

Accuracy Of The Peer Informant: What Characteristics Are Related To The Ability To Detect Behavior Problems In Peers?

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ACCURACY OF THE PEER INFORMANT:
WHAT CHARACTERISTICS ARE RELATED TO THE ABILITY TO DETECT BEHAVIOR
PROBLEMS IN PEERS?

by

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B.S. Northern Kentucky University, 2006

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ABSTRACT

Victimization and rejection by peers leads to and exacerbates behavior problems in children and adolescents. Given the implications of problematic peer relations for adolescents who experience behavior problems, the present study examined factors that may be related to how adolescents perceive peers who exhibit such problems. Specifically, the present study examined the relationship of adolescent peer informants' socioeconomic status, their prior exposure to psychopathology, their own social competence, and their own behavior problems to their perceptions of peer internalizing and externalizing behavior problems, their liking of individuals who exhibit such problems, and their attributions for the etiology of such problems when portrayed by fictitious adolescents of the same age. In particular, adolescents were asked to rate a set of vignettes that portray internalizing and externalizing behavior problems that are seen commonly in peers and to complete a set of brief questionnaires. Results revealed that adolescents are able to accurately detect the presence of both internalizing and externalizing behavior problems in vignette characters. Additionally, vignette characters who display behavior problems received significantly lower liking ratings. Finally, although adolescents endorsed both internal and external etiological factors, ratings were related to the gender of the depicted vignette character and the nature of the portrayed behavior problems. Participants' own externalizing problems, social competence, and previous exposure to behavior problems in others related uniquely to adolescents' perceptions of the vignette characters. Overall, this study provided additional evidence that, although peers can serve as valuable informants, they also tended to reject adolescents who display behavior problems.

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CHAPTER ONE: INTRODUCTION

Understanding how children and adolescents perceive their peers is an important endeavor that deserves further attention. In particular, the perceptions that peers have of each other may be related to the relationships that they develop as well as to their emotional and behavioral functioning. For example, previous research demonstrated that, when children and adolescents exhibit behaviors that are judged negatively by peers (e.g., social withdrawal), they will be rejected and mistreated by those peers (Boivin, Hymel, & Bukowski, 1995). Further, Schwartz, McFadyen-Ketchum, Dodge, Pettit, and Bates (1999) reported that children and adolescents who exhibit a variety of problematic behaviors are at risk for being victimized. Specifically, these researchers reported that children who engage in disruptive, aggressive, and hyperactive-impulsive behaviors are at high risk for being rejected by peers early in their schooling experience (e.g., Third and Fourth Grades). Further, children who are aggressive are perceived by their peers as more responsible for their behavior and receive less sympathy and lower ratings of being liked. This type of behavior is seen as more attributable to internal factors and stable over time (Graham & Hoehn, 1995). In addition, aggressive behavior appears to be viewed as a distinct characteristic, one that eliminates the expectation of any prosocial behavior in the individual (Giles, 2003).

With regard to internalizing behaviors, children and adolescents who are depressed also are disliked by their peers overall, although children who are seen as having a reason for their depression are rated as being more liked than children who do not have a reason for their depression (Peterson, Mullins, & Ridley-Johnson, 1985). Further, as compared to externalizing behaviors (e.g., Attention-Deficit/Hyperactivity Disorder [ADHD]) and medical illnesses (e.g., Asthma), a diagnosis of depression carries the most negative ratings with regard to stigmatization

(Walker, Coleman, Lee, Squire, & Friesen, 2008). Similarly, Verduin and Kendall (2008) indicated that increased peer ratings of anxiety are associated with lower levels of peer liking. Further, children with anxiety disorders are not only disliked by their peers but also are more likely to be ignored (Strauss, Lahey, Frick, Frame, & Hynd, 1988). Thus, children and adolescents tend to associate both hostile or disruptive behaviors as well as awkward or insensitive behaviors with rejected peers (Bierman, 2004). Given these relationships, it is clear that peers who exhibit different behavior problems are likely to have problematic relationships.

Further, rejection by peers can exacerbate behavior problems that cause such initial rejection to occur. For example, children with aggressive or hyperactive behavior problems who are rejected by their peers experience an increase in problematic behavior (Miller-Johnson, Maumary-Gremaud, Bierman, & the Conduct Problems Prevention Research Group, 2002). Early rejection by peers also places children and adolescents at an increased risk for peer victimization in the future (Schwartz et al., 1999). Further, there is evidence that these children and adolescents are more likely to experience subsequent psychological distress and to have behavior problems and adjustment difficulties (Coie, Dodge, & Kupersmidt, 1990; Schwartz, McFadyen-Ketchum, Dodge, Pettit, & Bates, 1998). More specifically, peer rejection is linked to future loneliness, aggression, anxiety, and depression (Boivin et al., 1995; Coie, Lochman, Terry, & Hyman, 1992).

In summary, children and adolescents who exhibit behavior problems often are rejected by their peers. This rejection, in turn, can lead to an exacerbation of already existing problems as well as long-term risk for peer victimization and additional symptoms. Because peer rejection can affect children who have behavior problems so negatively, it is crucial to determine how children and adolescents perceive their peers who experience such symptoms. Specifically, if

the variables that are related to peer perception can be better understood, it may be possible to plan interventions that may reduce the rate of peer rejection and victimization of children and adolescents who have behavior problems. To start to understand peer perception, it is helpful to understand the underlying theory behind person perception.

Person Perception

Extensive research regarding the processes of perceiving the behavior of other individuals indicated that, overall, person perception is fairly accurate (Kenny & Albright, 1987). In judging the actions of other individuals, two major processes take place: behavioral identification, which involves categorizing the actor's behavior, and attributional inference, which includes the attribution of a cause for the actor's behavior (Gilbert, Pelham, & Krull, 1988). When identifying and categorizing the behavior of an actor, the informant incorporates information about the type of behavior, the situation, and past information about the actor (Trope, 1986). Further, these types of cues can influence the interpretation of each of the other cues. When a behavior is unambiguous (e.g., a clenched fist), the context does little to influence the behavioral category in which the behavior will be placed. When the behavior is ambiguous (e.g., crying), however, the context can influence more heavily the behavioral category in which the cue is placed (Trope, 1986). In addition, categorization of behavior is a relatively automatic and unconscious process, whereas correction to a categorization involves much more cognitive effort (Gilbert et al., 1988).

After identifying a behavior, an attribution for its cause generally is made. When considering why an individual behaves in a certain way, three types of information are taken into account: distinctiveness, consensus, and consistency. Distinctiveness refers to information that indicates whether or not the actor displays the same behavior across similar situations.

Consensus information indicates whether or not other individuals respond in a similar manner when in the same situation. Finally, consistency information denotes whether or not the target individual responds in the same way each time that he or she is in that specific situation. High consensus, high distinctiveness, and high consistency information produces a judgment that the situation likely caused the actor's behavior. In contrast, low consensus, low distinctiveness, and high consistency leads to an attribution that the actor him or herself is the likely cause of the behavior. Children, however, apply consensus information to both the individual and the situation (DiVitto & McArthur, 1978). Thus, they may not be as adept at judging the influences of a situation on an individual's behavior.

At times, though, the informant refrains from making dispositional inferences when the environment in which the actor is placed makes strong demands (Gilbert & Malone, 1995). When this process (referred to as the discounting principle) fails to take place, however, the informant may attribute inaccurately an individual's behavior to internal causes. This error in attribution is referred to as correspondence bias (Baron, Branscombe, & Byrne, 2008). According to Gilbert and Malone (1995), there are four causes of correspondence bias. These causes include a lack of awareness, in which the informant is unaware of all the details involved in the actor's situation; unrealistic expectations, in which the informant expects too much from the actor, usually because of the informant's own personal experiences or because he or she underestimates the situation; inflated categorization, in which the informant believes that he or she knows the situation too well and thus makes dispositional attributions when the actor does not perform to their expectations; and, finally, incomplete corrections, in which the informant has not made a correction to their attributions because he or she is unwilling or unable to do so.

Although individual perception is believed to be accurate, there are a number of factors that influence the agreement between several informants observing the behavior of a target individual or actor. These judgments rely on several different features, including acquaintance, overlap, a shared meaning system, extraneous information, and communication. Thus, not only are informants of behavior influenced by how well they know the actor (i.e., acquaintance) and how often they all observe the same behavior (i.e., overlap), but ratings also are influenced by how much the informants' personal attributions overlap (i.e., a shared meaning system), what other information is available to them (i.e., extraneous information), and how much the informants communicate with each other (i.e., communication). Overlap, or behavior observed by all the informants, and shared meaning systems, or similar meanings placed on the behavior by the informants, seem to increase the agreement between informants (Kenny, 1991). Nonetheless, each of these underlying theoretical concepts may be related to the ratings provided by informants and come into play when informants provide ratings for clinical purposes.

Cross-Informant Ratings

Mental health professionals often utilize this information from the social psychology literature as part of their clinical practice, as it should be common practice for mental health professionals to incorporate the reports of a variety of informants when assessing children and adolescents. Nonetheless, although the use of cross-informant ratings provides the maximal amount of information regarding the emotional and behavioral functioning of children and adolescents, there are also difficulties in using discrepant information (Renk, 2005). Because ratings from parents and teachers are accessed the most easily and tend to be regarded as the most accurate, the majority of research conducted in the area of cross-informant ratings focused on ratings from these informants. Nonetheless, there may be reasons to incorporate other

informants. For example, research generally suggested that agreement between parents and their children as well as between teachers and students tends to be moderate at best (Jensen et al., 1999; Lee, Elliott, & Barbour, 1994). Other research suggested that the correspondence among these informants may be even lower. For example, Kolko and Kazdin (1993) reported that overall correlations between child, parent, and teacher ratings are low to moderate, with parent-teacher correlations being strongest and parent-child correlations being weakest. These findings are problematic because informant discrepancies can impact assessment as well as classification and treatment (De Los Reyes & Kazdin, 2005).

Further, Achenbach, McConaughy, and Howell (1987) reported that the clinical information communicated by different informants in children's lives varies according to the situations in which informants interact with the children or adolescents for whom they are providing ratings. This finding suggested that the behavior exhibited by children in their school settings could differ from the behavior that they exhibit in their home settings and that different situations call for a variety of informants. For example, some research suggested that mothers and fathers exhibit moderate correspondence in their ratings of children's internalizing behavior problems and large correspondence in their ratings of children's externalizing behavior problems (Duhig, Renk, Epstein, & Phares, 2000), possibly because they observe children's behavior in the same setting. De Los Reyes and Kazdin (2005) further proposed that the discrepancies among informants are due to differences in the perspectives of each informant and their attributions of the rated behavior. Further, informant discrepancies also are related to informants' views regarding the need for treatment to address children's behavior and the goals of the clinical assessment process. Thus, this pattern of findings suggested that there is a need for reports to be collected from a variety of sources, including parents, teachers, and peers.

Rather than using any one particular informant, some researchers suggested that some combination of informants may be useful. For example, Cole, Maxwell, and Martin (1997) reported that the combined reports of parents, teachers, and peers provide the most accurate prediction of self-appraisal. Moreover, incorporating information from multiple sources can lead to the diagnoses of different disorders and comorbid disorders (De Los Reyes & Kazdin, 2005). For example, Kraemer and colleagues (2003) suggested that informants should be selected according to a prescribed combination of perspective and context. Specifically, informants should be selected so that one perspective is represented in multiple contexts (e.g., the perspective of the child in both home and school environments) and multiple perspectives are represented from one context (e.g., the perspective of the child and the teacher in the school environment). The informant reports then are combined using principal-component analysis. The first principal component that emerges is a clearer estimate of the trait or behavior being rated, largely without the influence of perspective, context, or error (Kraemer et al., 2003).

Because the majority of research in this area focused primarily on ratings provided by parents and teachers, there is a need to study peer ratings in more detail. Specifically, the factors that contribute to the accuracy of the ratings made by children and adolescents about their peers have yet to be studied in depth. As a result, this study examined the contributions of a number of factors that are related theoretically to the accuracy of peer detection of adolescents' internalizing and externalizing behavior problems using vignettes. Specifically, the peer informants' socioeconomic status, their prior exposure to psychopathology (e.g., through family members), their own social competence, and their own behavior problems were examined in conjunction with peer ratings of the severity of portrayed problems, their liking of depicted

characters, and their etiological explanations for depicted symptoms using a series of vignettes depicting peers who are exhibiting a variety of different behavior problems.

