

THE UNIVERSITY OF CALGARY

**THE STRUCTURE AND DEVELOPMENT OF DISPOSITIONAL
EMPATHY DURING MIDDLE CHILDHOOD
AND ITS RELATIONSHIP TO PROSOCIAL BEHAVIOR**

by

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A THESIS

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OF DOCTOR OF PHILOSOPHY**

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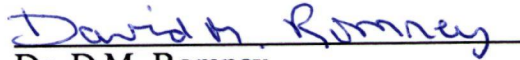
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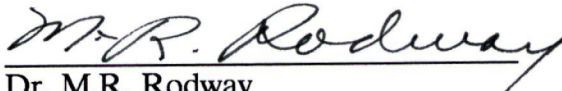
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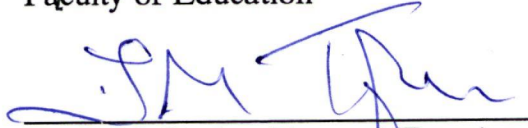
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ABSTRACT

This study investigated the structure and development of dispositional empathy during middle childhood and its relationship to prosocial behavior. Measures of prosocial behavior included: monetary donations; time volunteered for fund raising; teacher ratings of sharing, helping, comforting, and cooperation; and an Altruism Questionnaire which asks the respondent to indicate how he/she would respond in a number of hypothetical situations.

The subjects, 497 youngsters from the second, fourth, and sixth grades, completed a measure of dispositional empathy adapted from the Interpersonal Reactivity Index (Davis, 1980), the Altruism Questionnaire, and a Social Desirability Questionnaire, designed to tap the tendency to present oneself in an unrealistically favorable light. Approximately one week later, subjects were shown a portion of a film about Foster Parents' Plan. Prior to viewing, youngsters were divided into two groups, a "perspective-taking" group who were exposed to a brief exhortation designed to arouse perspective-taking, and an "observe" group who were told only that the experimenter would be asking them about their responses to the film. Later in the day, subjects completed questionnaires asking about their responses to the film, received \$0.50 payment for their participation in the study, and were given the opportunity to donate a portion of their earnings to Foster Parents' Plan and/or to volunteer time to raise funds for this organization. The third session consisted of readministering the A-IRI to 135 subjects for the purpose of determining test-retest reliability.

Results of confirmatory factor analysis using the LISREL program supported the hypothesis that dispositional empathy during middle childhood is comprised of four factors which are similar to the four factors reported by Davis

(1980) and which may be described as: empathic concern, personal distress, perspective-taking, and fantasy. Factor interrelationships were, however, quite different from those reported by Davis. The resulting model is discussed as representing an ontogenetic precursor of mature dispositional empathy.

Multivariate analysis of variance was conducted to examine gender and grade related differences in empathy. Females reported greater dispositional empathy than males and older children reported greater empathic concern than did younger subjects. There were no grade-related changes in the tendency to experience personal distress. The youngest subjects reported a greater tendency to engage in perspective-taking than did the oldest subjects.

With respect to the relationship between empathy and behavior, overall dispositional empathy accounted for significant portions of the variance in Altruism Questionnaire scores and monetary donations after the effects of age and gender were accounted for. Of the four component factors of overall empathy, only empathic concern and perspective-taking were found to predict altruistic/prosocial behavior. Of these, empathic concern was the better predictor. Although instructional set alone did not significantly affect monetary donations or time volunteered, it did have positive effects in interaction with dispositional perspective-taking.

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CHAPTER I

INTRODUCTION

In recent years the study of prosocial behavior and its antecedents has received an increasing amount of attention in the psychological community. Much of this attention has focused on the construct of empathy, and there now exists a considerable body of evidence which indicates that, notwithstanding the effects of contextual influences, empathy, both dispositional and situational, is related to the altruistic behavior of adults. Clarification of these relationships and a greater understanding of the motivational qualities of empathy have been facilitated by the shift from viewing empathy as a unitary construct to viewing it as being composed of two related but qualitatively and motivationally distinct affective responses. Both these states involve a sense of resonating with the affect of another, but one is largely egoistic as if answering the question "How would I feel if this happened to me?" whereas the second departs from the self and is saturated with an awareness of the "primally deep otherness of the other" (Buber, 1965, cited in Kohn, 1990).

In more scientific terms, Batson and his colleagues (e.g. Coke, Batson, & McDavis, 1978; Toi & Batson, 1982) have defined these constructs as empathic concern and personal distress and have demonstrated that it is the former rather than the latter state which motivates acts of altruistic nature. Extending this framework into the domain of personality, and drawing on the work of Stotland, Mathews, Sherman, and Hanson (1978) as well as on the developmental theories of Hoffman (1975, 1977), Davis (1980) developed a multidimensional measure of empathy which taps four component traits: Fantasy, Personal Distress, Empathic Concern, and Perspective-Taking. Subsequent research has revealed a positive

relationship between altruism and empathic-concern but not personal distress (Davis 1983a, 1983b).

Using the terms empathic and sympathetic distress for constructs which correspond closely to the constructs of personal distress and empathic concern (Hoffman (1975, 1977) elucidated a developmental model of empathy which synthesizes both affective and cognitive aspects. Hoffman (1975, 1977) suggests that empathy is an innately based response which is initially experienced as an empathic distress. The infant, lacking a self-other distinction, responds to the distress of others with congruent affect in which distress cues from the self and others are fused. As children develop a more complete understanding of the difference between their own affective experience and that of others, this empathic distress is transformed, in part, into sympathetic distress, feelings of concern which are other-centered. While both these states are conceived of as having the potential to stimulate helping behavior, the motivation associated with empathic distress is egoistic whereas the motivation associated with sympathetic distress is altruistic.

In contrast to the strides that have been made in understanding empathy among adults, the research with respect to children has had mixed results and the relationship between children's behavior and empathy, both situational and dispositional remains unclear. Similarly, developmental research literature has failed to reveal consistent trends. Recently, researchers such as Eisenberg and her colleagues (e.g. Eisenberg, Fabes, Bustamante, Mathy, Miller, & Lindholm, 1988) have begun to apply the multidimensional lens to research with children and have conducted a series of studies largely devoted to the differentiation of situational empathy.

It is the intent of this investigation to bring the multidimensional lense to the study of children's dispositional empathy by extending the work of Davis (1980) to younger populations and looking to Hoffman's theory for guide posts in the quest for developmental trends. It is hoped that this approach will reveal structural features not apparent with unidimensional measures, features that may bring greater clarity to our understanding of the empathy-altruism relationship in childhood which may assist us in charting empathy's developmental course.

CHAPTER II

LITERATURE REVIEW

The concept of empathy derives from the German word "Einfühlung" which means literally "feeling into" and which was made popular as a way of describing a mode of aesthetic perception which calls for observers to project themselves into the object of perception. A relative newcomer to our lexicon, the word "empathy" was coined as a psychological term by Edward Titchener in the early twentieth century (Wiske, 1987). Since that time, it has been used in ways so various that researchers in this area have generally begun their work by presenting their own definitions.

