mothers have aided children's self-esteem while also enhancing a mother's insight about the child. This study suggests that a bidirectional model of parent-child interactions is needed for future applications of this study.

These findings above also have important implications about interventions with children, suggesting the importance of teaching children strategies to effectively express their emotions. For example, if a child prefers to inhibit the expression of their emotions and does not seek out support from others when emotionally distressed they ultimately decrease the likelihood that social partners (e.g., parents, peers, etc.) will accurately read their cues and provide needed assistance. Children that continually refrain from expressing their emotions also run the risk that social partners may never pick up on these cues, leaving the child with maladaptive strategies to cope with emotional arousal.

Additionally, parents might be able to intervene by endorsing prosocial strategies during the discussions with their children when they have recognized their child having difficulty with jealousy. That is, suggesting friendly, outgoing strategies instead of those appearing aggressive or punitive might also relate to the child's endorsement of those positive strategies when they experience jealousy. For instance, a mother suggesting that her child find another friend to spend time with when she recognizes that her child is experiencing jealousy over a particular friendship would be an example of a positive strategy to address jealousy. It may also be the case that mothers are able to coach their children about jealousy when jealousy appears within their children's friends. That is, having children approach their mothers with the difficulties of dealing

with a jealous friend might provide mothers' the opportunity to suggest strategies on how to address the friend's jealousy while also providing their child with behavioral scripts on how to handle jealousy in their relationships. This indirect pathway of social coaching could be a viable strategy that mothers employ when providing their child with suggestions on how to interact with peers. More attention should be devoted to testing these kinds of strategies that mothers endorse when they recognize jealousy and if strategies differ depending on the age of the child.

The strategies for social coaching a child might develop alongside the child's progression across developmental stages. Presumably, mothers do not promote the same social coaching strategies with their adolescents compared to a child in early childhood. Within adolescence, children's social worlds move outside of the home, thus mothers probably adapt their coaching to more distal forms. It is anticipated that the present study is sensitive to adolescents' distal problems, as opposed to proximal problems, because of our sample. If mothers are present, they can interact and address a child's problems, reflective of social coaching that probably appears with younger children still in the home. If the present study was replicated with a younger sample, the findings may or may not appear similarly. The meta-analysis conducted by Achenbach et al. (1987) suggested that adolescence was a period where parents had less agreement with their children concerning the child's behavior. If our study could find pair differences where some mothers were accurate during this period noted for parents' less overall agreement with their children, a study with a younger population might suggest more positive adjustment outcomes for the child, as related to accuracy. Future applications of this research should investigate age differences as it relates to accuracy and how this might differ pending on the social coaching strategy employed by mothers.

Lastly, our findings suggested the importance of enhancing the closeness within the

parent-child relationship. Consistent with past research, closeness appeared associated with maternal knowledge in the period of adolescence, where close mothers appeared more accurate about their children's vulnerability to friendship jealousy than less close mothers. Instructing mothers on methods to facilitate their closeness in parenting situations may also increase children's willingness to spend time with their mothers, adding depth and breadth to mothers' knowledge of her adolescent's experiences outside the home. Future efforts to increase knowledge may also benefit by delving into other social adjustment domains, in addition to those investigated in this study. Friendship jealousy is just one domain in which some mothers socially coach their child with positive alternatives. Our results support efforts to better understand why some mothers are more effective social coaches than are others, while cautioning against utilizing broad generalizations about maternal accuracy.

Limitations

A limitation of the present study was the low sample size. With more participants we could have strengthened the reported findings, while also providing power to possibly uncover additional findings. This study leaves questions to be addressed by future research. The cross-sectional design of our analysis limits insight into causal connections with our variables. Future longitudinal studies will allow us to examine whether maternal accuracy predicts the improvement of social adjustment outcomes, if accuracy provides a buffering effect with negative social adjustment, if expressivity causes warmth, or if warmth causes expressivity. Only a longitudinal design will enable us to address these types of questions.