Peers as Informants

In fact, peer informants have the potential to be particularly useful because they spend a large amount of time with other children and adolescents in both social and learning situations. Additionally, peer informants are familiar with the acceptable social norms in situations involving other individuals who are their own age and also may be privy to information that children and adolescents may keep from adults (Newcomb, Bukowski, & Pattee, 1993). Although both mothers and fathers rate peers as being the least accurate informant (i.e., behind teachers and the children themselves; Phares, 1997), research demonstrated that peers can be highly accurate when rating the behaviors that they see around them. For example, Renk and Phares (2004) reported that the agreement between teacher and peer informants for ratings of social competence is greater than the agreement between teachers, parents, and the children themselves. Additionally, in this study, there was higher agreement between self-ratings and peer ratings than between self-ratings and ratings provided by any other informant. Further, Achenbach and colleagues (1987) indicated that the consensus between peer ratings and children's self-ratings of their emotional and behavioral problems is as strong as the relationship between teachers' ratings and children's self-ratings and between parents' ratings and children's self-ratings of these problems. Thus, due to their potential utility as informants, investigation into the factors that are related to peer ratings provided by child and adolescent informants is important.

One proposed theory for the high accuracy of peer informants is that, by combining a large number of peer informants, the amount of bias from a single informant is reduced greatly.

In other words, there are more reports of behavior, resulting in an increase in reliability (Ledingham, Younger, Schwartzman, & Bergeron, 1982). For example, prior research demonstrated that there is a high degree of consistency in ratings among peers for both internalizing and externalizing symptoms (Epkins, 1994). Additionally, Greenbaum, Decrick, Prange, and Friedman (1994) noted that there is a large method effect for each type of informant when assessing psychological symptoms. These method effects not only originate from the type of instrument that is used for ratings and the method by which data are collected but also from characteristics that are inherent to informants. By combining ratings from several peers, however, these characteristics are minimized, and a clearer picture of the behavior of children and adolescents can emerge. In summary, children and adolescents have the potential to be accurate informants of the behavior problems displayed by their peers. Further, peers can be valuable informants, as they may be privy to information that would not be shared otherwise with adults and are likely to be familiar with the acceptable social norms. The specific characteristics that may be related highly to the ratings given by peer informants are discussed below.

Potentially Important Characteristics of Peer Informants

Age

Previous work investigating the relationship between peer informant accuracy and informant age is somewhat ambiguous. For example, Ledingham and colleagues (1982) reported that ratings of peer symptoms are not a function of the age or the cognitive maturity of the informant. In contrast, previous research showed that older children tend to rate disordered behavior as more severe than do younger children (Hoffman, Marsden, & Kalter, 1977). However, older children may be less likely to apply more global, negative labels to peers who

they think are exhibiting disordered behavior (Whalen, Henker, Dotemoto, & Hinshaw, 1983). Such findings could be due to the developmental differences that may occur between younger and older peer informants. For example, Barenboim (1981) demonstrated that children rapidly develop the ability to compare individuals based on psychological characteristics between the ages of 10- and 12-years. Thus, milestones in cognitive development may help to explain these discrepant findings.

In particular, children initially use behavioral comparisons in order to judge the world around them. Behavioral comparisons encompass comparisons between children (e.g., Jane runs faster than John) and comparisons to a general norm (e.g., Jane is the best singer in the choir). At approximately the age of 10-years, children begin to judge those around them on the basis of their psychological constructs. These constructs include judgments based on personality characteristics (e.g., Jane is very stubborn) and behavioral characteristics (e.g., John is always kicking other kids). Finally, these psychological constructs give rise to psychological comparisons. These psychological comparisons include judgments based on comparisons between others (e.g., Jane is more selfish than John) and the general norm (e.g., John is the shyest boy in the class). By making use of psychological comparisons, child and adolescent informants are able to create a broad framework from which they are able to make judgments about what constitutes normal versus deviant psychological behavior (Barenboim, 1981). Thus, these findings suggested that older children and adolescents may be more capable of making more accurate and sophisticated judgments about the causes of psychological symptoms in their peers.

Sex

The research on sex differences in peer ratings is highly equivocal as well. For example, Marsden and Kalter (1976) reported that neither males nor females are better able to detect pathology in the vignette characters that are presented to them. There is some indication, however, that females see more psychopathology in “normal” vignette characters, whereas males find “borderline psychotic” vignette characters to be more disturbed. Other research in this area, however, suggested that there are differences in the ability to detect pathology. For example, Peets and Kikas (2006) reported that females may be more accurate than males when detecting aggression, although this difference disappears by the time children reach middle childhood. In contrast, some research indicated that males are better able to recognize deviant behavior than are females (Spitzer & Cameron, 1995).

Although it is not clear whether males or females are actually better able to detect peers’ behavior problems, research regarding the acceptance of peers displaying behavior problems is more consistent. Specifically, research in this area indicated that males have a tendency to rate children with psychopathology more negatively than do females (Fox, Buchanan-Barrow, & Barrett, 2007; Peterson et al., 1985). Peterson and colleagues (1985) also reported that females tend to give a target child who is stressed and depressed higher, more positive ratings than a child who is not stressed but depressed. This outcome may be attributed to the tendency for females to be more nurturing than males. Additionally, the sex of the child or adolescent who is being rated could contribute to the ratings that peers provide. Consistently, Novak (1975) indicated that, when children evaluate individuals who are labeled as emotionally disturbed, they do not consider the label if the child is of the same sex; however, when the child is of the opposite sex, the child is rated more negatively.

Finally, with regard to sex differences and etiological attributions, some research suggested that there are no differences between male and female informants in their explanations for the causes of deviant behavior (Maas, Maracek, & Travers, 1978). Additional research indicated that girls are more likely to perceive deviant behavior as stable, whereas boys are more likely to view the deviant behavior as a dispositional characteristic (Waas, 1991). Overall, prior research indicated that females tend to rate peers who exhibit behavior problems more positively. Prior research has not delineated clearly whether males or females are more accurate when detecting these problems in their peers, however. Given the number of discrepant findings, more research is warranted regarding sex differences in the ratings of peers' behavior problems.

Socioeconomic Status (SES)

Although research dealing directly with the effects of SES on peer ratings of psychological symptoms is sparse, previous research suggested that there may be differences in how individuals from different statuses view psychological symptoms (although there does not seem to be any research examining the accuracy of ratings). For example, Roberts, Johnson, and Beidleman (1984) reported that there is not a significant difference between children of low SES and those of high SES when judging psychological symptoms. There is, however, a tendency for children from low SES backgrounds to view individuals who have severe psychological symptoms to be more 'mischievous' and to view themselves as being more at risk for developing both medical and psychological disorders. Additionally, children from high SES backgrounds are more likely to recommend psychiatrists and other mental health professionals as treatment providers to individuals who are experiencing psychological symptoms. Further, research on parents' ratings in relation to SES indicated that agreement tends to be higher in middle and mixed status groups and lower in low status groups (Duhig et al., 2000). Though prior research

in this area suggested that there may be little or no relationship between SES and the accuracy of peer ratings, this link has yet to be explored adequately. Further, there is some evidence that SES is related to children's and adolescents' views of behavior problems in general, but this research does not indicate how these differences transfer to the views that peers may have.

Exposure

Generally, when children are exposed to behavior problems in other individuals, it is through family members, particularly their parents and siblings. Research indicated that children of parents who suffer from various forms of psychological symptoms, especially symptoms of depression, are more likely to develop their own forms of psychological symptoms (e.g., depression, substance abuse, comorbid diagnoses; Chilcoat & Breslau, 1997; Weissman et al., 1987). Further, parents who suffer from psychological symptoms may be unable to provide adequate or appropriate parenting. For example, Goodman and Brumley (1990) reported that mothers who are diagnosed with Schizophrenia appear to provide the poorest quality parenting, demonstrating withdrawal and emotional uninvolved, whereas mothers who are depressed provide less rule enforcement, guidance, and structure. Thus, it appears that parent psychopathology affects children and adolescents in a number of ways and may contribute indirectly to peer informant ratings.

Research investigating the effects of childhood and adolescent psychopathology on siblings revealed several detrimental outcomes, including lower quality of life (Areemit, Katzman, Pinhas, & Kaufman, 2010), increased stress (Kilmer, Cook, Taylor, Kane, & Clark, 2008), as well as increased risk for their own emotional and behavior problems (Dia & Harrington, 2006). Limited research on the accuracy of sibling informants revealed that siblings report very similar levels of psychological symptoms as compared to the target child but that

these reports can be affected by factors such as sibling rivalry and affection (Epkins & Dedmon, 1999). Thus, it appears that peer informants who have been exposed to psychopathology in their siblings may be affected in a similar fashion as those exposed to psychopathology in their parents. Additionally, there is limited research suggesting that these informants may be highly accurate in their rating levels of behavior problems, particularly in their peers.

Overall, research on childhood exposure to behavior problems focuses largely on parents' and siblings' behavior problems while neglecting the effect of behavior problems in other individuals in children's lives. Further, although this research suggested that the presence of behavior problems in parents and siblings may be related to informants' own levels of such problems, there are no studies examining how this exposure to behavior problems in family members is related to children's or adolescents' views of such problems in their peers. Thus, this characteristic of peer informants deserves further study.

Attributions of Etiology

Attributions of etiology also may be an important predictor of peers' ratings of behavior problems, with attributions of etiology and informants' age being related closely. In particular, the age of the informant may be related to the types of causes that these informants attribute to their peers. For example, it is very difficult for young children to attribute disordered behavior in their peers to a particular cause (Coie & Pennington, 1976). When young children do supply an etiological cause, however, they tend to give reasons that are linked to physical or medical factors, poor parenting, difficulty with peers, or internal factors attributable to the peer him or herself (Fox et al., 2007; Kalter & Marsden, 1977).

In contrast, children in middle childhood are able to distinguish disordered behavior from normal behavior, especially when the involved behaviors are highly observable (Coie &

Pennington, 1976). In addition, children in middle childhood are able to produce clearer and more sophisticated etiological explanations than younger children and tend to attribute the cause of different behaviors to inadequate parenting (Fox et al., 2007; Kalter & Marsden, 1977). Further research indicated that children in middle childhood attribute severe disordered behavior to the media and choices made by the individual, whereas mild disordered behavior is attributed to poor relationships with the individual's family (Roberts, Beidleman, & Wurtele, 1981). More recent research suggested that etiological attributions are related to the type of behavior problem being rated, with children in middle childhood endorsing more external attributions for ADHD (Hennessy & Heary, 2009). Thus, it appears that children in middle childhood consider both internal and external factors as possible etiological explanations (Fox et al., 2007).

Finally, high school students are able to identify disordered behavior and focus more on whether or not the behavior fits social norms (Coie & Pennington, 1976). Surprisingly, however, high school students are the least consistent in their explanations for deviant behavior (Boxer & Tisak, 2003; Chassin & Coughlin, 1983). Overall, this research suggested that, as children develop, they begin to attribute causes for deviant behavior to psychological and internal reasons, rather than physical, parenting, or peer reasons (Boxer & Tisak, 2003; Chassin & Coughlin, 1983).

Social Competence

Characteristics of peer informants themselves also may be important for the ratings that they provide. Social competence refers to the ability of the child or adolescent to successfully interact and build relationships with those around them. Social competence also is associated with numerous positive outcomes later in life (e.g., higher self-esteem, lower levels of behavior problems; Larson, Whitton, Hauser, & Allen, 2007). Social competence appears to develop early

in life and continues to mature into adulthood (Choudhury, Blakemore, & Charman, 2006). According to the social-information processing model, this ability can be broken down into several steps that include encoding and interpretation of cues, production, evaluation and choice of proper behavioral responses, and performance of the chosen response (Crick & Dodge, 1994). One aspect of this model that is of particular interest to the present study is the encoding and interpretation of cues, specifically cues related to emotional communication.

In particular, social competence appears to include the ability to recognize other individuals' emotional communications, including recognition of facial expressions and knowledge of typical emotional responses to a given situation (Dunsmore, Noguchi, Garner, Casey, & Bhullar, 2008). Research suggested that understanding other individuals' emotions may have an influence on a broad range of social interactions (Cassidy, Werner, Rourke, Zubernis, & Balaraman, 2003). Specifically, children, especially girls, who are more accurate in decoding facial expressions are rated more highly on social competence (Custrini & Feldman, 1989; Leppänen & Hietanen, 2001). Further, children who are perceived as having more emotion understanding also are perceived as being more socially competent by their teachers and are rated as more likeable by their peers (Cassidy et al., 2003).