For some, empathy has been described as one's ability to accurately judge or predict others' thoughts, feelings, and/or cognitive perspective (e.g. Dymond, Hughes, Raabe, 1952). Other writers (e.g. Piliavin, Rodin, & Piliavin, 1969; Piliavin, Dovidio, Gaertner, & Clark, 1982) describe empathic response primarily in terms of physiological arousal. Yet a third group refer to empathy in one of two related ways: as the matching of emotional responses (Feshbach & Roe, 1968), or as an "affective response that is more appropriate to someone else's situation than to one's own" (Hoffman, 1982b, p.281).

While the profusion of definitions speaks eloquently to the richness of the concept of empathy and its importance to a wide variety of psychological concerns, the practical implication is that operational definitions can rarely be generalized from one study or theoretical treatise to another. It is thus with some relief that the interested reader discovers that, in recent years, there has been some movement towards the consensus that the central feature of empathy is affective (Eisenberg & Strayer, 1987). It is generally agreed that, while cognitive

processes such as perspective-taking are implicated in the arousal and subjective interpretation of empathy, a focus on these processes rather than on their affective product adds little or no theoretical utility beyond that already provided by constructs in the domain of social cognition (Feshbach, 1978).

Kohn (1990, p. 116) summarized the distinction as follows: "If perspective taking illuminates a space by turning on light bulbs, with empathy the metaphor shifts to the aural and tactile". What then, is the nature of this aural and tactile experience? Affect is, by virtue of its subjective and intrapersonal nature, almost impossible to define, yet the study of empathy requires a definition. In the course of their search for this elusive definition, theorists and researchers have differentiated four distinct but interrelated constructs: empathy, sympathy, projection, and personal distress.

Projection is perhaps the easiest to distinguish from either empathy or sympathy in that the direction of reaction is reversed. In the case of the former, affective characteristics of the perceiver are attributed to the object of perception, whereas in the case of the latter, the opposite is true (Feshbach, 1978). In a similar vein sympathy and empathy can be differentiated from personal distress by looking at the direction of affect. Empathy and sympathy imply concern for the other whereas personal distress may be described as self-focused feelings of anxiety, discomfort and the like which arise from the apprehension of the other's condition.

Empathy and sympathy are the most similar of the above noted constructs and as such the most difficult to differentiate. Indeed, prominent writers and researchers often use these terms interchangeably or in ways that are unique to their particular theoretical orientations.

Eisenberg and Strayer (1987) define empathy as an emotional response which stems from the apprehension of another's condition, is congruent with that condition, and may produce sympathy and/or personal distress. Using similar concepts, Batson and his colleagues (e.g. Batson & Coke, 1981), Feshbach (1978) and Hoffman (1984) discuss vicarious response to others as being composed of both personal distress and empathic concern, the latter of which is described as concerned or tender-hearted feelings and is analogous to that state described by Eisenberg and Strayer (1987) as sympathy.

By now it has become apparent why, prior to entering into the body of this paper, there is a need to offer some working definitions. In keeping with the gist of current theoretical formulations, empathy shall refer to vicariously induced affective response which is congruent with the experience of the other and which may be composed of, or lead to, interrelated but functionally and subjectively distinct affective states which are described as personal distress and empathic concern. In order to maintain consistency, the writer shall take the liberty of substituting the term "empathic concern" for "sympathy" when the original work uses them to refer to parallel constructs.

The term "situational empathy" shall refer to empathic response in a given situation and should be distinguished from "dispositional empathy". Dispositional empathy will refer to the individual's characteristic tendency to experience vicarious affect in a broad range of evocative situations.

The Developmental Model of Martin Hoffman

The most comprehensive model of the development of empathy and its relation to prosocial action has been presented by Hoffman (1975, 1977, 1982a, 1984, 1987, 1989) who synthesized the cognitive and affective aspects of empathy and provided a developmental explanation of the role cognition plays in transforming empathic experience. In so doing, he provided a heuristically invaluable framework for the observations of others, going as far back as McDougall (1908) and proceeding until the present. Since the developmental hypotheses to be examined in this research derive largely from Hoffman's theory, and in order to offer a conceptual framework for the review to follow, I shall open with a summary of his model.

Hoffman (1987, 1989) suggests that there are at least five modes of empathic arousal which are seen as emerging at different points in development and, with the exception of the first, as continuing to operate throughout the life span. The first three of these modes, described as developmentally primitive and largely involuntary (Hoffman, 1989), include: the primary circular reaction as manifested in neonates' reactive cries; automatic mimicry plus afferent feedback; and, conditioning. The last two modes, language-mediated association and role-taking, involve higher level cognitive processes and are largely subject to voluntary control. Implicit in this scheme is the assumption that empathy is biologically based but becomes increasingly complex and individualized as a function of both socialization and maturation.

With respect to the influence of maturation, Hoffman (1975, 1977) proposes that the capacity to experience empathy and the qualitative nature of

that experience proceed through a four-stage sequence in concert with the development of a cognitive sense of others.

The first stage, labelled "global empathy", describes the child during the first year of life. While able to experience empathic distress via the reactive cry, motor mimicry, or classical conditioning, the infant, lacking a clear self-other distinction, is likely to confound distress cues from the other with unpleasant feelings empathically aroused in the self and to experience empathic distress in a undifferentiated, global way.

The second level of empathic response, "egocentric empathy", emerges when the child possesses a clear self-other distinction, but is not yet able to take the perspective of another. Hoffman (1989) posits that the transition from global to egocentric empathy entails an important qualitative shift such that empathic distress, which is primarily a replication of the other's feelings, is transformed, at least in part, into sympathetic distress which may be described as feelings of concern and compassion. Thus, the child is aware that another, and not the self, is the victim and may attempt to soothe the other in much the same way as he/she would comfort him/herself.

By two or three years of age, children are seen as being aware of others and as having feelings and perceptions which differ from their own. This awareness and their developing role-taking ability provide the basis of the third level of empathy. Children are now able to empathize with the feelings of another as communicated by a broadening range of affective and situational cues and to understand that the other's needs may not be the same as his/her own. With the development of language, this capacity continues to expand, and children become increasingly capable of recognizing and empathizing with a wide spectrum of ever more complex emotions, even in the absence of a victim.

By late childhood, the individual is able to understand that one can experience distress not only in specific situations, but also in the context of their larger life experience. The fourth level of empathic response is thus distinguished by the capacity to be empathically aroused by the general plight of another or groups of others.

The gradual transformation from empathic distress to sympathetic concern and the child's expanding capacities with respect to understanding the affective experience of others, are seen as having important motivational consequences for the relationship between empathy and behavior. Hoffman (1977) wrote:

That is, they continue to respond in a purely empathic, quasi-egotistic manner - to feel uncomfortable and highly distressed themselves - but they also experience a feeling of compassion or what I call sympathetic distress for the victim, along with a conscious desire to help because they feel sorry for him or her and not just to relieve their own distress. (p.185)

Both empathic and sympathetic distress may thus motivate prosocial behavior, although the former is more likely to motivate altruism. When the cost of helping is high or when escape is easy, empathic distress may also lead to avoidance behaviors.