Another limitation that should be acknowledged is the common source of the child reporting on their jealousy and their adjustment outcomes of social self-esteem, loneliness, and best friend closeness. The linkages could be deflated as children supplied reports on all. The

common method variance would have been avoided if this data was also collected from multiple and externally verifiable sources, such as using the child's peers. However, this does not influence accuracy, as the mother and child are both reporting on the child's jealousy. Thus, we suspect these findings are more robust, as they incorporated an additional source to collect from.

REFERENCES

- Achenbach, T. M. (1978). The child behavior profile: I. boys aged 6-11. *Journal of Consulting and Clinical Psychology, 46*(3), 478-488.
- Achenbach, T. M. (2006). Clinical and research implications of cross-informant correlations for psychopathology. *Current Directions in Psychological Science, 15*, 94-98.
- Achenbach, T. M. & Edelbrock, C. S. (1981). Behavior problems and competencies reported by parents of normal and disturbed children age four through sixteen. *Monographs of the Society for Research in Child Development, 46*(1, Serial No. 188).
- Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin, 101*, 213-232.
- Ainsworth, M. D. S. (1990). Epilogue: Some considerations regarding theory and assessment relevant to attachment beyond infancy. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years* (pp. 463-488). Chicago: University of Chicago Press.
- Angold, A., Weissman, M. M., John, K., Merikangas, K. R., Prusoff, B. A., Wickramaratne, P., Gammon, G. D., & Warner, V. (1987). Parent and child reports of depressive symptoms in children at low and high risk of depression. *Journal of Child Psychology and Psychiatry, 28*(6), 901-915.
- Asher, S. R., Parker, J. G., & Walker, D. (1996). Distinguishing friendship from acceptance: Implications for intervention and assessment. In W. M. Bukowski, A. F. Newcomb, & W. W. Hartup (Eds.), *The company they keep: Friendships in childhood and adolescence* (pp. 366-405). Cambridge: Cambridge University Press.
- Barbosa, J., Tannock, R., & Manassis, K. (2002). Measuring anxiety: Parent-child reporting differences in clinical samples. *Depression and Anxiety, 15*, 61-65.
- Bidault-Russell, M., Reich, W., Cottler, L. B., Robins, L. N., Compton, W. M., & Mattison, R. E. (1995). The diagnostic interview schedule for children (PC-DISC v.3.0): Parents and adolescents suggest reasons for expecting discrepant answers. *Journal of Abnormal Child Psychology, 23*, 641-659.
- Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and anger*. New York: Basic Books.

- Bowlby, J. (1979). *The making and breaking of affectional bonds*. London: Tavistock.
- Bowlby, J. (1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York: Basic Books.
- Briggs-Gowan, M. J., Carter, A. S., & Schwab-Stone, M. (1996). Discrepancies among mother, child, and teacher reports: Examining the contributions of maternal depression and anxiety. *Journal of Abnormal Child Psychology*, *24*, 749-765.
- Brown, B. B., & Bakken, J. P. (2011). Parenting and peer relationships: Reinvigorating research on family-peer linkages in adolescence. *Journal of Research on Adolescence*, *21*, 153-165.
- Choudhury, M. S., Pimentel, S. S., & Kendall, P. C. (2003). Childhood anxiety disorders: Parent-child (dis)agreement using a structured interview for the *DSM-IV*. *Journal of the American Academy of Child & Adolescent Psychiatry*, *42*, 957-964.
- Cole, P. M., Zahn-Waxler, C., & Smith, K. D. (1994). Expressive control during a disappointment: Variations related to preschoolers' behavior problems. *Developmental Psychology*, *30*, 835-846.
- Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin*, *115*, (1), 74-101.
- Crouter, A. C., & Head, M. R. (2002). Parental monitoring and knowledge of children. In Borstein, M. H. (Ed.), *Handbook of Parenting*. Lawrence Erlbaum Associates, Inc., Mahwah, NJ, Vol. 3, pp. 461-484.
- Crouter, A. C., Helms-Erikson, H., Updegraff, K., & McHale, S. M. (1999). Conditions underlying parents' knowledge about children's daily lives in middle childhood: Between- and within-family comparisons. *Child Development*, *70*(1), 246-259.
- Crouter, A. C., MacDermid, S. M., McHale, S. M., & Perry-Jenkins, M. (1990). Parental monitoring and perceptions of children's school performance and conduct in dual and single-earner families. *Developmental Psychology*, *26*, 649-657.
- Csikszentmihalyi, M., & Larson, R. (1984). *Being adolescent*. New York: Basic Books.
- Darwin, C. (1872). *The expression of the emotions in man and animals*. London: Murray.
- De Los Reyes, A. & Kazdin, A. E. (2004). Measuring informant discrepancies in clinical child research. *Psychological Assessment*, *16*(3), 330-334.
- De Los Reyes, A. & Kazdin, A. E. (2005). Informant discrepancies in the assessment of childhood psychopathology: A critical review, theoretical framework, and recommendations for further study. *Psychological Bulletin*, *131*(4), 483-509.