Children and adolescents who are not successful in social interactions often make mistakes in their attributions of emotions toward peers. For example, Garner and Lemerise (2007) demonstrated that children who have been victims of peer aggression exhibit difficulty in detecting anger in aggressive peers. Consistently, children who more accurately interpret emotion cues exhibit more social competence and experience less victimization (Garner & Lemerise, 2007). Further, children who have been rejected by peers in the past tend to incorrectly interpret trait information by attributing hostile intentions to positively portrayed

peers and friendly intentions to negatively portrayed peers (Rieffe, Villanueva, & Meerum Terwogt, 2005). Overall, children and adolescents who inaccurately interpret nonverbal social information are more likely to be unpopular (Nowicki & Duke, 1992).

Finally, children's and adolescents' perceptions of their own social competence as well as the social competence of their peers can be related to the behavior problems that they experience. For example, children and young adults with depressive symptoms tend to rate themselves as less socially competent than they are rated by their peers (Hoffman, Cole, Martin, Tram, & Seroczynski, 2000; Whitton, Larson, & Hauser, 2008). In contrast, children with ADHD-like symptoms tend to overestimate their own self-competence but are able to accurately rate the self-competence of their peers (Evangelista, Owens, Golden, & Pelham, 2008). Thus far, the relationship between social competence and emotion recognition is explored primarily using facial and vocal cues. Research investigating the relationship between social competence and the perception of peer behavior problems largely is unexplored, however. Thus, further research is warranted.

Behavior Problems

The majority of research having to do with the relationship between informants' own behavior problems and accuracy in rating is conducted with mothers who are depressed and their ratings of their children. Much of this research indicated that mothers who suffer from depression are more likely to rate their children negatively (Barbin et al., 2002). For example, Chi and Hinshaw (2002) indicated that mothers who are depressed report that their children exhibit more externalizing behavior problems. In contrast, Berg-Nielsen, Vika, and Dahl (2003) indicated that mothers who are depressed report that their adolescents exhibit more internalizing behavior problems than the adolescents report for themselves. Similarly, Renouf and Kovacs

(1994) reported that mothers who are depressed tend to rate their children as more depressed than the children report for themselves. Mothers who are depressed not only provide more negative ratings for their own children but also rate children who they do not know more negatively (Youngstrom, Izard, & Ackerman, 1999). One explanation for the distortion of symptoms by mothers who are depressed is that mothers project their own depressed feelings onto their children and thus tend to overreport these symptoms (i.e., the projection hypothesis; Kroes, Veerman, & De Bruyn, 2003; Moretti, Fine, Haley, & Marriage, 1985). In contrast, some researchers argued that maternal depression actually allows mothers to see their children more accurately (Conrad & Hammen, 1989).

Regardless of the explanation for its effect, behavior problems also may be related to the peer ratings provided by children and adolescents. The small amount of research that examines the relationship of peer behavior problems and peer ratings indicated that aggression also may distort ratings. Not surprisingly, Epkins (1994) indicated that children who report high levels of depression for themselves also tend to label their peers as higher in depression, aggression, and anxiety. Epkins also indicated that children who self-report high levels of aggression are more likely to report higher levels of aggression in their peers. Further, rating disagreements between peers and teachers are related significantly to the degree of anxiety, depression, or aggression exhibited by peer informants (Epkins, 1994). Such findings are consistent with those of research conducted with adults, indicating that informants tend to see their own same traits (i.e., whether these traits are high or low) in others (Hooman, 1982).

Finally, although there does not appear to be any link between the degree of severity exhibited by the target child and the type of etiology that is offered as explanations by the peer informant (Kalter & Marsden, 1977), etiological explanations may be related to the behavior

problems that are experienced by the informant. For example, Coleman, Walker, Lee, Friesen, and Squire (2009) reported that children who report a previous diagnosis of ADHD and depression are less likely to attribute the etiological explanation for these disorders to low effort on the part of the actor. Although some research is completed in this area, the impact of the behavior problems experienced by children and adolescents on their perceptions of their peers' behavior problems is largely unknown.

Characteristics of the Peer Being Rated

Internalizing Behavior Problems

Internalizing behavior problems commonly refer to symptoms that are seen when children experience depression, withdrawal, and anxiety. Generally, informants have greater difficulty detecting internalizing behavior problems (relative to externalizing behavior problems) because they are less apparent and perhaps perceived as less problematic (Schrepferman, Eby, Snyder, & Stropes, 2006). For example, parents tend to report internalizing behavior problems (e.g., lack of energy or fatigue in their children) much less frequently than externalizing behavior problems. This finding is consistent with the idea that parents and other informants (e.g., teachers) are inclined to report symptoms that are problematic for them rather than problematic for the children being rated (Ivens & Rehm, 1988; Liljequist & Renk, 2007). Another possibility is that children are reluctant to share the severity of their internalizing behavior problems with their parents. As a result, parents (and other informants) are unaware of how much their children are affected by problems that are not visible (Moretti et al., 1985). Finally, discrepant reports between parents and children also may be a function of the sex of the child. For example, Carlston and Ogles (2009) reported that daughters and parents tend to show discrepancies in the type of internalizing behavior problems that they endorse. In contrast, parents tend to rate their

sons as more severe across all behavior problems (i.e., both internalizing and externalizing behavior problems) than sons rate themselves.

Given these findings, it is not a surprise that agreement between children and their parents on reports of children's symptoms of depression, including serious symptoms such as suicide ideation, tends to be low (Ivens & Rehm, 1988; Klaus, Mobilio, & King, 2009). Research demonstrated conflicting findings, however. Some research indicated that parents, especially mothers, tend to overreport symptoms of depression in their children (Ivens & Rehm, 1988), whereas other research suggested that children, especially girls, tend to report more depressive symptoms than their parents report for them (Angold et al., 1987; Moretti et al., 1985). Because parents are viewed as inadequate reporters of depressive symptoms, clinicians may need to turn to other sources of information. Unfortunately, there appears to be a lack of consistency between teachers and parents when rating children on depressive symptoms, thus indicating a need for other informants of such behavior problems (Leon, Kendall, & Garber, 1980). In contrast, there is a strong relationship between peers' and teachers' ratings of childhood depression (Happonen et al., 2002) as well as between peers' reports and children's self-reports of depression, at least for girls (Epkins & Meyers, 1994). Given these findings, considering the ratings of depression provided by peers may be particularly important.

With regard to anxiety, parents tend to report more symptoms of anxiety in their children than children reports themselves (Krain & Kendall, 2000). Children do report certain types of anxiety (e.g., symptoms consistent with separation anxiety disorder) more often than do parents, however (Foley et al., 2004). Although agreement between parents and children tends to be low for anxiety symptoms, there does appear to be significant agreement between peers' reports and children's self-reports and between peers' and teachers' reports when rating anxiety symptoms

(Epkins & Meyers, 1994). Research on anxiety ratings in adults indicated that individuals are able to recognize anxiety in other individuals without even interacting with them (Harrigan, Lucic, Baily, Zarnowiecki, & Rosenthal, 1992). With children, Verduin and Kendall (2008) demonstrated that peers are able to detect accurately anxiety in target children, as verified by self-report data. For example, it appeared that older children actually consider school phobia to be more deviant than aggression or psychotic behavior because it violates their social norms (Chassin & Coughlin, 1983). Thus, again, peers may prove to be important informants.

Another common behavior problem in childhood is social withdrawal. As children grow older, it is much easier for them to identify withdrawn behavior in their peers. This trend may be due to a shift in their perception of deviant behavior from a right or wrong judgment to a more active-passive continuum (Younger, Schwartzman, & Ledingham, 1985). The increased recognition of withdrawn behavior may be due to an increased importance in the recognition of this type of behavior (Younger & Boyko, 1987). Research indicated that this importance emerges sometime between the Third and Fifth Grades (Younger & Boyko, 1987; Younger & Piccinin, 1989). Peer ratings may be especially important in this area because past research suggested that this behavior may be assessed more easily by taking into account the ratings that peers provide. This pattern may be due to the finding that low social acceptance tends to be more problematic for children being rated than a low rate of social interaction (Greenwood, Walker, & Hops, 1977).

Thus, overall, parents are much better at describing behavioral information but often appear to be less accurate when rating their children's internalizing behavior problems (Salbach-Andrae, Klinkowski, Lenz, & Lehmkuhl, 2009; Stavrakaki, Vargo, Roberts, & Boodoosingh, 1987). Although parents report that externalizing behavior problems are twice as prevalent as

internalizing behavior problems, children report that the occurrence of these symptoms is about the same (Rubio-Stipec, Fitzmaurice, Murphy, & Walker, 2003). The strongest agreement between parents and children, however, tends to be for oppositional behaviors and conduct problems (Loeber, Green, Lahey, & Stouthamer-Loeber, 1989), suggesting that there may be different informant patterns for internalizing versus externalizing behavior problems.

Externalizing Behavior Problems

Externalizing behavior problems refer to symptoms that are much more overt in nature and that affect other individuals in addition to the children and adolescents exhibiting these problems. These problems include symptoms of aggression, hyperactivity, and impulsivity. Externalizing behavior problems tend to be highly visible. As a result, they are more readily noticed and are given greater attention by informants. This fact could indicate that the choice of informant for these behavior problems is not as critical as it is for internalizing behavior problems (Ledingham et al., 1982). For example, Kolko and Kazdin (1993) reported that, although overall agreement between parents, teachers, and children is low to moderate, the agreement for externalizing behavior problems is much higher. There are indications, however, that this level of agreement declines as the children who are being rated grow older. For example, Verhulst and van der Ende (1992) reported that there are large discrepancies between parents' and adolescents' ratings of attention problems, delinquent behavior, and overall externalizing behavior problems that increase with age. Furthermore, although some research indicated that adolescents tend to report that they are experiencing more behavior problems (i.e., both internalizing and externalizing behavior problems) than their parents report for them (Barker, Bornstein, Putnick, Hendricks, & Suwalsky, 2007; Seiffge-Krenke & Kollmar, 1998;

van der Ende & Verhulst, 2005), conflicting research reported the opposite (Carlston & Ogles, 2009; Salbach-Andrae, Lenz, & Lehmkuhl, 2009).

One of the most prevalent and problematic externalizing behavior problems is aggression. Not surprisingly, children as young as preschool-age are able to identify symptoms of aggression and hyperactivity (Milich, Landau, Kilby, & Whitten, 1982). In fact, younger children are able to identify aggression much more easily than other forms of deviant behavior (Younger et al., 1985). Additionally, peers appear to be more accurate than teachers when rating aggression and anger control problems (Finch & Eastman, 1983). There is some evidence, however, that peers and parents may be equally accurate when rating aggression in children (Epkins & Meyers, 1994). Given these discrepancies in the research literature, further research is warranted.

The Present Study

Given the impact that children's and adolescents' behavior problems can have on peer acceptance and rejection, the present study focused on adolescent peer informants' perceptions of the internalizing and externalizing behavior problems exhibited by other children and adolescents. It was expected that higher rates of both adolescent peer informants' internalizing and externalizing behavior problems and their previous exposure to such problems in others would be related to their higher recognition of both internalizing and externalizing behavior problems in vignette characters. Further, it was hypothesized that adolescent peer informants' own social competence would be related to their higher recognition of both internalizing and externalizing behavior problems. Additionally, it was hypothesized that adolescents would detect externalizing behavior problems in vignette characters more readily than internalizing behavior problems after accounting for the effects of their sex, SES, exposure to others' problems, social competence, and internalizing and externalizing behavior problems. In other

words, overall, adolescents would be able to detect externalizing behavior problems in vignette characters more easily than internalizing behavior problems or a combination of both internalizing and externalizing behavior problems.

With regard to ratings of liking of a target adolescent, it was hypothesized that, overall, adolescent peer informants would like the vignette characters exhibiting behavior problems (i.e., internalizing, externalizing, and both types of behavior problems) less than vignette characters who are not exhibiting such behavior problems. Finally, it was hypothesized that adolescent peer informants would attribute the cause of the internalizing and externalizing behavior problems to internal reasons (e.g., psychological reasons) rather than external reasons (e.g., parenting, environment).