More recently, Hoffman (1982a, 1987, 1989) introduced several related motivational components to his model. The first of these involves the causal attributions that people make when they encounter individuals in distress, either directly or symbolically. Depending upon their understanding of causality, feelings of empathic anger, guilt, or injustice may be generated.

If it is understood that someone else caused the victim's plight, one may feel anger at the culprit either because one sympathizes with the victim and/or because one empathizes with the victim and feels vicariously attacked. Neither does empathic anger require a specific culprit but may be directed at societal conditions or groups of people who are perceived as oppressors.

Empathic guilt, posits Hoffman (1987, 1989) is the consequence of historic co-occurrences of empathic distress with attributions of self-blame. Eventually however, guilt becomes independent of its empathic origins while remaining a part of one's response to the distress of others and functioning as a motivation to alleviate that distress. Thus do we arrive at "existential guilt" (Hoffman, 1989), the feeling one may experience when confronted with less fortunate others even though one has done nothing to cause this misfortune and which may manifest itself as survivor guilt or the guilt over affluence or privilege which may characterize and motivate social activists (Keniston, 1968) (cited by Hoffman, 1989).

Similar to the above are empathic feelings of injustice which arise when there is a sense that the victim's conduct or character would seem to merit a better fate than the one to which he/she is subjected. Empathic guilt, particularly existential guilt, and empathically mediated feelings of anger and injustice are seen as quite mature manifestations of vicarious affect, and all are seen as having the potential to galvanize one into taking prosocial action.

Powerful motivators though these feelings may be, Hoffman (1989) notes that their influence is limited by biases of proximity, similarity, and the like which interfere with the criterion of impartiality. He asserts that for empathy to be a fully functional part of a comprehensive moral system it must be embedded in a network of moral principle through the process of socialization. Hoffman (1984,

1987, 1989) proposes that this is accomplished when empathic responses are coupled with moral encounters, producing "hot cognitions", moral principles that are affectively loaded. Eventually, moral encounters may trigger empathic affect and empathic experience may trigger related moral principles. Either way, the consequence is an increase in motivation to act altruistically and/or morally.

The Relationship Between Empathy and Prosocial Behavior

Although it is understood that the term "prosocial" has a broad range of meanings, in this review it shall refer exclusively to behaviors such as helping and sharing which are committed with the apparent intent of benefitting another and are without extrinsic rewards for the doer. The term "altruism" shall be used more restrictively to refer to those behaviors which, though they may be internally reinforcing, are motivated primarily by concern for another (or others) rather than by the desire to alleviate one's own discomfort, enhance mood, or avoid internal sanctions.

The apparent relationship between empathy and prosocial action that Hoffman (1982a, 1987, 1989) attempts to explain has been the focus of a great deal of empirical study. Indeed, the last two decades have been witness to a burgeoning interest in this area, stimulated perhaps by an atmosphere of social concern and a growing awareness of the collective dangers that humanity is facing.

In the following section I will review some of literature exploring the nature of empathy and its influence on prosocial behavior. This review shall be divided

into separate sections pertaining to adults and to children and shall be subdivided according to whether the research under discussion is concerned with situational or with dispositional empathy.

Situational Empathy and Prosocial Behavior in Adulthood

At this time, there exists a compelling body of evidence indicating that situational empathy is an important predictor of adults' prosocial behavior. The focus of research has therefore shifted towards developing a greater understanding of the qualitative nature of empathy and the motivation it evokes.

Batson, Fultz, and Shoenrade (1987) note that current and historical conceptualizations of the role of empathy in motivating prosocial behavior fall into two broad categories. Batson et al. (1987) trace what they describe as the archaic view to the writings of William McDougall (1908) who suggested that there were two qualitatively and motivationally distinct types of empathic response - sympathetic pain and the tender emotion, the latter of which is the source of altruistic motivation. This view is summarized in McDougall's interpretation of the parable of the Good Samaritan:

No doubt the spectacle of the poor man who fell among thieves was just as distressing to the priest and the Levite, who passed by on the other side, as to the good Samaritan who tenderly cared for him. They may well have been exquisitely sensitive souls, who would have fainted away had they been compelled to gaze upon his wounds. The great difference between them and the Samaritan was

that in him the tender emotion and its impulse were evoked, and this impulse overcame, or prevented, the aversion naturally induced by the painful and, perhaps, disgusting spectacle. (McDougall, 1908, p. 78)

In contrast, those whom Batson et al. (1987) describe as traditionalists view empathy as an undifferentiated but unpleasant form of emotional arousal and assume that consequent prosocial behavior is motivated by the desire to reduce that arousal. To this categorical listing we may now add a group which I shall call the neo-traditionalists, who have moved away from the tenet of unidimensionality but who continue to maintain that empathy evokes an egoistic rather than an altruistic motivation.

One of the earliest and most unusual investigations of situational empathy was conducted by Piliavin and his colleagues (Piliavin et al., 1969) who used the subway system of New York as a mobile laboratory in which to study bystander responses to the staged collapse of a fellow traveller, feigning either illness or drunkenness. Although the overall frequency and rapidity of bystander response was impressive, help was somewhat more likely to be offered when the victim was perceived as ill and somewhat less likely to be offered as time elapsed and the emergency continued without intervention. The number of bystanders was not found to exert a significant effect on helping and racial similarity was a factor only when the actor was perceived as drunk.

This pattern of findings provided the basis for a cost-reward model of response to emergency situations which falls into the traditionalist camp. Piliavin et al. (1969) proposed that apprehension of an emergency causes a state of

aversive emotional arousal which increases as a function of proximity and the observer's identification with the victim's situation. The observer, motivated to reduce his/her own vicariously induced arousal, selects a behavioral response on the basis of the relative physical and psychological costs of helping versus not helping. More recently, Piliavin et al. (1982) allowed that nonegoistic motives may come into play, but only when the needs of the victim become undifferentiated from those of the bystander. While Piliavin et al.'s (1969) findings are certainly consistent with the drive-reduction, cost-reward model, they do not constitute strong support. In the absence of evidence that aversive arousal actually occurred, the observed pattern of helping may be explained by a variety of other motivational constructs.

Such evidence was obtained by Adelman and Berkowitz (1970) who used mood as an indicator of vicarious arousal in a study designed to examine the hypothesis that attending to a person in need will motivate helping to the extent that observation leads him/her to feel bad, whereas attending to a helping model will motivate helping to the extent that observation leads him/her to feel good. Subjects listened to one of three conversations between a person in need and a potential helper. In the different scenarios the potential helper either helped and was not thanked, helped and was thanked, or did not help. Subjects who attended to either the unhelped person in need or to the thanked helper, later agreed to provide more assistance to the experimenter than did subjects in other conditions. Mood data was consistent with the experimenters' predictions.

The drive-reduction model certainly accounts for findings with respect to saddened subjects but does not explain the help offered by those who attended to the thanked helper. More importantly, this study fails to distinguish between

mood and empathy and, indeed, offers no evidence that subjects empathized with the eventual recipient of their help.