- 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, 61-75.
- Dodge, K. A., Bates, J. E., & Pettit, G. S. (1990). Mechanisms in the cycle of violence. *Science*, 250, 1678-1683.
- Ebrahimi, N., Parker, J. G., Lavalley, K., & Seiffke-Krenke, I. (April, 2005). *Adolescent self-esteem and jealousy's reciprocal relations over time*. Paper presented at the biennial meetings of the Society for Research in Child Development, Atlanta, GA.
- Edelbrock, C. & Costello, A. J. (1990). Structured interviews for children and adolescents. In G. Goldstein & M. Hersen (Eds.), *Handbook of psychological assessment*. Pergamon general psychology series (Vol. 131, pp. 308-323). New York: Pergamon.
- Edelbrock, C., Costello, A. J., Dulcan, M. K., Kalas, R., & Conover, N. C. (1985). Age differences in the reliability of the psychiatric interview of the child. *Child Development*, 56, 265-275.
- Eisenberg, N., Fabes, R. A., & Murphy, B. C. (1996). Parents' reactions to children's negative emotions: Relations to children's social competence and comforting behavior. *Child Development*, 67, 2227-2247.
- Engel, N. A., Rodrigue, J. R., Geffken, G. R. (1994). Parent-child agreement on ratings of anxiety in children. *Psychological Reports*, 75, 1251-1260.
- Fabes, R. A., & Martin, C. L. (1991). Gender and age stereotypes of emotionality. *Personality and Social Psychology Bulletin*, 17, 532-540.
- Fletcher, A. C., Steinberg, L., & Williams-Wheeler, M. (2004). Parental influences on adolescent problem behavior: Revisiting Stattin and Kerr. *Child Development*, 75(3), 781-797.
- Frick, P. J., Silverthorn, P., & Evans, C. (1994). Assessment of childhood anxiety using structured interviews: Patterns of agreement among informants and association with maternal anxiety. *Psychological Assessment*, 6, 372-379.
- Formoso, D., Gonzales, N. A., & Aiken, L. S. (2000). Family conflict and children's internalizing and externalizing behavior: Protective factors. *American Journal of Community Psychology*, 28, 175-199.
- Forehand, R., Miller, K. S., Dutra, R., & Chance, M. W. (1997). Role of parenting in adolescent deviant behavior: Replication across and within two ethnic groups. *Journal of Counseling and Clinical Psychology*, 65, 6, 1036-1041.

