EMPATHY IN CONDUCT DISORDERED YOUTH

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Abstract

The present study was designed to investigate two main hypotheses: (1) an inverse relationship between empathy and antisocial and aggressive attitudes and (2) deficiencies in empathy in conduct disordered versus comparison group adolescents. Conduct disordered (n = 30) and comparison group (n = 32) agemates participated. Results confirmed that antisocial and aggressive attitudes, as assessed via a self-report inventory, were higher for the conduct disordered than the comparison group. Multi-method ("responsive" and "trait") multidimensional (cognitive and affective) empathy measures were employed. "Responsive" empathy, a process of reaction to others' states and situations, was assessed via individual interviews conducted after exposure to video-taped stimulus vignettes. "Trait" empathy, a general personality disposition, was assessed via the administration of two self-report questionnaires that included separate cognitive and affective empathy scales. Experimenter and task demand effects were addressed by having interviewers and subjects of the same sex, as well as by analyzing measures covarying for social desirability, as assessed via self-report questionnaire. Results generally confirmed predicted inverse relations between empathy and antisocial and aggressive attitudes. The main hypothesis concerning group differences was confirmed for all 3 empathy measures. Results also supported hypothesized group differences in both emotional and cognitive empathy. Findings are discussed in terms of developmental models of empathy and previous research on empathy and aggression, and directions for future research are suggested.

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Introduction

Empathy, the ability to share others' emotional experience (Eisenberg & Strayer, 1987), is considered by many researchers to facilitate prosocial and to reduce aggressive behavior. Empathy is a particularly relevant process to examine in conduct disordered youth because deficiencies in empathy are considered to be major contributors to antisocial and aggressive conduct (Cleckly, 1964; Hare, 1978; Miller & Eisenberg,1988). Reciprocally, proficiency in empathy has been considered to contribute to prosocial behavior in children (Eisenberg & Miller, 1987) and adults (Batson, Fultz & Schoenrade,1987). The comparison of conduct and nonconduct disordered youths' ability to respond to others' emotions would provide data regarding hypothesized links between empathy and both prosocial and antisocial behavior. Given that antisocial and aggressive behaviors in children and adolescents are highly predictive of adult psychopathology and social problems (Robins, 1966; Kohlberg, Lacross, & Ricks, 1972), the inclusion of subjects in this age group may provide important clues as to factors contributing to adult psycho-social problems. As there are few previous studies regarding empathy in adolescents, the data provided by both nonconduct and conduct disordered youths will assist in providing a more complete picture of the development of empathy. Furthermore, by employing multimethod assessment tools, potential deficits in both the cognitive and affective processes involved in empathy can be examined. The study of these cognitive and affective components may contribute to the development of empathy training programs designed specifically to redress hypothesized skill deficits in conduct disordered adolescents.

The purpose of the present study was to investigate hypothesized deficiencies in empathy in conduct disordered adolescents. Thirty conduct disordered adolescents, and a comparison group of 32 agemates from the community participated in the study. The Jesness (1969) Inventory was administered to all youth in order to examine the relationship between antisocial attitudes and behaviors and empathy in both groups. It was predicted that the conduct disordered group would score significantly below the comparison group on the empathy measures, and significantly above the comparison group on the

Jesness. It was further predicted that higher scores on the Jesness Inventory would be associated with lower scores on the empathy questionnaire and interview measures. These comparisons are designed to test the hypothesis that the conduct disordered group employed in this study endorse significantly more antisocial attitudes and behaviors than their community agemates and that these attitudes are associated with less responsiveness to the emotions of others.

Multimethod approaches to the measurement of empathy were employed in order to further analyse the relationship between antisocial attitudes and behavior and the affective and cognitive components of empathy. Those included were the "trait" approach, which defines empathy as a general personality trait or disposition, as measured by self-report questionnaires, and the "responsive" approach, which defines empathy as a process of reaction to others' states and situations (Strayer, 1987b). The responsive approach employed here measures empathy via an interview conducted during exposure to quasi-naturalistic (filmed) stimulus material.

The conduct disordered group was expected to exhibit deficits in affective and cognitive components of empathy. The affective component was partially assessed using the Empathy Continuum (EC) (Strayer, 1987a), an individually administered multidimensional measure designed to assess both the cognitive and affective components of empathic responsivity to a series of video-tape stimulus vignettes. With regard to the affective component, it was hypothesized that the conduct disordered group would exhibit deficits in the ability to respond to the emotional arousal of others with a similar or same emotional response. Therefore, fewer occurrences of affective similarity between themselves and others in response to the EC stimulus material was predicted. Lower scores for the conduct disordered group on trait measures of the affective component of empathy were predicted as well. Significantly lower scores on the Empathic Concern, Fantasy and Personal Distress scales of the Interpersonal Reactivity Index (Davis, 1983) and on the Bryant Index of Empathy for Children and Adolescents (Bryant, 1982), for the conduct disordered group were predicted. These scales are measures of the emotional component of empathy, defined as a vicarious emotional response to the perceived emotional experience of others (Bryant, 1982; Davis,1983). This

hypothesis is based on research findings that significantly lower levels of other-person-oriented sympathy and concern (empathic concern) are present in adolescents with antisocial histories (Alexsic, 1976; Ellis,1982).

It was further predicted conduct disordered adolescents would employ lower levels of other-person-focused cognitive mediations in their emotional responses to others and would report significantly lower scores on self-report measures of cognitive perspective taking in their emotional responses to others in specific situations. Developmental models of empathy indicate that increasingly other-person-focused cognitive mediations of the empathic processes are required in order to more fully assume the perspective and role of another individual (Hoffman, 1982). In addition, hypotheses regarding deficiencies in the ability to adopt the perspective of others (perspective taking) amongst conduct disordered youth (Chandler, 1973; Hare, 1978; Chalmers and Townsend, 1990) support the prediction that lower levels of other-person-focused cognitive mediations in the conduct disordered group will be evident in both the responsive and trait empathy measures. Therefore, it was predicted that the conduct disordered group will achieve a lower total number of correctly identified emotions of vignette characters on the EC. In addition, it was predicted that the conduct disordered group will employ overall lower levels of cognitive mediation in response to the EC vignettes. Finally, it was predicted that the conduct disordered group would score significantly lower on the Perspective Taking scale of the Interpersonal Reactivity Index, as compared to the comparison group.

A more detailed rationale and statement of the research hypotheses will be presented after the construct of empathy and the research relevant on conduct disordered adolescents is reviewed in the sections to follow.

Definition of Empathy

In order to meaningfully evaluate the relationship between empathy and antisocial attitudes and behavior, operational specificity of the concept of empathy is essential. Empathy is best defined multidimensionally from both a cognitive and an affective perspective (Davis, 1983; Strayer, 1987a). In cognitive terms, empathy involves understanding another's feelings (cognitive empathy), whereas in affective

terms, empathy involves a concordant emotional response stemming from another's affective state (affective empathy). Empathy may occur in response to overt cues indicative of another's emotional state (e.g., voice quality, facial expression) or as the consequence of inferring another's state on the basis of indirect cues (e.g., the nature of the other's situation) and perspective taking. The recognition of these cues and perspective taking regarding the other's emotional state are considered to be prime cognitive mediators in empathy.

Most recent approaches to empathy call for a multidimensional operationalization that takes into account both cognitive and affective aspects of experiencing emotional content (Hoffman, 1982; Feshbach, 1987; Strayer, 1987a; Davis, Hull, Young & Warren, 1987). Both affective and cognitive aspects are necessary for empathy to occur. Without appropriate understanding, our inferences about others' emotions might be wrong. Without appropriate emotional responsiveness we may know, but not care about the other persons' experience. Consider the example of a successful "con-artist" or even an intelligent "psychopath" who may, indeed, understand another's viewpoint, but use this only to his or her own advantage, rather than with shared affective concern for the other person.

It is the affective aspect of empathy, in particular, that is considered to motivate prosocial behavior and decreased aggressive behavior towards the other person (Hoffman, 1982; Batson et al., 1987; Feshbach, 1979). Thus, the assessment of this emotional component that may provide evidence regarding the role of affective arousal in empathy in modulating antisocial behavior and, indirectly, evidence for its role in promoting prosocial behavior. Assessment of the affective component alone is not sufficient though, as according to developmental theories (Hoffman, 1977, 1982; Feshbach, 1982), emotional arousal in empathy may be experienced according to different kinds of cognitive mediation, with perspective taking providing the most other-person-directed focus for the shared emotional arousal in empathy. Perspective-taking is a cognitive skill involving the ability to understand another's thoughts and views in a given context. However, as noted above, it may not lead to regard for another person's experience. The empathic reaction requires some ability to distinguish between self and other, and to

momentarily adopt the perspective of another. Otherwise, one may either not understand (and consequently not empathize with) another or may not be able to distinguish fully one's own internal state from another's.

Developmental Models of Empathy

Developmental models of empathy may provide clues as to aspects of the conduct disordered youths socialization and cognitive development that differs from those youths without such adjustment difficulties, and how these differences might impact on their ability to respond to the emotions of others. These models provide support for the hypothesis that youths with antisocial and aggressive behaviors and attitudes are significantly deficient in empathy. Hoffman (1977, 1982, 1987) has proposed a developmental model of empathy in which the affective component of empathy is experienced differently as the child progresses through changes in social-cognitive processing. Specifically, cognitive transformations in the child's conception of other persons (social-cognitive stages) change how the affective component of empathy is experienced (Hoffman,1987). Hoffman gives primacy to the affective component to empathy, and states that empathy may be present even in infants.

Hoffman (1982) proposes that cognitive mediators of empathy continue to mature in older children and adults. Mature empathizers know that their affective arousal to the distress of another is due to a stimulus event that is impinging on someone else, and they have some idea of what the other person is feeling. Hoffman outlines four hypothetical levels of empathic distress that offer a coalescence of empathic affect and a cognitive sense of other. These levels move from; (1) global empathy, in which the fusion of self and other present in the first year of life tends to elicit a global empathic distress response consisting of unpleasant internal feelings and noxious external stimuli (e.g. another person crying), to (2) "egocentric" empathy, in which the child is able for the first time to experience empathic distress while also being aware that another person, and not the self, is the victim (however, they may not be able to distinguish fully between their own and another person's internal states), to (3) by 2 or 3 years of age, the initial cognitive capabilities for perspective-taking permit empathy for another's

feelings and a rudimentary sense of others as having inner states (thoughts, feelings etc.) separate from their own. By 3 or 4 years, the development of language and the ability to derive meaning from symbolic cues further enables the child to empathize with a wider range of emotions. This broadening of emotional responsivity continues until, (4) late childhood witnesses the emergence of the conception of self and other as continuous persons with separate histories and identities and awareness that others have feelings beyond the immediate situation. Eventually, the child may be capable of empathic arousal to an entire group or class of people (e.g. the poor, oppressed, handicapped).

Hoffman's (1982) model includes six hypothesized modes of empathic affect arousal, suggesting that it is a multidetermined response to another's emotions. The first four modes are primarily involuntary and are predominant in infancy and early childhood. They include mimicry or automatic imitation, conditioning and direct association. The remaining two modes evolve from both symbolic associations (including pictorial and verbal communication) between another's emotions and the observer's past emotions, and cognitive role taking. Role taking is different in that it usually involves a voluntary cognitive act of imagining oneself in another's place. Empathy comes to motivate behavior (either prosocial or aggressive) in the form of a drive or need to reduce one's own distress aroused by another's emotional reaction (Hoffman, 1982). Therefore, individuals with developmental histories lacking in opportunities to associate one's own emotions with those of others and deficient in a variety of role-taking opportunities would be unlikely to develop empathically-driven prosocial motivation (Hoffman, 1982).

Feshbach (1987) also posits a multidimensional view of the development of empathy which stresses the importance of cognitive maturation in empathic responsiveness. Feshbach (1987) postulates that the empathic reaction is a function of three factors: (1) the cognitive ability to discriminate affective cues in others, (2) the more mature cognitive skills entailed in assuming the perspective and role of another person, and (3) emotional responsiveness, that is, the affective ability to experience emotions. Feshbach (1987), like Hoffman (1982), emphasizes the primacy of the affective experience in empathy and notes that its outward affective

manifestations probably change extensively with development. The automatic mirroring of a felt emotion in a young child's face ("motor mimicry") is generally replaced by more subtle cues of emotional experience in the older child, such as voice quality, body language and verbal communication (Hoffman, 1977). Feshbach's (1987) postulation of the role of the cognitive discrimination of affective cues in others will be assessed in this study via comparison of the conduct disordered and comparison groups total number of correct identification of the emotions of characters across the EC video-taped vignettes. Both Feshbach (1987) and Hoffman (1982) stress the importance of cognitive role taking in empathy, and the IRI Perspective Taking scale was employed in order to determine if conduct disordered youths display traits consistent with lower capacity for role-taking. More directly, the conduct disordered and comparison group youths were evaluated in their role-taking capacity in response to witnessing the video-taped emotional reactions of others, via comparison of the total number of other-person-focused cognitions reported at various increasingly mature levels, as operationalized by the EC scoring system (outlined below).

Most developmental views maintain that socialization and social learning contribute to empathy (Feshbach, 1982; Hoffman, 1982; Radke-Yarrow, Zahn-Waxler & Chapman, 1983). Factors that promote and maintain empathy and its attendant prosocial behaviors include the use of inductive discipline; support and encouragement of the child to express a wide range of emotions; and the importance of meeting the child's own needs while then directing their focus to others' needs (Hoffman, 1982). Empathy has also been related to the social processes involved in the antisocial and aggressive acts, so often a feature of the conduct disordered and delinquent adolescent's behavior. Previous research on the relationship between sociomoral development, aggressive and antisocial behavior, and empathy has included both a cognitive and an affective focus (Hoffman, 1983; Gibbs, Arnold, Cheesman & Ahlborn, 1984). If children are not encouraged and supported to develop perspective-taking abilities, they may fail to develop the cognitive buffer against antisocial influences and temptations that mature interpersonal and societal reasoning provides (Gibbs et al., 1984). The hypothesized developmental delay in empathic responsivity is seen as attributable to

punitive and threatening socialization environments at school, work and especially at home that do not support efforts or model examples for the child to consider the perspectives that other persons in the same context experience (Kohlberg, 1981, Gibbs, 1987). Hoffman (1982) states that moral encounters occurring naturally in the process of socialization come to be associated with empathic affect, and that the principles associated with that affect are encoded as an affectively charged representation. These principles eventually come to elicit behavior via the symbolic association and role taking modes of activation outlined above.

Research on the family and social histories of conduct disordered children and adolescents tends to support the hypothesis that the emotional climate of the conduct disordered youth's environment is punitive and threatening. Grove and Crutchfield (1982) identified ineffectual parent behavior, characterized by parental psychopathology, incompetent social and instrumental behavior and the use of physical punishment as some of the most consistent research findings in their review of studies on the role of family variables in delinquency. Other prominent variables identified in past research include: (1) one-parent homes, (2) poor marriages, (3) lack of parental control, (4) lack of close social ties with non-delinquent peers, and (5) poor parent-child relationships (defined in a variety of different ways, but especially lack of "attachment") (Grove & Crutchfield, 1982). Thus, previous research on the socialization environments of juvenile delinquents suggests a lack of positive perspective-taking opportunities in a non-threatening environment.

In summary, developmental theorists stress the importance of perspective-taking and the identification of affective cues in others, along with positive socialization and social learning in empathy. The three measures of empathy to be employed in this study are designed to examine not only the degree of similarity in affective response, but cognitive components to empathic responsivity as well. The EC (Strayer, 1987a) specifically queries the level of other-person-focused cognitive mediation employed by the individual and the cognitive ability to discriminate emotional cues in others, as well as the degree of affective match. The IRI (Davis, 1983) Perspective Taking scale will provide a means of group comparison of role-taking in emotional situations as a trait. If perspective taking ability is related to

cognitive maturation, and if cognitive maturation is to some degree dependent on socialization, then hypothesized differences in empathic responsivity between conduct disordered and nonconduct disordered individuals may be due to developmental delays in either social cognition or problems in socialization. Thus, studying differences in cognitive processes such as perspective-taking ability may provide evidence for developmental models of empathy, assist in determining the nature of any differences in affective-cognitive processing, and identify possible remediation or treatment elements.

Research Findings Relevant to Conduct Disordered Youth

The hypotheses of the present study regarding the inverse relationship between antisocial attitudes and predilection for aggression and empathic responding is generally supported by previous studies with children and adults. A major review of past research on the relation between empathy and social behavior generally has indicated that empathic responding is negatively related to aggressive and antisocial behavior (Miller and Eisenberg, 1988). This meta-analysis of approximately 50 studies demonstrated overall low to moderate negative correlations between aggression and empathy levels (Miller and Eisenberg,1988). A similar meta-analysis of 30 studies was conducted by Eisenberg and Miller (1987), and demonstrated generally low to moderate positive correlations between empathy and both prosocial and cooperative/socially competent behavior (Eisenberg & Miller,1987). The results of both reviews indicated that the degree of relationship reported was in part dependent on the empathy measure employed. In the study proposed here, both the questionnaire and picture-story methods will be used. Issues regarding the possible choice of measures in empathy research will be addressed in a separate section of this proposal.

Taken individually, studies that have directly assessed empathy in adolescents with antisocial histories have produced mixed results. Some researchers have reported significantly lower levels of self-reported empathy in aggressive delinquent as compared to nonaggressive delinquent adolescents (Alexsic, 1976; Ellis, 1982), while others report no differences depending on the type of questionnaire measure used and the population (Kendall, Deardorff and

Finch, 1977; Kaplan and Arbuthnot, 1985; Lee and Prentice, 1988). More specifically, Alexsic (1976) and Ellis (1982) found that aggressive delinquent adolescents were significantly delayed or arrested in the development of empathy as compared to nonaggressive delinquents on a Hogan's (1969) paper and pencil measure of empathy. Ellis (1982) found that although a nondelinquent sample did score higher than the delinquent subgroups on the Hogan (1969) questionnaire, this difference did not approach significance. Hogan (1969) compared adult criminal offenders and college students who scored low on a measure of socialization and found that college students scored much higher on his paper-and pencil measure of empathy. These studies also indicate that degree of empathic responding may mediate aggression, as measured experimentally or estimated from clinical records, supporting Feshbach's (1979) conception of empathy as an inhibitor of aggression.

The results of previous research are not unequivocal though. Kaplan and Arbuthnot (1985) found delinquent adolescents scored lower than nondelinquent youths on an unstructured empathy task (involving an open-ended interview following presentation of stories depicting adolescent conflicts). However, no differences between the two groups were found on Bryant's (1982) Index of Empathy, nor on a cognitive role-taking measure. Lee and Prentice (1988) reported no significant differences between delinquent and nondelinquent males on the Davis (1983) Interpersonal Reactivity Index of empathy. Lee and Prentice (1988) also subdivided the delinquent population into psychopathic, neurotic and subcultural subgroups (based on degree of socialization, as differentiated by Quay and Parsons (1971), in an attempt to differentiate between aggressive and nonaggressive delinquents. However, they found no significant group differences in empathy. This is in contrast to Ellis (1982) who did demonstrate differences between aggressive and nonaggressive subgroups. Kendall, Deardorff and Finch (1977) reported that while groups of first offenders, repeat offenders and normal adolescents differed on a measure of socialization, no differences on the Hogan (1969) scale were found. In a related study, MacQuiddy, Maise and Hamilton (1987) found no difference between parent-identified behavior problem and nonproblem boys (age 5 through 7 years) on Bryant's Empathy Index.

Taken as a whole though, there is sufficient evidence to suggest that

comparisons between conduct and nonconduct disordered adolescents on measures of affective empathy are justified. The inclusion of three measures (the EC, the IRI Empathic Concern Fantasy and Personal Distress scales and the Bryant) in this study will provide a sufficient basis of comparison.

With regard to cognitive empathy, few studies were located that directly assessed other-person-focused cognitions in empathic responding amongst juvenile delinquents. In one of the earliest studies in this area, Chandler (1973) asked pre-adolescent subjects to describe each of a series of cartoon sequences presented from the central character's point of view. Chandler (1973) found significantly lower role-taking ability in pre-adolescent delinquent as compared to nondelinquent males. However, Kaplan and Arbuthnot (1985) did not find adolescent delinquent males and females lower on Chandler's (1973) role-taking measure than nondelinquent adolescents. Lee and Prentice (1988) reported significantly lower levels of role-taking in stories, logical cognition and moral reasoning in delinquent as compared to nondelinquent males. As with the empathy measure, Lee and Prentice (1988) were unable to locate differences between the delinquent subgroups on the cognitive tasks. In the only study located that specifically assessed affective perspective taking in children with conduct problems, MacQuiddy, Maise and Hamilton (1987) found no difference between behavior problem and nonproblem boys on a task involving the identification of story character emotions depicted in a series of photographs.