Krebs (1975) addressed the latter shortcoming as follows. The psychophysiological responses of 60 subjects were recorded as they observed an experimental confederate play roulette. Empathy was manipulated by inducing perceptions of similarity and affect level was manipulated by leading subjects to believe either that the confederate was performing an innocuous conceptual task or that he was experiencing reward and punishment contingent on the game outcome. Following conditioning trials, the experimenter announced a "bonus trial" during which the confederate could win an amount of money up to \$2.00 if the ball landed on an even number but would receive a shock (from barely perceptible to painful) if it landed on an odd number. The odds of winning would remain 50:50 but the reward and intensity of the shock would be determined anonymously and in advance, by the subject who was given a choice of 21 possible outcomes in which the costs/benefits to the confederate were inversely proportionally to those received by the subject. The major finding of the study was that subjects who experienced the greatest psychophysiological response and reported the greatest distress were most willing to help the roulette player even though it entailed cost to themselves.

More clearly than previous researchers, Krebs (1975) demonstrated that apprehension of the distress of another causes emotional arousal which is congruent with the experience of that other and is related to the tendency to offer help to that other. His findings, however, shed no light on whether helping is egoistically or altruistically motivated and leave others to explore the qualitative nature of arousal. Such exploration has since been pursued by researchers who

have approached the problem from traditional, neo-traditional, and archaic starting points.

Coke, Batson, and McDavis (1978) proposed a two-stage model of empathic mediation of helping wherein perspective-taking is seen as increasing empathy which, in turn, motivates helping behavior. A second feature of this model is that it postulates two qualitatively and motivationally distinct types of arousal - personal distress and empathic concern, which parallel McDougall's (1908) constructs of sympathetic pain and the tender emotion.

Coke et al. (1978) initially tested their model in a series of two experiments. In the first, subjects listened to a radio broadcast which presented the plight of Katie, a student who had recently lost her parents in an automobile accident. To manipulate perspective-taking, subjects were either directed to imagine how Katie felt or to attend to broadcasting techniques. Empathy was manipulated via a misattribution of arousal paradigm. After the broadcast, subjects were given the opportunity to help Katie. Those in the high-empathy, perspective-taking condition offered significantly more help than other subjects. Support for the two-stage model was thus provided.

The second study was designed to explore the qualitative nature of the self-perceived emotional state leading to helping. All subjects were exposed to an intentionally non-arousing radio broadcast telling of a victim's plight. Arousal was manipulated using a false-feedback paradigm. Following the broadcast and prior to being given the opportunity to help, subjects completed a questionnaire designed to provide a distinction between empathic concern and personal distress. Subjects in the high-arousal condition offered significantly more help than those in the low-arousal condition, and self-report data indicated that arousal

was interpreted in terms consistent with empathic concern rather than personal distress.

By manipulating ease of escape from the arousal inducing situation, Batson, Cowles, and Coke (1979) (cited in Batson & Coke, 1981) provided initial evidence of the differential effects of personal distress and empathic concern on motivation to help. They found that self-reported empathic concern related positively to helping when escape was easy whereas personal distress did not.

The archaic view, as exemplified by Coke et al.'s (1978) model, has been further strengthened by the work of Batson, Duncan, Ackerman, Buckley, and Birch (1981), Toi and Batson (1982) and Fultz, Batson, Fortenbach, McCarthy and Varney (1986).

Batson et al. (1981) conducted a series of two studies in which both empathy and ease of escape were manipulated. They found that subjects in the high-empathy condition were as willing to help when escape was easy as when it was not. The response of those in the low-empathy condition conformed to an egoistic pattern in that they helped significantly less when escape was easy.

Toi and Batson (1982) replicated Batson et al.'s (1981) findings and reported that, regardless of experimental manipulation, subjects reporting a predominance of empathic concern were more likely to help than those reporting a predominance of personal distress.

Fultz et al. (1986) manipulated subjects' perceptions of response anonymity and found that the greater tendency of high empathy subjects to help could not be explained by social evaluative concerns. Indeed, the correlation between situational empathy and helping was stronger under conditions of low social evaluation.

An important qualification to the relationship between empathy and altruism was revealed by Batson, O'Quin, Fultz, Vanderplas, and Isen (1983). They conducted three experiments, the first two of which replicated the above described findings. The third experiment was designed to test the limits of empathic motivation by making the cost of helping especially high. Results indicated that, when the cost of helping is very high, empathic concern may be overshadowed by self-concern and behavior may conform to an egoistic pattern.

This qualification may be understood in the cost/reward terms proposed by Piliavin et al. (1969; 1982). Alternatively, it may be that, in high cost situations, empathic concern is less salient than and may be overwhelmed by personal distress with which it tends to simultaneously occur (Batson, Fultz, & Shoenrade, 1987). Since the first explanation hinges on the assumption that arousal is qualitatively unidimensional and the second is based on the premise that it is not, the following findings are germane. Batson et al. (1987a) conducted analyses on the self-report data from Batson et al. (1979, 1983); Toi and Batson (1982); Coke et al. (1978); and from two related studies in which the same questionnaire was used. Although personal distress and empathic concern were consistently and positively correlated, factor analyses indicated that the data best fit a two-component structure.

More recently, Eisenberg, Schaller, Fabes, Bustamante, Mathy, Shell, and Rhodes (1988) conducted a large scale study exploring the differentiation of personal distress and empathic concern in children and adults. Affect was elicited via mood induction procedures and data was collected on facial expression, heart rate, and self-perceived affect state. Notwithstanding age and gender differences, the authors concluded that personal distress and empathic concern are distinct states which can be reliably differentiated.

Cialdini, Schaller, Houlihan, Arps, Fultz, and Beaman (1987) challenged the empathy-altruism hypothesis by offering a neo-traditionalist explanation of the collective findings of Batson and his colleagues. Conceding the differentiated nature of vicarious arousal and drawing on earlier work which indicated that prosocial acts have self-reinforcing properties (e.g. Baumann, Cialdini, & Kenrick, 1981), they suggested that, in responding with empathic concern to a needy other, the observer is saddened and is therefore motivated to help in order to elevate his/her mood.

Cialdini et al. (1987) tested their hypothesis in two experiments. The first was largely a replication of the work of Batson et al. (1981) except that two additional high-empathy cells were created in which the subjects received verbal or monetary rewards prior to being offered the opportunity to help. Additionally, twice during the course of the experiment, both mood and situational empathy were assessed via self-report. Although self-report data indicated that reward tended to diminish personal distress and sadness but not empathic concern, high-empathy subjects who had been rewarded helped less than those who had not been rewarded and no more than low-empathy subjects. While these results support the mood-management hypothesis, the authors cautioned that the tendency for high-empathy subjects to report higher empathy was weak and that the significant correlation between self-reported empathy and helping which had been reported by Batson et al. (1981, 1983) was not replicated.

In view of the above, a second study was conducted in which participants were given a placebo between the empathy manipulation and the opportunity to help. Half the subjects were told that this pill would fix their mood at its current level for a period of time. Cialdini et al. (1987) reported that, although high-empathy subjects were sadder than low-empathy subjects, they were only more

helpful in the labile-mood condition. However, the generalizability of these findings was compromised because, once again, a significant correlation between self-reported empathy and helping failed to emerge.