Uniqueness of the Present Study

Given the importance of cross-informant ratings on the evaluation and treatment of behavior problems in children and adolescents, the ratings of additional informants (i.e., peers) deserve further investigation. Further, peer informant ratings are not examined typically using experimental designs. Given the discrepancies in the current findings for cross-informant ratings (e.g., parents and teachers) and self-reported ratings of behavior problems, further empirical research is needed (De Los Reyes & Kazdin, 2005). Previous research in the area of adolescent peer informant ratings focused primarily on ratings of actual peers rather than hypothetical peers. However, there is evidence that children and adolescents are able to accurately rate hypothetical peers (i.e., vignette characters; Marsden & Kalter, 1976). By controlling the presentation of the target peer, the findings of this study were able to include more systematic analyses of peer perceptions. Additionally, although previous work addressed several individual pieces of the present study (e.g., socioeconomic status, behavior problems), no one study combined each of

these pieces together to analyze their relationship to peer informant ratings. Further, no study used all these pieces in an experimental design. Thus, this study addressed this gap in the literature and provided further information regarding the importance of peer informants' perceptions of other adolescents who are exhibiting behavior problems.

CHAPTER TWO: METHOD

Participants

A sample size range was calculated using a power analysis based on medium (i.e., approximately .30; Epkins, 1994) to large (i.e., approximately .40; Renk & Phares, 2004) effect sizes. The suggested sample size for an analysis of covariance (ANCOVA; the most sophisticated analysis used in this study) with three independent variables (four levels of behavior problems X two levels of sex of vignette character X two levels of sex of peer informant), four covariates, a statistical power of .80, and an alpha level of .05 was 288 to 296 so that sufficient power could be obtained (Cohen, 1969). Additionally, a sample was sought that contained a relatively equal number of male and female informants who represented a wide range of socioeconomic statuses. No further sample restrictions were imposed.

A total of 281 adolescents participated in this study, which approached the sample size suggested by the completed power analysis. The participants in this study were 123 male and 158 female high school students who were recruited from a large high school in Central Florida. The majority of the participants were Black (56.9%), with the remaining participants endorsing a broad range of racial and ethnic backgrounds (i.e., 23.8% were Hispanic, 9.6% were Biracial, 6.0% were White, 0.7% were Asian, 0.4% were Native American, 0.4% were Indian, and 1.8% identified themselves as belonging to some other ethnic background). The mean age of participants was 15.57-years ($SD = 1.22$ -years). Participants indicated that they were from varied class standings, with 34.2% of participants stating that they were Freshman, 28.5% stating that they were Sophomores, 24.6% stating that they were Juniors, and 12.5% stating that they were Seniors.

With regard to family characteristics, the majority of participants indicated that their parents were currently separated (32.4%). The remaining participants indicated that their parents

had some other relationship arrangement (i.e., 30.6% of parents were married, 17.8% of parents were divorced, 7.8% of parents were living together, and 9.3% of parents had some other relationship arrangement). The amount of information regarding additional family characteristics (i.e., parental occupation and education level) was insufficient to accurately calculate the Hollingshead Four Factor Index of Socioeconomic Status. Overall, however, participants indicated that 71.9% of their mothers and 66.2% of their fathers were employed. Additionally, the majority of participants' mothers had completed high school (27.4%). The remainder of participants endorsed a variety of other educational backgrounds for their mothers (i.e., 6.8% of mothers completed less than Seventh Grade, 3.2% of mothers completed junior high school, 23.8% of mothers completed some high school, 22.4% of mothers completed some college, 3.6% of mothers graduated from a university, 6.4% of mothers attained a graduate degree, and 6.4% of mothers did not have educational information listed). With regard to fathers' level of education, the majority of participants' fathers completed high school (33.1%). The remainder of participants endorsed a broad range of other educational backgrounds for their fathers (i.e., 3.6% of fathers completed less than Seventh Grade, 5.0% of fathers completing junior high school, 19.6% of fathers completed some high school, 12.8% of fathers completed some college or specialized training, 2.1% of fathers graduated from a university, 4.6% of fathers attained a graduate degree, and 19.2% of fathers did not have educational information listed).

Measures Related to the Vignettes

Vignettes. Eight vignettes were created for the purpose of manipulating the variable of interest in this study (i.e., the type of behavior problems to be rated and the sex of the target adolescent to be rated). Four types of behavior problems were included across the vignettes (i.e., internalizing behavior problems, externalizing behavior problems, both internalizing and

externalizing behavior problems, and no behavior problems). Internalizing behavior problems were represented by anxious and depressive behaviors, whereas externalizing behavior problems were represented by aggressive and defiant behaviors. The content of the vignettes was adapted from items on the *Child Behavior Checklist* (Achenbach & Rescorla, 2001), a widely used scale that is used to assess the emotional and behavioral functioning of children and adolescents. The items used to construct the vignettes are related reliably to internalizing and externalizing behavior problems. In addition, each vignette had both a female version and a male version. In each version, the content of the vignette remained constant but the name and pronoun of the character were changed. Each participant viewed four vignettes, each demonstrating one of the four types of behavior problems. The sex of each vignette character was assigned randomly.

Attribution of Target Adolescents' Behavior Problems. In order to assess the participants' perceptions of the vignettes, select subscales from the *Teacher's Report Form* (TRF; Achenbach & Rescorla, 2001) were used. This widely used scale assesses the emotional and behavioral functioning of school-age children from the perspective of informants other than parents and adolescents themselves. The TRF is a 113-item scale; however, only the Anxious/Depressed and Rule-Breaking Behaviors subscales were used (i.e., a total of 28 items). Participants rated how well each item described the vignette character on a Likert-type scale, ranging from 0 (*Not True of Them*) to 2 (*Very True of Them*). The subscale scores are converted generally to a normalized T score with a mean of 50 and a standard deviation of 10. In this study, the total raw score of the Anxious/Depressed subscale and the Rule-Breaking Behaviors subscale were used as an indication of the rated severity of the depicted internalizing and externalizing behavior problems, respectively. Elevated scores on the Anxious/Depressed scale reflected a higher level of perceived internalizing behavior problems, whereas elevated scores on the Rule-Breaking

Behaviors subscale indicated a higher level of perceived externalizing behavior problems. The intact TRF has adequate reliability and validity in assessing the presence of internalizing and externalizing behavior problems. In this study, the Anxious/Depressed and Rule-Breaking Behaviors subscales demonstrated very high internal reliability ($\alpha = 0.90$ and $\alpha = .95$, respectively).

Etiological Explanation. In order to assess participants' attributions for the potential causes of the behavior problems depicted in the vignette characters, participants were asked to rate the likelihood that the vignette character's behavior problems were caused by specific factors (e.g., parenting, peer interactions, psychological factors). Previous research (Chassin & Coughlin, 1983; Coleman et al., 2009; Kalter & Marsden, 1977) indicated that these factors are typical etiological explanations provided by children for behavior problems. Participants rated each factor on a Likert-type scale ranging from 1 (*Definitely Not a Cause*) to 5 (*Definitely a Cause*). In an effort to group the proposed etiological factors into internal and external factors, a factor analysis was conducted. Based on the division between internal and external factors proposed by previous research, the data was forced into a two-factor solution. This model was supported by a chi-square analysis, which tested inferentially the likelihood of having p factors in the given model. As a result, an iterative principal factor analysis, utilizing a squared multiple correlation communality estimate and oblique rotation, was used to extract two factors. The first factor, labeled *Internal Factors*, consists of Physical/Medical Causes, Neurological Causes, Psychological Causes, Stress, Lack of Effort, and Drugs/Alcohol (loadings of 0.72, 0.66, 0.68, 0.57, 0.41, and 0.40, respectively). The second factor, labeled *External Factors*, consists of Parents, Peers, Modeling, Genetics, and God (loadings of 0.62, 0.55, 0.55, 0.44, and 0.17, respectively). The internal reliability for the *Internal Factors* scale was adequate ($\alpha = 0.73$),

whereas the internal reliability for the *External Factors* scale was lower ($\alpha = 0.59$). Given the diverse range of potential etiological explanations on the *External Factors* scale, however, this value was considered acceptable.

Additional questions were adapted from previous research (Maas et al., 1978) to assess participants' perception of the stability of the behavior problems that were depicted in the vignette characters. Specifically, participants were asked to rate the likelihood that the vignette characters always have exhibited these behavior problems and that they will continue to exhibit these behavior problems in the future. Ratings were completed using a Likert-type scale ranging from 1 (*Not At All Likely*) to 5 (*Very Likely*). High ratings on both of these questions indicated high stability, whereas low ratings on each question indicated low stability.

Liking Ratings of the Depicted Adolescents. In order to assess the degree to which participants might like the vignette character, the *Revised Social Distance Scale* (Walker et al., 2008) was used. This scale was used in previous research to assess the degree of stigmatization that is associated with a psychiatric diagnosis. Participants rated the likelihood that their classmates would exhibit a variety of positive and negative behaviors toward the vignette character if that character were to transfer to their school. This scale used a Likert-type scale ranging from 1 (*Definitely Would Not*) to 5 (*Definitely Would*). Two items were reverse scored. As a result, scores on this measure ranged from 5 to 25, with higher scores reflecting more peer acceptance. The *Revised Social Distance Scale* had adequate reliability in rating stigmatization as it relates to mental illness ($\alpha = .89$) in a previous study (Coleman et al., 2009). In this study, the *Revised Social Distance Scale* also demonstrated adequate internal reliability ($\alpha = .81$).

Further, in order to assess the amount of personal like or dislike of the vignette characters and the likelihood of ignoring the vignette character, three additional questions, which also were

adapted from previous research (Verduin & Kendall, 2008), were asked about each vignette character. Specifically, participants were asked to rate the degree to which they believe they would personally like, dislike, or ignore the vignette character if the character were to transfer to their school. These items used a Likert-type scale ranging from 1 (*Not At All*) to 5 (*A Lot*). The ratings of the degree to which participants would like or dislike the vignette characters were summed to form an overall personal liking rating.

Measures Relevant to Adolescent Participants

Adolescent Behavior Problems. In order to assess the level and type of behavior problems exhibited by the adolescent participants, the *Youth Self-Report* (YSR; Achenbach & Rescorla, 2001) was used. This widely used scale assesses the social and emotional development of adolescents who range in age from 11- to 18-years. The YSR is a 120-item scale containing two major sections: competencies and behavior problems. With regard to the behavior problems portion of this measure, participants rated how well each item described them on a Likert-type scale, ranging from 0 (*Not True of Them*) to 2 (*Very True of Them*). Scores for internalizing, externalizing, and total behavior problems were derived from this measure. Generally, these scores are computed as normalized T scores with a mean of 50 and a standard deviation of 10. Scores that fall at 60 or greater are considered clinically noteworthy relative to same-age peers. For this study, the Internalizing Problems and Externalizing Problems scale scores were used as an indication of the level of behavior problems present in participants. The YSR has adequate reliability in assessing a broad range of emotional and behavioral problems that may be experienced by adolescents.

Adolescent Social Competence. In order to assess the level of self-rated social competence present in adolescent participants, the *Harter Self-Perception Profile for Adolescents*

(SPPA; Harter, 1988) was used. This measure was created as an extension of the *Self-Perception Profile for Children* and is normed on adolescents from diverse social and economic backgrounds. The scale is recommended for use with adolescents who are in Ninth through Twelfth Grade and consists of 45 items that measure competence in nine areas: Scholastic Competence, Social Acceptance, Athletic Competence, Physical Appearance, Job Competence, Romantic Appeal, Behavioral Conduct, Close Friendship, and Global Self-Worth. For each item, the participant must choose which statement more closely resembles him- or herself and then must decide whether that statement is *Really True for Me* or *Sort of True for Me*. Items are scored on a 4-point scale, with higher mean scores reflecting greater self-perceived competency in the domain. Although the instrument was administered in its entirety, the Social Acceptance domain was used in the analyses for this study. The intact SPPA has adequate internal consistency reliability, ranging from 0.74 to 0.93, with four independent sample groups (Harter, 1988). The Social Acceptance subscale demonstrated adequate internal reliability in this sample ($\alpha = 0.78$).