The present study will investigate group differences in the cognitive empathy via the self-report IRI Perspective Taking scale. In keeping with the multimethod approach adopted in this study, group differences in the cognitive component to responsive empathy will be investigated as well (correct identification of characters' emotions and level of cognitive mediation employed in response to the EC vignettes). Thus, affective perspective taking, and the component cognitive skills hypothesized to underlie this ability will be assessed more directly than in previous studies.

Theoretical speculations and previous studies on the efficacy of training various affective and cognitive processes implicated in empathy provide supporting evidence for its role in mediating prosocial behavior. This research suggests

deficits in empathic responsivity contribute to the antisocial and aggressive behavior of conduct disordered adolescents. This supporting evidence will now be reviewed.

Hoffman (1982,1983) has proposed that antisocial conduct is the result of ineffective levels of empathic responding and frequent aggressive impulses. Hoffman (1983) emphasizes the importance of the use of inductive discipline by caretakers; an approach to parenting that encourages the child to adopt the victim's perspective in conflict situations. He theorizes that socialization that allows the child to experience a wide variety of emotions and that directs the child's attention to the inner states of other people should contribute to the development of empathic responsivity to a wide range of emotions. As well, providing an emotionally nurturing environment should help keep them open to the affective needs of others and empathic, rather than absorbed in their own needs. At the same time, it is important that those needs are met, confirming emotional expression while then directing the child's attention to others' needs. In contrast, parental power assertion techniques are those that involve nonnurturant, arbitrary and severe application of punishment as the primary means of maintaining control and discipline. Thus, Hoffman (1983) stresses the need for a warm, nurturant environment in combination with inductive techniques, in which empathy is fostered by a benign, nonpunitive socialization experience.

Whereas Hoffman emphasizes the impact of affective development on the emergence of empathy, other theorists have stressed the role of cognitive development on socialization. Lawrence Kohlberg's (1981) cognitive moral development theory, like Piaget's (1932), posits that antisocial conduct is a product of egocentricity, immature sociomoral reasoning and inadequate perspective-taking opportunities. Research in moral development suggests that the antisocial individual is arrested at a self-centered stage of sociomoral reasoning that employs pragmatic, short-term reasoning (Blasi, 1980). Kohlberg (1981) emphasized role-taking opportunities within the peer-group as central to moral development. However, he also acknowledged the contribution of the affective aspect of moral growth as well, in that it is affective motivation that energizes the search for alternative behaviors. (Kohlberg, 1981; Reimer, Paolitto & Hersh, 1983). Both

Kohlberg and Hoffman's speculations on the origins of antisocial conduct support the inclusion in this study of hypotheses that address both the affective and cognitive components to empathy.

There are some notable positive findings to consider in the area of cognitive and affective training studies with aggressive and antisocial populations. Some researchers have attempted to encourage prosocial behavior in persons with antisocial histories by providing positive perspective-taking opportunities in a group setting, with modest gains noted (Chalmers, 1973; Yolcheson & Samenow, 1977; Gibbs et al., 1984; Arbuthnot & Gordon, 1986; Chalmers & Townsend, 1990). Chalmers (1973) found that participation in a series of role-playing exercises increased perspective taking and reduced court contacts over on 18 month follow-up period in delinquent boys. Yolcheson and Samenow (1977) reported reductions in antisocial behavior and even some lifestyle changes in an extensive, year-long dilemma sessions program for adult criminal offenders. Arbuthnot and Gordon (1986) reported stable behavioral gains (in terms of disciplinary referrals and grades) in antisocial juvenile delinquents on both short term (2 to 3 weeks) and long term follow-up (1 year) following a four month moral dilemma treatment program. Gibbs et al. (1984) reported gains in socio-moral reasoning following eight weekly small group discussions of socio-moral dilemmas. Finally, Chalmers and Townsend (1990) assessed the impact of a role-playing program on social perspective taking in a small group (n=8) of delinquent adolescent females. They reported significant gains on the Chandler (1973) Social Perspective Taking Task for those females enroled in the program as compared to a control group of delinquent females enroled in a fitness program. Chalmers and Townsend (1990) reported increased scores on the Bryant (1982) Empathy Index as a result of the social perspective taking program, as well. These studies are suggestive of the interaction between increases in perspective taking ability and decreases in antisocial behavior, but they do not provide direct evidence for the interaction between other-person-directed cognitions and empathy.

Few studies have been conducted that directly attempt to train the affective components to empathy. One notable exception is the the Empathy Training Study (Feshbach, 1979, 1982; Feshbach and Feshbach, 1982). Feshbach (1979)

attempted to lower aggressive behaviors and facilitate positive social behaviors in third and fourth grade children through the enhancement of mediating processes such as empathy. The two components of empathy the program addressed specifically were identifying the relevant affective cues that discriminate various emotional states from one another and encouraging cognitive understanding of emotional situations from another person's perspective. Results indicated that children in the empathy training condition differed significantly from controls in the overall increment in their prosocial behaviors as assessed by peer, teacher and self-report. The findings for aggression were less clear. Although children in the empathy training groups declined in aggression relative to the nonparticipating controls, children in a cognitive problem solving control group also displayed a decline in aggressive behavior.

The weight of the cumulative evidence indicates that empathy is positively related to prosocial behavior (Eisenberg & Miller, 1987) and is negatively related to antisocial behavior (Miller& Eisenberg, 1988); however, there is a need for further research in this area with conduct disordered youth. Although a studies in empathy have been conducted with older delinquents, there have been no studies that specifically compare empathic responding in institutionalized emotionally disturbed adolescents with antisocial traits to normal youth. The empathy training and perspective taking group training programs reviewed can claim modest gains in increasing prosocial behavior, perspective taking and socio-moral reasoning. The demonstration of the efficacy of empathy training programs strengthens the hypothesis that perspective taking and empathy impact upon social conduct. However, given these inconclusive results and recent changes in the conceptualization of empathy among researchers, there appears to be a need to assess empathic responding in this group using more advanced methods. As well, the addition of further data on a wider range of adolescent populations may contribute to the validation of developmental models of empathy such as that proposed by Hoffman (1982).

The precise process by which empathy mediates aggressive behavior is somewhat controversial. For example, Feshbach (1979) has proposed that the observation of the "noxious consequences" of the aggressor's behavior (e.g.

crying, defensive posture) can elicit feelings of personal distress in the perpetrator, which in turn reduces the probability of further aggression. Empathy may also serve to curtail current aggression when witnessing others' distress cues (by sharing their distress) and may reduce the likelihood of subsequent aggressive acts by the learned anticipation of the distress aggression causes in others and similar associations in oneself (Feshbach, 1979), particularly when the individual feels responsible for the distress state in the other person (Hoffman, 1982). Studies by Feshbach and Feshbach (1969) and Mehrabian and Epstein (1972) provide support for the hypothesized negative relationship between aggression and empathy. Teacher ratings of high-empathy boys who were 6-7 years old were rated as less aggressive than low-empathy boys (Feshbach & Feshbach, 1969). Mehrabian and Epstein (1972) found that the expression of moderately negative emotional cues expressed by a victim of aggression inhibited subsequent aggressive behaviors of high-empathic adults.

Personal distress, or feelings of anxiety or worry, are considered to be more self-oriented than empathy, which is considered to involve more other-person focused sharing of feelings (Batson et al., 1987). Personal distress and empathy are considered by some theorists to be negatively related to one another (Hoffman, 1982; Batson et al., 1987), and to motivate different types of prosocial behavior in response to other persons distress. Batson (Batson & Coke, 1981; Batson et al., 1987) has proposed that sympathy (related to empathy in that it involves perspective taking and concern for another) is more likely to lead to "altruistically" motivating helping (where the goal is to reduce another's distress), while personal distress is more likely to lead to "egoistically" motivated behavior (where the goal is to lower one's own feelings of anxiety and worry).

While the cues that elicit feelings of personal distress in most people may lead to prosocial behavior, they may increase the probability of aggression in those with established histories of antisocial behavior. Perry and Perry (1974), hypothesized that an important part of the aggressive child's motivation, when angered, is to perceive signs of suffering in his victims as an indication of the successfulness of the aggression. Therefore, the aggressive child will escalate the intensity of the attack until such time as pain cues are elicited, indicating success.

In their experimental study, aggressive boys delivered greater amounts of electric shock to a cohort than did non-aggressive boys. It can be inferred from this result that aggressive boys may not respond vicariously to others' emotions (and thus have lower levels of personal distress) or interpret others' pain cues in the way that less aggressive persons do (Miller & Eisenberg, 1988). However, an alternative hypothesis is that aggressive individuals may become "overaroused" in the presence of the intense emotions from others (Hoffman, 1982). The more limited repertoire of prosocial behaviors in aggressive persons and the more egoistic focus of personal distress may in turn lead to instrumental aggression as an expression of their own intense arousal or possibly as an attempt to escape from the situation.

In addition to possible contributions of the affective component of empathy and personal distress to mediating aggression, there may be cognitive differences between aggressive and non-aggressive individuals. Dodge (1980) has proposed that aggressive children may make interpretations of others' behaviors in social situations that differ from those made by less aggressive children. The resulting behavior in aggressive children tends to be more consistent with their own interpretation of the situation rather than the affective state of the other person (Dodge, 1980). The cognitive differences in the interpretation of social cues in aggressive children are seen by some researchers to be attributable to a deficiency in perspective taking, which in turn may be reflected in lower levels of empathy (Feshbach & Feshbach, 1982; Hoffman, 1982).

The role of personal distress in mediating aggression will be examined in this study via administration of the IRI Personal Distress scale. This will assist not only in examining the hypothesized relation of the affective component of empathy to antisocial attitudes and behaviors, but may also shed some further light on the specific contribution of personal distress to aggressive conduct.

Methodological Issues in Empathy Measurement

Empathy has been studied and measured with a number of different experimental designs and assessment tools. These include picture-story methods, the experimental induction of empathy, self-report on questionnaires and nonverbal measures of arousal and emotional response to stimuli. Picture-story methods

involve the individual's self-report of emotional state in response to hypothetical stories presented via pictures, slides or filmed vignettes. Eisenberg and Miller (1987) found a positive but not significant overall relation between this measure of empathy and prosocial behavior in the 20 studies they included in their meta-analysis. Similarly, Miller and Eisenberg (1988) found an overall positive but non-significant relation between picture-story indices of empathy and aggression.

The authors offer a variety of explanations for the modest results, most of which revolve around methodological issues. Among these are included the effects of social or experimenter demands (i.e. social pressure, need for approval from adults). Therefore, picture-story methods may underestimate the degree of relation between empathy and aggression, as the demand effects of the situation may encourage prosocial responding (Miller and Eisenberg, 1988). Strayer (1987b) believes that many of the limitations of the picture-story method can be overcome with instructions emphasizing the equal value of neutral or inconsistent feelings (as does the EC) and the independent assessment of the social desirability of certain responses.

Eisenberg and Miller (1987) conclude that questionnaire methods correlate more highly with both prosocial and aggressive behaviors than do picture-story indices. However, the association between picture-story indices and aggressive behaviors has been found more consistently with older children (Eisenberg & Miller, 1987; Miller & Eisenberg, 1988). It has been suggested that the association between empathy and social behavior in children is weak, and that this association is strengthened via increasingly differentiated emotional and cognitive processes (Eisenberg & Miller, 1987). In infancy and early childhood, the affective arousal of others is likely to be experienced as personal distress (Hoffman, 1984). The emergence of both affective and cognitive differentiation between one's own and others' internal states may lead to a concomitant increase in prosocial behavior. With the emergence of this differentiation, the emotions of others are gradually experienced as less and less aversive. Feelings of sympathy and concern are then possible, as the emotions of others are no longer experienced as potentially threatening feelings of personal distress (Batson & Coke, 1981). This increase in the ability to differentiate one's own feelings from those of others, plus the

increased ability in cognitive perspective taking may account for the increased association between picture-story measures of empathy and social behavior in older children and adolescents. Thus, picture-story methods may constitute a more effective research tool for use with adolescents who are undergoing change in the affective and cognitive realms of empathy.

Strayer (1985, 1987b) attempted to incorporate methodological and conceptual considerations into a measure called the Empathy Continuum System (EC). This system assesses empathy along 6 different levels of cognitive mediation and 3 levels of affective arousal (as well as a "no affective arousal" level). Thus, the EC approaches empathy from a multidimensional perspective. The participants' subjective experience of shared affect with the stimulus character is the criterion used to define empathy. The reasons for this shared affect constitute the cognitive contribution to empathic responding. By employing video-taped dramatic stimuli, the EC improves over earlier picture-story methods by increasing the naturalistic features and emotional evocativeness of the events witnessed (Strayer, 1987b).

The major purpose of employing the EC in this study is to compare the emotional and empathic reactions of the conduct disordered and comparison group youth. The EC score is based upon a) the degree of affect match reported for self and the characters viewed on each of the video-taped vignettes and b) the level of cognitive mediation employed in generating the emotional response to the vignette, based on models of cognitive developments in empathy (Hoffman, 1983) and in the understanding of others internal states (Selman, 1980). As well, Feshbach (1979) specifies the correct identification of affective cues in others as an essential element in the empathic response. The EC interview permits scoring of the participant's ability to identify the emotions of the characters viewed on the video-taped vignettes.

With regard to questionnaire measures, Eisenberg and Miller (1987) believe that such techniques assess more than empathy per se. Such measures tend to tap processes such as sympathy, perspective taking, personal distress and other aspects of responding to another's emotion. Eisenberg and Miller (1987) found questionnaire measures of empathy positively related to prosocial behavior for children and adults. Similarly, Miller and Eisenberg (1988) found a significant

negative relation between questionnaire measures of empathy and aggression. In both analyses, the questionnaire studies tended to produce more robust findings than the picture-story methods. Miller and Eisenberg(1988) believe that because questionnaires contain many items, they tap individuals' empathic and sympathetic reactions over a broad range of behaviors and situations. This may improve the stability of estimates of empathic responding. The Interpersonal Reactivity Index (Davis, 1983) will be employed in this study, because it has separate scales to differentiate among empathic concern, personal distress, fantasy (imaginal involvement) and perspective taking. This allows for explicit comparison of the conduct disordered youth and the community agemate groups on the scales of empathic concern and perspective taking (as per the research hypotheses) in addition to potentially providing some modest degree of concurrent validity for the EC. The four scales of the IRI permit a more focused assessment than global questionnaires, such as those of Mehrabian & Epstein (1972) or Bryant (1982), on the particular factors that may differentiate conduct disordered youth from the comparison youth.

Because the EC interview assesses empathy in response to witnessing others' emotions, it is considered a measure of responsive empathy. The IRI was designed as a dispositional measure (Davis, 1983) and thus is considered a method of assessing trait empathy. Although the IRI has the advantages noted above of assessing empathy across a range of behaviors and situations and multidimensional subscales, the EC will provide an opportunity to assess empathic processing. Both the EC and IRI will be reviewed in more detail in the methods section of this proposal.

The participation of conduct disordered youths extends research to an age range and clinical subgroup for which little previous data exists. Employing both the Empathy Continuum (to assess responsive affective and cognitive mediational aspects of empathy) and a more typical dispositional questionnaire measure, allows for investigating whether deficits in empathic responding are primarily related to cognitive, or emotional processing, or to dispositional preferences and attitudes.

The Present Study

The material surveyed indicates that empathy is related positively to prosocial and negatively to antisocial behaviors. As well, previous research with adolescents and adults with antisocial histories has revealed possible deficits in empathy. Therefore, there appears to be a need to assess the extent to which conduct disordered adolescents display deficits in these abilities, given their problem behaviors. The assessment of empathy with the use of both responsive and trait measures provides the most efficient means of discovering if any relation exists between antisocial and aggressive behaviors in conduct disordered youth and empathy levels, given the relevant methodological and conceptual issues. The multidimensional nature of the measures will afford the opportunity to examine differences in the cognitive and affective components of empathy between conduct disordered and nonconduct disordered youths. Furthermore, the direct assessment of empathy, antisocial attitudes and aggressive personality traits could provide meaningful data for aspects of intervention, especially with regards to designing empathy training programs.

The present study was designed to measure the degree of empathic responding and perspective taking demonstrated by conduct disordered youths as compared to agemates within the general population. The relationship between antisocial attitudes and behaviors and empathy was the primary focus of this study. It was hypothesized that the conduct disordered group employed in this study would endorse significantly more antisocial attitudes and behaviors than their community agemates and that these attitudes would be associated with less responsiveness to the emotions of others. Therefore, it was predicted that the conduct disordered group mean scores on the Jesness would be significantly above those of the comparison group and that the conduct disordered group mean score on the responsive empathy measure, the EC, would be significantly below that of the comparison group. It was further predicted that higher scores on the Jesness Inventory would be associated with lower scores on both the responsive (Empathy Continuum; Strayer, 1987a) and trait (Bryant Empathy Index; Bryant, 1982; IRI; Davis, 1987) measures of empathy. Consistent with Hoffman's proposal that aggressive individuals may experience "overarousal" in the presence of others'

emotions, and with hypotheses regarding the negative relationship between personal distress and empathy, (Hoffman, 1982; Davis, 1983; Batson et al., 1987) it was predicted that higher scores on the IRI Personal Distress scale would be associated with higher scores on the Jesness Inventory.

The multidimensional empathy measures in this study were employed to examine group differences in the affective and cognitive components to empathy as both a process of reaction to others' states and situations and as a general personality trait. Differences between the conduct disordered and comparison group youths in responsive empathy (empathy defined as a process of reaction to others' states and situations) were examined. In terms of the affective component to responsive empathy, it was hypothesized that the conduct disordered group would report fewer occurrences of affective similarity between themselves and the characters viewed in the stimulus vignettes of the EC. With regards to the trait measures of the affective component, it was hypothesized that the conduct disordered group would achieve lower scores than the comparison group on the relevant self-report questionnaires. Specifically, significantly lower scores on the Empathic Concern and Fantasy scales of the Interpersonal Reactivity Index (Davis, 1983) and on the Bryant Index of Empathy for Children and Adolescents (Bryant, 1982), for the conduct disordered group were predicted. In contrast, it was predicted that the conduct disordered group would score significantly above the comparison group on the Personal Distress scale of the IRI.

An equally important focus was the investigation of group differences in the other-person-focused cognitive mediations involved in empathy; both perspective taking in emotional responses to others in specific situations (as reflected in the trait measure) and the cognitive mediations involved in empathic responsivity. Two cognitive components to responsive empathy, as measured by the EC, were examined. These were the identification of emotions displayed by characters in the vignettes and the level of cognitive mediation achieved in response to the vignettes. It was hypothesized that the conduct disordered group would report fewer accurate identifications of character emotions. It was further hypothesized that the conduct disordered group would employ lower levels of cognitive mediation, compared both within each vignette and in the mean level achieved across all of the EC

vignettes. Conduct disordered adolescents were also expected to report significantly lower levels of other-person-focused cognitive mediations in their self-report of emotional responses to others. Therefore, a lower group mean score for the conduct disordered youths on the Perspective Taking scale of the IRI was predicted.

There are equivocal results regarding sex differences in empathy (Eisenberg & Lennon, 1983), due possibly to the varying ages of the children used and the different methods employed in previous studies (Chovil, 1985). To insure methodological control over possible gender-related effects, both male and female adolescents were assessed in this study, and the comparisons between males and females on all measures were performed.

Method

Subjects

A total of 62 youth, comprising two groups (conduct disordered and a comparison group of normal youth) participated. The group of conduct disordered adolescents was selected from the residential assessment and treatment facilities of the Maples Adolescent Treatment Centre and Juvenile Services to the Court in Burnaby, British Columbia. Permission for access to the conduct disordered group was obtained from the Executive Director of the Forensic Psychiatric Services Commission, B.C. Provincial Ministry of Health. Permission for access to the comparison group was obtained from the Research Committee of the Burnaby School Board.