Citing this failure and noting that the rewards in the first experiment may have functioned as a distractor, Schaller and Cialdini (1988) set out to re-examine the mood management hypothesis and also explore the alternate possibility that high empathy subjects are motivated to help in order to avoid empathy-specific self-sanctions such as guilt. To do so, they crossed empathy sets with expectancy sets so that participants believed that one of three things would occur following their opportunity to help the victim: exposure to neutral information, exposure to mood-enhancing information; or the provision of an opportunity to help a third party in a low cost way. Although their pattern of findings matched the predictions for the negative-state relief model, findings were significant only when helping was entered as a continuous rather than a dichotomous variable, and only when time of semester was included as a predictor variable thereby reducing the cells to unequal sizes with an average n of three.

Given these intriguing but inconclusive findings, Batson, Batson, Griffitt, Barrientos, Brandt, Sprengelmeyer, and Bayly (1989) re-examined the mood-management hypothesis in a series of three experiments, the first of which served primarily as a check on the effectiveness of the mood manipulation. The other two studies involved stimulus situations which, at least on the face of things, were more emotionally evocative than that used by Schaller and Cialdini (1988). Regardless of anticipated mood enhancement, subjects in the high-empathy condition or those who reported high empathic concern helped more than other subjects.

Shroeder, Dovidio, Sibicky, Mathews and Allen (1988) also set out to contrast the mood-management model with the empathy-altruism model. While the pattern of findings was consistent with negative-state relief, high-empathy subjects helped more than low-empathy subjects regardless of mood lability, and the empathy set by mood lability interaction was not significant. The authors concluded that, although support for neither model was unequivocal, the preponderance of evidence supported the empathy-altruism or archaic hypothesis. They suggested that perhaps the cost of helping was sufficiently low for altruistic motives to have predominated and sufficiently high for egoism to begin to have influence. This explanation is congruent with earlier findings with respect to the limitations of altruistic motivation (Batson et al., 1983).

Eisenberg, Miller, Schaller, Fabes, Fultz, Shell, and Shea (1989) conducted a complex study which was devoted primarily to exploring the direct and situationally mediated role of altruistic personality traits and which shall therefore be discussed in depth later in this review. Briefly, Eisenberg et al. (1989) reported that situational sympathy (empathic concern) was positively related to helping whereas situational sadness was not. Furthermore, and in keeping with the findings reported by Fultz et al. (1986), they found that neither dispositional measures of social evaluative concern nor situational manipulations of such concern were meaningfully related to helping. Both the Shroeder et al (1988) and the Eisenberg et al. (1989) studies are worthy of special note in that they provide outside confirmation of many of the findings reported by Batson and his colleagues.

Even if the motivation associated with empathy is not directed at negative-state relief, it may still be egoistic. To examine this possibility, Batson, Dyck, Brandt, Batson, Powell, McMaster, and Griffitt (1988) conducted a series of five

experiments, three of which contrasted the empathy-altruism and empathy-specific punishment hypotheses. The other two experiments tested the empathy-specific reward hypotheses which suggests that, as a consequence of reinforcement history, people learn to expect praise, honor, pride and/or similar intrinsic or extrinsic rewards as a consequence of empathy-related helping so that the experience of empathy makes salient and heightens the need for these rewards.

Experiments 2, 3, and 4 attempted to reduce the expectation of empathy-specific punishment for half the subjects by allowing them generous opportunities to justify inaction based on situational rather than personal factors. In each of the three studies different techniques for providing justification were used. They included leading subjects to believe that a majority of others who had previously been asked to help did not do so; leading subjects to believe that the task that would reduce aversive consequences for another was meaningfully less pleasant than the task that would accrue benefit to themselves; and telling subjects that, in order to help, they would have to complete a qualifying task with a 20% expectation of success. In all three experiments, subjects in the high-empathy group (Experiment 3) or those reporting high empathic concern in the absence of an empathy manipulation (Experiments 2 & 4) helped significantly more than other subjects, regardless of the justification manipulation. In contrast, low empathy subjects tended to help more in situations where they could not easily justify their inaction.

Focusing on the empathy-specific rewards hypothesis, the first experiment was based on the premise that those who are motivated by the desire for empathy-specific rewards would be less satisfied should a victim's relief be due to the action of another rather than themselves. Subjects were told that they would

have an opportunity to help an experimental confederate avoid receiving electric shocks. In order to create four experimental cells, half of all subjects were later led to believe that they would not have the opportunity to help, and this condition was crossed with a second manipulation wherein half learned that the experimental confederate was no longer scheduled to be shocked. Mood data indicated that subjects who had reported high empathic-concern, but not those who had reported low empathic-concern, manifested significantly more positive mood change in the three cells in which the victim received relief than in the cell in which the victim was expected to receive the shocks without opportunity for relief. The pattern of mood changes between these three cells failed to support the empathy-specific rewards hypothesis.

The fifth experiment examined the goal-relevant cognitions associated with helping. Following empathy manipulation and while deciding whether or not to help a victim, subjects performed a reaction time task in which they had to name the color of ink in which a series of reward-relevant, victim-relevant, punishment relevant, or neutral words were written. In the high-empathy condition, helping was positively associated with shorter response latency for victim-relevant words but not for words in other categories. This effect did not hold for high-empathy non-helpers or for subjects in the low-empathy condition.

Smith, Keating, and Stotland (1989) recently introduced a variant of the empathy-specific reward hypothesis which could account for Batson et al.'s (1988) findings. They suggested that empathically aroused individuals are motivated to help others, not by the anticipation of praise or self-reward, but rather by the vicariously induced joy they can expect to experience by witnessing the relief of the other. Thus, empathically aroused individuals would not be

concerned with whether they or another were responsible for the victim's relief but would require feedback to make helping a goal relevant response.

To test their hypothesis, Smith et al. (1989) crossed empathy manipulation with a high- versus low-feedback condition. Subjects in the high-empathy condition helped more than their low-empathy counterparts but the predicted effects of the empathy manipulation on self-reported empathy did not materialize. Therefore, the experimenters chose to focus on self-reported empathy as the key predictor variable. Results of multiple regression analysis indicated that there was no relationship between self-reported empathy and helping in the no-feedback condition. While these findings would appear to provide strong support for the empathic-joy hypothesis, Batson and Oleson (in press) questioned the validity of Smith et al.'s (1989) self-report measure and asserted that experimental manipulation was the better operationalization of empathy. They concluded that, at best, Smith et al.'s findings indicate that the empathic-joy hypothesis requires further testing.