- Fuchs, D., & Thelen, M. H. (1988). Children's expected interpersonal consequences of communicating their affective state and reported likelihood of expression. *Child Development, 59*, 1314-1322.
- Fung, J. J., & Lau, A. S. (2010). Factors associated with parent-child (dis)agreement on child behavior and parenting problems in Chinese immigrant families. *Journal of Clinical Child & Adolescent Psychology, 39*(3), 314-327.
- Gondoli, D. M., Grundy, A. M., Blodgett Salafia, E. H., & Bonds, D. D. (2008) Maternal warmth mediates the relation between mother-preadolescent cohesion and change in maternal knowledge during the transition to adolescence (2008). *Parenting: Science and Practice, 8*, 271-293.
- Gottman, J. M., Katz, L. F., & Hooven, C. (1996). Parental meta-emotion philosophy and the emotional life of families: Theoretical models and preliminary data. *Journal of Family Psychology, 10*, 243-268.
- Grills, A. E. & Ollendick, T. H. (2003). Multiple informant agreement and the anxiety disorders interview schedule for parents and children. *Journal of the American Academy of Child and Adolescent Psychiatry, 42*(1), 30-40.
- Gross, J. J., & Levenson, R. W. (1997). Hiding feelings: The acute effects of inhibiting negative and positive emotion. *Journal of Abnormal Psychology, 106*(1), 95-103.
- Guerrero, L. K., & Andersen, P. A. (1998). The dark side of jealousy and envy: Desire, delusion, desperation, and destructive communication. In B. H. Spitzberg & W. R. Cupach (Eds.), *The dark side of close relationships* (pp. 33-70). Mahwah, NJ: Erlbaum.
- Harter, S. (1988). *Manual for the Self Perception Profile for Adolescents*. Denver: University of Denver.
- Herjanic, B., Herjanic, M., Brown, F., & Wheatt, T. (1975). Are children reliable reporters? *Journal of Abnormal Child Psychology, 3*, 41-48.
- Hoza, B., Bukowski, W. M., Beery, S. (2000). Assessing peer network and dyadic loneliness. *Journal of Clinical Child Psychology, 29*(1), 119-128.
- Kazdin, A. E., Esveldt-Dawson, K., Unis, A. S., & Rancurello, M. D. (1983) Child and parent evaluations of depression and aggression in psychiatric inpatient children. *Journal of Abnormal Child Psychology, 11*(3), 401-413.
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. New York, The Guilford Press.

- Kerns, K. A. (1994). A developmental model of the relations between mother-child attachment and friendship. In R. Gilmour & R. Erber (Eds.), *Theoretical frameworks for personal relationships* (pp. 129-156). Hillsdale, NJ: Erlbaum.
- Kerns, K. A., Klepac, L., & Cole, A. K. (1996). Peer relationships and preadolescents' perceptions of security in the child-mother relationship. *Developmental Psychology*, 32(3), 457-466.
- Kerr, M., & Stattin, H. (2000). What parents know, how they know it, and several forms of adolescent adjustment: Further support for a reinterpretation of monitoring. *Developmental Psychology*, 36, 366-380.
- Kerr, M., Stattin, H., & Trost, K. (1999). To know you is to trust you: Parents' trust is rooted in child disclosure of information. *Journal of Adolescence*, 22, 737-752.
- Kolko, D. J., & Kazdin, A. E. (1993). Emotional/behavioral problems in clinic and nonclinic children: Correspondence among child, parent, and teacher reports. *Journal of Child Psychology & Psychiatry*, 34, 991-1006.
- Krain, A. L., & Kendall, P. C. (2000). The role of parental emotional distress in parent report of child anxiety. *Journal of Clinical Child Psychology*, 3, 328-335.
- Ladd, G. W., & Kochenderfer-Ladd, B. (2002). Identifying victims of peer aggression from early to middle childhood: analysis of cross-informant data for concordance, estimation of relational adjustment, prevalence of victimization, and characteristics of identified victims. *Psychological Assessment*, 14, 74-96.
- Ladd, G. W., & Pettit, G. S. (2002). Parenting and the development of children's peer relationships. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 5. Practical issues in parenting* (2nd Ed., pp. 269-309). Mahwah, NJ: Erlbaum.
- Laird, R. D., Pettit, G. S., Mize, J., & Lindsey, E. (1994). Mother-child conversations about peers: Contributions to competence. *Family Relations*, 43, 425-432.
- Lamborn, S. D., Mounts, N. S., Steinberg, L., & Dornbusch, S. M. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development*, 62(5), 1049-1065.
- Lapouse, R. & Monk, M. A. (1958). An epidemiological study of behavior characteristics of children. *American Journal of Public Health*, 48, 1134-1144.
- Lavallee, K. L. & Parker, J. G. (2009). The role of inflexible friendship beliefs, rumination, and low self-worth in early adolescents' friendship jealousy and adjustment. *Journal of Abnormal Child Psychology*, 37, 873-885.