All of the conduct disordered residents of the Maples and Juvenile Services at the time of the initiation of the study were approached and solicited as volunteers. Those who accepted the invitation to participate were included in the study (N = 30; 14 females and 16 males). The age of the conduct disordered participants ranged from 14 to 17 years (M =14.9; SD=.94). All subjects in this group were given a diagnosis of conduct disorder by an assessing psychologist or psychiatrist. As well, these adolescents were given one or two additional diagnoses, which were as follows: 8 subjects with Attention Deficit Hyperactivity Disorder, 12 with Personality Disorder, 4 with Learning Disabilities (none related to reading)[1] and 5 with Substance Abuse Disorder. A file review of the conduct disordered subjects' background information determined that all were of at least Average intelligence, as measured by the Full Scale score of the Weschler Intelligence Scale for Children-Revised (Full Scale I.Q. M = 101.62, SD = 9.19). As well, the educational assessment conducted by the Maples school was reviewed in order to insure that all of the conduct disordered subjects who were invited to participate had reading comprehension skills at the grade 7 level or above (in order to insure that they could

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[1] Separate scores on all empathy measures were computed for the 4 learning disabled subjects separately. Scores for this group did not differ significantly from the remaining conduct disordered group on any of the measures. Therefore, they are combined into group data.

comprehend the self-report questionnaires). Finally, all participants were surveyed regarding their parents education and employment level as a brief measure of socio-economic status. The majority of the particpants in both groups had parents who completed high school and were employed in trades related occupations. The comparison group reported a slightly greated number of professionally employed parents (N = 8, as compared to N = 5 for the conduct disordered participants).

The group of normal adolescents (N=32; 15 females and 17 males) were selected from a High School in the same community. The comparison group volunteers were solicited via a short presentation to their Social Studies class. All of the comparison group participants were achieving at average levels or above in academics and none had ever been retained a grade in school. As with the conduct disordered group, all of the comparison group volunteers who participated were included in the data analysis. Subsequently, the three eldest nonconduct disordered females were dropped in order to insure comparable group ages and sex ratios. The age range of the normal comparison group adolescents was 14 to 18 years of age (M =15.6; SD=.94). The conduct disordered youths, plus the comparison group of high-school students were asked to give their informed consent, and permission for the participation of the nondelinquent adolescent participants was obtained from the parent or guardian of each. Both the conduct disordered and comparison group adolescents received $3 in gift certificates for a local restaurant after completing the assessment.

Measures

Conduct Disorder

All study participants were given the Jesness Inventory (Jesness, 1969) in order to assess levels of antisocial attitudes and tendency toward for aggressive and externalizing behavior patterns. The inventory has been reported to be reliable and valid for discriminating between delinquents and nondelinquents in a variety of geographical locations in the U.S. and Great Britain (Jesness, 1969). The concurrent validity of the Jesness in discriminating delinquent from nondelinquent adolescents is demonstrated by a correlation of -.76 between the AI scale and the

Achievement via Conformity scale of the California Personality Inventory (CPI), and of -.60 between the AI scale and the Socialization scale of the CPI (Jesness, 1969). Split-half reliability coefficients ranged from .70 to .84 for each of the 11 scales produced by the Jesness Inventory. Test-retest reliability coefficients ranged from .46 to .72 (Jesness, 1969).

The Jesness is a self-report measure of antisocial attitudes and aggressive behaviors, consisting of 155 true-false items that provide scores on 11 scales. Three of these are termed attitude scales. The Social Maladjustment (SM) scale is a measure of attitudes associated with inadequate or disturbed socialization. Value Orientation (VO) measures opinions characteristic of persons from lower socio-economic status, while Immaturity (IMM) measures the perceptions of self and others that are characteristic of persons younger than the subject. The remaining seven scales (Autism (AU) , Alienation (AL), Manifest Aggression (MA), Withdrawl-Depression (WD), Social Anxiety (SA) , Repression (REP) and Denial (DEN)) provide a description of personality traits relevant to the delinquent population.

An Asocial Index (AI) is computed based on a regression equation (from the attitude and personality scales) that results in a score that is predictive of delinquency (in this case defined as "a generalized tendency to behave in ways that transgress social rules". This index significantly improves upon the accuracy of classification achieved by the Social Maladjustment (SM) scale alone (Jesness, 1969). The Jesness Social Maladjustment attitude scale, the Manifest Aggression personality scale and Asocial Index are particularly important for distinguishing antisocial attitudes and aggressive behaviors in adolescents, and these scales are the most relevant to the current investigation. The MA scale reflects an awareness of anger and frustration and a tendency to react overtly with these emotions, while the SM scale assesses attitudes associated with antisocial behavior. The Antisocial Index is primarily a predictor of recidivism, or the likelihood of future antisocial conduct.

Scoring of Jesness scales yields T-Scores predictive of antisocial attitudes and personality. Average T-Scores and standard deviations for each group were computed for each of these measures. Pearson Product Moment correlations were

computed between the Jesness scales and the empathy measures. As outlined in the introductory section of this study, an inverse relationship was expected between Jesness and the empathy measures, as previous research indicates that increased levels of aggression are related to lower levels of responsive and trait empathy.

Empathy

Three measures were used in order to assess empathy as a general personality trait or disposition, and as a response process evoked by quasi-naturalistic stimulus material.

1. Empathy considered as a "trait" or disposition was assessed using Bryant's (1982) Index of Empathy for Children and Adolescents. The Bryant (derived from the Mehrabian and Epstein (1972) Emotional Empathy Index for adults) was designed to assess the self-reported affective arousal component to empathy in children and adolescents. Bryant (1982) states that the approach employed in the downward extension of the index was one that defines empathy as a vicarious emotional response to the perceived emotional experiences of others. The index consists of 22 items such as "seeing a boy who is crying makes me feel like crying" and "kids who have no friends probably don't want any" (see Appendix A). A nine point scale ranging from "absolutely not like me" (-4) to "very much like me" (+4) was used in the present study. The minimum and maximum scores possible were -88 and +88 respectively. Bryant (1982) employed a True/False response format for use with younger children. The present response format was considered more appropriate for use with older youths and is similar to the format used by Mehrabian and Epstein (1972) with adults. It was predicted that the conduct disordered group would score significantly below the comparison group in their self-reported ability to respond affectively to the emotions of others, as measured by the Empathy Index.

Bryant (1982) reported adequate test-retest reliability coefficients for the Empathy Index ($r = .79$) over a short time interval (2 weeks). The convergent validity of the Bryant was supported for the adolescent sample via significant correlation ($r = .76$, $p<.001$) with other affect-based empathy measures (Feshbach

& Roe, 1968; Mehrabian Epstein, 1972). Discriminant validity was assessed by Bryant (1982) via correlations of the Empathy Index scores with reading achievement scores from school records. Non-significant results were obtained for the adolescent sample (Bryant, 1982)

2. The Interpersonal Reactivity Index (Davis, 1983) was employed as a second measure of empathy as a trait or disposition. It is a 28-item self-report questionnaire consisting of 4 scales. The Perspective Taking scale measures the ability to adopt the perspective of other people in everyday life situations. A sample item from this scale is "sometimes I find it difficult to see things from the other person's point of view." The Fantasy scale measures imaginal involvement or the tendency to transpose oneself into the feelings and actions of characters in books and movies. A sample item from this scale is "I really get involved with the feelings of the characters in a novel." Davis (1983) states that the Fantasy scale correlates most highly with Empathic Concern (presented below) and is more closely related to measures of emotionality, concern for others and affective empathy than to cognitive perspective taking. The Empathic Concern scale measures the tendency to experience feelings of warmth, compassion and concern for other people. A sample item from this scale is "I am often very touched by the things I see happen." The Personal Distress scale measures self-oriented feelings of anxiety and unease in tense emotional social settings. A sample item from this scale is "being in a tense emotional situation scares me." Davis (1983) defines empathy, in general terms as a process of reaction to the observed experiences of others, with each of the four scales representing specific cognitive (Perspective Taking) and affective (Empathic Concern, Fantasy, Personal Distress) psychological constructs. The IRI employs a five point scale, ranging from "not at all like me" (1) to "very much like me" (5). Total scores for each of the maximum possible scores for each scale are 7 and 35 respectively.

Davis (1980) reported satisfactory test-retest reliabilities for the IRI, with correlations ranging from .62 to .71. Similarly, internal consistentcy measures ranged from .71 to .77 (Davis, 1980). Validity information is based on college students, (Davis, 1983), for whom predictable patterns of relationships between

these scales and a variety of measures of social functioning, self-esteem, emotionality and sensitivity to others emerged. More specifically, convergent validity for the IRI was supplied by significant correlations between the cognitive scale (Perspective Taking) and a cognitive measure of empathy (Hogan, 1969), and between the emotional scales (Empathic Concern, Personal Distress and Fantasy) and an affective measure of empathy (Mehrabian & Epstein, 1972). Davis (1983) reported correlations of .42 for males, and .37 for females ($p < .05$) between the Perspective Taking scale and the Hogan (1969) Empathy scale. The three IRI affective scales demonstrated significant correlations with the Mehrabian and Epstein (1972) Emotional Empathy scale. For the Empathic Concern scale the scores ranged from .56 for females, to .63 for males. For the Fantasy scale, these ranged from .56 for females to .48 for males, while for the Personal Distress scale these ranged from .12 for females, to .36 for males ($p < .05$ for all scores). Its extension to adolescents is viable, given the minimal reading level required is Grade 3, and given the importance of establishing comparison data between this age group and young adults.

With regard to the affective component of trait empathy, it was hypothesized that the conduct disordered group would report less ability to respond to the emotional arousal of others with a similar or same emotional response. It was specifically predicted that the conduct disordered youth would score significantly below the comparison group on the affective Empathic Concern and Fantasy scales of the IRI. However, given the negative relationship hypothesized between personal distress and empathy by others (Feshbach, 1979; Hoffman, 1982; Batson et al., 1987) and the low to negative correlations between the IRI Personal Distress and Empathic Concern scales (Davis, 1983) it was hypothesized that the conduct disordered group would score above the comparison group on the Personal Distress scale.

With regard to the cognitive component of trait empathy, it was hypothesized that conduct disordered adolescents would report lower ability to adopt the perspective of others in a variety of everyday situations. It was specifically predicted that the conduct disordered youth would score significantly below the comparison group on the cognitive Perspective Taking scale of the IRI.

3. Responsive empathy, a process of reaction to others' emotions evoked by quasi-naturalistic video-taped stimulus material was assessed via the Empathy Continuum (EC) (Strayer, 1987a). The EC interview and scoring system assess the affective-cognitive components to empathy by coding both the extent to which the stimulus persons' identified emotions are shared by the viewer and the cognitive attributions mediating his/her reported emotional responsivity. This method is applicable to a fairly wide age range, and has been used with children 5 to 13 years of age, as well as with a pilot sample of adults (Strayer, 1985). It permits reliable scoring (94% average inter-judge percentage agreement) of a subject's reported experience of empathy in response to viewing a series of video-taped vignettes depicting persons in situations arousing fear, sadness, anger and happiness. As indicators of discriminative validity, the EC does not correlate with "verbal IQ" as assessed by the Peabody Picture Vocabulary Test (Dunn, 1981), nor does a derivative measure correlate with social desirability (Chovil, 1985). There are no comparable responsive empathy measures permitting assessment of its concurrent validity for this age range. Initial predictive validity indicators for the EC indicate that it relates significantly to prosocial measures such as helping strategies and close interpersonal distance (Strayer & Schroeder, in press). Using the EC interview and scoring system across two different studies, entailing different stimulus vignettes, resulted in similar and expected developmental progressions in EC scores for the three age samples included in each study (Strayer, in preparation).

The stimulus vignettes employed in this study were previewed on a small (n=10) sample of nondelinquent adolescents to insure their appropriateness for this age group and to insure that the stimuli displayed the desired variety of emotions. Each of the pilot subject's receptiveness to viewing the vignettes and being interviewed about them was evaluated, along with the scorability of their responses. Table 1 presents a brief synopsis of each of the 7 vignettes used in the order of presentation to the participants and the emotions most frequently identified for the characters by the pilot sample.

Insert Table 1 Here

After viewing each video-tape, subjects were individually interviewed about them. The youth was asked to identify the character's emotions (e.g., happy, sad) and to rate its intensity. The mean number of correct identifications of each main character's emotional state was computed for each subject. This provides data regarding the hypothesized poorer performance in identifying emotions of the conduct disordered than the comparison group youth. Subsequent to being asked to identify the character's emotions, subjects were also asked if they felt any emotion or just neutral while viewing each vignette. If they reported feeling an emotion, they were asked about its cognitive attribution: "what made you, or why do you feel that". Initial scores (level 1) assess whether affect identification is appropriate (EC1) or is not (EC0), according to plausible and typical responses given by most subjects in this and in previous studies. Correct affect identification can occur without empathy or shared affect. Subsequent EC scores (EC2-19) intensity and same emotion-same intensity) repeatedly integrated at six increasingly differentiated and other-focused levels of cognitive mediation, as derived from models of empathy development (Feshbach, 1975, Hoffman, 1977). Level 2 EC scores are based on no attribution or irrelevant reasons provided for matched emotion. An example is the response "I felt sad (but) I don't know why". It's not like something you can see." Level 3 responses involved an affective match based on specific story events. For example, "I felt angry because the boy didn't accept help from the nice woman." Level 4 responses involve attributions that refer to a specific character's situation. An example of this level of cognitive attribution is " I felt happy because although she had this handicap, she was working on it." Level 5 responses include attributions that indicate the transposition of oneself into a situation and/or association to one's own experiences. An sample response is "I felt angry at the mother for slapping the girl because I've been treated like that too." Level 6 responses involve attributions that indicate responsiveness to the character's feelings. For example "I felt happy because he was happy when he got a date with the girl."

Table 1: Vignette Synopses and Correct Emotion Matches

Vignette 1 Title:
Jeannie (from Loved, Honoured and Bruised, National Film Board of Canada)
Description:
A young woman is shown talking directly to the viewer about the difficult life she and her children had on an isolated farm with her abusive husband.
Emotion Match: Sad.

Vignette 2 Title:
Canes (from I'll find a Way, National Film Board of Canada)
Description:
A girl introduces herself to viewers and talks pleasantly about her life and fun, despite her physical disability. She is then shown practicing walking up and down stairs with canes, while joking with the adult physiotherapist.
Emotion Match: Happy

Vignette 3 Title:
Spilled Milk (from Twelve and a Half Cents, National Film Board of Canada)
Description:
A husband and wife have an angry exchange while their daughter is watching T.V. in the background. The man slams the door as he leaves; the woman shouts at the girl to come to dinner; the girl accidently knocks over a glass of milk and the mother slaps her.
Emotion Match: Afraid (Child), Angry (Parent)

Vignette 4 Title:
Son's Room (from the film Ordinary People)
Description:
A woman is shown entering what appears to be the bedroom of her son. While sitting on the bed and looking about, her son enters the room and startles her.
Emotion Match: Surprised

Table 1: Vignette Synopses and Correct Emotion Matches Continued

Vignette 5 Title:
Happiness is Loving Your Teacher (from the National Film Board)
Description:
A young handicapped substitute teacher is shown trying to give a lessson to a class of teenagers. He gives a girl a detention. During the detention, she is very uncomfortable and behaves in a verbally aggressive manner. When he confronts her on whether or not her behavior is due to his handicap, she tosses over a desk and runs from the room.
Emotion Match: Angry (Child), Sad (Teacher)

Vignette 6 Title:
David (from the National Film Board series Wednesday's Child)
Description: A boy introduces himself to a female pedestrian on a dark street. He appears stranded. She invites him home and feeds him. When she telephones social services she discovers he's a runaway. The boy bolts from her apartment.
Emotion Match: Afraid (Child), Sad (Adult)

Vignette 7 Title:
Date (from the film Ordinary People)
Description:
A young man telephones a casual female friend for a date. He appears nervous. They meet in a restaurant, talking and gigling self-consciously.
Emotion Match: Happy

represent three degrees of affect matches (similar emotion, same emotion-different

Finally, level 7 responses involve attributions that indicate semantically explicit role-taking, such as "I'd feel very sad too if I were in her shoes and my husband abused me that way." The EC scoring system is presented in Table 2.

Insert Table 2 Here

In addition to an EC score for each vignette, a total EC score for each subject was computed as a sum of the individual scores for each vignette, with the possible total score ranging from 0 to 133. The level of cognitive mediation (1-7) achieved for each EC vignette was computed separately from the EC scores, as were the total number of occurrences of affective similarity between the participant and the vignette characters.

In order to insure the reliability of the EC system in this study, 14 interview protocols (7 from each group) were scored by a second rater. Initial agreement was achieved on 90% of EC scores assigned. Carmine's Theta statistic was computed for the scores on these vignettes as a measure of independent inter-rater reliability, and values ranged from .83 to .99. Thus, the EC demonstrated a high degree of inter-rater reliability in this study. All disagreements between raters were discussed and resolved to 100% agreement prior to the data analysis phase.

As with the questionnaire trait measures, the main hypothesis that the conduct disordered group would score significantly below the comparison group on the empathy measures, was assessed via the responsive empathy measure. Comparisons were also conducted for group scores within each vignette. Although there are no specific hypotheses regarding differences between vignettes, differences across them would be expected given previous research (Strayer, 1989).

Data from the EC interview were further analysed in order to address the specific hypothesis regarding the affective component of empathy. As with the questionnaire measures, it was predicted that the conduct disordered group would exhibit deficits in the ability to respond to the emotional arousal of others with a similar or same emotional response. The number of occurrences of affective

Table 2: The Empathy Continuum Scoring System

EC Score	EC Level (Cognitive Mediation)	Affect Match	Description
0	I	0	No emotion reported for character.
1		0	Accurate emotion reported for character, but no (or discordant emotion for self)
No report of matched emotion			
2	II	1	Similar emotion for self and character
3		2	Same emotion, different intensity
4		3	Same emotion, same intensity
No attribution or irrelevant reasons are provided for matched emotion			
5, 6, 7	III	1,2,3	As above
Attribution based on story events rather than character's situation			
8,9,10	IV	1,2,3	As above
Attribution refers to a specific character's situatution			
11, 12, 13	V	1,2,3,	As above
Attribution indicates transposition of self into situation and/or association to one's own experiences			
14, 15, 16	VI	1, 2, 3	As above
Attribution indicates responsiveness to a character's feelings/internal state			
17, 18, 19	VII	1, 2, 3	As above
Attribution indicates semantically explicit role taking			

similarity at each level of the four levels of affective match (no match between the participant and vignette character, and the three levels of affect match noted above) was computed for each EC protocol. The number of occurrences were then summed across all subjects in each group, and the conduct and comparison participants were then compared on the percentage of the total number of EC affective matches for each of the four levels of affective match.

It was further predicted that conduct disordered adolescents would employ lower levels of other-person-focused cognitive mediations in their emotional responses to others. Other-person-focused cognitions were queried only for those responses that indicated an affective match. Therefore, the mean cognitive EC scores computed for each subject were based on responses at levels 2 through 7 (level one responses only involve correct or incorrect character emotion identification and no or discordant emotions for the observer). The cognitive dimension of the specific hypotheses was assessed via comparison of the mean and standard deviation of the EC cognitive mediation level (averaged for each subject across all seven vignettes) achieved by each of the groups. Comparisons were also conducted on the mean cognitive level employed by each group for each vignette. Finally, the conduct and comparison groups' cognitive ability to correctly identify the emotions of others was also assessed via data provided by the EC interview. The number of correct, plausible and incorrect identifications of vignette character emotions were computed for each group, and for males and females separately.

Social Desirability

A Social Desirability (SD) Scale Crandall, Crandall and Katkovsky's (1965) was included, in order to assess the possible contribution of this variable to empathy scores. This scale measures endorsement of socially appropriate behavior in a wide variety of situations. It is designed to assess an individual's willingness to conform to normative external social demands. Social desirability has not been found to correlate significantly with questionnaire measures of empathy or responsive empathy in some previous research with children (Bryant, 1982; Chovil, 1985). However, significant correlations between questionnaire measures and social desirability in other studies (Eisenberg & Miller, 1987), possible

experimenter demand effects, sex differences and differences in social attitudes between the conduct and non-conduct disordered groups prompted the use of this measure (Strayer, 1987b).

The SD consists of 48 true/false items such "I tell a little lie some times", and "sometimes I feel like throwing and breaking things" (see Appendix A). The subject's score is the total number of items on which a socially desirable attitude or behavior was endorsed. The maximum possible score is 48, with higher scores reflecting a greater tendency to respond in a socially desirable way. Mean total and standard deviation scores for the conduct disordered and non-conduct disordered groups, and for males and females separately were computed. The true/false version of the SD scale is reported reliable and valid with children and adolescents from Grades 6 to 12 (Crandall, Crandall and Katkovsky,1965).

It was predicted that the conduct disordered group would score below the comparison group overall on this measure. It was further predicted that social desirability would correlate significantly with the trait measures of empathy. However, it was predicted that social desirability would not correlate significantly with empathic responsivity. It was also predicted that empathic responsivity would not vary as a function of social desirability. Pearson Product Moment correlations between the SD scores and the EC total, Empathic Concern, Personal Distress, Fantasy and Perspective Taking scales of the IRI, and the Bryant Index were computed. Further correlations were computed between the Social Maladjustment, Manifest Aggression and Asocial Index scales of the Jesness. It was hypothesized that lower scores on the Social Desirability scale would be associated with higher scores on the Jesness Inventory.