An effort in this direction has recently been made by Batson, Batson, and Slingsby (1990) (cited in Batson & Oleson, in press). These researchers conducted two studies in which subjects observed an interview with a person in need under conditions designed to elicit high versus low empathy. Although not given an opportunity to help, subjects were told that they could witness a second interview in the future. One third of the participants were led to believe that it was highly likely that the person's situation would improve substantially in the interim. One third were told that improvement was unlikely and the final third were told that there was an even chance of improvement. Batson et al. (1990) reasoned that if empathic arousal elicited the egoistic motivation to experience joy, then the desire to observe a second interview should be affected by the likelihood of

improvement. In neither experiment was there evidence that this was the case. Rather, participants in the high-empathy condition were more likely to choose to attend a second interview, regardless of expectations for improvement. Batson and Oleson (in press) concluded that the empathic-joy hypothesis is incapable of accounting for the relationship between empathy and helping behavior.

While it would be premature to suppose that the battle between the neo-traditionalists and those who hold the archaic view is at an end, a number of conclusions can be drawn. It can be said that adults' vicarious emotional response to the plight of another is comprised of at least two interrelated, but functionally and subjectively distinct affective states which may be described as personal distress and empathic concern. It can also be said that, although helping behavior is positively related to both these states, its relationship to empathic concern is stronger and less likely to be attenuated by situational factors. Finally, we can say that, at this time, the preponderance of evidence indicates that empathic concern leads to altruistic rather than egoistic motivation to help.

Dispositional Empathy and Prosocial Behavior in Adulthood

To suppose that dispositional empathy motivates prosocial and perhaps even altruistic behavior one must begin with the assumption that such a thing as a prosocial personality type does exist. Two researchers who make strong arguments to this effect are Staub (1974) and Rushton (1981; 1984).

Staub (1974) had male undergraduates complete a battery of personality tests which were combined to create a prosocial orientation index. Several weeks

later, subjects were placed in a situation in which they were faced with a confederate in need of help. Although relationships were affected by experimental conditions, those subjects who scored higher on the prosocial orientation index were also more likely to help in this real life situation. Staub (1974) concluded that: "People with a prosocial orientation may, under conditions which still need to be further specified, be willing to endure greater sacrifices and to give up more of their self-interest for the sake of others" (p. 36).

Rushton (1981) wrote that, although prosocial values and disposition must interact with situational variables, a thorough reconsideration and re-analysis of the work of Hartshorne and May (1928-1930) led him to believe that there is indeed an altruistic personality type. Rushton (1984) reviewed laboratory, naturalistic and self-report studies (e.g. Dlugokinski & Firestone, 1973, 1974; Strayer Wareing, & Rushton, 1979) which supported his contention that characteristics such as empathy, perspective-taking, and prosocial norms and standards which are internalized, are all components of personalities which manifest themselves as being generally prosocial or altruistic. More recently, and with respect to the work of Staub (1974), Rushton (1981;1984) and others, Eisenberg, Miller et al. (1989) concluded that there is some evidence of cross-situational consistency in prosocial behavior.

If there is such a thing as a prosocial personality, then most theorists agree that the tendency to empathize is an important component trait. Mehrabian and Epstein (1972) devised a measure of dispositional empathy which they used in a series of three experiments designed to explore the effects of situational and personality variables on helping behavior and the inhibition of aggression. The Mehrabian and Epstein (1972) measure focuses on affect and includes items which tap the following: the appreciation of the feelings of unfamiliar and distant

others; the tendency to experience sympathy; willingness to be in contact with others who have problems; and the tendency to be moved by the positive emotional experiences of others.

In the first two experiments, subjects were led to believe that they were participating in a study of learning and personality which called for a confederate to make predictions about the subject's personality based on a brief character sketch. Subjects were instructed to administer a shock, at one of seven levels of intensity, to the confederate when an error was made. Although empathy alone was not a sufficient condition for the inhibition of aggression, high empathy subjects were less likely to administer shock under conditions of proximity to the victim.

Mehrabian and Epstein's (1972) third experiment involved female undergraduates who were paired with a same-sex confederate who was ostensibly very similar or dissimilar to themselves. Subject and confederate were left in a room, whereupon the confederate, wearing a dejected expression, proceeded to explain that she was in dire danger of failing a course unless she could find subjects to participate in an experiment which would require from 1-3 hours of their time in 1/2 hour blocks. Using the amount of time volunteered as the dependent variable, the authors found a single significant effect, a positive association between dispositional empathy and helping. They concluded that they had found unambiguous support for the idea that the tendency to experience empathy is an important predictor of helping behavior.

Archer, Foushee and Davis (1979) utilized the Mehrabian and Epstein (1972) scale in the second of a series of two experiments looking at the influence of empathy on judgements in a mock trial situation. In the first experiment, the independent variables were the nature of defence counsel's appeal (fact-focused

versus perspective-taking) and whether or not the judge instructed juror/subjects to consider the facts alone. In the absence of specific instructions from the judge, subjects who had heard the empathy inducing appeal were more lenient. The second experiment replicated the first except that dispositional empathy was included as an additional independent variable. The pattern of situational effects produced in the first experiment was replicated. Subjects with higher dispositional empathy were, however, significantly more lenient in response to situational manipulations than were their low empathy counterparts.

In light of this evidence, Archer, Diaz-Loving, Gollwitzer, Davis, and Foushee (1981) set out to test the proposition that Coke et al.'s (1978) two-stage model would be strengthened by the inclusion of dispositional empathy. Female undergraduates were divided into two groups on the basis of their scores on the Mehrabian and Epstein (1972) scale and were then assigned one of four treatment conditions designed to manipulate arousal level and demand characteristics. As in previous studies, situational empathic concern was positively related to helping whereas situational personal distress was not (except when accompanied by high levels of empathic concern). Subjects high in dispositional empathy generally volunteered more than their low empathy counterparts. Furthermore, the pattern of volunteering indicated that, while demand and arousal manipulations affected the helping of subjects high in dispositional empathy, these manipulations had little effect on low empathy subjects. The results of this and previous studies (Mehrabian & Epstein, 1972; Archer et al., 1979) led to the conclusion that dispositional empathy is not pervasive but must be aroused by clear cues, and that one of the hallmarks of empathic persons is a strong responsiveness to situational variables.

An important advance in the measurement of dispositional empathy was made by Davis (1980) who designed a multidimensional measure of empathy which drew on the prior work of Stotland, Mathews, Sherman, Hanson, and Richardson (1978), Hoffman (1977), Archer et al. (1981) and Batson and Coke and their colleagues. The Interpersonal Reactivity Index (IRI) includes four separate subscales: the fantasy subscale (F), which taps the tendency to transpose oneself into fictional situations; the perspective-taking (PT) subscale, which measures the tendency to assume the perspective of others; the empathic concern (EC) subscale, which reflects the degree to which one experiences feelings of concern and compassion for others; and, the personal distress (PD) scale which assesses the respondent's feelings of distress and anxiety in response to the negative experience of others.

The construct validity of the various IRI subscales received support from the later work of Davis (1982) and Eisenberg, Schaller, et al. (1988). Davis (1982) assessed the relationship between the four IRI subscale scores and a variety of measures of self-esteem, social functioning, emotionality, and sensitivity to others and found that each displayed a distinctive and theoretically unified pattern of relationships with these measures. In the course of their study of the differentiation of sympathy and personal distress, Eisenberg, Schaller, et al (1988), found that self-report and facial indices of situational affect were related to analogous IRI scales.