- Lollis, S. P., Ross, H. S., & Tate, E. (1992). Parents' regulation of children's peer interactions: Direct influences. In R. D. Parke & G. W. Ladd (Eds.), *Family-peer relationships: Modes of linkage* (pp. 225-281). Hillsdale, NJ: Erlbaum.
- Manassis, K., Tannock, R., & Monga, S. (2009). Anxious by maternal versus self-report: Are they the same children? *Journal of the Canadian Academy of Child and Adolescent Psychiatry, 18*, 103-109.
- Mize, J., & Ladd, G. W. (1990). Predicting preschoolers' peer behavior and status from their interpersonal strategies: A comparison of verbal and enactive responses to hypothetical social dilemmas. *Developmental Psychology, 24*, 782-788.
- Mize, J., & Pettit, G. S. (1997). Mothers' social coaching, mother-child relationship style, and children's peer competence: Is the medium the message? *Child Development, 68*, 312-332.
- Parker, J. G., & Asher, S. R. (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? *Psychological Bulletin, 102*, 357-389.
- Parker, J. G., & Asher, S. R. (1993). Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology, 29*(4), 611-621.
- Parker, J. G., Kruse, S. A., & Aikins, J. W. (2010). When Friends Have Other Friends: Friendship Jealousy in Childhood and Early Adolescence. In S. L. Hart & M. Legerstee (Eds.), *Handbook of Jealousy: Theory, Research, and Multidisciplinary Approaches* (pp. 516-546): Blackwell Publishing Ltd.
- Parker, J. G., Low, C. M., Walker, A. R., & Gamm, B. K. (2005). Friendship jealousy in young adolescents: Individual differences and links to sex, self-esteem, aggression, and social adjustment. *Developmental Psychology, 41*, 235-250.
- Parker, J. G., McGuire, J. E., Rosen, L., & Underwood, M. K. (April, 2009). *Actor, partner, and relationship contributions to early adolescents' expressions of jealousy surrounding close friends*. Paper presented at the biennial meetings of the Society for Research in Child Development, Denver, CO.
- Parker, J. G., Rubin, K. H., Erath, S. A., Wojslawowicz, J. C., & Buskirk, A. A. (1995). Peer relationships, child development, and adjustment: A developmental psychopathology perspective. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental Psychopathology, Vol. 1, Theory and Method*, (2Ed). NY: Wiley & sons.
- Parker, J. G., Saxon, J. L., Asher, S. R., & Kovacs, D. M. (1999). Dimensions of children's friendship adjustment: Implications for understanding loneliness. In K. J. Rotenberg & S. Hymel (Eds.), *Loneliness in childhood and adolescence* (pp. 201-221). New York: Cambridge University Press.