Procedure

Each participant was seen individually, by a trained experimenter of the same sex. Prior to the interview, each participant was provided with a package, consisting of the Jesness, IRI, Bryant and Social Desirability questionnaires and instructions for completing each. Participants completed the forms in their own time, in any order they chose, at home (for the comparison group) or at their residential living quarters (for the conduct disordered group). Once the

questionnaires were returned, to the classroom teacher (for the comparison group) or the residential treatment staff) each participant was scheduled for the EC interview. These took place either in an office provided by the high school's Student Services (for the comparison group) or in the Psychological Services office within the Maples complex (for the conduct disordered group). This procedure took approximately 23 minutes for the EC vignette presentations and an additional 27 minutes for the interview portion.

The participant was seated in front of a television monitor and the experimenter gave the following instructions:

> In a minute you will see a series of seven short video-situations. After each one I'm going to stop the tape and ask you some questions about what happened. Are you ready?

The seven vignettes were presented in the same order for all participants (see Table 1). After the instructions were given, the experimenter turned on the video machine and sat to the side and behind the participant. The participant first viewed a one minute animated sequence in order to promote relaxation and direct attention at the stimulus material. After each vignette, the video-tape was stopped by the experimenter and the participant was interviewed regarding their comprehension, feelings and thoughts while watching the vignette. An example of an interview question is "How did you feel when she was telling her story?" An example of the interview protocol is provided in Appendix A. If the participant reported feeling an emotion in response to the characters portrayed, they were then asked what made them (why) they felt this emotion. If the participant provided a response that indicated emotion, but lacked sufficient clarity to be scored, they were shown a list of emotion words (Happy, Sad, Angry, Afraid, Surprised and Nothing) and asked to choose. The subject was then asked to identify the main character's emotions and what made them (why) they felt this emotion. If the subject reported no emotion for themselves in response to the vignette, or reported that the character felt no emotion, no further inquiry was made regarding possible cognitive mediations.

After the interview was completed (the total interview time was about 45 minutes), each participant was thanked for their cooperation, and provided with

their payment ($3.00 in gift certificates for a local restaurant). They were then informed that they would be contacted for feedback regarding their participation at a later date. Each subject was subsequently contacted and given an explanation of empathy, the procedures used in the study, as well as a brief description of the results of the questionnaires they completed.

Results

Group Differences in Antisocial Attitudes

Mean scores and standard deviations for all the Jesness scales for conduct disordered (CD) and comparison (NC) groups are presented in Table 3. Eleven Group (2) X Sex (2) ANOVAs were performed on scores for the 11 Jesness scales and the results are presented in Table 4. A MANOVA was not considered appropriate given its relatively lower statistical power in comparison to individual ANOVAs with the current sample size and number of scales.

Insert Tables 3 and 4 Here

The ANOVAs demonstrated no significant Group X Sex interaction effects and no significant main effect for Sex on any of the Jesness scales. As expected, the conduct disordered group scored significantly higher than the comparison group on the three Jesness scales of particular concern to this study. Specifically, on the Social Maladjustment (SM) scale, the conduct disordered group obtained a mean T-Score of 66.54 (SD = 11.87), which was significantly higher than the comparison group mean T-Score of 53.28 (SD = 11.41), F (1) = 17.73, p = .0001. The Bonferroni-corrected significance level of $p < .005$ was employed for all Jesness results to control for familywise error. On the Manifest Aggression (MA) scale, the conduct disordered group obtained a mean T-Score of 56.54 (SD = 9.66), which was significantly higher than the comparison group's mean T-Score of 48.32 (SD = 8.03), F (1) = 11.44, p = .0014. On the Antisocial Index (AI) scale, the conduct disordered group obtained a mean T-Score of 65.13 (SD = 12.89), which was significantly higher than the comparison group mean T-Score of 53.46 (SD = 11.32), F (1) = 14.83, p = .0003.

Although the ANOVAs demonstrated no significant main effect for sex , it may be noted that the conduct disordered females achieved a mean T-Score of 71.0 (SD = 15.5) on the AI scale. Therefore, the conduct disordered females were the only group who scored (on one scale) above the cutoff of 70, established as significantly predictive of continued antisocial activity. Thus, the present conduct

Table 3. Means and Standard Deviations[a] for Conduct Disordered (CD) and Comparison (NC) groups on the Jesness Inventory.

Scale		CD (n=30)	NC (n=32)
* 1.	Social Maladjustment	66.54 (11.87)	53.29 (11.41)
* 2.	Manifest Aggression	56.54 (9.66)	48.32(8.03)
* 3.	Antisocial Index	65.13 (12.89)	53.46 (11.32)
4.	Immaturity	59.92 (9.43)	56.64 (7.38)
5.	Value Orientation	57.22 (10.12)	50.68 (7.48)
6.	Autism	63.50 (9.36)	54.93 (9.48)
7.	Alienation	62.29 (10.52)	54.04 (7.52)
8.	Withdrawal	52.08 (10.06)	52.32 (8.29)
9.	Social Anxiety	44.54 (11.52)	47.82 (11.38)
10.	Repression	48.26 (11.10)	53.29 (9.74)
11.	Denial	40.42 (8.70)	48.22 (8.51)

[a] Means listed as the first value in each collumn, standard deviations are shown in parentheses.
*Scales of interest to this study.

Table 4. ANOVA main effects for Conduct Disordered (CD) and Comparison (NC) groups on the Jesness Inventory.

Scale		F-Value	p
1.	Social Maladjustment	17.73	.0001*
2.	Manifest Aggression	11.44	.0014*
3.	Antisocial Index	14.83	.0003*
4.	Immaturity	1.99	.1648
5.	Value Orientation	7.45	.0089*
6.	Autism	12.37	.0010*
7.	Alienation	12.40	.0010*
8.	Withdrawl	0.00	.9543
9.	Social Anxiety	0.89	.3498
10.	Repression	3.77	.0583
11.	Denial	11.19	.0016*

Note: df for all scales =1
*statistically significant differences

disordered sample appears not to be as delinquent as the samples originally studied by Jesness.

Present findings confirmed the greater difficulties expected for the conduct disordered than for the comparison group in antisocial attitudes indicative of social maladjustment (SM), aggression (MA) and their greater probability of continued antisocial behavior in the form of criminal recidivism (AI). Results shown in Table 5 indicate that the conduct disordered and comparison group participants sampled in this study represent two distinct populations with regards to the major scales of social functioning relevant to this investigation. A total of 7 of the 11 Jesness scales showed significant differences between the two groups.

In addition to the three scales of interest already presented, other significant differences for the two groups on the Jesness scales, shown in Table 5, indicate the following. On the Value Orientation scale conduct disordered youth scored significantly higher, indicating that this group more frequently endorsed opinions characteristic of persons from lower socio-economic status than did the comparison group. The conduct disordered group scored significantly higher than the comparison group on the Immaturity scale, indicating that they endorsed attitudes associated with social behavior characteristic of younger populations. As well, they scored significantly higher on Autism and Alienation, indicating that they are less likely to initiate social contact with others and are more likely to feel socially isolated. In contrast, their scores for Denial were significantly lower than the comparison group's, indicating that they are more likely to acknowledge to others their antisocial attitudes. In general, findings based on the comparison of mean scores between groups on the Jesness scales support expectations that the conduct disordered participants more frequently endorse the values and attitudes associated with antisocial behavior and aggression.

Relationship Between Antisocial Attitudes and Empathy

Individual scores on each of the Jesness scales were corrected to their respective group means in order to remove the effects of group and sex. These scores were then used to calculate overall pooled Pearson Product Moment

correlations for all subjects (n = 62) between the Social Maladjustment (SM), Manifest Aggression (MA) and Antisocial Index (AI) scores of the Jesness and the trait and responsive empathy measures. These correlations are presented in Table 5.

Insert Table 5 Here

As expected, all three Jesness scales of interest correlated negatively with present empathy measures. Social Maladjustment (SM) and Manifest Aggression (MA) obtained significant inverse relationships, whereas the Antisocial Index (AI) did not. Thus, attitudes related to antisocial behavior and to aggression were more related to empathy than was the Antisocial Index, which is a predictor of future delinquent conduct (recidivism). The following results present correlations of the two Jesness scales (SM and MA) with present empathy measures.

Results confirmed expectations that the Empathy Continuum (EC) would be negatively related to all three Jesness scales. A statistically significant negative correlation occurred between the EC and the SM scale. As with other empathy measures, correlations with the AI scale were not significant. For trait empathy as well, all IRI scales except Personal Distress were negatively related to the SM and MA scales. The positive correlations between Personal Distress and the SM and MA Jesness scales approached but did not reach significance at the .05 level. The contrast between the findings for Personal Distress and the other empathy measures is not surprising, given the reported negative correlation of Personal Distress with Perspective Taking (r = -.25) and the nonsignificant correlation of Personal Distress with Empathic Concern (r = .08) (Davis, 1983). The interpretation of this scale as measuring self-focused feelings of anxiety and discomfort in tense emotional settings (Davis, 1983) differentiates it from the other IRI empathy scales, and makes its marginal positive relation to the Jesness scale consistent with the present hypotheses. Results for the Bryant Empathy Index were similar to findings for the other empathy measures. Correlations were negative, as expected, for all three Jesness scales, and were significantly so for the SM and MA scales. In summary, correlations obtained between the Jesness scales and the empathy measures support

Table 5. Pooled Correlations of Jesness Scales with Empathy Measures (n = 62)

Measures	Jesness Social Maladjustment	Manifest Aggression	Antisocial Index
1. Empathy Continuum	- .23*	- .17	- .05
2. IRI[a]			
Empathic Concern	- .02	- .03	- .02
3. Personal Distress	.19	.17	.01
4. Perspective Taking	- .13	- .22*	- .12
5. Fantasy	- .01	- .16	- .18
6. Bryant			
Empathy Index	- .24*	- .25*	- .03

[a] IRI = Interpersonal Reactivity Index

* $p < .05$

the hypothesis that lower levels of responsive and trait empathy are associated with higher levels of social maladjustment and aggression.

Group Differences in Empathy: Empathic Responsivity

An ANOVA for Group (2) x Sex (2) x Vignette (7), with the EC vignette scores used as repeated measures, was performed in order to determine whether empathic responsivity differed in the two groups as a function of particular vignettes. The results indicated no such differences, based on no significant interaction of vignettes with group membership, F (6, 43) = 1.21, p = 0.3195. The results did reveal a vignette effect, F (6, 43) = 3.05, p = .0143, as shown in previous studies (Strayer, 1989). This indicates that the vignettes were not equivalent in their ability to evoke empathic responsivity within administrations. However, the vignette factor did not interact significantly with sex, F (6, 43) = 1.06, p = .4014), or group membership (reported above), and there was no 3 way interaction, F (6, 43) = .98, p = .4526. Thus, although the seven vignettes administered did not evoke equivalent empathic responses, this did not produce a differential effect on the conduct disordered and comparison groups, nor did males and females respond differently to individual vignettes.

Table 6 shows means and standard deviations for each group on the empathy measures. Table 7 shows ANOVA results for these comparisons, based on Group (2) X Sex (2) ANOVAs for each measure.

Insert Tables 6 and 7 Here

The findings reported in this section concerns the Empathy Continuum. The ANOVA demonstrated no significant Group X Sex interaction effect. A main effect for Sex was revealed (all sex differences are reported in a separate Results section). Confirming expectations, the conduct disordered youths scored significantly below the comparison group on Strayer's Empathy Continuum, F (1) = 26.87, p < .0001. Out of a maximum possible EC score across vignettes of 133, the conduct disordered group obtained a mean of 40.67 (SD = 17.05), in contrast to the comparison group's mean of 64.20 (SD = 18.40).

Table 6. Means and Standard Deviations[a] for Conduct Disordered (CD) and Comparison (NC) Groups on Empathy Measures.

Measures	CD (n=30)	NC (n=32)
1. Empathy Continuum	40.67(17.05)	64.20(18.40)
2. IRI[b] Empathic Concern	24.88(4.09)	28.31(4.46)
3. Personal Distress	20.33(3.69)	18.25(4.20)
4. Perspective Taking	19.92(4.37)	24.39(5.12)
5. Fantasy	20.16(6.13)	25.07(4.84)
6. Bryant Empathy Index	11.53(14.75)	30.75(21.05)

[a] means listed as the first value in each column, standard deviations are shown in parentheses.
[b]IRI = Interpersonal Reactivity Index

Table 7. ANOVA Main Effects for Conduct Disordered and Comparison Groups on Empathy Measures

Measures	F-Value	p
1. Empathy Continuum	26.87	0.0001
2. IRI[a] Empathic Concern	8.14	0.0064
3. Personal Distress	3.68	0.0609
4. Perspective Taking	11.08	0.0100
5. Fantasy	9.84	0.0029
6. Bryant Empathy Index	18.34	0.0001

Note: df = 1
IRI[a] = Interpersonal Reactivity Index

In summary, present findings support the hypothesis of significantly lower levels of EC scores for conduct disordered than comparison group youth. Because the EC measure of empathy is composed of both affective match and cognitive mediational components, findings relating to each of these components will be included in the next two sections.

Group Differences in Affective Empathy

Affective empathy is defined as the ability to respond to the affective state of another with a concordant emotional response. It is considered to be an important motivator that increases prosocial, and decreases aggressive, behavior Eisenberg & Miller, 1987; Miller & Eisenberg, 1988). In the present study, measures of affective empathy include the IRI Empathic Concern and Fantasy Scales. These scales were defined and validated as "affective" by Davis (1983), and represent other-person-focused feelings of concern and sympathy. Also included is Bryant's (1982) Empathy Index, which the author defined and validated as measuring emotional empathy, or the ability to respond affectively to the perceived emotional experiences of others. Mean scores and standard deviations for the conduct disordered and comparison groups on these measures of affective empathy are presented in Table 6. Group (2) X Sex (2) ANOVA results for these measures are presented in Table 7.

The ANOVA results demonstrated no significant Group X Sex interaction effects. Main effects for Sex were present and are reported in a separate Results section. The conduct disordered youths scored below the comparison agemates on all three of the affective measures. For the IRI (maximum scale score = 35) Empathic Concern scale, the conduct disordered group's mean of 24.88 (SD = 4.09) was significantly lower than the comparison group's mean of 28.31 (SD = 4.46), F (1) = 8.14, p = .0064 ($p < .01$ was employed as the Bonferroni corrected significance level for all of the empathy trait scale results to control for for familywise error). Similarly, on the IRI Fantasy scale, the conduct disordered group's mean score of 20.16 (SD = 6.13) was significantly lower than the comparison group's score of 25.07 (SD = 4.84), F (1) = 9.84, p = .0029. In addition, for Bryant's Empathy Index (maximum score = 88) the conduct

disordered group obtained a mean score of only 11.53 (SD = 14.75), in contrast to the comparison group's mean of 30.75 (SD = 21.05), F (1) = 18.34, p = .0001. In summary, findings comparing group mean scores support the hypothesis of significantly lower scores for the conduct disordered than comparison youths on trait measures of affective empathy.

As was shown in Table 6, a marginally significant higher mean Personal Distress score occurred for the conduct disordered (M = 20.33, SD = 3.69) than the comparison group (M = 18.25, SD = 4.20) group, F (1) = 3.68, p = .0609. These results, taken together with the findings reported for affective empathy, indicate that the self-focused feelings of distress in tense emotional settings were more prominent in the same group reporting lower levels of affective empathy. This finding is consistent with previous hypotheses that empathy, which is other-person-oriented, is likely to be negatively related to personal distress, which is self-oriented (Batson et al., 1987). It is also consistent with previous findings that the IRI Personal Distress scale correlates significantly negatively with measures of interpersonal functioning, and negatively or negligibly with the other IRI scales (Davis, 1983).

In addition to these trait measures, affective empathy was also examined as a component of the Empathy Continuum measure. This was done by computing the total number of no-affect or discordant affect (score = 0) and of concordant affective responses (scores = 1-3) across the EC vignettes. For the 30 conduct disordered subjects this total equals 210 maximum responses: and for the 32 comparison group subjects it equals 224 maximum responses. Results indicate that the conduct disordered group reported no or discordant affect for 49% (103/210) of total responses. In contrast, only 23% (52/224) of such responses occurred for the comparison group. These results indicate that the conduct disordered group reported no affective empathy with vignette characters more than twice as frequently as did the comparison group.

A further breakdown of affect-match responses for the conduct disordered group indicates that 44% (92/210) of their responses were scored as a similar affective match. Only 20% (42/210) were scored as a same affective match (9% were same emotion-different intensity, 11% were same emotion-same intensity as

the characters' emotion). These scores for the comparison group indicated proportionally twice (40% (90/224)) the number of same affect matches. Of these,16% were same emotion-different intensity and 24% were same emotion-same intensity as the character affect. The remaining 37% (83/224) responses were of similar affective match. In summary, the comparison group reported proportionally twice as many instances (40%) of same affective match as did the conduct disordered group (20%) and fewer than half as many no affective match responses. These descriptive data provide support for suggesting lower affective empathy in conduct disordered than comparison group youth.

In general, the results support the suggested deficiencies in affective empathy for conduct disordered as compared to the comparison group youths. This was evident in their significantly lower scores on scales measuring empathic concern for others, imaginal involvement (Davis, 1983) and affective responses to others' perceived emotional contexts (Bryant, 1982). Problems in affective empathy were also indicated by their marginally significant higher scores on personal distress, or feelings of anxiety and unease in emotional interpersonal settings. Finally, the conduct disordered group reported fewer instances of affective similarity between themselves and the characters viewed in the EC stimulus vignettes than did the comparison group.

Group Differences in Cognitive Empathy

The Perspective Taking scale of the IRI has been identified as cognitive in orientation (Davis, 1983). In addition, the cognitive component of the EC score is based on the cognitive attributions given for one's emotional responses to stimulus vignettes. The deficiencies in other-person-focused empathic cognitive mediations hypothesized for the conduct disordered group were confirmed using both the Perspective Taking scale of the IRI and the cognitive component of the EC measure. On the Perspective Taking scale of the IRI (see Tables 6 and 7), the conduct disordered group scored significantly lower ($M = 19.92$, $SD = 4.37$) than the comparison group ($M = 24.39$, $SD = 5.12$), $F(1) = 11.08$, $p = .01$.

In addition to differences obtained on the IRI trait questionnaire measure, differences regarding cognitive factors were examined using the responsive

empathy (EC) measure. Data from the EC were employed specifically to analyze two cognitive factors which might contribute to differences in empathy between the conduct disordered and comparison groups. These two cognitive factors were: (1) the correct identification of emotions displayed by characters in the stimulus vignettes and (2) the level of cognitive mediation attributed to one's own emotion in response to the vignettes.

The mean number of correct identifications of characters' emotions is reported for each group in Table 8. Exact emotion identification was defined as an exact match between the subject's reported emotion for the character and emotions reported by 7 or more out of 10 subjects in a small pilot sample used for the present study. These emotions are cited in Table 1. Plausible emotion identification was defined as an emotion of the same valence as the emotion most frequently reported by the pilot group, and reported by 1 to 3 of the pilot subjects. Examples of plausible emotions include reported anger in response to Vignette 1, or fear in response to the adult character in Vignette 6.

Insert Table 8 Here

These descriptive data provide a means of assessing how proficient each group was in identifying emotion cues for vignette characters. The conduct disordered group incorrectly identified a character's emotions an average of 1.27 times (SD = 1.11) out of 7 responses (one character identification was assessed per vignette), while the comparison group averaged .57 (SD = 0.74) incorrect identifications. The mean number of plausible emotions identified by each group were almost identical: 1.46 (SD = 0.86) for the conduct disordered group vs. 1.14 (SD = 0.71) for the comparison group. For the exact identification of emotions, the conduct disordered group averaged 4.19 (SD = 1.31), while the comparison group averaged 5.29 (SD = 1.08) out of 7 vignettes. The conduct disordered participants were approximately 14% less proficient than the comparison group in correctly identifying character emotions, a difference that appears to be minimal. Therefore, we conclude that there seems to be no notable difficulties in accurate emotional identification for this sample.

Table 8. Mean Number[a] and Standard Deviation of Exact Identifications of Character's Emotions for Conduct Disordered (CD) and Comparison Group (NC) Males and Females.