Previous Exposure to Psychopathology. In order to assess participants' previous exposure to other individuals' experience of behavior problems, participants completed the *Family and Personal History Questionnaire*, a detailed measure created for this study to inquire about the presence of other individuals in their lives who have experienced behavior problems and their relationship to these individuals. In addition, each adolescent participant was asked to rate the individual closest to them on the severity of their behavior problems, the effect of the behavior problems on the participants' life, the treatment received (including therapy, hospitalization, and medication) by the individual, and the duration of their treatment. Finally, participants were asked if they have ever received a psychiatric diagnosis and/or treatment for

behavior problems themselves. Severity of behavior problems were rated on a Likert-type scale ranging from 1 (*Not Severe At All*) to 5 (*Very Severe*). The effect on the participants' life also was rated on a Likert-type scale ranging from 1 (*Not At All*) to 5 (*A Lot*). All remaining questions were yes/no or free response. The frequency of endorsements (e.g., indicating that there was an individual with behavior problems in participants' lives, multiple individuals with behavior problems, or other positive endorsements) were added to the ratings of severity provided by participants to obtain an overall severity of previous exposure score. Thus, possible total scores on this measure ranged from 0 to 23.

Demographics. A demographics questionnaire inquired about participants' demographic characteristics (e.g., age, sex, race/ethnicity, characteristics relevant to SES).

Procedure

Upon receipt of approval from the University of Central Florida Institutional Review Board and the Orange County Public School System, the AVID coordinator of a local high school was contacted so that the study could be explained further. The AVID program provides additional instruction and support for high school students that wish to pursue education beyond high school. Once permission had been obtained from the school principal, permission forms were provided for the students (Appendix H) in the AVID program. These permission forms were sent home with the students so that they could be completed by their parents and returned directly to their AVID teachers. The teachers then submitted the permission forms to the AVID coordinator, who provided these forms to the research team. The coordinator then arranged two days (i.e., one day for each half of the packet) for adolescent participants to complete the questionnaire packet.

Participation took place during the adolescent participants' AVID class period. This allowed the participants to avoid missing any classwork in other classes. Prior to completing the questionnaire packet, participants were required to read the assent form that was provided to them (Appendix I). Participants were given approximately 40 minutes in each class period to complete the questionnaire packet. On the first day of data collection, participants completed the demographics questionnaire, read four vignettes, and completed the questions regarding the depicted behavior problems, etiological attributions, liking, and stability that accompanied each vignette. On the second day of data collection, participants completed the YSR, SPPA, and previous exposure questionnaire. Members of the research team were available at all times to answer any questions that the participants had. In order to return the appropriate questionnaire to the proper student, participants were asked to write their name on the assent form. In order to assure anonymity, the assent form was detached from the packet and given to the adolescent participants upon completion of their respective packets.

CHAPTER THREE: RESULTS

Screening for Confounding Variables

Fourteen participants did not complete their remaining measures of the questionnaire packet during the second day of data collection. In order to determine whether these participants differed from the participants who completed the questionnaire packet, their demographic information was compared. There were no significant differences in gender [$\chi^2(1) = 1.38, p < 0.24$], mean age [$t(279) = 1.10, p < .30$], grade [$\chi^2(3) = 2.25, p < 0.52$], race [$\chi^2(8) = 6.08, p < 0.64$], maternal job status [$\chi^2(1) = 0.84, p < 0.36$], paternal job status [$\chi^2(1) = 0.52, p < 0.82$], maternal educational level [$\chi^2(6) = 11.13, p < 0.08$], paternal education level [$\chi^2(7) = 2.87, p < 0.90$], or parent marital status [$\chi^2(4) = 5.98, p < 0.20$].

Participant variables also were screened for normality. Participant self-ratings of internalizing and externalizing symptoms as well as participant ratings of social competence were both normally distributed. However, participants' rating of previous exposure to psychopathology was positively skewed, indicating that participants reported very little exposure to behavior problems in others. Because this pattern of findings was expected, no transformations were conducted on this variable.

Descriptive Statistics

Means and standard deviations are provided in Table 1 so that participants' responses could be put into context. With regard to participants' own behavior problems, the mean scores for the Youth Self-Report Internalizing, Externalizing, and Total Problems scale scores all fell within the Nonclinical range based on the clinical ranges provided for this measure. Even though means for the Youth Self-Report fell within the Nonclinical range, some participants reported clinically significant behavior problems. In fact, approximately 28, 24, and 27 percent of participants fell within the clinically noteworthy range on the Internalizing, Externalizing, and

Total Problem scales, respectively. In addition, with regard to participants' own social competence, the mean score for the Harter Social Acceptance subscale fell within the Normal range based on norms for this measure. Taken together, these scores suggested that the participants are largely well-adjusted and not experiencing any significant emotional, behavioral, or social adjustment difficulties. Finally, the mean Exposure Severity score was relatively low, again suggesting that many of the participants have not experienced a great deal of previous exposure to behavior problems in others.

Differences Across Demographic Groups

Participant Sex. Several analyses were conducted to examine the differences among male and female participants with regard to participants' own internalizing and externalizing behavior problems, social acceptance, exposure severity and ratings assigned to depicted vignettes. Female participants reported significantly more internalizing, $t(262) = -3.30, p < .01$, and externalizing, $t(262) = -2.62, p < .01$, behavior problems than male participants. Additionally, female participants reported significantly higher vignette internalizing scores than males, $t(1051) = -2.02, p < .04$. Further, male participants rated internal etiological attributions for the depicted characters' behavior significantly higher than females, $t(1030) = 2.06, p < .04$. There were no significant differences between male and female participants on reports of social acceptance, $t(255) = 0.76, p < .45$; exposure severity, $t(227) = -1.40, p < .16$; vignette externalizing scores, $t(1050) = 0.99, p < .32$; vignette social distances scores, $t(1065) = 0.55, p < .59$; ratings of liking of vignette characters, $t(1065) = -1.28, p < .20$; ratings of likelihood of ignoring vignette characters, $t(1064) = 0.25, p < .80$; and ratings of external etiological attributions for depicted characters' behavior, $t(1053) = 0.64, p < .53$. Because participant sex appears to differ across participants' ratings of their own characteristics and ratings of the

depicted vignettes, this variable was included as an independent variable in the ANCOVA to further investigate its effects.

Participant Race and Ethnicity. Several analyses were conducted to examine the differences among participants' racial and ethnic backgrounds with regard to participants' own internalizing and externalizing behavior problems, social acceptance, exposure severity, and ratings assigned to depicted vignettes. There were no significant differences across participants of different racial and ethnic backgrounds with regard to their own internalizing, $F(7, 262) = 1.75, p < .10$, and externalizing symptom ratings, $F(7, 262) = 1.69, p < .11$; social acceptance, $F(7, 255) = 0.89, p < .52$; or exposure severity, $F(7, 227) = 1.83, p < .08$. With regard to ratings provided across racial and ethnic groups for the depicted vignettes, there were no significant differences in ratings of vignette internalizing scores, $F(9, 1048) = 1.05, p < .40$; vignette externalizing scores, $F(9, 1047) = 0.67, p < .73$; vignette social distances scores, $F(9, 1062) = 0.86, p < .56$; ratings of liking of depicted characters, $F(9, 1062) = 0.56, p < .83$; ratings of the likelihood of ignoring depicted characters, $F(9, 1061) = 0.33, p < .97$; ratings of internal etiological attributions for depicted characters' behavior, $F(9, 1027) = 0.64, p < .76$; and ratings of external etiological attributions for depicted characters' behavior, $F(9, 1050) = 1.30, p < .24$. Because participant racial and ethnic background did not appear to have effect on participants' self-ratings or the ratings provided for the depicted vignettes, it was excluded from consideration for further analyses.

Maternal Education Level. Several analyses were conducted to examine differences across the education level of participants' mothers with regard to participants' own internalizing and externalizing behavior problems, social acceptance, exposure severity, and participant ratings of the depicted vignette. There was a significant effect of maternal education level on

ratings of external etiological attributions for depicted characters' behavior, $F(6, 990) = 2.81, p < .01$. Post hoc tests revealed that participants with mothers who graduated from high school, attended some college, or graduated from a university rated external etiological attributions significantly higher than participants with mothers who attended some high school.

Additionally, participants whose mothers graduated from high school or a university rated external reasons significantly higher than individuals whose mothers have a graduate degree. Finally, individuals whose mothers have a graduate degree rated external etiological attributions significantly higher than individuals with mothers who attended some college.

There were no significant differences across maternal education level for participants' self-reports of their internalizing, $F(6, 247) = 0.53, p < .78$, and externalizing symptoms, $F(6, 247) = 1.32, p < .25$; social acceptance, $F(6, 240) = 0.35, p < .91$; or exposure severity, $F(6, 214) = 0.72, p < .64$. With regard to participants' ratings of the depicted vignettes, there were no significant differences between maternal education groups in their ratings of vignette internalizing scores, $F(6, 989) = 0.67, p < .67$; vignette externalizing scores, $F(6, 987) = 0.51, p < .80$; social distances scores, $F(6, 1002) = 0.60, p < .73$; ratings of liking of depicted characters, $F(6, 1002) = 0.76, p < .60$; ratings of likelihood of ignoring depicted characters, $F(6, 1001) = 2.05, p < .06$; and ratings of internal etiological attributions for depicted characters' behavior, $F(6, 971) = 0.91, p < .48$. Because maternal education level appears to have some relationship to participants' ratings of the depicted vignettes, it was included as a covariate variable in further analyses.

Paternal Education Level. Additional analyses were conducted to examine differences across the education level of participants' fathers with regard to participants' own internalizing and externalizing behavior problems, social acceptance, exposure severity, and participants'

ratings of the depicted vignettes. There were no significant differences across paternal education levels in participants' self-reports of their internalizing, $F(7, 215) = .37, p < .92$, and externalizing symptoms, $F(7, 215) = 0.69, p < .68$; social acceptance, $F(7, 208) = 0.57, p < .78$; or exposure severity, $F(7, 186) = 0.64, p < .72$. With regard to participants' ratings of the depicted vignettes, there were no significant differences across levels of paternal education in participants' ratings of vignette internalizing scores, $F(7, 858) = 0.33, p < .94$; vignette externalizing scores, $F(7, 859) = 0.47, p < .86$; social distances scores, $F(7, 870) = 1.68, p < .11$; ratings of liking of depicted characters, $F(7, 870) = 1.81, p < .08$; ratings of likelihood of ignoring depicted characters, $F(7, 869) = 0.57, p < .78$; ratings of internal etiological attributions for depicted characters' behavior, $F(7, 839) = 0.22, p < .98$; and ratings of external etiological attributions for depicted characters' behavior, $F(7, 858) = 1.37, p < .21$. Because participants' paternal education level demonstrated no relationship to participants' self-ratings or their ratings of the depicted vignettes, it was excluded from consideration for further analyses.

Correlational Analyses

Correlational analyses were conducted to examine the relationships among participants' ratings of vignette characters, their own internalizing and externalizing behavior problems, their own social acceptance, and their exposure severity. Due to the significant number of correlational analyses, a Bonferroni correction was applied to control for family-wise error. See Table 2.

Ratings of Behavior Problems. Surprisingly, participants' endorsements of their own behavior problems, exposure severity, and social acceptance were not related to their endorsements of behavior problems in the depicted vignettes.

Ratings of Liking. With regard to ratings of social distance from, liking of, and likelihood of ignoring the behavior problems of the depicted vignette characters, participants' characteristics (i.e., participants' own internalizing and externalizing symptoms, social acceptance, and exposure severity) were examined. Participants' social distance ratings of the depicted characters in the nonclinical vignettes were related to participants' own internalizing behavior problems, $r = -.25, p < .01$.

With regard to liking the depicted vignette characters, participants' endorsements of their liking of the depicted characters in the externalizing behavior problems vignette were related significantly to participants' endorsements of their own externalizing behavior problems, $r = .20, p < .01$. Further, participants' ratings of the likelihood of ignoring the vignette characters in the internalizing vignette was related significantly to participants' own externalizing behavior problems, $r = .24, p < .01$.

Ratings of Etiological Attributions. Finally, participants' endorsements of their own behavior problems, exposure severity, and social acceptance were not related to their etiological attributions for depicted vignette characters.

Multivariate Analysis of Covariance

Ratings of Behavior Problems. In order to examine the hypothesis that characteristics of the depicted vignette character and participant's own characteristics would account for variance in their ratings of depicted vignette characters' behavior problems, a 4 (type of vignette) by 2 (sex of vignette character) by 2 (sex of participant) MANCOVA was conducted. Participants' ratings of depicted characters' internalizing and externalizing behavior problems served as the dependent variables. The education level of participants' mothers as well as participants' own internalizing and externalizing behavior problems, social acceptance, and exposure severity were

entered as covariates, given their respective relationships to participants' ratings of the vignettes. Participants' endorsements of their own externalizing behavior problems served as a significant covariate, $F(2, 784) = 3.47, p < .03$, partial $\eta^2 = .01$. There also was a significant positive effect of participants' own externalizing behavior problems on ratings of internalizing, $F(1, 806) = 4.65, p < .03$, partial $\eta^2 = .01$, and externalizing, $F(1, 806) = 3.90, p < .05$, partial $\eta^2 = .01$, vignette behavior problems.