- Pettit, G. S., Brown, E. G., Mize, J., & Lindsey, E. (1998). Mothers' and fathers' socializing behaviors in three contexts: Links with children's peer competence. *Merrill-Palmer Quarterly*, *44*, 173–193.
- Pettit, G. S., Laird, R. D., Dodge, K. A., Bates, J. E., & Criss, M. M. (2001). Antecedents and behavior-problem outcomes of parental monitoring and psychological control in early adolescence. *Child Development*, *72*, 583-598.
- Reuterskiöld, L., Öst, L., & Ollendick, T. (2008). Exploring child and parent factors in the diagnostic agreement on the Anxiety Disorder Interview Schedule. *Journal of Psychopathology and Behavioral Assessment*, *30*, 279-290.
- Reynolds, C. R., & Kamphaus, R. W. (2004). *BASC-2: Behavioral Assessment System for Children: Manual* (2nd ed.). Circle Pines, MN: American Guidance Service Publishing.
- Richters, J. E. (1992). Depressed mothers as informants about their children: A critical review of the evidence for distortion. *Psychological Bulletin*, *112*, 485-499.
- Rose, A. J., & Asher, S. R. (2000). Children's friendships. In C. Hendrick & S. Hendrick (Eds.), *Close relationships* (pp. 47–58). Thousand Oaks, CA: Sage.
- Roth, M. A., & Parker, J. G. (2001). Affective and behavioral responses to friends who neglect their friends for dating partners: Influences of gender, jealousy and perspective. *Journal of Adolescence*, *24*(3), 281-296.
- Rubin, Z., & Sloman, J. (1984). How parents influence their children's friendships. In M. Lewis (Ed.), *Beyond the dyad* (pp. 223-250). New York: Plenum.
- Rutter, M. & Graham, P. (1968). The reliability and validity of the psychiatric assessment of the child: I. Interview with the child. *British Journal of Psychiatry*, *114*, 563-579.
- Salovey, P., & Rodin, J. (1989). Envy and Jealousy in Close relationships. In C. Hendrick (Ed.), *Close relationships* (pp. 221-246). Newbury Park, CA: Sage.
- Sampson, R. J., & Laub, J. H. (1994). Urban poverty and the family context of delinquency: A new look at structure and process in a classic study. In Children and poverty [Special issue]. *Child Development*, *65*, 523-540.
- Schwab-Stone, M., Fallon, T., Briggs, M., & Crowther, B. (1994). Reliability of diagnostic reporting for children aged 6–11 years: A test-retest study of the Diagnostic Interview Schedule for Children-Revised. *American Journal of Psychiatry*, *15*, 1048–1054.
- Sharpsteen, D. J., & Kirkpatrick, L. A. (1997). Romantic jealousy and adult romantic attachment. *Journal of Personality and Social Psychology*, *72*, 627-640.

- Shakoor, S., Jaffee, S. R., Andreou, P., Bowes, L., Ambler, A. P., Caspi, A., Moffitt, T. E., & Arseneault, L. (2011). Mothers and children as informants of bullying victimization: Results from an epidemiological cohort of children. *Journal of Abnormal Child Psychology*, *39*, 379-387.
- Smetana, J. G., Metzger, A., Gettman, D. C., & Campione-Barr, N. (2006). Disclosure and secrecy in adolescent-parent relationships. *Child Development*, *77*(1), 201-217.
- Soenens, B., Vansteenkiste, M., Luyckx, K., & Goossens, L. (2006). Parenting and adolescent problem behavior: An integrated model with adolescent self-disclosure and perceived parental knowledge as intervening variables. *Developmental Psychology*, *42*, 305-318.
- Sroufe, L. A., & Waters, E. (1977). Attachment as an organizational construct. *Child Development*, *48*, 1184-1199.
- Stattin, H., & Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child Development*, *71*, 1072-1085.
- Strayhorn, J. M. (1988). *The competent child*. New York: Guilford Press.
- Triplett, N. (1903). A study of the faults of children. *Pedagogical Seminary*, *10*, 200-238.
- Underwood, M. K., Coie, J. D., & Herbsman, C. R. (1992). Display rules for anger and aggression in school-age children. *Child Development*, *63*, 366-380.
- Victor, J. B., Halverson, C. H., & Wampler, K. S. (1988). Family-school context: Parent and teacher agreement on child temperament. *Journal of Consulting and Clinical Psychology*, *56*, 573-577.
- White, G. L. (1981). A model of romantic jealousy. *Motivation & Emotion*, *5*, 295-310.
- Zeman, J., & Shipman, K. (1997). Social-contextual influences on expectancies for managing anger and sadness: The transition from middle childhood to adolescence. *Developmental Psychology*, *33*, 917-924.
- Zeman, J., Shipman, K., & Penza-Clyve, S. (2001). Development and initial validation of the children's sadness management scale. *Journal of Nonverbal Behavior*, *25*(3), 187-205.