	Incorrect Emotion	Plausible Emotion	Exact/Primary Emotion
CD Females (n = 14)	1.73(1.10)	1.45(1.03)	3.82(1.17)
CD Males (n = 16)	0.93(1.03)	1.47(0.83)	4.47(1.35)
CD All (n = 30)	1.27(1.11)	1.46(0.86)	4.19(1.31)
NC Females (n = 15)	0.64(0.75)	1.10(0.73)	5.29(1.06)
NC Males (n = 17)	0.50(0.75)	1.22(0.70)	5.29(1.14)
NC All (n = 32)	0.57(0.74)	1.14(0.71)	5.29(1.08)

[a] Mean across 7 vignettes are listed first in each column, with values.

The next set of descriptive findings pertains to cognitive component scores on the EC. Total cognitive scores across all 7 vignettes for each EC administration ranged from 14 to 49 (the cognitive score ranged from 2 to 7 for each vignette, as level 1 scores were eliminated from this analysis). In order to compute mean cognitive level scores across all vignettes for each participant, Carmine's Theta statistic was computed for each vignette score. The resultant value of .66 demonstrates that the cognitive level scores within each vignette have reasonably equivalent variability and that the individual vignette scores can be combined as a mean score across all stimuli.

The cognitive level scores reported for each vignette were averaged across all seven vignettes for each participant. Cognitive attributions require an EC score above 1. Data regarding the percentage of responses indicating no empathy or EC1 were presented in the previous section. Descriptive findings relevant to cognitive EC scores are presented in Figure 1, showing a histogram of the number of participants in each group with mean scores of cognitive mediation, ranging from possible EC levels 2-7.

Insert Figure 1 Here

The histogram reveals that the majority of comparison group participants had mean EC cognitive level scores at the level of other-person-focused attributions when responding empathically. Of the 32 comparison group participants, 26 (or 81%) had mean scores were at or above level 5. Attributions at this level concern the transposition of oneself into the situation of the character being observed or associations with one's own experiences. In contrast, 20 or 67% of the conduct disordered participants had mean EC cognitive scores at or below level 4. Only one comparison group participant achieved a mean cognitive score below level 4.

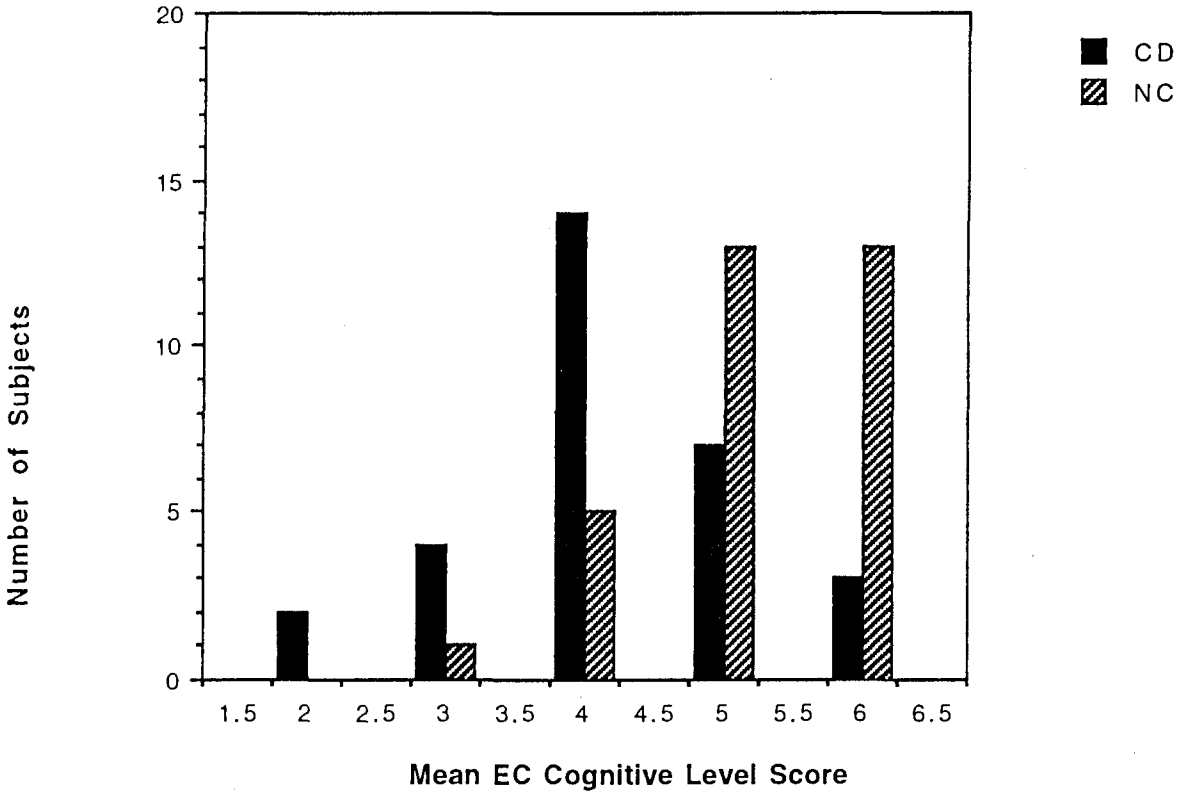

Figure 1: Histogram of Mean EC Cognitive Level for Conduct Disordered (CD) and Comparison (NC) Groups

These descriptive findings suggesting lower mean levels of cognitive mediation for conduct disordered than comparison youths were confirmed by statistical tests comparing mean scores for groups. The mean EC cognitive level score of conduct disordered youth (M = 4.27, SD = 1.04) was significantly lower than for the comparison group (M = 5.18, SD = .80), t (58) = 3.6, p <.005.

In summary, hypothesized deficiencies for the conduct disordered group in other-person-focused empathic cognitive mediations were confirmed using both a trait scale and a component of the EC measure. The conduct disordered group scored significantly below the comparison group on the IRI Perspective Taking scale. The majority of conduct disordered participants also achieved lower mean levels of cognitive attributions in response to the EC stimulus vignettes than did the comparison group. Mean cognitive levels for the conduct disordered youths were significantly lower than for the comparison group. However, only minimal differences in favour of the comparison group were revealed in a more basic skill: the ability to correctly identify character's emotions depicted in the EC stimulus vignettes.

Sex Differences in Empathy

All measures in this study were analyzed for possible differences due to gender. Only statistically significant sex differences will be reported here. A set of Group (2) x Sex (2) ANOVAs on the empathy measures indicated no significant interaction effects. A main effect for Sex was demonstrated on the IRI Empathic Concern scale, F (1) = 8.51, p < .0054, with females (M = 28.67, SD = 4.40) scoring higher than males (M = 25.07, SD = 4.14). Similarly, females (M = 34.17, SD = 19.24) scored significantly higher than males (M= 11.39, SD = 15.52) on the Bryant Index, F (1) = 24.69, p < .0001. For the Empathy Continuum as well, females (M = 59.00, SD = 22.00) scored significantly higher than males (M= 42.10, SD = 19.07), F (1) = 5.95, p < .0181. Mean scores and

standard deviations for male and female conduct disordered and comparison group participants are reported for the relevant scales in Table 9.

Insert Table 9 Here

These results indicate a gender-related self-report difference for self-report measures of affective empathy. In contrast, no significant sex differences were obtained on the Perspective Taking scale of the IRI a more cognitive self-report scale. As is consistent with some previous research (Eisenberg & Lennon, 1983), females' self reported emotional empathy was greater than males across both groups.

Social Desirability and Empathy

The maximum possible score on the Social Desirability Scale (Crandall, Crandall and Katkofsy, 1965) is 48, with higher scores reflecting a greater tendency to respond in a socially desirable way. It was predicted that the conduct disordered group would score significantly lower than the comparison group in social desirability. It was also hypothesized that social desirability would correlate significantly with the questionnaire measures of trait empathy and with the Jesness measures of antisocial attitudes, but not with responsive empathy, as measured by the EC.

A Group (2) X Sex (2) ANOVA revealed no significant interaction effect. As predicted, social desirability scores of the conduct disordered group ($M = 12.5$, $SD = 5.9$) were significantly below those of the comparison group ($M = 16.75$, $SD = 5.5$), $F(1) = 7.27$), $p = .0096$. These findings indicate that conduct disordered participants were significantly less likely than comparison youth to respond in a socially desirable way. Females' scores ($M = 15.04$, $SD = 5.58$) did not differ significantly from males ($M = 14.53$, $SD = 6.49$), $F(1) = .001$, $p = .9720$. Pooled Pearson Product Moment correlations were computed for the Social Desirability scale and the three Jesness Inventory scales of particular relevance to this study. As predicted, negative correlations were obtained for Social Desirability and Social Maladjustment ($r = -.16$), Manifest Aggression ($r = -.22$) and the

Table 9. Mean Scores and Standard Deviations[a] for Male and Female Conduct Disordered and Comparison Group Participants on all Empathy Measures

Measures	CD[c] Females (n = 14)	NC[b] Females (n = 15)	All (n = 29)
1. IRI[b] Empathic Concern	26.50 (4.9)	30.21 (3.4)	28.67 (4.40)
2. Personal Distress	20.90 (4.2)	18.79 (4.7)	19.67 (4.55)
3. Perspective Taking	19.70 (5,0)	23.43 (5.6)	21.88 (5.59)
4. Fantasy	20.30 (7.4)	25.86 (5.2)	23.54 (6.69)
5. Bryant Empathy Index	20.30(17.1)	44.07(14.1)	34.17 (19.24)
6. Empathy Continuum	44.61(17.9)	71.48(17.3)	59.00 (22.00)
Measures	CD* Males (n = 16)	NC** Males (n = 17)	All (n = 33)
1. IRI[b] Empathic Concern	23.71 (3.1)	26.42 (4.7)	25.07 (4.14)
2. Personal Distress	19.93 (3.4)	17.71 (3.7)	18.82 (3.65)
3. Perspective Taking	20.07 (4.0)	25.36 (4.6)	22.71 (5.01)
4. Fantasy	20.07 (5.3)	24.29 (4.5)	22.18 (5.30)
5. Bryant Empathy Index	5.36 (9.1)	17.43 (18.4)	11.39 (15.52)
6. Empathy Continuum	37.27(16.08)	56.93(17.0)	47.10(19.07)

[a]Means listed as the first value in each column, standard deviations are shown in parentheses.
IRI[b] = Interpersonal Reactivity Index
[c]CD = Conduct Disordered, [d]NC = Comparison Group

Antisocial Index (r = -.09) scales. However, none of these results were statistically significant. Therefore, the hypothesized association of lower Social Desirability with higher levels of antisocial attitudes was not statistically supported.

Pooled correlations were also computed between social desirability and the empathy measures. Significant ($p < .01$) positive correlations were obtained for social desirability with the IRI Empathic Concern ($r = .32$), Fantasy ($r = .37$) and Perspective Taking (r = .35) scales, and for the Bryant Empathy Index ($r = .34$). A nonsignificant negative correlation was obtained with the IRI Personal Distress scale ($r = -.20$). Social desirability did not correlate significantly with the Empathy Continuum ($r = .16$). Overall, these results support predictions that social desirability correlates positively with questionnaire measures of empathy, but not with empathic responsivity, as measured by the EC

Further investigation of the degree to which the differences in social desirability may relate to group differences in responsive empathy (EC) was conducted. A Group (2) x Sex (2) analysis of covariance was performed (Table 10), using the Social Desirability Scale scores as a covariate and the total EC score as the dependant variable.

Insert Table 10 Here

Almost no covariance was revealed by this analysis for social desirability and the EC scores, $F (1.46) = .00$, $p = 0.9978$. As is consistent with the ANOVA results already reported, the ANCOVA results showed significant group ($F (1.46) = 18.04$, $p = 0.0001$) and sex ($F (1.46) = 6.22$, $p = 0.0163$) differences on the EC. Thus, participants in this study did not significantly vary their empathic responses as a function of their willingness to respond in a socially desirable manner. This held true even though the conduct disordered participants were less likely than the nonconduct disordered participants to respond with social desirability. Differences between the groups on the EC persisted when the effects of social desirability were covaried. Significant gender differences remained as well, indicating that females scored significantly above males on the EC when the covariance of social desirability is accounted for.

Table 10: ANCOVA for Group, Sex and Main Effects of Empathy Measures with Social Desirability as Covariate

Measures	Social Desirability F[a]	p	Group F	p	Sex F	p	Interaction F	p
1. Emapthy Continuum	.00	.99	18.04	.00*	6.22	.02*	.03	.87
2. IRI Empathic Concern	2.36	.13	4.58	.04*	8.7	.01**	.10	.76
3. Personal Distress	.60	.44	2.25	.14	.82	.37	.01	.91
4. Fantasy	3.09	.08	5.52	.02*	.34	.56	.08	.78
5. Perspective Taking	2.65	.11	6.58	. 01**	. 76	.39	.53	.47
6. Bryant Empathy Index	2.57	.12	12.07	.00**	25.41	.00**	1.61	.21

[a]df = 1,46

*p <.05, **p < .01

As with the Empathy Continuum, Group and Sex differences persisted on the trait empathy measures when the effects of social desirability were covaried (Table 10). Although none of the trait measures covaried with social desirability at statistically significant levels, the probabilities approached significance in all cases except Personal Distress. This pattern indicates a marginally greater degree of covariance between social desirability and trait empathy than responsive empathy measures.

Finally, partial correlations between the Jesness scales and the empathy measures were computed, with the linear effects of Social Desirability removed. The results are presented in Table 11.

Insert Table 11 Here

The partial correlations demonstrated an overall negative relationship between the Jesness scales and present empathy measures. As with the pooled correlations presented in Table 5, Social Maladjustment (SM) and Manifest Aggression (MA) obtained significant inverse relationships, whereas the Antisocial Index (AI) did not. The partial correlations revealed by the present analysis were, on the whole, greater than the correlations computed without the effects of social desirability removed. In comparison with the pooled correlations, a statistically significant ($p < .01$) negative relationship was demonstrated between the EC and the Jesness MA scale. The overall pattern for the partial correlations was the same, with empathy negatively related to antisocial attitudes and aggression. As well, Personal Distress continued to be positively related to antisocial attitudes, with the correlation between the PD scale and the Jesness SM scale statistically significant at the .05 level.

Relationships Among Empathy Measures

Individual scores on each of the Empathy measures were corrected to their respective group means in order to remove the effects of Group and Sex. These scores were then used to calculate overall pooled Pearson Product Moment

Table 11: Partial Correlations of Jesness and Empathy Measures with Effects Social Desirability Removed

Measures	Jesness		
	Social	Manifest	Antisocial
Empathy	Maladjustment	Aggression	Index
1. Empathy Continuum	-.28*	-.30**	-.15
2. IRI[a] Empathic Concern	-.07	-.09	-.02
3. Personal Distress	.24*	.19	.20
4. Fantasy	-.11	-.21	.04
5. Perspective Taking	-.16	-.17	-.09
6. Bryant Empathy Index	-.22*	-.30**	-.15

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

[a]IRI = Interpersonal Reactivity Index

correlations for all subjects (n = 62) between all three empathy measures. No specific hypotheses were presented regarding correlations for the IRI, the Empathy Index and the Empathy Continuum. The pooled correlations are presented in Table 12.

Insert Table 12 Here

As the EC is the newest measure used in this study, correlations will first be reported for it. Significant positive pooled correlations were obtained between EC total scores and the IRI Fantasy scale and Bryant's Empathy Index. Positive relations for EC and Perspective Taking were also obtained, but the pooled correlation was not significant. In general, the EC correlated positively with the other empathy measures. Furthermore, a very low (.01) correlation was obtained between the EC and the IRI Personal Distress scale, suggesting that personal distress is not a factor contributing to the responsive empathy scores.
Other significant positive pooled correlations were obtained between the Bryant Index and the IRI Empathic Concern ($p < .01$) and Fantasy ($p < .05$) scales. Table 12 also shows significant ($p < .01$) positive correlations among the IRI scales, including Empathic Concern, Fantasy and Perspective Taking scales. As is consistent with previous theory and research by the author of the IRI (Davis, 1983), the Personal Distress scale of the IRI was not significantly correlated with other empathy measures, except for a significant negative correlation ($p < .05$) with Perspective Taking.

Finally, partial correlations were computed between the empathy measures, with the linear effects of social desirability removed. The results are presented in Table 13.

Insert Table 13 Here

As with the pooled correlations presented above, the EC correlated at significant positive levels with the Bryant Empathy Index and the IRI Empathic Concern scales. Similarly, all statistically significant positive correlations between the trait

Table 12: Pooled Correlations Among Empathy Measures

	Measures	1.	2	3.	4	5	6
1.	Empathy Continuum	1.00					
2.	IRI[a] Empathic Concern	.04	1.00				
3.	Personal Distress	-.01	-.03	1.00			
4.	Perspective Taking	.10	.47 **	-.22*	1.00		
5.	Fantasy	.25*	.23*	.00	.31**	1.00	
6.	Bryant Empathy Index	.32**	.34**	-.10	.02	.24*	1.00

[a]IRI = Interpersonal Reactivity Index

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

Table 13: Partial Correlations Among Empathy Measures with Effects Social Desirability Removed

Measures	1.	2	3.	4	5	6
1. Empathy Continuum	1.00					
2. IRI[a] Empathic Concern	.17	1.00				
3. Personal Distress	-.14	-.03	1.00			
4. Perspective Taking	.05	.42 **	-.36**	1.00		
5. Fantasy	.35**	.31*	-.08	.24**	1.00	
6. Bryant Empathy Index	.52**	.54**	-.06	.05	.37*	1.00

[a]IRI = Interpersonal Reactivity Index

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

measures of empathy demonstrated in the pooled correlation results were present when the Social Desirability scores were paritialled-out. Thus, statistically significant positive correlations between the affective trait measures and between Perspective Taking and Empathic Concern were demonstrated. Personal Distress continued to correlate at nonsignificant negative levels with the affective empathy measures. A statistically significant ($p < .01$) negative correlation was demonstrated between Personal Distress and the IRI Perspective Taking scale. As with the partial correlations between the Jesness and the empathy measures, the partial correlations revealed by the present analysis were, on the whole, greater than the correlations computed without the effects of social desirability removed. Thus, the Social Desirability scores did lower corrleations between the empathy measures to a modest degree.

Overall Summary of Findings

A general summary of major findings from the present study follows. Present results confirmed the prediction of significantly higher scores for the conduct disordered than comparison groups on the relevant Jesness Inventory scales. As well, present results confirmed the prediction of an inverse association for the three relevant Jesness scales and present measures of empathy. In contrast to empathy, the IRI Personal Distress scale correlated positively with the Jesness scales. Thus, confirmation was generally obtained for the hypothesized inverse relationship, regardless of group membership, of social maladjustment, aggression and antisocial attitudes with both trait and responsive empathy.

Present results also supported the hypothesis that the conduct disordered group would demonstrate significantly lower empathy in response to both trait questionnaires and the EC vignettes. Group differences in both affective and cognitive aspects of empathy were demonstrated. Hypothesized deficiencies in conduct disordered as compared to the comparison group youths were shown for Bryant's Empathy Index, and both the IRI Empathic Concern and Fantasy scales. The conduct disordered group also showed higher Personal Distress scores, consistent with the presence of a greater self-oriented focus, than did the comparison group. Finally, the descriptive data indicate that conduct disordered

group reported fewer instances of affective match between themselves and the characters viewed in the stimulus vignettes. In addition to deficiencies in affective empathy, hypothesized deficiencies in other-person-focused cognitive mediations were confirmed for the conduct disordered group. Specifically, the conduct disordered group scored significantly below the comparison group on the IRI Perspective Taking scale. EC data indicated that, despite similar abilities in identifying characters' emotions in EC vignettes, conduct disordered participants employed lower levels of cognitive attributions than did the comparison group

In terms of gender differences, females scored higher than males on trait measures of affective empathy, as measured by the IRI Empathic Concern scale and the Bryant Index. There were no significant sex differences on the IRI Personal Distress scale. Nor were there significant sex differences on the cognitive scale of the IRI (Perspective Taking). However, females did score significantly above males on the responsive empathy (EC) measure.

As hypothesized, present results confirmed expected significantly lower mean scores on social desirability for the conduct disordered as compared to the comparison group. Furthermore, the hypothesized positive relationship between social desirability and trait measures of empathy was generally confirmed. Also confirmed was the expectation that social desirability would not correlate significantly with the EC measure of empathic responsivity was confirmed. Nor did social desirability contribute to group differences in EC scores, as shown by ANCOVA results. A greater degree of covariance between social desirabilty and the trait measures was demonstrated, but this did not effect expected Group or Sex differences on these measures. Partial correlations, with the effects of social desirability removed, confirmed that the Social Desirability scale scores lowered the correlations between the Jesness and the empathy measures, as well as among the empathy measures. The effects of social desirabilty were generally modest and uniform across all correlations.