Using the IRI, Davis (1983a) set out to examine the extent to which dispositional empathy, particularly the tendency to experience empathic concern, influences the experience of empathic arousal beyond the influence of situational variables. Following pre-testing with the IRI and baseline measurement of emotional state, undergraduate subjects participated in a study closely modelled

after that of Coke et al. , 1978. Experiment 1). As predicted, EC scores were significantly and positively related to both situational empathic concern and situational personal distress while PT scores were related to neither. This effect was above and beyond that accounted for by instructional set, gender, and subjects' baseline level of the emotional state in question. In keeping with earlier studies, situational personal distress was related to helping while situational personal distress was not. Although there were no main effects for instructional set, this variable was involved in three interactions which affected helping, supporting the contention (Coke et. al., 1978) that perspective-taking influences helping primarily by mediating empathic emotional response.

Perhaps more germane to the question of prosocial personality types, the relationship of dispositional empathy to sustained patterns of prosocial behavior was investigated by Van Ornum, Foley, Burns, DeWolfe, and Kennedy (1981), Davis (1983b), and Amato (1985). Van Ornum et al. (1981) found that undergraduate subjects drawn from a volunteer association scored significantly higher on the Mehrabian and Epstein (1972) scale than did those from an honors biology fraternity and that, in general, females scored higher than males.

Davis (1983b) questioned college students as to their past viewing of the Muscular Dystrophy Telethon, donations made during the Telethon, and other donations of time and money to this organization. Scores on the EC scale of the IRI were consistently and positively related to all measures of donating behavior.

In contrast, Amato (1985) reported that the Mehrabian and Epstein (1972) scores of undergraduate subjects were not significantly associated with either planned or spontaneous helping behavior directed towards family and friends or in the service of organizational activities. Perhaps, dispositional measures are not sensitive enough to capture differences in a study of this kind where a wide variety

of motivations are likely to come into play and where situational factors are likely to vary importantly as a function of individuals' relationships.

The tendency for high-empathy persons to be especially sensitive to situational cues would lead to the expectation that they might also be highly responsive to the influence of social evaluative concerns. Hence, Fultz, Batson et al. (1986) studied the effects of social evaluation on the empathy-altruism relationship and, in a second experiment, investigated the extent to which dispositional tendencies might qualify this relationship. Both situational empathy and perceptions of the potential for negative social evaluation were manipulated. Regardless of the potential for social evaluation, subjects who had received empathy-eliciting instructions helped more than others. Scores on the F and EC scales of the IRI were moderately and positively correlated with situational empathic concern and with both overall helping and helping in conditions where there was little expectation of social evaluation. When analyses of covariance were performed EC was found to have a marginal, albeit positive, effect on helping after the effects of experimental manipulations had been removed. Nonetheless, partial correlations in which dispositional variables were controlled for produced the same pattern of situational effects as correlations computed without controlling for these variables.

Batson, Bolen Cross, and Neuringer-Benefiel (1986) noted that, although Staub (1972), Rushton (1981) and others had provided convincing evidence with respect to the existence of prosocial personality types, they had not addressed the issue of motivation and thus of altruistic personality. In order to do so, Batson et al. had female subjects complete the IRI and other personality measures. At a later date, these subjects participated in what they believed was a learning experiment in which they observed an experimental confederate, Elaine,

supposedly receiving a series of electrical shocks as a consequence of errors made. Elaine's extreme responses were explained by telling the subjects that, as a child, she had had a traumatic experience with electrical shock. Ease of escape was manipulated by the number of learning trials subjects were obliged to observe. In order that subjects should be concerned primarily with their own self-recriminations rather than recrimination from others, subjects were asked if they would take Elaine's place via intercom rather than face-to-face with the experimenter or confederate.

Subjects' PT and EC scores were significantly and positively related to situational personal distress and empathic concern. Nonetheless, the pattern of correlations indicated that helping related to dispositional empathy was egoistic in that EC predicted helping in the difficult escape condition but not the in easy escape condition. The clear implication of these findings is that dispositional empathy does not mediate helping, particularly of an altruistic nature.

In a similar vein, Eisenberg, Miller et al. (1989) conducted a study, the purposes of which were: to examine the role of social evaluative concerns in self reports of empathic concern and their relation to helping; and to look at the influence of altruistic personality traits and situational response on the intention to help. With respect to the findings of Batson, Bolen et al. (1986), Eisenberg, Miller et al. (1989) proposed that the degree to which situational variables versus personality attributes affect helping would be expected to vary as a function of the context such that, in very emotionally evocative contexts, situational effects would overwhelm the influence of disposition, whereas, in less evocative contexts, dispositional factors would exert greater influence. They noted that in the Batson, Bolen et al. (1986) study the experimental situation, observing a confederate responding to shocks with acute distress, was highly arousing, and they

suggested that a less intense stimulus situation would have produced quite different findings. In keeping with this, they designed a study which was similar to that of Batson, Bolen et al. (1986) but which used a less emotionally evocative stimulus situation.

In the first session, undergraduate subjects completed a battery of personality measures, including the Mehrabian and Epstein (1972) scale. In the second session, half the subjects were assigned to a bogus pipeline condition in which they were attached to electrodes which they were told would provide a check on their self-reports of emotional response. Subjects completed the IRI and then watched two films, the second of which depicted a woman visiting her hospitalized children who had been injured in an accident and discussing their worry about falling behind in school. Subjects completed a self-report of situational empathy and sadness and were invited to help the woman with household chores in order that she might spend more time assisting her children with school work. They were told that the researcher would be unaware of their decision and that, if they declined, they would have no further contact with the distressed family.

Results of analyses in which IRI subscale scores were treated as independent variables along with sex and treatment revealed that EC was positively and significantly associated with helping. Similar but weaker and nonsignificant effects were found for PT and F scores. Although both EC and PT scores were positively associated with personality indices of social evaluative concern, the results of these analyses are consistent with the view that dispositional empathy predicts helping, regardless of such concern. Furthermore, this relationship held even after the effects of situational empathy, as measured by self-report, were controlled. In contrast to the findings of Batson et

al. (1986) and in keeping with arguments with respect to contextual effects on the influence of dispositional versus situational empathy, situational empathy was unrelated to helping after personality variables were partialled out. Perhaps because of its unidimensional nature, scores on the Mehrabian and Epstein (1972) scale were related to helping for females only. Interestingly, in the bogus pipeline condition women scored higher on all scales.

In order to further examine the direct and mediated effects of dispositional empathy, Eisenberg et al. (1989) also compared several plausible path models. They found that their data fit better with a model that included both direct and mediated paths from dispositional empathy and perspective-taking to helping than with models that provided only direct or only mediated paths.

Finally, in meta-analyses, Eisenberg and Miller (1987) and Miller and Eisenberg (1988) report that dispositional measures of empathy generally show small, but highly significant, positive correlations with prosocial behavior and similarly small, but significant, negative correlations with aggressive behavior. They further note that, due to the heterogeneity of populations, measures of empathy, criterion behaviors, and variations in the general experimental soundness of the studies under review, these correlations are likely an underestimate.