With regard to main effect, there were significant main effects for participant sex, $\lambda = .99, F(2, 784) = 3.66, p < .03$, partial $\eta^2 = .01$, sex of the vignette character, $\lambda = .99, F(2, 784) = 3.41, p < .03$, partial $\eta^2 = .01$, and vignette type, $\lambda = .14, F(6, 1568) = 427.77, p < .001$, partial $\eta^2 = .62$, using Wilks' statistic. Further, there was a significant interaction for vignette gender and vignette type, $\lambda = .97, F(6, 1568) = 3.86, p < .01$, partial $\eta^2 = .02$. Given the significance of the overall test, the univariate main effects were examined further.

Further examination of the main effect of participant sex revealed a significant univariate effect for ratings of vignette externalizing behavior problems, $F(1, 806) = 5.57, p < .02$, partial $\eta^2 = .01$. Pairwise comparisons using the Sidak adjustment suggested that, after adjusting the mean for the effects of the covariates, male participants ($M = 9.59, SE = .23$) endorsed significantly higher rates of externalizing behavior problems for vignette characters than female participants ($M = 8.86, SE = .20$).

Examination of the main effect of sex of the vignette character revealed a significant univariate effect for ratings of vignette internalizing behavior problems, $F(1, 806) = 6.20, p < .01$, partial $\eta^2 = .01$. Pairwise comparisons using the Sidak adjustment revealed that participants endorsed significantly higher levels of internalizing behavior problems for depicted female characters ($M = 11.68, SE = .32$) than for depicted male characters ($M = 10.57, SE = .31$).

Additionally, examination of the main effect of vignette type revealed significant univariate effects for ratings of both internalizing, $F(3, 806) = 176.53, p < .001$, partial $\eta^2 = .40$, and externalizing, $F(3, 806) = 774.13, p < .001$, partial $\eta^2 = .75$, vignette behavior problems. With regard to ratings of internalizing vignette behavior problems, pairwise comparisons using the Sidak adjustment suggested that participants endorsed higher levels of internalizing behavior problems for the Internalizing vignette ($M = 18.48, SE = .44$) than for the Nonclinical vignette ($M = 5.82, SE = .44$), the Externalizing vignette ($M = 7.07, SE = .45$), and Combined Internalizing and Externalizing vignette ($M = 13.12, SE = .45$). Further, participants endorsed higher levels of internalizing behavior problems for the Combined Internalizing and Externalizing vignette than for the Nonclinical vignette and the Externalizing vignette. With regard to ratings of externalizing vignette behavior problems, pairwise comparisons using the Sidak adjustment suggested that participants endorsed higher levels externalizing behavior problems for the Externalizing vignette ($M = 19.52, SE = .30$) than for the Nonclinical vignette ($M = 2.34, SE = .30$), the Internalizing vignette ($M = 2.52, SE = .30$), and the Combined Internalizing and Externalizing vignette ($M = 12.53, SE = .30$). In addition, participants' endorsements of externalizing behavior problems for the Combined Internalizing and Externalizing vignette were significantly higher than for the Nonclinical vignette and the Internalizing vignette.

Finally, examination of the interaction between vignette sex and vignette type revealed a significant univariate effect for ratings of externalizing vignette behavior problems, $F(3, 806) = 5.10, p < .01$, partial $\eta^2 = .02$. Profile plots revealed that participants' endorsements of externalizing behavior problems for the male and female vignettes were similar for the Nonclinical vignette (male: $M = 2.39, SE = .43$; female: $M = 2.30, SE = .41$), the Internalizing

vignette (male: $M = 2.92$, $SE = .42$; female: $M = 2.12$, $SE = .42$), and the Externalizing vignette (male: $M = 19.44$, $SE = .43$; female: $M = 19.60$, $SE = .43$). In contrast, participants endorsed higher levels of externalizing behavior problems for the female characters ($M = 13.71$, $SE = .45$) than the male characters ($M = 11.34$, $SE = .41$) in the Combined Internalizing and Externalizing vignette.

Ratings of Social Judgment. In order to examine the hypothesis that characteristics of the depicted vignette character and participants' own characteristics would account for variance in their social judgments of the depicted characters, a 4 (type of vignette) by 2 (sex of vignette character) by 2 (sex of participant) MANCOVA was conducted. Participants' ratings of liking and social distance as well as their ratings of the likelihood of ignoring the depicted vignette characters all served as the dependent variables. The education level of participants' mothers as well as participants' own internalizing and externalizing behavior problems, social acceptance, and exposure severity were entered as covariates, given their respective relationships to participants' ratings of the vignettes. Participants' endorsements of their own externalizing behavior problems served as a significant covariate, $F(3, 798) = 3.58$, $p < .02$, partial $\eta^2 = .01$. Further examination revealed a significant positive effect of participants own externalizing behavior problems on ratings of the likelihood of ignoring depicted vignette characters, $F(1, 821) = 6.54$, $p < .01$, partial $\eta^2 = .01$.

With regard to main effects, there was a significant main effect for vignette type, $\lambda = .46$, $F(9, 1942) = 79.95$, $p < .001$, partial $\eta^2 = .62$, using Wilks' statistic. Given the significance of the overall test, the univariate main effects were examined. Significant main effects for vignette type were obtained for participant ratings of liking, $F(3, 821) = 92.93$, $p < .001$, partial $\eta^2 = .26$,

social distance, $F(3, 821) = 179.72, p < .001$, partial $\eta^2 = .40$, and likelihood of ignoring, $F(3, 821) = 94.09, p < .001$, partial $\eta^2 = .26$, depicted vignette characters.

With regard to participants' ratings of liking of the depicted vignette characters, pairwise comparisons using the Sidak adjustment suggested that, after adjusting the mean for the effects of the covariates, participants endorsed higher ratings of liking for the Nonclinical vignette ($M = 4.96, SE = .07$) than for the Internalizing vignette ($M = 3.85, SE = .07$), the Externalizing vignette ($M = 3.49, SE = .07$), and the Combined Internalizing and Externalizing vignette ($M = 3.75, SE = .07$). Further, although the ratings provided for the Internalizing vignette and the Combined Internalizing and Externalizing vignette were not significantly different from each other, participants endorsed higher ratings of liking for both these vignettes relative to the Externalizing vignette.

With regard to participants' ratings of social distance, pairwise comparisons using the Sidak adjustment suggested that participants endorsed higher social distance ratings for the Nonclinical vignette ($M = 20.49, SE = .30$; high scores indicated that there was less social distance) than for the Internalizing vignette ($M = 12.62, SE = .30$), the Externalizing vignette ($M = 12.42, SE = .30$), and the Combined Internalizing and Externalizing vignette ($M = 12.12, SE = .30$). Participants' social distance ratings of the Internalizing vignette, the Externalizing vignette, and the Combination Internalizing and Externalizing vignette did not differ significantly from each other.

Finally, with regard to participants' ratings of the likelihood of ignoring depicted vignette characters, pairwise comparisons using the Sidak adjustment suggested that participants were least likely to ignore the Nonclinical vignette ($M = 1.75, SE = .09$), followed by the Internalizing vignette ($M = 2.72, SE = .09$), the Combined Internalizing and Externalizing

vignette ($M = 3.21$, $SE = .09$), and the Externalizing vignette ($M = 3.81$, $SE = .09$). Each of these means was significantly different from the others.

Ratings of Etiological Attributions. In order to examine the hypothesis that characteristics of the depicted vignette character and participants' own characteristics would account for variance in their etiological attributions for the behavior of depicted characters, a 4 (type of vignette) by 2 (sex of vignette character) by 2 (sex of participant) MANCOVA was conducted. Participants' ratings of internal and external etiological attributions both served as dependent variables. The education level of participants' mothers as well as participants' own internalizing and externalizing behavior problems, social acceptance, and exposure severity were entered as covariates, given their respective relationships to participants' ratings of the vignettes. Participants' ratings of social acceptance served as a significant covariate, $F(2, 769) = 4.35$, $p < .02$, partial $\eta^2 = .01$. Further examination also revealed a significant positive effect of participants own ratings of social acceptance on ratings of internal, $F(1, 791) = 6.22$, $p < .02$, partial $\eta^2 = .01$, and external, $F(1, 791) = 4.23$, $p < .04$, partial $\eta^2 = .01$, etiological attributions.

With regard to main effects, there was a significant main effect for participant sex, $\lambda = .98$, $F(2, 769) = 7.44$, $p < .001$, partial $\eta^2 = .02$, and vignette type, $\lambda = .48$, $F(6, 1538) = 112.14$, $p < .001$, partial $\eta^2 = .30$, using Wilks' statistic. Further, there was a significant interaction between vignette type and sex of the vignette character, $\lambda = .98$, $F(6, 1538) = 2.37$, $p < .03$, partial $\eta^2 = .01$. Given the significance of the overall test, the univariate main effects were examined.

Further examination of the main effect of participant sex revealed a significant univariate effect for ratings of internal etiological attributions, $F(1, 791) = 14.78$, $p < .001$, partial $\eta^2 = .02$. Pairwise comparisons using the Sidak adjustment suggested that, after adjusting the mean for the

effects of the covariates, male participants ($M = 15.06$, $SE = .23$) rated internal etiological attributions significantly higher than female participants ($M = 13.87$, $SE = .20$).

Examination of the main effect of vignette type revealed a significant univariate effect for ratings of internal, $F(3, 791) = 176.06$, $p < .41$, partial $\eta^2 = .01$, and external $F(3, 791) = 44.84$, $p < .001$, partial $\eta^2 = .15$, etiological attributions. With regard to internal etiological attributions, pairwise comparisons using the Sidak adjustment suggested that participants endorsed higher levels of internal etiological attributions for the Externalizing vignette ($M = 17.76$, $SE = .30$) than for the Nonclinical vignette ($M = 8.67$, $SE = .30$), the Internalizing vignette ($M = 15.20$, $SE = .30$), and the Combined Internalizing and Externalizing vignette ($M = 16.23$, $SE = .30$). Further, although there was no significant difference in internal etiological attributions for the Internalizing vignette and the Combined Internalizing and Externalizing vignette, participants endorsed significantly more internal etiological attributions for both of these vignettes relative to the Nonclinical vignette.

With regard to external etiological attributions, pairwise comparisons using the Sidak adjustment suggested that participants endorsed higher levels of external etiological attributions for the Nonclinical vignette ($M = 16.20$, $SE = .27$) than for the Internalizing vignette ($M = 11.92$, $SE = .27$), the Externalizing vignette ($M = 14.17$, $SE = .27$), and the Combined Internalizing and Externalizing vignette ($M = 13.21$, $SE = .27$). Further, although there was no significant difference in external etiological attributions for the Externalizing vignette and the Combined Internalizing and Externalizing vignette, participants endorsed significantly more external etiological attributions for both of these vignettes relative to the Internalizing vignette.

Finally, examination of the interaction between vignette gender and vignette type revealed a significant univariate effect for internal etiological attributions, $F(3, 791) = 4.04$, $p <$

.01, partial $\eta^2 = .02$. Profile plots revealed that participants' endorsements of internal etiological attributions for the male and female vignettes were similar for the Nonclinical vignette (male: $M = 8.42$, $SE = .44$; female: $M = 8.90$, $SE = .41$), the Externalizing vignette (male: $M = 17.59$, $SE = .42$; female: $M = 17.93$, $SE = .43$), and the Combined Internalizing and Externalizing vignette (male: $M = 16.18$, $SE = .42$; female: $M = 16.28$, $SE = .43$). In contrast, participants endorsed higher levels of internal etiological attributions for the male character ($M = 16.27$, $SE = .42$) than the female character ($M = 14.15$, $SE = .43$) in the Internalizing vignette.