Analysis of the relationships among the different empathy measures revealed significant positive correlations of the EC with trait measures of affective empathy, including the IRI Fantasy scale and Bryant's Empathy Index. The Personal Distress scale of the IRI correlated negatively at statistically significant

levels with Perspective Taking, and negatively at nonsignificant levels with all other empathy measures. Bryant's Empathy Index demonstrated significant positive correlations with the IRI Empathic Concern and Fantasy scales; all of which are measures of affective empathy. As might be expected, significant positive correlations occurred for the IRI scales: between the IRI Empathic Concern and both the Fantasy and Perspective Taking scales, and between the Fantasy and Perspective Taking scales.

Discussion

In this section, both the relative differences between the conduct disordered and comparison groups and the relationship between antisocial attitudes and empathy will be discussed. In addition, findings concerning affective and cognitive components of the responsive and trait empathy measures will be discussed in relation to previous relevant research findings and to current developmental considerations of empathy.

Comparisons between the present and previous research should be interpreted cautiously, given the differences in the ages between the present samples and the previous studies conducted with aggressive boys. As well, the previous research on aggressive youths and empathy was conducted exclusively with male samples in contrast to the sex differences in empathy in the present sample (discussed in a later section).

Group Differences in Antisocial Attitudes and Personality

It was hypothesized that the present conduct disordered group would endorse significantly more antisocial attitudes and behaviors than would their community agemates. This hypothesis was supported for the relevant Jesness scales. Clearly, the conduct disordered sample in this study are distinct from the comparison sample in terms of greater antisocial attitudes, anger and the likelihood of reacting to various situations with aggression, as well as the likelihood of committing future antisocial acts. Therefore, comparison of the conduct disordered and the comparison groups on the various measures of empathy employed in this study appears appropriate to address the hypothesis that youths with antisocial histories and presently diagnosed as conduct disordered express lower levels of empathy than do normal youths.

The present conduct disordered sample, as a whole, expressed lower levels of delinquent attitudes than did the original Jesness (1969) sample. This is likely due to sampling differences. In the present study, in contrast to Jesness (1969), no attempt was made to select participants on the basis of criminal history. The Jesness (1969) validation study selected and grouped subjects on the basis of

criminal convictions. Therefore, the subjects in this study were not as delinquent (by legal criteria) as those in Jesness's work. Selection of subjects on the basis of legal criteria may result in a sample with a wider range of antisocial behaviors (such as nonaggressive crimes involving property, drugs and prostitution). Classification on the basis of type of offence may be useful as a means of assessing aggressive behaviors when the interest is in predicting delinquent and criminal behavior. However, selection on the basis of the DSM IIIR (APA, 1987) criteria of conduct disorder is important for investigations of psychological factors. The criteria included in the DSM IIIR consider developmental histories and emotional status as important contributors to current behaviors. Subject selection on the basis of these criteria may in fact result in samples more homogeneous with respect to the type of aggressive conduct exhibited, such as aggression against persons.

Relationship Between Antisocial Attitudes and Empathy

It was hypothesized that the endorsement of attitudes associated with antisocial and aggressive behaviors, as measured by the Jesness, would be associated with lower scores on both the responsive and trait measures of empathy. In the present study, the Jesness was used as a measure of attitudes regarding the use of socially maladjusted behavior and aggression (SM and MA scales) and as a measure of the likelihood of delinquent behavior in the future (AI scale). This hypothesis was supported in part by the pooled correlations on the first two of these Jesness scales. The Jesness Antisocial Index proved to be nonsignificantly correlated with the empathy measures, although the results were in the predicted direction.

The lack of a statistically significant relationship between the Jesness AI scale and the empathy measures indicates that questionnaire scales that specifically query socially maladjusted and aggressive behavior are more negatively related to empathy than overall measures of delinquency, such as the AI, which includes items from the other personality scales. Given that the AI score is based on responses from all of the Jesness scales, it may be that this scale is less specifically sensitive antisocial attitudes and aggression (measured by the SM and MA scales respectively). The AI scale is designed to predict continued criminal behavior of all

types, and not just those involving aggression (Jesness, 1969). The strength of the correlations using the more narrowly focused SM and MA scales certainly indicates the importance of the relation of empathy with antisocial and aggressive attitudes specifically, rather than with general measures of delinquency. As well, correlations of the empathy measures with the AI, which is based on a regression equation, will be lower than correlations computed with the Jesness subscale scores. This is due to the the reduced variability of the AI predictor scale.

Present significant pooled correlations confirmed that higher scores on the Social Maladjustment scale were significantly associated with lower scores on the Empathy Continuum responsive measure. Higher scores on the Manifest Aggression scale were associated with lower scores on the the Perspective Taking scale of Davis's multidimensional IRI questionnaire and Bryant's Empathy Index. The remaining pooled correlations of the SM and MA scales with the Empathy measures were in the predicted direction, but did not achieve statistical significance. In addition, the IRI Personal Distress scale, a measure of self-focused feelings of anxiety and discomfort in tense emotional settings, correlated at nonsignificant positive levels with attitudes associated with social maladjustment and aggression. This pattern of positive and negative correlations is consistent with previous interpretations and findings showing that self-focused emotions are negatively associated with empathy (Toi & Batson, 1982; Davis, 1983).

Present correlations together indicate that other-person focused empathic responses are associated with lower levels of aggressive and other antisocial behaviors. These results support earlier views and findings (Bryant, 1982; Feshbach & Feshbach, 1969; Hoffman, 1982) that empathy and aggression are negatively related. Bryant (1982) reported a negative relationship between empathy, as measured by the Empathy Index questionnaire, and aggression, as measured by teacher ratings, in first and fourth grade boys. Feshbach and Feshbach (1969) reported similar findings for young boys (ages 6-7). Teachers rated high-empathy boys (as measured by the Feshbach and Roe (1969) FASTE picture-story method) as lower in aggression than low-empathy boys. Somewhat similarly with adults, Mehrabian and Epstein (1972) demonstrated that emotional cues from others inhibited aggression in both high-empathic males and females.

The present results concur with this previous research and indicate a negative relationship between empathy and aggression is present for male and female adolescents. The present findings also accord with general conclusions from a review of previous research suggesting an inverse relationship between empathy and aggressive and other externalizing behaviors in normal samples (Miller and Eisenberg, 1988).

In particular, present results concur with those of previous research demonstrating an association between aggression and lower levels of empathy in delinquent and aggressive youth (Alexsic, 1976; Ellis, 1982). The present study demonstrated an inverse correlation between the IRI Perspective Taking scale and the Jesness measures of antisocial attitudes and aggression (SM and MA scales). This accords with the findings of Ellis (1982), who concluded that male aggressive delinquents scored significantly lower than nonaggressive delinquents and nondelinquents on Hogan's (1969) Empathy Scale, a measure that emphasizes the cognitive perspective-taking component of empathy. Although Ellis's (1982) sample included subjects from a wider age range (12 to 18 years) the average age of the delinquent participants (aggressive and nonaggressive) was within one standard deviation of the present sample ($M = 16.13$, $SD = 1.23$). Therefore, we can conclude similar findings for this and the previous study as regards perspective taking deficiencies related to empathy in aggressive youth. This finding may also fit a general conclusion emerging from research showing attributional distortions in such youth when faced with interpersonal situations involving possible aggression (Dodge, 1980; Dodge & Frame, 1982).

Present findings of an inverse relationship between affective empathy (as measured by Bryant's (1982) Empathy Index) and antisocial attitudes also accord with previous research. Hunter (1985) reported a negative relationship between self-reported affective arousal, as measured by the Emotional Empathy Index (Mehrabian and Epstein,1972), and aggression in juvenile delinquent male adolescents (14-18 years-old). Similarly, Alexsic (1976) demonstrated a significant negative relationship between the Mehrabian and Epstein (1972) Emotional Empathy Index and aggressive responses of male adolescent incarcerated delinquents (14-16 years-old), as assessed within a laboratory setting. Given that

Bryant's Empathy Index is an adaptation of Mehrabian and Epstein's measure to younger populations, present and previous findings concur across age-related versions of the same measure.

As noted above, previous research on aggressive delinquents demonstrated deficits in cognitive perspective-taking related to empathy (Ellis, 1982) and in affective empathy (Alexic, 1976; Hunter, 1985). Therefore, as the EC has both affective and cognitive components, the correlational results for it are also consistent with the previous findings for separate cognitive and affective scales used with aggressive groups. This indicates that the present finding regarding the inverse relationship between empathic responsivity and antisocial attitudes is related to both cognitive and affective processing difficulties. This issue will be addressed more specifically in the sections discussing group differences in the EC affective and cognitive components.

The focus of the present study was on conduct disordered youth, and more specifically on aggressive and antisocial attitudes. There are no directly comparable studies to my knowledge. However, the present findings are consistent with the previous research cited. There appears to be a negative relationship between aggression and empathy across different operationalizations of both constructs. For example, Ellis's (1982) study employed historical data, measuring aggression in terms of type of criminal offences and reports of aggressive behavior in incarceration facilities. Similarly, Hunter (1985) defined aggression as frequency of violent criminal offences. As well, aggressive responses of delinquents and nondelinquents were observed directly within a controlled experimental setting (Alexsic, 1976) in which aggression was measured in terms of the intensity and duration of a noxious stimulus (noise) administered to experimental cohorts during a learning task. Together, these studies focussed on criminal's or delinquent's aggression, inferred or directly noted in the criminal records, as well as displayed in an experiment.

The positive correlations between the Personal Distress scale and the three key Jesness scales stands in expected contrast to the negative correlations obtained for the Jesness scales with all other empathy measures. The nonsignificant pattern of correlations is suggestive of an association between higher levels of personal

distress and aggressive and antisocial tendencies, as hypothesized by Hoffman (1982). The results indicate that those individuals with relatively high levels of attitudes indicating social maladjustment and aggression may experience emotional situations as more self-distressing than those with lower levels of these attitudes. The PD scale items deal generally with a person's emotional reactions in tense emotional situations; they do not deal specifically with emotional reactions to another person's pain or suffering as a result of one's own aggression. Perhaps the development of a personal distress scale that queried emotional responses to the discomfort of others as a result of one's own behavior, particularly aggression, would be of more relevance to future investigations of empathy in conduct disordered populations. Replication of the present findings with a larger sample and a more relevant measure is required before more definitive conclusions can be drawn regarding personal distress and
aggression. Group differences on each of the empathy measures are discussed in the sections to follow.

Group Differences in Empathy: Empathic Responsivity

It was hypothesized that the conduct disordered group would demonstrate lower levels of empathic responsivity on the Empathy Continuum than the comparison group. Clear differences between the conduct and nonconduct disordered groups were obtained, supporting the hypothesis of lower levels of empathic responsivity in youths endorsing antisocial and aggressive attitudes. A repeated measures (Group X Sex X Vignette) ANOVA indicated that although each of the seven vignettes administered did not evoke equivalent empathic responses, this did not produce differential group, sex or interaction effects. The EC measure permits the assessment of the cognitive and affective empathy in response to emotional stimuli. This, in conjunction with subjects' responses to the self-report trait measures of affective and cognitive empathy, will provide future support for hypotheses regarding deficits in both the cognitive and affective components of empathy among present conduct disordered youths. Before addressing these findings, several issues relevant to the EC measure are discussed.

The group differences obtained in EC scores were not a function of social

desirability. Although the conduct disordered participants reported significantly fewer socially desirable responses than did the comparison group, an analysis of covariance demonstrated that the participants varied their empathic responsivity even when social desirability was statistically controlled. This accords with Chovil's (1985) finding that social desirability does not correlate significantly with empathic responsivity to filmed stimuli in 10-year-olds.

There is little previous research regarding differences in responsive empathy between conduct disordered and nonconduct disordered adolescents. No studies could be found that were directly comparable to the present study in assessing responsive empathy to evocative vignettes via administration of a structured interview. However, a somewhat similar study by Kaplan and Arbuthenot (1985) found that 14-16 year-old male and female delinquents (selected on the basis of residence in a correctional facility and not aggressive behavior specifically) scored significantly below nondelinquents on an unstructured empathy task: an adapted version of Duggan's Measure of Empathy (1978). This task consists of the presentation of short stories depicting adolescents in conflict and an interview regarding the subject's identification of the character's emotions, their own emotions and how they might respond to the character. This method is similar to the EC in its assessment of a subject's affective responses to a person presented in a picture-story format. The results of Kaplan and Arbuthenot's (1985) findings of significantly less empathy for delinquents are consistent with the present findings.

No relevant studies could be located using similar methods in research with nonconduct disordered adolescent samples (Miller & Eisenberg, 1988). There have, however, been several studies employing picture-story methods for the measurement of empathy and affective perspective taking (Lennon & Eisenberg, 1987; MacQuiddy, Maise and Hamilton,1987; Strayer, 1987a). These will be described as relevant to the current study elsewhere in the discussion.

Group Differences in Affective Empathy

Affective empathy, as measured in the present study, is defined as a concordant emotional response stemming from another's affective state. Present findings supported the hypothesis that conduct disordered youths exhibit

deficiencies in responding to others with affective empathy. The conduct disordered group reported significantly less affective empathy on Bryant's Empathy Index. In addition, the conduct disordered participants reported significantly less tendency to experience feelings of warmth, compassion and concern for other people on the IRI Empathic Concern scale, lower levels of imaginal involvement on the IRI Fantasy scale and marginally significant greater levels of Personal Distress than did the comparison group. Descriptive data from the affective component to the EC provide further support for this hypothesis. The comparison group reported proportionally twice as many instances of affect match with stimulus characters as did the conduct disordered group.

A comparison of present findings on trait questionnaire measures differ somewhat from previous published findings on conduct disordered youths. Kaplan and Arbuthnot (1985) found no difference between 20 delinquent and 20 nondelinquent adolescents (age = 14 years) on Bryant's (1982) Index of Empathy. Although mean scores were not presented, they did report that the delinquent participants scored lower than nondelinquents. A likely explanation of the differences between findings of their study and the present one rests on sample size. Because the present study included approximately 1/3 more participants, increased statistical power to detect differences between groups occurred.

In another study using 36 delinquent and 18 nondelinquent males (age = 16 years) (Lee and Prentice,1988) no group differences occurred on Davis's IRI (1980) or on the Emotional Empathy Index (Mehrabian and Epstein, 1972). However, the IRI in the above study was computed as a total mean score across all four scales. This presents a serious methodological problem, given the clearly different interpretations of the 4 scales as reported by Davis (1980) and confirmed in subsequent research (Davis, 1983; Davis et al., 1987). Thus, the Lee and Prentice (1972) study did not use the measure as it was intended-- as a multidimensional operationalization of empathy (Davis, 1980). As well, the Lee and Prentice (1988) divided the delinquent sample (selected on the basis of residence in a correctional facility) into 3 subgroups (based on assessed personality differences and labeled as psychopathic, neurotic and subcultural) of 12 participants each. As with the two previous studies noted in this section, this reduced the ability

of the applied statistical tests to detect group differences.

Another general difference between the present research and the studies discussed above is that the previous studies have all employed delinquent populations selected on the basis of criminal convictions. This could result in the inclusion of subjects exhibiting a variety of illegal behaviors, including crimes not directly aggressing against persons, as in crimes relating to property, drugs and prostitution. It may be that the inclusion of subjects with convictions related to such non-violent offences resulted in samples that were not homogeneous with respect to aggressive behavior. In contrast, the conduct disordered participants in the present study were selected on the basis of both residence in an institutional setting and a diagnosis of conduct disorder. The diagnostic criteria for conduct disorder specifically include aggression and the violation of the basic rights of others (American Psychiatric Association, 1987). Thus all members of the conduct disordered group had established patterns of aggressive behavior. Furthermore, this group scored higher on Jesness scales used to differentiate groups on aggressiveness and endorsement of antisocial attitudes. Therefore, aggression is clearly identified as a characteristic differentiating the groups presently studied. Because of this, the present research addresses more precisely than previous research discussed the hypothesized deficiencies in empathy for aggressive and antisocial youth.

Present findings regarding the Personal Distress scale of the IRI are noteworthy, given theories regarding the motivational role of self-focused negative affective arousal in emotional situations. The conduct disordered group scored marginally ($p < .06$) higher on this scale than did the comparison group. The direction of these findings contrasts with the conduct disordered youths' scores on all other measures of empathy.

Feshbach (1979) has proposed that personal distress may serve to curtail aggression because of paired associative learning. Witnessing others' distress cues and sharing their distress may reduce the likelihood of subsequent aggression due to the anticipation of the distress aroused in others (and in oneself) by aggressive acts (Feshbach, 1979). Also expecting and inverse relation between personal distress and aggression, Perry and Perry (1974) hypothesized that aggressive

individuals have lower levels of personal distress in response to the pain cues of others. Thus, Feshbach (1979) hypothesizes that high levels of personal distress result in lowered aggression, while Perry and Perry (1974) hypothesize that low levels of personal distress result in increased aggression.

The findings in the present study tend not to support hypotheses based on the inverse relation of aggression and personal distress, as presently measured: higher levels of personal distress were found to be associated with higher levels of aggression. A critical explanation seems to lie in how personal distress is defined. Feshbach's hypothesis emphasizes the empathic sharing of the victim's distress cues as witnessed by the aggressor. But this may suppose that the aggressor is also generally empathic and can attribute his/her emotions as shared with the victim, thereby inhibiting aggression. We know from the present research that the more aggressive youth are less generally empathic. Therefore, they would be less likely to attribute their arousal to shared distress with a victim. Their higher scores on Davis's Personal Distress scale do not reflect shared emotion so much as a self-focused arousal. Data consistent with this this interpretation comes from studies by Dodge and his colleagues (Dodge, 1980; Dodge, & Frame,1982) showing that boys identified as aggressive demonstrate a self-focused hostile attributional bias and attend to fewer pain cues in others.

The interpretation of present results regarding personal distress provides an explanation for Perry and Perry's (1974) findings. These researchers conducted their study under highly arousing and provocative conditions, in which subjects were required to deliver electric shocks to cohorts in a "learning experiment." Aggressive boys delivered greater amounts of electric shock to a cohort than did non-aggressive boys. It may be that the aggressive participants experienced increased levels of self-focused negative affect during the experimental manipulation. Thus, the increased delivery of electric shocks may have been an instrumental outlet for the expression of these self-focused negative feelings.

The present findings regarding personal distress may also provide some initial support for the suggestion that aggressive and antisocial individuals are more easily emotionally overaroused in a self-absorbed manner (Stotland, 1969; Hoffman, 1982). This is consistent with the proposal by Batson & Coke (1981)

that personal distress motivates attempts to alleviate one's own aversive state in an "egocentric" or self-oriented manner that is unrelated to empathy. As well, Hoffman (1982) may be correct in proposing that personal distress is an early precursor of the development of empathy, but that punitive and neglectful socialization and negative emotional experiences do not allow for the emergence of other-focused cognitions. Such socialization factors are more likely present in the histories of the present conduct disordered than the comparison youth.

Group Differences in Cognitive Empathy

The two measures in the present study that are particularly relevant to cognitive empathy are a) the PT scale of the IRI and b) the cognitive component of the EC interview. Present findings indicate that conduct disordered youths scored below the comparison group on both these measures.

The results of this study accord with the previous findings of Chandler (1973) and Lee and Prentice (1988) that children and adolescents with conduct problems are significantly deficient in those aspects of cognition related to perspective taking. Results from the IRI Perspective Taking scale can be compared most readily to past research.

Although perspective taking measures such as those used by Chandler (1973) and Lee and Prentice (1988) are affective in terms of content (i.e. labeling story characters' emotions), they do not assess a specific tendency to consider others' thoughts and feelings, as does the Perspective Taking scale of the IRI. In Chandler's (1973) study, pre-adolescent delinquent males were less able than non-delinquent males to adopt the perspective of a character in a picture-story sequence. Lee and Prentice (1988) similarly reported that adolescent delinquent males scored at significantly lower levels of perspective-taking abilities in response to questions about verbally presented stories than did nondelinquent males. The findings of Chandler (1973) and Lee and Prentice (1988) indicate that, for delinquent males, a deficit in perspective taking ability is present as it pertains to the social cognitions involved in the skill of inferring others' thoughts and feelings. The present study more specifically revealed differences between the conduct disordered and nonconduct disordered groups in reported general tendencies to perspective take.

Taken together with previous findings, the present data indicate that conduct disordered youths exhibit deficits in both the disposition and skills involved in affective perspective-taking.

The ability to identify emotions in others is an important prerequisite for an empathic response. Present findings indicate that this skill, as presently assessed, is not deficient in conduct disordered youths. The conduct disordered youths were only slightly less able than comparison youths to identify vignette characters' emotions on the EC stimulus vignettes. Similarly, MacQuiddy, Maise and Hamilton (1987) reported no overall difference between conduct disordered and nonconduct disordered boys (ranging in age from 5 to 7 years) in the ability to correctly identify story characters' emotions. The MaQuiddy et al. (1987) subject sample is considerably younger than the present sample. However, comparison between these studies is relevant, in that the Parent-Child Affective Perspective-Taking Scale (PCAPS) used in the previous study is one of the few picture-story methods that have been administered to a conduct disordered population.

The PCAPS asks subjects to identify characters' emotions in response to a series of photographs and an audio-taped story depicting parent-child interactions. The MacQuiddy et al. (1987) findings did not support Feshbach's (1978) hypotheses that deficiencies in the aggressive child's ability to identify the emotions of others (specifically pain cues) is a contributing factor to their aggressive behavior. However, it may not have provided an adequate test of this hypothesis, given the limited ages samples and the lack of sufficient sampling of affectively negative evocative stimuli. Additional evidence is provided by the present study. Present findings of only minimal group differences across an older age range and a wider and more evocative stimulus context are in accord with the findings of MacQuiddy et al. The present conclusion is that differences in emotion identification are insufficient to account for the significant group differences in empathy for the present age range. It may still be that Feshbach's (1987) hypothesis applies better to very young children.

In contrast to emotion identification, there may be other cognitive deficiencies in the empathic responses of conduct disordered youth. Conduct disordered youth not only reported less shared affect, but also used lower mean

levels of cognitive attributions when shared affect was reported. Results concerning the cognitive component of the EC, in particular, indicate a lower mean level of cognitive attribution for the affective responses of conduct disordered as compared to the comparison group youths. Both conduct and comparison group youths reported mean levels of cognitive attributions that were other-person-focused. However, the mean cognitive attribution level of the comparison group youths was higher than for conduct disordered youth (see Figure 1) and involved more responses to a character's feeling or internal state. In contrast, a greater number of the conduct disordered than comparison youths had mean empathic responses based on story events only. Attributions at this level do not directly involve a focus on the character.

The present cognitive deficiencies in the conduct disordered group are not likely to be attributable to differences in intelligence either. As noted in the methods section, the conduct disordered group was of overall average IQ. As well, the cognitive processes assessed by the EC are related to social cognition. Aggressive boys are known to have cognitive attribution styles in social situations that differ from normal boys (Dodge, 1980). IQ scores would not reflect group differences in this area, as general intelligence tests do not tap this type of social reasoning directly.

Results concerning the cognitive component of empathy in the present study not only support theories (Chandler, 1973; Hoffman, 1982) regarding cognitive deficiencies in perspective taking among aggressive children and youth. The present results also suggest that these deficiencies occur at a relatively higher level of processing than the identification of emotions in others, and identify other-person-focused attributions as an area of differences in their empathy. These results suggest that future research might focus on the developmental origins of these more specific affective-cognitive skills, and on socialization factors that enhance or impede their acquisition.

Sex Differences in Empathy

Present sex differences indicated that female participants scored higher than males on measures of affective empathy (IRI Empathic Concern scale and Bryant's

Empathy Index), and on the responsive empathy measure (EC). Previous research on gender differences in school-age children and adults have produced mixed results. When sex differences have been reported for self-report questionnaires (the majority of which have employed the Mehrabian and Epstein (1972) or Bryant (1982) questionnaires) these show higher empathy scores among females (Lennon & Eisenberg, 1987). With a notable exception (Feshbach, 1982), most research using picture-story measures of empathy did not reveal gender differences (Lennon & Eisenberg, 1987). Self-report biases due to self-presentation differences and actual differences in socialization and sex role expectations regarding concern for others and emotionality have been cited as possible explanations, as well as possible demand characteristics such as sex of the examiner (Lennon & Eisenberg, 1987).

The results of the present study concur with the suggestion of a self-report bias in favor of females. In particular, they suggest that the gender differences in empathy reported by Feshbach (1982) for children, when measured via picture-story methods, are present in adolescence as well.

The interpretation of the present differences is that sex-role expectations concerning emotionality may have produced differential results in favor of higher EC scores for females. No sex differences were present on the cognitive component of this measure. In addition, demand characteristics such as sex of the examiner were methodologically controlled in the present research by using same-sex interviewer and subjects. As well, present ANCOVA results demonstrating sex differences for the EC scores when Social Desirability scores were controlled, indicate that females reported higher levels of empathic responsivity independent of the effects of social desirability. The Social Desirability scale employed in the present study assesses a general tendency to respond to others in a social desirable manner, or the tendency to want to please others by doing what they want. It does not assess the more specific tendency to respond to the emotions of others with concern and a willingness to please. It is this specific aspect of responsiveness in emotional situations that may have more relevance to the study of gender differences in empathic responsivity.

Current findings regarding sex differences using Bryant's Empathy Index

are similar to those obtained in her original validation of this measure with younger children from grade 1 to grade 7. In Bryant's (1982) study, grade 7 (mean ages were not provided) females obtained significantly higher mean scores than a comparison group of grade 7 males. Mehrabian and Epstein (1972) also obtained significant gender differences in favour of females on the adult version of this measure. Similarly, present grade10 comparison group females scored significantly above grade 10 comparison group males on the Bryant Index.

Current findings concerning sex differences on the IRI differ from those obtained by Davis (1980). Davis (1980) reported that adult females scored significantly higher than males on each of the four IRI scales. In the present study, females scored significantly higher than males only on the Empathic Concern scale. Nonsignificant differences showing higher scores for females occurred on the Personal Distress and Fantasy scales. In contrast, a nonsignificant difference showing higher scores for males occurred on the Perspective Taking scale. This pattern was similar for both the comparison and conduct disordered groups. These results indicate that the present sample of youths, in comparison to previous findings for adults, do not demonstrate the same pattern of significantly higher scores for females on all of the IRI self-report scales. Therefore, it may be that adult females demonstrate increasing levels of trait empathy across scales, as compared to males, as they move from adolescence to adulthood. Thus, the results of the current study, when compared to the Davis (1980) findings, may represent the cumulative effects of sex-role socialization and social desirability on women with increasing age.

In summary, the gender differences revealed in the present study indicate higher scores on affective and responsive empathy for females as compared to males. However, the precise nature of these differences is still open to interpretation. In particular, gender differences related to emotionality specifically, are implicated rather than differences related to cognitive factors and attributions for emotions once these are reported. The gender differences on Bryant's Empathy Index revealed in this study are consisted with past findings. Present gender-related results for the IRI differ from those previously reported for adults and may represent gender-related age differences between adolescents and adults, possibly

related to sex-role socialization factors.

Relationships Among Empathy Measures

Although the majority of previous studies with atypical groups have employed a single criterion measure as their operational definition of empathy, the present study provides evidence regarding relationships among two different methods (questionnaire and interview responses to stimuli) and three measures of empathy.

Results for measures of empathy demonstrated significant positive pooled correlations between the responsive (EC) and trait (questionnaire) methods, as well as between different trait measures (Bryant's Empathy Index and Davis's IRI). The EC's highest positive correlation was with the Fantasy scale of the IRI and with Bryant's Empathy Index. This provides some convergent validity for the EC measure.

The significant correlation between the EC and the IRI Fantasy scale indicates that imaginal involvement, or the ability to transpose oneself into the feelings and actions of others, is an important contributor to empathic responsivity. Stotland (1969) states that interpersonal processes which causes an individual to imagine themselves in another person's position lead to empathy, whereas those process which initiate observation alone (in the absence of imaginal involvement) do not lead to empathy. The content of the Fantasy scale specifically relates to the individual's ability to transpose herself or himself into the feelings and actions of persons represented in movies and books (Davis, 1983). Thus, the content relates directly to the EC method used (stimulus video-tapes) for assessing empathy. Also in support of this interpretation, Chovil (1985) reported a significant relationship between children's shared affect with video-taped characters and children's reports of imagining themselves in the character's role or situation. These imaginal processes are similar to those queried on the IRI Fantasy scale. Related support is also provided by the findings of Stotland et al. (1978) reporting greater levels of physiological arousal associated with emotional responsivity and a greater tendency to help when observing others directly, in adults subjects with greater levels of self-reported imaginal involvement.

The role of imaginal involvement in affective empathy is further supported by the significant positive correlation of the IRI Fantasy scale with both the IRI . Empathic Concern scale (r = .23) and Bryant's Empathy Index (r = .24). Present findings are supported by previous findings of Davis (1983), who reported significant correlations for adults on the Empathic Concern and Fantasy scales (r = .33), and also between the Fantasy scale and Mehrabian and Epstein's Emotional Empathy Index (r = .52). The present study also revealed a significant correlation for the Fantasy and Perspective Taking scales of the IRI (r = .31). Davis (1983) reported a lower, but still statistically significant positive correlation (r = .13) between between Fantasy and Perspective Taking. The data from the present study, when considered in the context of Davis's (1983) findings, indicates that imaginal involvement and affective empathy are significantly related. Imaginal involvement and cognitive perspective taking are more closely related in the current adolescent sample than in Davis's (1983) adult sample. Replication of these results with other adolescent samples is required before further speculation is warrented on this topic.

The positive correlation between the EC and Bryant's Empathy Index supports the expected relationship between these measures of responsive and trait empathy. Similar to the present results, Chovil (1985) found a significant positive correlation between the Bryant Index and children's reports of shared affect (a component of the present EC) with videotaped characters. This indicates a degree of congruence between individuals' retrospective self-reports of their affective responses and empathy to others' emotions (Bryant) and their concurrent reports of empathy (EC) in response to witnessing others' emotions.

Significant positive correlations were also revealed between Bryant's Empathy Index and both the Empathic Concern and the Fantasy scales of the IRI. The present results are similar to those of Bryant (1982) who found a significant positive correlation between the Empathy Index and scores on the FASTE (Feshbach & Roe, 1968) picture-story technique. Taken together, these findings suggest that there is a modest degree of inter-relatedness among the measures of affective empathy employed in this study.

Finally, low negative correlations occurred for Personal Distress and all

other empathy measures in this study, including a significant negative correlation with the IRI Perspective Taking scale. Davis (1983) reported significant negative interscale correlations between Personal Distress and Perspective Taking, and nonsignificant positive correlations between Personal Distress and both Empathic Concern and Perspective Taking. Davis (1983), as well as others (Hoffman,1982) suggest that empathy and personal distress may co-occur. However, present negative correlations suggest that empathy and personal distress, as assessed, are distinct and somewhat incompatible responses to the emotions of others. The presence of higher levels of personal distress may be a product of a lower ability to distinguish one's own emotions from another's, resulting in overarousal, as proposed by Hoffman (1982). The relationships found between the empathy measures employed in this study support the general hypothesis that self-oriented feelings of anxiety and unease in emotional situations is associated with lower levels of empathic responsivity (Hoffman, 1982; Feshbach, 1979).

Summary

This study revealed significant group differences in antisocial and aggressive attitudes, with the conduct disordered group scoring higher on the relevant Jesness scales. An overall negative relationship between antisocial and aggressive attitudes and empathy was also revealed. The questionnaire scales that specifically queried aggression and antisocial behavior were, as expected, inversely related to the trait and responsive empathy measures. It was suggested that more specific measures of aggression would assist in more fully establishing the link between antisocial behavior and lower levels of empathy. The use of a multimethod approach to the measurement of aggression, including historical data and some form of direct observation in experimental settings is proposed for future studies. Peer, parent and teacher ratings, as well as the observation and coding of aggressive conduct in naturalistic settings are other potential measures. In addition, further research on empathy of youths with conduct problems and those from the general population are needed, as indicated by the few studies available for direct comparison with the present research. It was noted that the conduct disordered participants in this study expressed lower levels of antisocial attitudes than did the original sample employed for the Jesness Inventory validation. The use of participants selected on the basis of DSM-IIIR

(1988) criteria was likely to have resulted in the inclusion of subjects more homogeneous with respect to factors contributing to aggressive behavior specifically. Such criterion seems particularly relevant for investigations of empathy as a motivator of prosocial and inhibitor of aggressive behavior.

As predicted, the conduct disordered group scored significantly below the comparison group on trait and responsive empathy measures of both affective and cognitive empathy. These differences were not a function of social desirability. Present findings of lower levels of empathic responsivity for the conduct disordered group are consistent with previous multidimensional views of empathy (Feshbach, 1978, 1987; Hoffman, 1982, 1987; Strayer, 1987a) and accord with similar differences obtained for empathy measures in the present and related previous research.

Replication of the present findings with conduct disordered youths is obviously required before the findings regarding the deficit in empathic responsivity revealed here can be broadly generalized. In addition, a more definitive proposal of a deficit model of empathic responsivity in aggressive youths will require further normative data on empathic responsivity in nonconduct disordered youths, as measured via both picture-story interview, questionnaire and other methods. Furthermore, the use of multidimensional measures of empathy in developmental research would provide additional data on the possible interaction between the cognitive and affective components of empathy. Studies comparing cognitive and affective factors in empathy in normal subjects may also assist in determining the relative contributions of each component. It may be that these components are expressed differently at different ages and given individual differences.

The use of multimethod and multidimensional measures in the present study provided an opportunity to address issues regarding the assessment and operation of empathy. In accord with current multidimensional theories of empathy, present findings suggest that these affective and cognitive components of empathy may be interactive, and not fully independent from one another. As proposed by Hoffman (1982), affective arousal to others' emotions may only be experienced as empathy when the ability to recognize and experience a wide range of emotions is present along with appropriate self-other differentiation. Deficiencies in one or the other aspect of affective or cognitive

processing may impact upon development in another aspect.

The EC correlated with affective empathy measures imaginal involvement and of the affective response to the emotional experiences of others. A modest degree of convergent validity was demonstrated between this and trait questionnaire measures of empathy. The continued use of multidimensional measures in future studies are needed in order to provide additional evidence for the convergent and discriminant validity of the present multidimensional conceptualization of empathy. The stimuli used, as well as the interview questions and scoring system are all components of the present measures that could be manipulated in future studies to assess the impact of methodological variables.

Future research on the relationship between empathy and personal distress in antisocial and aggressive youths may provide support for an overarousal hypothesis (Stotland, 1969; Hoffman, 1982). Hoffman states that the self-focused affect elicited by an emotional social situation can be so intense that it can motivate an attempt to reduce these feelings via egoistic means. Therefore, it may be that poorly socialized individuals are more prone to employing instrumental aggression to reduce personal distress. Alternately, it has been suggested that aggressive youths are fundamentally callous and indifferent to their victims' suffering. The present findings support the hypothesis that conduct disordered youths experience increased feelings of personal distress, as shown by the IRI scale. Present correlations also suggest that personal distress is incompatible with empathy. These findings are informative and suggest a need for more naturalistic and broadly based measures of personal distress. The measure used in the present study is limited to self-report of feelings of personal distress, in primarily "emergency" situations. The development of self-report measures of personal distress that query a broader range of emotional social situations is recommended. As well, picture-story measures of responsive empathy could include probes specific to self-focused affect. This would allow for comparisons of responsive empathy levels with personal distress during the presentation of the same evocative stimuli, thus providing more direct evidence regarding these two factors.

Present findings of group differences in other-person-focused cognitions point to the need for specific research on the developmental changes in the cognitive processes related to empathy. Hoffman (1982) hypothesizes that developmental progress in perspective taking is a product of directing a child's focus towards

others' needs in a nonpunative social context. Similar views are also held by other theorists (Kohlberg, 1981; Feshbach, 1982; Radke-Yarrow, Zahn-Waxler & Chapman, 1983; Gibbs, 1987). More specific research on the socialization environments of aggressive children, particularly as they relate to perspective taking opportunities and empathic encounters between the child an socialization agents (i.e., parents) are needed. Longitudinal research on changes on perspective taking and cognitive mediations in response to others' emotions in aggressive and nonaggressive children are required in order to more directly assess Hoffman's (1982, 1987) model of the role of empathy in prosocial motivation.

Hoffman (1982) has also suggested that, in order for empathy to operate as a prosocial motivator, it must eventually come to be associated with need fulfillment in the individual. In environments where others' feelings are frequently associated with one's own punishment or deprivation, these associations may not develop fully. Future studies that directly assess empathy, parenting discipline and pedagogical styles, and the emotional climate of the households of antisocial youth are required in order to test Hoffman's (1982) hypotheses. Chronic abuse and neglect undoubtedly have a profound impact on the individual's ability to integrate emotional experience, but they may also have highly specific effects on the emergence of empathy as a subsequent motivator for prosocial behavior.

Further to the issue of the relationship between socialization environments and empathy, results from the Jesness Inventory indicate that the conduct disordered youths scored above the comparison group on the Value Orientation scale; an indication of possible differences in socio-economic status (SES). This variable was not measured directly in the present study, although a brief survey of participants' occupational status did not reveal any obvious differences . Future research should include measurement of the relationship between SES, parenting style and empathy. Social and economic pressures, as well as values and attitudes, among lower socio-economic class families may contribute significantly to their home emotional environments.

A methodological issue raised by the present results concerns the sensitivity of picture-story indices to age-related changes in affective and cognitive processes. Previous research indicates that questionnaire methods correlate more highly with both prosocial and

aggressive behaviors than do picture-story indices. The present findings, when compared to previous research, suggest that the association between picture-story indices and aggressive behaviors may be more consistent with older children. The consistency and magnitude of the negative relationship between antisocial attitudes and aggressive behaviors and responsive empathy demonstrated by the present study indicates that picture-story methods such as the Empathy Continuum may provide an effective means of studying the association between emotional and social development. The advantages of picture-story methods include the possibility of employing evocative stimuli of more relevance to the age-group under investigation and the ability to assess empathy more specifically as a reaction to others' emotions, rather than as a retrospective self-report. Given this, studies comparing the sensitivity of trait and responsive measures to age-related changes, empathy's association with aggression and prosocial behavior would be of methodologically and theoretically useful.

The present study confirmed the presence of gender differences in favor of higher empathy scores for females on the trait measures of affective empathy and the responsive empathy measure. The gender differences on the EC were not a function of social desirability. However, the measure of social desirability employed here does not assess demand effects that are highly specific to the assessment of empathy, such as emotionality and the willingness or ability to respond with concern for others. The development of a questionnaire that specifically queries the willingness to respond to others' emotions would be of benefit to future studies of sex differences in empathy.

The assessment of gender differences in the present study could have benefitted from the inclusion of a measure of emotionality in terms of a general willingness to reveal emotions. This would have helped to determine if the present gender differences were due to greater levels of empathy in females or to possible reluctance on the part of males to express emotions. A further issue raised by present findings concerns gender differences in empathy for adolescents as compared to adults. A validation study of the IRI, employing a larger sample of normal adolescents than that included in the present study, is suggested. This would provide a more reliable comparison of sex differences between youths and adults. Furthermore, the downward extension of the IRI would provide a much needed empathy measure for use with adolescents.

An issue of both methodological and theoretical interest centers on the relationship

between intelligence and empathy. The present study included only those conduct disordered youth with average intelligence test scores and reading ability sufficient to understand the questionnaires. Given average intelligence across both target and comparison groups, we have no reason to expect group differences based on intelligence. However, it might be helpful in future research to determine the overall contribution of intelligence to empathy levels. It is recommended that future comparative studies of empathy include at least a brief measure of IQ as a control variable across all samples.

By demonstrating the co-occurrence of conduct disorder and lower empathic responsivity, this study has provided support for hypothesized links between deficiencies in empathy and antisocial and aggressive conduct. Further research that measures empathy in conduct disordered and normal youths by assessing different levels of their aggressive behavior would more firmly establish an inhibitory function of empathy on aggression. A start in this direction has been made in the present study.Among the questions remaining to be studied is whether increases in empathic responsivity would necessarily lead to decreases in antisocial and aggressive behavior among conduct disordered children or adolescents. Given present findings of deficiencies in empathy among conduct disordered youth, we are encouraged to suggest that there are grounds for more direct intervention studies. For example, studies that train and assess empathy with participants from this group could be conducted. The results of this study indicate that exercises that support or model both cognitive and affective perspective taking, and those that increase the positive associations (and the range of situations) between the emotions of others' and the participant's own emotions may be beneficial.

Assessment of the effects of empathy training on aggressive and antisocial individuals would assist in the identification of specified areas of intervention, applicable to schools and other agencies. Such a program could contribute to their treatment in residential settings and, if successful, would generalize to their social conduct elsewhere. Thus, such a remedial and preventive mental health care program could extend its benefits from the youth serviced to the greater community in its problems with antisocial behavior.

Appendix A

Appendix A:

Simon Fraser University

Information Sheet and Informed Consent for Minors
by Parent/Guardian
to Participate in a Research Project.