CHAPTER FOUR: DISCUSSION

The purpose of this study was to explore the accuracy of adolescent peer informants' ratings of behavior problems in the context of the characteristics of depicted vignette characters and adolescent peer informants' own characteristics. In addition, adolescent peer informants' social judgments of and etiological explanations for peer behavior problems were examined. Clearly, this area deserves further exploration because of the serious impact that peers can have on the lives of children and adolescents who experience emotional and behavioral problems. Specifically, children and adolescents who display a variety of internalizing (e.g., anxiety, depression) and externalizing (e.g., aggression) behavior problems are at risk for peer rejection and neglect (Boivin et al., 1995; Schwartz et al., 1999; Verduin & Kendal, 2008; Walker et al., 2008). This maltreatment from peers can exacerbate existing behavior problems and lead to additional problems (Coie et al., 1990; Miller-Johnson et al., 2002; Schwartz et al., 1998). Thus, it is particularly important to understand how peers view children and adolescents who exhibit behavior problems so that possible interventions can be planned to reduce the impact of negative peer judgments.

In addition, peers have the potential to serve as a valuable resource for information on the behavior problems that are displayed by children and adolescents. Research suggested that peers can be both accurate and consistent when rating the behaviors of those around them (Achenbach et al., 1987; Epkins, 1994). Further, peers possess unique characteristics (e.g., additional knowledge of appropriate social norms, increased time with the child or adolescent being rated, access to privileged information that is not shared with adults) that would allow them to provide unique and essential information in the evaluation process (Newcomb et al., 1993). As a result, peers may prove to be particularly important informants when it comes to the ratings of behavior problems that are exhibited by children and adolescents.

In light of the need for further information regarding peer informants, the present study sought to examine specific factors that may be related to the ratings that are provided by adolescent peer informants. First, relationships among the characteristics of depicted vignette characters, adolescent peer informants' own characteristics, and adolescent peer informants' ratings were explored. It was hypothesized that adolescent peer informants who exhibited higher levels of internalizing and externalizing behavior problems themselves would have higher recognition of behavior problems in vignette characters. This hypothesis was supported partially. Although adolescents' own externalizing and internalizing behavior problems did not demonstrate a significant correlation with their endorsements of internalizing and externalizing behavior problems for depicted vignette characters, adolescents' externalizing behavior problems did demonstrate a significant positive effect on internalizing and externalizing behavior ratings when included in the MANCOVA. These findings suggested that adolescent peer informants who experience higher levels of externalizing behavior problems are able to accurately recognize internalizing and externalizing behavior problems in others when they are present. This finding was consistent with those of previous research, which suggested that children who experience aggression are more likely to report aggression in others (Epkins & Meyers, 1994).

Surprisingly, participants' own internalizing behavior problems were not related significantly to any of the ratings that were provided for the depicted vignette characters. This finding was contrary to much of the literature examining the experience of psychological symptoms or behavior problems and informant ratings. For example, Epkins (1994) found that children who reported symptoms of depression are more likely to report higher rates of internalizing and externalizing behavior problems in peers. Closer examination of the adolescents in the current study, however, revealed that those adolescents who endorsed higher

levels of their own internalizing behavior problems also reported significantly lower levels of social competence. This finding is of note because previous research suggested that children and adolescents' emotion recognition abilities and knowledge of typical emotional responses is related closely to their social competence (Dunsmore et al., 2008). Further, recent research revealed that internalizing behavior problems and social competence are related closely in childhood and adolescence (Obradović, Burt, & Masten, 2010). Although there is no research to date that directly examines the relationship between social competence and the accuracy of adolescent peer informants' ratings, it is possible that the lower levels of social competence reported by adolescents who endorsed higher levels of internalizing behavior problems interfered with their ability to recognize the behavior problems being depicted for the vignette characters used in the present study. Thus, although social competence was not related directly to participants' ratings of depicted behavior problems, it may have acted in conjunction with participants' own internalizing behavior problems. Given the results of this study, it would be useful to further explore the role of social competence in peer informants' ratings of others' internalizing and externalizing behavior problems.

In addition to adolescent peer informants' own levels of behavior problems, it was predicted that higher rates of adolescents' previous exposure to the behavior problems exhibited by others (e.g., family members) would be related significantly to increased recognition of internalizing and externalizing behavior problems in the depicted vignette characters. This hypothesis was not supported in the present study. To date, there is no research that has examined directly how individuals' behavior problems are related to ratings of peers' behavior problems. Limited research conducted with siblings of children and adolescents who exhibit behavior problems suggested that siblings can rate accurately behavior problems in this context

(Epkins & Dedmon, 1999). Unfortunately, this study does not address whether this accuracy extends to ratings of children and adolescents outside of the family. Given that children and adolescents tend to spend significantly more time with their siblings than with their peers, it is possible that there are other factors that are related to the accuracy of ratings in this context. Additionally, much of the present sample did not report previous exposure to behavior problems, making it difficult to draw many inferences from the results of this study.

Beyond the examination of the above described relationships, the primary aim of this study was to investigate the accuracy of adolescent peer informants when rating the behavior problems of the depicted vignette characters. As predicted, adolescents were able to accurately recognize internalizing and externalizing behavior problems in the depicted vignette characters that were presented to them. Moreover, adolescents reported symptoms that were consistent with the behaviors depicted in the vignettes. For example, adolescents reported significantly more externalizing behavior problems for the depicted vignette characters that portrayed externalizing behavior problems and the depicted vignette characters that portrayed combined internalizing and externalizing behavior problems than for the other depicted vignette characters. A similar pattern emerged for ratings of internalizing behavior problems in the internalizing vignette and the combined internalizing and externalizing vignette. These results are consistent with previous research suggesting that peers are able to accurately recognize psychological symptoms in those around them (Epkins, 1994; Epkins & Meyers, 1994).

Although both internalizing and externalizing behavior problems were noted appropriately, it also should be noted that the effect size associated with the ratings of depicted vignette characters' externalizing behavior problems was notably higher than the effect size of depicted internalizing behavior problems. This finding suggested that exhibited externalizing

behavior problems were recognized more readily than internalizing behavior problems, as anticipated. This finding was consistent with person perception theory, which maintains that unambiguous cues (e.g., aggression) would be classified much more easily relative to ambiguous cues (e.g., crying; Trope, 1986). Likewise, much of the research regarding cross-informant ratings suggested that externalizing behavior problems are more salient to informants and easier to report accurately (Kolko & Kazdin, 1993; Loeber et al., 1989). Although it appears that peer informants more readily detect externalizing behavior problems, this finding should not detract from the fact that they also accurately reported internalizing behavior problems. Thus, although adolescent peer informants may not be as necessary when considering the presence of externalizing behavior problems (as these problems are commonly noted by various informants), adolescent peer informants' accuracy when detecting internalizing behavior problems, which tend to be reported less precisely, makes them a valuable addition to the evaluation process (Salbach-Andrae, 2009; Stavrakaki et al., 1987).

The sex of the vignette character also played a significant role in the ratings that were provided by the adolescent peer informants in the present study. Specifically, adolescents endorsed significantly higher levels of externalizing behavior problems for female vignette characters who depicted a combination of internalizing and externalizing behavior problems, despite rating male and female characters similarly on the remaining vignettes. Thus, the ratings of externalizing behavior problems did not vary as a function of the sex of vignette characters except when both internalizing and externalizing behavior problems were present. Typically, externalizing behavior problems are associated more commonly with males, whereas internalizing behavior problems are associated more commonly with females (Leadbeater, Kuperminc, Blatt, & Hertzog, 1999). Thus, when presented with both internalizing and

externalizing behavior problems for the depicted female characters, the presence of externalizing behavior problems was more salient for adolescent peer informants. These adolescents may have felt that externalizing problems were more unexpected for the female vignette characters, resulting in significantly higher ratings than those provided for the male vignette characters in the same context. Additionally, the sex of the vignette characters was related to the ratings of internalizing behavior problems. In particular, adolescents endorsed significantly higher levels of internalizing behavior problems for depicted female vignette characters than male vignette characters across all types of vignettes. This finding was consistent with the aforementioned research, which suggested that internalizing behavior problems are associated more often with females. Thus, it is likely that, because males tend to display internalizing behavior problems less frequently, adolescents reported lower rates of these symptoms for males overall.

Beyond investigating the accuracy of adolescent peer informants, the present study also sought to clarify their social judgments. Specifically, the likelihood of accepting the vignette characters was explored in several ways (i.e., liking ratings, social distance ratings, and the likelihood of ignoring the depicted characters). Overall, adolescents were much more likely to indicate that they would like the depicted characters in the Nonclinical vignettes and would approach those characters in social situations, as predicted. Additionally, adolescents rated the depicted characters in the internalizing vignettes as being more well liked, but adolescents were not more likely to endorse that they would seek out these individuals in social situations. Finally, characters who displayed any sort of externalizing behavior problems received the lowest ratings of liking and were most likely to be ignored by adolescents. These results are highly consistent with the vast amount of research that has suggested that children and

adolescents who exhibit behavior problems tend to be rejected by their peers (Boivin et al., 1995; Deater-Deckard, 2001; Schwartz et al., 1999; Verduin & Kendal, 2008; Walker et al., 2008).

Additionally, none of the participant characteristics were related significantly to social acceptance ratings (i.e., liking of depicted characters, social distance ratings), whereas participants' own externalizing behavior problems were related significantly to ratings of social neglect (i.e., likelihood of ignoring depicted characters), suggesting that very few of the participant characteristics serve to mitigate this peer rejection. Adolescents did provide higher ratings for depicted vignette characters who displayed internalizing behavior problems, although they were not more likely to endorse that they would approach them socially. This finding is consistent with previous research which suggested that adolescents may not completely reject children and adolescents who display internalizing behavior problems but would not seek out their friendship either. As a result, these children and adolescents would fall into a more neglected category of peers (Strauss et al., 1988). Although such an outcome would be slightly more positive than those peers who are rejected actively and than what tends to be experienced by children and adolescents who exhibit externalizing behavior problems, it does little to mitigate the loneliness that often is experienced by children and adolescents who experience behavior problems (Boivin et al., 1995).

Finally, adolescents' etiological attributions for the behavior problems portrayed by vignette characters were investigated. It was hypothesized that adolescent peer informants would attribute depicted vignette characters' behavior problems to more internal reasons rather than external reasons. This hypothesis was supported partially. Specifically, adolescents endorsed more internal etiological attributions for characters portraying externalizing behavior problems and combined internalizing and externalizing behavior problems. Although

adolescents did endorse internal etiological attributions for depicted vignette characters portraying internalizing behavior problems, they also endorsed a number of external etiological attributions. Finally, adolescents were more likely to attribute nonclinical behavior to external factors rather than internal factors.

In addition, the sex of the depicted vignette characters was related to adolescent peer informants' ratings of internal etiological attributions for depicted vignettes. In particular, adolescents endorsed more internal etiological attributions for depicted male characters exhibiting internalizing behavior problems. Previous research in this area suggested that adolescents are more likely to consider how behavior fits into social norms when considering attributions for etiology (Coie & Pennington, 1976) and that attributions can vary with the behavior that is observed (Hennesy & Heary, 2009). Given that internalizing behavior problems are more atypical for males (Leadbeater, et al., 1999), adolescents may have been more likely to judge these behaviors as a violation of social norms and thus attribute them to more internal factors.

With regard to participants' characteristics that significantly impact the ratings of etiological attributions, adolescent peer informants' social competence was related significantly to their internal etiological attributions for depicted vignette characters and was noted to demonstrate a marginally significant effect on external attributions of etiology. In both cases, increased levels of social competence were associated with increased endorsements of internal and external factors. It is likely that individuals with a more sophisticated understanding of emotional expression also may possess a more sophisticated understanding of the complex underlying factors that influence behavior problems. Thus, these adolescents may take into account a number of factors when considering the cause for the behaviors that they observe.

Although this study makes an important contribution to the understanding of ratings provided by adolescent peer informants, there are several limitations that should be addressed. First, the impact of previous exposure to behavior problems in others could not be adequately addressed due to the limited amount of exposure in the present sample. It is possible that labels included in the measure itself (e.g., Major Depression) may not have been readily recognized by participants. In the future, it may be useful to target adolescents with parents or other relatives who are known to have behavior problems and to edit the measure to include more easily understood labels for psychopathology. The inclusion of adolescents who have greater experience with behavior problems in others may serve to further delineate the relationship between this informant characteristic and peer ratings of behavior. Additionally, the measures of adolescent peer informants' own behavior problems and social competence were self-report in nature. Given that adolescents may demonstrate difficulty with accurately judging and reporting their own behavior problems and social competence, future research may include measures that are more observational in nature, so that these constructs could be quantified on a more objective level. Finally, although research suggested that children and adolescents are able to adequately rate behavior from vignettes (Marsden & Kalter, 1976), it is possible that adolescents' ratings were affected by the limited information that was provided to them about the depicted vignette characters used in this study. Future research ideally would include real life vignette portrayals (i.e., through video recordings) or ratings of actual peers. Such portrayals may allow adolescents to incorporate additional important information (e.g., nonverbal behaviors) that could aid in their judgment of their peers with behavior problems.