About the Study:

Your son/daughter has been invited to participate in a study that explores young peoples' attitudes, values and feelings about others and society. The goal of the study is to develop ways of helping young people understand each others' feelings and to cooperate. **First,** he/she will be asked to complete three questionnaires. **Then** they will be asked to watch a series of short, video-taped dramas and tell us about their reactions to the stories portrayed in the dramas. Your son/daughter will be asked to complete **second set** of questionnaires and interview approximately 3 months after completion of the first testing session. Upon completion of the study, a member of our research staff will contact your son/daughter in order to present the results, so that they may be given the opportunity to benefit directly from the information they've provided. This feedback session will also provide an opportunity for us to answer any questions or hear any ideas your son/daughter may have about the study. All information given us is **confidential** and will not be released to anyone without permission from you (or your son/daughter upon reaching their 18th year). There is no risk to your son/daughter as a consequence of their involvement in the study. However, some of the questions asked are personal because we want their opinions and feelings. Your son/daughter may withdraw from this study at any time. If they no longer wish to participate, any information provided will not be used in the study.

Note: The University and those conducting this project subscribe to the ethical conduct of research and to the protection at all times of the interests, comfort and safety of subjects. This form and the information it contains are given to you for your own protection and full understanding of the procedures risks and benefits involved. Your signature on this form will indicate that you have read the information provided above regarding this project, that you have been given the opportunity to consider the information provided, and that you voluntarily agree to allow the subject(s) for whom you are responsible to participate in the project.

Informed Consent for Minors (Page 2)

As (parent/guardian etc.) of

_____

(name of student)

I consent to the above-named engaging in the procedures specified above, in a research project supervised by: Dr. Janet Strayer of the Psychology Department, Simon Fraser University.

I certify that I understand the procedures to be used and have fully explained them to my son/daughter,
who knows that he/she has the right to withdraw at any time.
I also understand that I may register any complaint I might have about the experiment with the researcher named above or with:

Dr. Roger Blackman, Chairman, Dept. of Psychology, Simon Fraser University.

I may obtain information regarding the results of this study, upon its completion, by contacting: Dr. Janet Strayer, Dept. of Psychology, Simon Fraser University, Burnaby, B.C. V5A 1S6.

Name
(print):_____

Address:_____

Signature:_____
Signature of Student_____
Date:_____

Appendix A: The Empathy Continuum Interview

Vignette I- Jeannie

1. Tell me in your own words, what happened?

2. How did you feel when she was telling her story?

a) *if the subject says* "bad", "upset", "concerned/worried" *or gives a vague reply, say* "tell me more about_____."

b) *if the subject says* "surprised" or "excited"

say "is that good_____ or bad _____."

c) *if the subject does not name and emotion or the response is still vague, go to emotion list below. Do not query neutral responses, i.e. "ok", "fine".*

Happy	Afraid
Surprised	Sad
Angry	Nothing

3. Did you feel that a little or a lot?

4. Why did you feel that (a little/a lot)? *or* What made you feel that (a little/a lot)?

N.B. If the subject notes more than one vignette character as relevant, attend initially to the one that might afford a better affective match with Q2

Appendix A: The Empathy Continuum Interview (Con't)

5. How did the woman feel when she was telling her story?
(Follow same guidlines as given in Q.2)

Happy	Afraid
Surprised	Sad
Angry	Nothing

6. Did she feel that a little or a lot?

7. Why did she feel that (a little/a lot)? *or* What made her feel that (a little/a lot)?

EC_____

PT_____

PD_____

EF_____

DO NOT WRITE HERE

Name _____

Date of Birth _____

Today's Date _____

INSTRUCTIONS:

Please check the box that describes how much each of the following statements is Like You or Not Like You. There is Absolutely no "right" or "wrong" answer on these. So, just answer how it generally seems to be for you.

T H A N K S

Check Your Answer

1. I daydream pretty often about things that might happen to me.	- Not at All Like Me	- Not Really Like Me	Sort of Like Me	+ Pretty Much Like Me	+ Very Much Like Me
2. I often have tender concerned feelings for people less fortunate than me.	- Not at All Like Me	- Not Really Like Me	Sort of Like Me	+ Pretty Much Like Me	+ Very Much Like Me
3. I sometimes find it difficult to see things from the other person's point of view.	- Not at All Like Me	- Not Really Like Me	Sort of Like Me	+ Pretty Much Like Me	+ Very Much Like Me
4. Sometimes I don't feel sorry for other people when they are having problems	- Not at All Like Me	- Not Really Like Me	Sort of Like Me	+ Pretty Much Like Me	+ Very Much Like Me
5. I really get involved in the feelings of characters in a story.	- Not at All Like Me	- Not Really Like Me	Sort of Like Me	+ Pretty Much Like Me	+ Very Much Like Me
6. In emergency situations, I feel worried and Ill-at-ease.	- Not at All Like Me	- Not Really Like Me	Sort of Like Me	+ Pretty Much Like Me	+ Very Much Like Me

Check Your Answer

7. When I watch a movie I don't often feel completely caught up or involved in it;	- Not at All Like Me	- Not Really Like Me	Sort of Like Me	+ Pretty Much Like Me	+ Very Much Like Me
8. I try to look at everybody's side of a disagreement before i make a decision.	- Not at All Like Me	- Not Really Like Me	Sort of Like Me	+ Pretty Much Like Me	+ Very Much Like Me
9. When I see someone being taken advantage of, I feel kind of protective towards them.	- Not at All Like Me	- Not Really Like Me	Sort of Like Me	+ Pretty Much Like Me	+ Very Much Like Me
10. I sometimes feel helpless when I am in the middle of a very emotional situation	- Not at All Like Me	- Not Really Like Me	Sort of Like Me	+ Pretty Much Like Me	+ Very Much Like Me
11. I sometimes try to understand my friends better by imagining how thins look from their point of view.	- Not at All Like Me	- Not Really Like Me	Sort of Like Me	+ Pretty Much Like Me	+ Very Much Like Me

Check Your Answer

	-	-		+	+
12. Becoming really very involved in a good book or movie is rare for me	Not at All Like Me	Not Really Like Me	Sort of Like Me	Pretty Much Like Me	Very Much Like Me
13. When I see someone get hurt, I tend to stay calm.	Not at All Like Me	Not Really Like Me	Sort of Like Me	Pretty Much Like Me	Very Much Like Me
14. Other people's misfortunes do not usually bother me alot.	Not at All Like Me	Not Really Like Me	Sort of Like Me	Pretty Much Like Me	Very Much Like Me
15. If I'm sure I'm right about something, I don't waste much time listening to other people's opinions.	Not at All Like Me	Not Really Like Me	Sort of Like Me	Pretty Much Like Me	Very Much Like Me
16. After seeing a play or a movie, I have felt I was one of the characters.	Not at All Like Me	Not Really Like Me	Sort of Like Me	Pretty Much Like Me	Very Much Like Me
17. Being in a tense emotional situation scares me.	Not at All Like Me	Not Really Like Me	Sort of Like Me	Pretty Much Like Me	Very Much Like Me

Check Your Answer

	-	-		+	+
18. When I see someone being treated unfairly, I sometimes don't feel much pity for them.	Not at All Like Me	Not Really Like Me	Sort of Like Me	Pretty Much Like Me	Very Much Like Me
19. I am usually pretty effective in dealing with emergencies.	Not at All Like Me	Not Really Like Me	Sort of Like Me	Pretty Much Like Me	Very Much Like Me
20. I am often very touched by the things that I see happen.	Not at All Like Me	Not Really Like Me	Sort of Like Me	Pretty Much Like Me	Very Much Like Me
21. I believe that there are two sides to every question, and I try to look at them both.	Not at All Like Me	Not Really Like Me	Sort of Like Me	Pretty Much Like Me	Very Much Like Me
22. I would describe myself as a pretty soft-hearted person.	Not at All Like Me	Not Really Like Me	Sort of Like Me	Pretty Much Like Me	Very Much Like Me
23. When I watch a good movie, I can easily put myself in the place of the leading character	Not at All Like Me	Not Really Like Me	Sort of Like Me	Pretty Much Like Me	Very Much Like Me

Check Your Answer

24. I tend to lose control in emergencies.	- Not at All Like Me	- Not Really Like Me	Sort of Like Me	+ Pretty Much Like Me	+ Very Much Like Me
25. When I am upset with someone, I usually try to "put myself in his or her shoes" for a while.	- Not at All Like Me	- Not Really Like Me	Sort of Like Me	+ Pretty Much Like Me	+ Very Much Like Me
26. When I am reading a good story or book, I imagine how I would feel if the events in the story were happening to me.	- Not at All Like Me	- Not Really Like Me	Sort of Like Me	+ Pretty Much Like Me	+ Very Much Like Me
27. When I see someone who badly needs help in an emergency, I go to pieces.	- Not at All Like Me	- Not Really Like Me	Sort of Like Me	+ Pretty Much Like Me	+ Very Much Like Me
28. Before criticising somebody, I try to imagine how I would feel if I were in their place.	- Not at All Like Me	- Not Really Like Me	Sort of Like Me	+ Pretty Much Like Me	+ Very Much Like Me

Check Your Answer

	-	-	-	-		+	+	+	+
29. It makes me sad to see a girl who has nobody to play with	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
30. I often think public displays of affection are annoying	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
31. Boys who cry because they are happy are silly.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
32. I really like to watch people open presents, even if I don't get a present myself.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
33. Seeing a boy who is crying makes me feel like crying.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
34. I get upset when I see a girl being hurt.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me

Check Your Answer

	-	-	-	-		+	+	+	+
35. Even when I don't know why someone is laughing, I laugh too.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
36. Sometimes I cry when I watch TV.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
37. It's hard for me to see why someone else gets upset.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
38. I get upset when I see an animal being hurt.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
39. Some songs make me so sad I feel like crying.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
40. Adults sometimes cry even when they have nothing to cry about.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me

Check Your Answer

	-	-	-	-		+	+	+	+
41 People make too big a deal about the feelings and sensitivity of animals.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
42. I get mad when I see a classmate pretending to need help from the teacher all the time.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
43. Girls who cry because they are happy are silly.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
44. I think it's silly when people cry or sniffle at movies or when reading a book.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
45. It makes me sad to see a boy who can't find anyone to play with.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
46. I don't feel upset when I see a classmate being punished by a teacher for not obeying the school rules.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me

Check Your Answer

	-	-	-	-		+	+	+	+
47. I get upset when I see a boy being hurt.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
48. People who have no friends probably don't want any.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
49. Seeing a girl who is crying makes me feel like crying.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me
50. I am able to make decisions without being influenced by other people's feelings.	Absolutel -ly Not Like Me	Strongly Not Like Me	Pretty Much Not like Me	Sort of Not like Me	Don't Know	Sort of Like Me	Pretty Much Like Me	Strongly Like Me	Very Much like Me

Appendix A: Social Desirability Questionnaire

This questionnaire lists a number of experiences that most young people have had. Read each of statements and then decide whether it does or does not fit you. If it does fit you, circle "true", if it does not fit you, circle "false". Be sure to mark either "true" or "false" for all of the statements.

1.	I always enjoy myself at a party.	True	False
2.	Sometimes I don't like to share my things with my friends.	True	False
3.	I am always polite to older people.	True	False
4.	I never get angry if I have to stop in the middle of something I'm doing to eat dinner or go to school.	True	False
5.	I tell a little lie sometimes.	True	False
6.	I would never hit a boy or a girl who was smaller than me.	True	False
7.	Sometimes I do not feel like doing what my teachers want me to do.	True	False
8.	I never act fresh or talk back to my mother or my father.	True	False
9.	When I make a mistake, I always admit I am wrong.	True	False
10.	I feel my parents aren't always right.	True	False
11.	I have never felt like saying unkind things to a friend.	True	False
12.	I always finish all of my homework on time.	True	False
13.	Sometimes I have felt like throwing or breaking things.	True	False
14.	I never let someone else get blamed for what I have done.	True	False
15.	Sometimes I say something just so my friends will think I'm important.	True	False

16. I am always careful about keeping my clothing neat and my room picked up. True False

17. I never shout when I feel angry. True False

18. Sometimes I feel like staying home from school even if I am not sick. True False

19. Sometimes I wish my parents didn't check up on me so closely. True False

20. I always help people who need help. True False

21. Sometimes I argue with my mother to do something she doesn't want me to do. True False

22. I never say anything that would make a person feel bad. True False

23. My teachers always know more about everything than I do. True False

24. I am always polite, even to people who are not very nice. True False

25. Sometimes I do things I've been told not to do. True False

26. I never get angry. True False

27. I sometimes want to own things just because my friends have them. True False

28. I always listen to my parents. True False

29. I never forget to say "please" or "thank you". True False

30. Sometimes I wish I could just "mess around" instead of having to go to school. True False

31. I always wash my hands before every meal. True False

32. Sometimes I dislike helping my parents even though I know I should. True False

33. I never find it hard to make friends True False

34. I have never been tempted to break a rule or law. True False

35. Sometimes I try to get even when someone does something to me. True False

Appendix A (Con't): Soical Desirability Questionnaire

36. I sometimes feel angry when I don't get my way.	True	False
37. I always help an injured animal.	True	False
38. Sometimes I want to do things my parents think I am too young to do.	True	False
39. I sometimes feel like making fun of other people.	True	False
40. I have never borrowed anything without asking permission first.	True	False
41. Sometimes I get annoyed when someone disturbs something I've been working on.	True	False
42. I am always glad to help others when they need it.	True	False
43. I never get annoyed when my best friend wants to do something I don't want to do.	True	False
44. Sometimes I wish that other people would pay more attention to what I say.	True	False
45. I always do the right things.	True	False
46. Sometimes I don't like to obey my parents.	True	False
47. Sometimes I don't like it when another person asks me to do things For them.	True	False
48. Sometimes I get mad when people don't do what I want.	True	False

Appendix A: The Jesness Inventory

1. When you are in trouble , it's best to keep quiet about it
2. It makes me nervous to sit still very long.
3. I get into alot of fights.

4. I worry too much about doing the right things.

5. I always like to hang around with the same bunch of friends.
6. I am smarter than most people I know.
7. It makes me mad that some crooks get off free.
8. My feelings get hurt easily when I am criticized.

9. Most police will try to help you.
10. Sometimes I feel like I want to beat up on somebody.
11. When somebody orders me to do something I usually feel like doing just the opposite.
12. Most people will cheat a little in order to make some money.
13. A person never knows when he will get mad, or have trouble.
14. If the police don't like you, they will try to get you for anything.
15. A person is better off if they don't trust people.

16. Sometimes I wish I could get away and forget about everything.
17. Sometimes I feel like I don't really have a home.
18. People always seem to favor certain persons ahead of others.
19. I never lie.

20. Most police are pretty dumb.

21. I worry about what other people think of me.

22. A person like me fights first and asks questions later.

23. I have strange and funny thoughts in my mind.
24. It's hard to have fun unless you are with your friends.
25. I get nervous when I ask someone to do me a favor.
26. If I could, I'd just as soon quit school or my job right now
27. Sometimes it feels good to put one over on somebody
28. I notice that my heart beats very fast when people keep asking me questions.
29. When I get really angry, I'll do just about anything.
30. Women seem more friendly than men.

31. It is easy for me to talk to strangers.
32. Police stick their noses into things that are none of their business.
33. Alot of fathers don't seem to care if they hurt your feelings.
34. I am secretly afraid of a lot of things.

35. I hardly ever get a fair break.
36. Others seem to do things easier than I can.
37. I seem to "blow up" over things that really don't matter very much.
38. Only a baby cries when he is hurt.
39. Most people are really very nice.

40. Winning a fight is about the best fun there is.

41. A lot of strange things happen to me.

42. I have all the friends I need.

43. I get a kick out of getting some people angry.

44. Nowadays they make it a big crime to get into a little mischief.
45. It would be interesting to work in a carnival.

46. My father was too busy to worry about me, or to spend much time with me.
47 Sometimes I feel dizzy for no reason.

48. Sometimes people treat grown boys and girls like they were babies.
49. I makes me feel bad to be bawled out or criticized.
50. When things go wrong, there isn't much you can do about it.
51. If someone in your family gets into trouble it's better for you to stick together than to tell the police.
52. I can't seem to keep my mind on anything.
53. It often seems like something bad will happen when I'm trying my best to do what is right.
54. Most people in authority are bossy and overbearing.
55. I don't care if people like me or not.

56. It seems that wherever I am I'd rather be somewhere else.
57. Once in a while I get angry.

Appendix A (Con't): The Jesness Inventory

58. I think that boys fourteen years old are old enough to smoke.
59. Most parents seem to be too strict.
60. If somebody does something to me, II try to get back at them.
61. You can hardly ever believe what parents tell you.
62, I have a real mean streak n me.

63. I don't think I will ever be a success or amount to much.
64. Police usually treat you dirty.
65. Most of the time I can't seem to find anything to do.
66. It's hard for me to show people how I feel about them.
67. I often feel lonesome and sad.
68. I don't mind it when I'm teased and made fun of .
69. Nothing much ever happens.

70 A lot of times I do things that my family tells me I shouldn't do.
71. It's fun to give the police a bad time.
72. A lot of people say bad things about me behind my back.
73. I wish I wasn't so shy and self-conscious.

74. It seems like people keep expecting me to get into some kind of trouble.
75. I like everyone I know.

76. Other people are happier than I am.
77. If I only had more money, things at home would be all right.
78. I really don't have very many problems to worry about.
79. Being called "weak" or "soft" is about the worst thing I know.
80. When I'm alone I hear strange things.
82. I have a lot of headaches.

83. Teachers always have favourites who can get away with anything.
84. Every day is full of things that keep me interested.
85. I would usually prefer to be alone than with others.
86. I can't seem to take much kidding or teasing.
87. I don't seem to care enough about what happens to me.
88. I never get angry with anybody.

89. I keep wishing something exciting would happen.
90. Policemen and judges will tell you one thing and do another.
92. I am liked by everybody who knows me.
93. It is easier to act bad than to show my good feelings.
94. Too many people like to act big and tough.

95. I am always nice to everyone.
96. It takes someone pretty smart to put one over on me.
97. Talking over your troubles with another person is usually a waste of time.
98. It doesn't seem wrong to steal from crooked store owners.
99. I would never back down from a fight.
100. I have a lot of bad things on my mind that people don't know about.
101. I will do a lot of crazy things if somebody dares me.
102. Having to talk in from of a group makes me afraid.
103. Parents are always nagging and picking on young people.
104. some day I would like to drive a race car.
105. I sit and daydream more than I should.

106. I feel sick to my stomach every once and a while.
107. At home I am too often blamed for things I don't do.
108. My life at home is always happy.
109. A night when I have nothing to do I like to go out and find a little excitement.
110. A lot of women seem bossy and mean.

111. Nobody seems to understand me or how I feel.

112. Most people get into trouble because of bad luck.
113. I am always kind.

114. Talking with my parents is just as easy as talking with others my age.
115. sometimes I don't like school or work.

116. If you want to get ahead, you can't worry too much about the other guy.
117. At times I feel like blowing up over little things.
118. I don't mind lying if I'm in trouble.

119. A person who won't fight is just no good.

120. To get along all right nowadays, a person has to be pretty tough.
121 I worry most of the time.

122. If you are not in with the right people, you may be in for some real trouble.
123. I really think I have a better personality than most other people I know.
124. My mind is full of bad thoughts.
125. When you are in trouble, nobody much cares to help you.
126.. Sometimes when my family tells me not to do something, I go ahead and do it anyway.
127. It's best not to think about your problems.
128. I hardly ever feel excited or thrilled.

129. When something bad happens, I almost always blame myself instead of the other person.
130. The people who run things are usually against me.
131. I have too much trouble making up my mind.
132. Most people who act so perfect are just putting on a big front.
133. When luck is against you, there isn't much you can do about it.

134. I get tired easily.

135. I think my mother should have been stricter than she was about a lot of things.
136. I like to read and study.

137. I feel alone even when there are other people around me.
138. When I want to be, I"m good at outsmarting others.
139. I always hate it when I have to ask someone for a favor.
140. I often have trouble getting my breath.

141. Whatever I do, I tend to worry about how I am doing.
142. For my size, I'm really pretty tough.

143. People hardly ever give me a fair chance.

144. I like to daydream more than anything else.
145. Sometimes the only way to really settle something is to fight it out.
146. I am nervous.

147. Stealing isn't so bad if it is from a rich person.
148. My family seems to think I might end up being a bum.
149. Things don't seem real to me.

150. I feel better when I know exactly what will happen from one day to the next.
151. Families argue too much.
152. Sometimes it seem that I'd rather get into trouble , instead of trying to stay away from it,
153. I think there is something wrong with my mind.
154. I get angry very quickly.
155. When I get into trouble, it is usually my own fault.

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