Overall, the adolescent peer informants in the present study demonstrated the ability to rate accurately the behavior problems presented by hypothetical peers. Moreover, with the

exception of externalizing behavior problems, these ratings were not affected by many of the characteristics that may influence ratings that are provided by other informants (e.g., parents, teachers). Given these results, it is apparent that peers would be a valuable resource when evaluating the emotional and behavioral functioning of adolescents. Although it is not necessarily feasible to obtain ratings from several peers of a target adolescent, the inclusion of one close friend is certainly within the realm of possibility. It should be noted, however, that any inclusion of peer informants may be hampered by the lack of rating scales that are available for completion by peer informants. Further, although the results of the present study suggested that adolescent peer informants' own level of behavior problems may be related to the ratings that they provide, this finding should not necessarily prevent the inclusion of peer informant ratings. The informants on whom clinicians currently rely for clinical information (e.g., parents, teachers) also experience their own behavior problems as well. Nonetheless, these individuals often are able to provide valuable information about the functioning of a target child or adolescent. Given such findings, peer informants should begin to be counted among those individuals who can provide valuable information, particularly as programs that promote tolerance of peers' behavior problems are developed.

Table 1. *Sample Means and Standard Deviations*

<i>Variable</i>	<i>M</i>	<i>SD</i>	<i>Range</i>
Participant Characteristics			
Age	15.57	1.23	13-19
Internalizing Problems	54.19	10.34	27-81
Externalizing Problems	52.12	10.16	29-79
Total Problems	53.77	10.10	26-79
Social Acceptance	15.54	3.01	6-20
Exposure Severity	5.51	4.72	0-17
Vignette Ratings			
Nonclinical Vignette			
Internalizing Problems	5.66	4.54	0-23
Externalizing Problems	2.18	2.33	0-12
Social Distance	20.64	4.10	3-25
Ratings of Liking	4.97	.90	0-7.5
Ratings of Ignoring	1.70	1.01	0-5
Internal Etiological Attributions	8.52	3.21	5-23
External Etiological Attributions	15.76	4.18	5-25
Internalizing Vignette			
Internalizing Problems	17.72	6.10	0-32
Externalizing Problems	2.34	3.05	0-17
Social Distance	12.68	4.60	5-25
Ratings of Liking	3.91	.98	0-6.5
Ratings of Ignoring	2.66	1.34	0-5
Internal Etiological Attributions	14.79	4.59	5-30
External Etiological Attributions	11.89	3.44	5-22
Externalizing Vignette			
Internalizing Problems	6.80	6.10	0-30
Externalizing Problems	19.47	4.24	0-24
Social Distance	12.30	4.13	5-25
Ratings of Liking	3.49	.94	0-7.5
Ratings of Ignoring	3.82	1.31	0-5
Internal Etiological Attributions	17.60	4.80	6-30
External Etiological Attributions	14.30	3.78	5-25
Combined Vignette			
Internalizing Problems	12.66	7.32	0-32
Externalizing Problems	12.12	6.17	0-24
Social Distance	12.23	4.31	0-25
Ratings of Liking	3.73	.95	0-6.5
Ratings of Ignoring	3.19	1.40	0-5
Internal Etiological Attributions	15.88	4.46	0-29
External Etiological Attributions	13.18	3.65	0-24

Table 2. *Correlations Among Covariates and Symptom Ratings*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Internalizing Problems	1															
2. Externalizing Problems	.49**	1														
3. Social Acceptance	-.40**	-.03	1													
4. Exposure Severity	.23**	.07	-.10	1												
5. Normal Internalizing	.09	.14*^	-.05	-.05	1											
6. Normal Externalizing	.06	.05	-.06	-.07	.35**	1										
7. Internalizing Internalizing	.05	.13*^	.05	-.03	.32**	.19**^	1									
8. Internalizing Externalizing	.04	.13*^	-.04	.06	.21**	.25**	.27**	1								
9. Externalizing Internalizing	.07	.16**^	-.03	-.01	.26**	.22**	.34**	.31**	1							
10. Externalizing Externalizing	.09	.13*^	.11	-.05	.32**	.17**^	.55**	.25**	.28**	1						
11. Combined Internalizing	.09	.12	.02	-.02	.22**	.17**^	.44**	.22**	.50**	.31**	1					
12. Combined Externalizing	-.09	.03	.10	-.14*^	.28**	.16*^	.45**	.34**	.22**	.51**	.11	1				
13. Normal Social Distance	-.25**	-.16**^	.15*^	-.05	-.16*^	-.22**	.05	-.14*^	-.17**^	-.02	.00	-.04	1			
14. Normal Liking Rating	-.12*^	-.09	.08	.02	-.07	-.14*^	.06	.01	-.03	-.01	.00	.05	.38**	1		
15. Normal Ignore Rating	.09	.15*^	-.05	.00	.17**^	.28**	.09	.08	.14*^	.06	.05	.09	-.39**	-.22**	1	
16. Internalizing Social Distance	-.07	-.11	-.04	-.05	-.10	.06	-.16*^	-.18**^	-.05	-.14*^	-.09	-.16**	.13*^	.02	-.06	1
17. Internalizing Liking Rating	-.03	-.06	-.10	.00	.05	.01	-.13*^	-.03	.01	-.12*^	-.03	-.13*^	.08	.14*^	-.13*^	.11
18. Internalizing Ignore Rating	.03	.24**	.01	-.03	.06	.00	.03	.08	.04	.04	.01	.05	-.05	-.03	.26**	-.20**
19. Externalizing Social Distance	.04	-.06	-.15*^	-.05	-.05	-.03	-.03	.05	-.05	-.07	-.01	-.05	-.11	-.13*^	.09	.05
20. Externalizing Liking Rating	.04	.20**	.10	-.08	.01	-.02	.07	.10	.05	-.08	-.01	.05	-.03	.03	.12	-.10
21. Externalizing Ignore Rating	.07	.00	-.03	-.06	.01	-.01	.11	-.10	-.08	.13*^	-.02	-.04	.18**^	.15*^	-.01	-.05
22. Combination Social Distance	-.13*^	-.10	.03	-.01	-.05	.02	.05	.03	-.01	.01	-.14*^	-.04	.04	.01	-.02	.19**^
23. Combination Liking Rating	-.05	.09	.08	-.08	.05	.09	.10	.12	.06	-.05	.02	-.03	.01	.11	.03	-.01
24. Combination Ignore Rating	-.02	-.01	.07	-.06	.00	.04	.13*^	-.01	.01	.17**	-.06	.24**	.15*^	.13*^	.11	-.12
25. Normal Etiology (Int.)	.04	.02	-.04	.01	.30**	.39**	.12	.18**^	.23**	.07	.13*^	.11	-.26**	-.05	.23**	.02
26. Normal Etiology (Ext.)	.03	.07	.08	.00	.10	.02	.26**	.08	.09	.27**	.22**	.15*^	.08	.09	.00	-.01
27. Internalizing Etiology (Int.)	-.03	.07	.06	-.02	.14*^	.12	.33**	.42**	.24**	.24**	.21**	.18**^	-.15*^	-.08	.11	-.18**^
28. Internalizing Etiology (Ext.)	-.01	-.02	.09	.08	.08	.10	.21**	.13*^	.07	.21**	.08	.18**^	.03	.06	-.03	-.08
29. Externalizing Etiology (Int.)	.13*^	.11	.10	-.02	.10	.19**^	.18**^	.17**^	.34**	.26**	.27**	.14*^	-.04	-.03	.11	-.10
30. Externalizing Etiology (Ext.)	.04	.06	.04	-.05	.15*^	.07	.17**^	.13*^	.20**	.25**	.14*^	.16*^	.03	.05	-.05	-.09
31. Combination Etiology (Int.)	.07	-.01	.06	-.04	.17**^	.07	.25**	.20**	.19**^	.28**	.32**	.32**	.09	.07	.05	-.07
32. Combination Etiology (Ext.)	-.01	-.08	.04	.04	.13*^	.08	.08	.18**^	.02	.19**^	.00	.34**	.08	.10	.01	-.04

Note. * $p < .05$, ** $p < .01$, ^no longer significant after Bonferroni correction

	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
1. Internalizing Problems																
2. Externalizing Problems																
3. Social Acceptance																
4. Exposure Severity																
5. Normal Internalizing																
6. Normal Externalizing																
7. Internalizing Internalizing																
8. Internalizing Externalizing																
9. Externalizing Internalizing																
10. Externalizing Externalizing																
11. Combined Internalizing																
12. Combined Externalizing																
13. Normal Social Distance																
14. Normal Liking Rating																
15. Normal Ignore Rating																
16. Internalizing Social Distance																
17. Internalizing Liking Rating	1															
18. Internalizing Ignore Rating	-.18**^	1														
19. Externalizing Social Distance	-.07	-.10	1													
20. Externalizing Liking Rating	-.03	.18**^	.08	1												
21. Externalizing Ignore Rating	-.09	.16*^	-.30**	.06	1											
22. Combination Social Distance	.08	-.10	.36**	.02	-.10	1										
23. Combination Liking Rating	.22**	.08	.06	.20**	-.03	.21**	1									
24. Combination Ignore Rating	-.14*^	.26**	-.20**	.17**	.40**	-.13*^	-.09	1								
25. Normal Etiology (Int.)	.07	.06	.07	.01	-.06	.06	.07	.02	1							
26. Normal Etiology (Ext.)	-.09	.04	-.13*^	.02	.16*^	.05	.01	.08	.05	1						
27. Internalizing Etiology (Int.)	-.12	.13*^	.10	.09	.03	.07	.10	.06	.28**	.24**	1					
28. Internalizing Etiology (Ext.)	-.02	.04	-.05	-.01	.03	.04	.08	.13*^	.08	.27**	.25**	1				
29. Externalizing Etiology (Int.)	-.13*^	.04	-.11	-.02	.10	-.05	-.02	.11	.24**	.35**	.44**	.19**^	1			
30. Externalizing Etiology (Ext.)	-.02	.07	-.09	-.04	.13*^	.06	.02	.15*^	.10	.27**	.26**	.30**	.38**	1		
31. Combination Etiology (Int.)	-.02	.04	.01	.06	.05	-.15*^	-.03	.11	.08	.27**	.34**	.25**	.47**	.21**	1	
32. Combination Etiology (Ext.)	.08	.07	.00	.00	-.02	.13*^	.04	.14*^	.06	.08	.18**^	.39**	.20**	.41**	.35**	1

Note. * $p < .05$, ** $p < .01$, ^no longer significant after Bonferroni correction

APPENDIX: IRB APPROVAL LETTER



University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Human Research

From: **UCF Institutional Review Board #1
FWA00000351, IRB00001138**

To: **Brea-Anne M. Lauer**

Date: **September 08, 2010**

Dear Researcher:

On 9/8/2010, the IRB approved the following modification to human participant research until 06/09/2011 inclusive:

Type of Review: IRB Addendum and Modification Request Form
Modification Type: Adult consent approved for use
Project Title: Accuracy of the Peer Informant: What Characteristics are Related to the Ability to Detect Psychological Symptoms in Peers?
Investigator: Brea-Anne M Lauer
IRB Number: SBE-10-06953
Funding Agency:
Grant Title:
Research ID: N/A

The Continuing Review Application must be submitted 30days prior to the expiration date for studies that were previously expedited, and 60 days prior to the expiration date for research that was previously reviewed at a convened meeting. Do not make changes to the study (i.e., protocol, methodology, consent form, personnel, site, etc.) before obtaining IRB approval. A Modification Form **cannot** be used to extend the approval period of a study. All forms may be completed and submitted online at <https://iris.research.ucf.edu>.

If continuing review approval is not granted before the expiration date of 06/09/2011, approval of this research expires on that date. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

Use of the approved, stamped consent document(s) is required. The new form supersedes all previous versions, which are now invalid for further use. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Participants or their representatives must receive a copy of the consent form(s).

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Joseph Bielitzki, DVM, UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 09/08/2010 10:08:12 AM EDT

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