Clearly there exists a compelling body of evidence which indicates that dispositional empathy and, in particular, the tendency to experience empathic concern, is an important factor in the prediction of prosocial and possibly altruistic behavior. This relationship appears, however, to be qualified by situational factors. Although many studies used female subjects only, this relationship appears to hold true for both sexes.

Empathy and Prosocial Behavior: Research with Children and Adolescents

Whereas it has generally been accepted that empathy, both situational and dispositional, is associated with prosocial behavior in adults, conclusions with respect to younger populations have been difficult to draw. Indeed, the literature in this area is so contradictory that it cries out to the reader for the imposition of some meaningful order to render it understandable. Such an order was imposed by Eisenberg and Miller (1987) who organized the data for their meta-analytic review according to the way in which empathy was measured and, in so doing, shed welcome light on disparate findings. They demonstrated that the association between empathy and prosocial behavior is strongly influenced by measurement technique, particularly with children, and particularly when it is dispositional empathy that is under scrutiny. While the intent of this review calls for a distinction to be made between situational and dispositional empathy, an attempt shall be made to follow the enlightening example set by Eisenberg and Miller (1987) by subdividing the research in these two areas according to measurement technique.

Situational Empathy and Prosocial Behavior in Children

Experimental Manipulations of Situational Empathy

Over the years, researchers have attempted to experimentally manipulate situational empathy via induction, instructional set and other techniques. A number of these studies are reviewed in the following section.

One of the earliest attempts to explore and explain the relationship between empathy and prosocial behavior was conducted by Aronfreed and Paskal (1965, cited in Aronfreed, 1970). Working from a behaviorist and traditionalist vantage point, Aronfreed (1970) suggested that, since altruistic acts are defined by the absence of external rewards, their performance requires an internal self-rewarding mechanism such as may be found in empathic experience. He hypothesized that empathic conditioning occurs in two stages. During the first stage, the child acquires the capacity for empathic experience via the linking of changes in his/her own emotional state to social cues that communicate the affective experience of another such that these social cues acquire independent value. In the second stage, the instrumental value of altruistic acts is established. Aronfreed suggested that, during the early phases of socialization these cues must be explicit and observable but, as the child matures, they may assume a purely cognitive representational form.

Aronfreed (1970) described the work of Aronfreed and Paskal (1965) who set out to experimentally simulate the process of empathic conditioning. During conditioning trials 6- to 8-year-old girls sat next to an agent who operated a choice box which intermittently dispensed candy or illuminated a red light depending upon which of two levers was activated. The agent remained impassive when her choice of a lever led to either no outcome or to candy but, when the red light appeared, she expressed pleasure both verbally and by hugging or smiling at the child. In the second phase of conditioning the child operated the choice box. The agent used a pretext to disconnect the light on the face of the box and moved so that she faced both the child and the rear of the box on which there was a second light. Subjects were told that they could operate either lever and that they could keep the candy they earned. Once again, the

experimenter remained impassive except when the light was activated. The majority of subjects in this condition chose to activate the red light more often than they chose to produce candy, whereas the reverse was true in experimental conditions in which children received only social reinforcement or verbal expressions of positive affect.

Both this study and a replication study performed by Midlarsky and Bryan (1967) provide support for Aronfreed's model by demonstrating that the pairing of social cues with events that influence children's affect increases their tendency to act for the benefit of another at cost to themselves. This support is nonetheless equivocal. As Underwood and Moore (1982a) point out, the agent's verbalizations may have served as exhortations, in which case the results would indicate only that exhortation combined with reinforcement is more effective than either in isolation. Furthermore, in neither case did the researchers offer evidence that empathy was actually produced.

Others who have worked from a traditionalist perspective are Cialdini and his colleagues (Cialdini & Kenrick, 1976; Kenrick, Baumann, & Cialdini, 1982) who conducted several experiments to test the applicability of the mood-management hypothesis to children and to look for evidence with respect to its developmental progression. Cialdini and Kenrick (1976) predicted that, as a consequence of socialization, the effects of mood on helping behavior would increase with age. Prior to being given an opportunity to donate, subjects in three age groups (6-8, 10-12, 15-18) reminisced about sad or neutral experiences. In line with predictions, the youngest subjects donated slightly less in a negative than a neutral mood whereas this pattern was reversed for older participants.

In a follow-up study, Kenrick et al. (1978) set out to demonstrate that young children are aware of the social reinforcement that is often a consequence

of prosocial action but have not yet internalized this link to the extent that helping is self-reinforcing. Subjects (6-8 year olds) were asked to reminisce about neutral or sad experiences and then were given an opportunity to donate, either anonymously or in the presence of the experimenter. Results confirmed the expectation that only those in the sad-mood group who also had the opportunity to receive social reinforcement by donating in the presence of the experimenter did so more than their peers.

While the above described findings support the mood-management hypothesis, studies by Barnett and his colleagues (e.g. Barnett, King, & Howard, 1976; Barnett, Howard, Melton, & Dino, 1982) demonstrate why they fall short of providing clear evidence. Drawing on the work of Aderman and Berkowitz (1970) and Coke et al. (1976), Barnett et al. (1976) set out to investigate the effects of self- or other-oriented affect on the generosity of children. Prior to being given the opportunity to donate, subjects between the ages of 7 and 12 were asked to recount happy, sad, or affectively neutral events that had been experienced by themselves or by other children. Those who had recalled sad events which had been experienced by others donated significantly more than those who had recounted their own sad experiences and more than their peers in the happy and neutral affect condition. A main effect was also found for age.

In a related study involving sixth graders, Barnett et al. (1982) examined the main and interactive effects of dispositional empathy and self- versus other-oriented sad and neutral affect. Although the direction of effects was consistent with dispositional measures, it reached significance only in interaction with situational manipulations such that high-empathy children in the sad-other group donated more than their low-empathy peers. In light of the Barnett et al. (1976; 1982) findings, one could reasonably speculate that Cialdini and his colleagues

would have produced quite different findings had they asked their subjects to reminisce about events that had involved others and thereby induced empathic concern rather than personal distress.

Other researchers have attempted to elicit empathy through instructional set or through exhortations which explicitly ask the listeners to engage in affective perspective-taking. Both Eisenberg-Berg and Geisheker (1979) and Burleson and Fennely (1981) found that empathically toned persuasive appeals enhanced the generosity of children in the second to fourth grades.

Working with first graders, Brehm, Powell, and Coke (1984) had subjects listen to a same sex peer tell an adult that he/she could not have a birthday celebration because his/her family could not afford it. When given an opportunity to anonymously donate to a birthday fund, boys who had been asked to attend to the peer's feelings contributed significantly more than those who had been instructed to attend to content. No effect was found for girls.

While these studies have produced results that are convergent with the notion that there is a positive relationship between situational empathy and prosocial behavior in children, none produced evidence that empathy was present and was directed at the object of the subjects' assistance.

Self-Reported Situational Empathy

Several researchers have attempted to address the above-noted shortcoming by assessing empathy via children's self reports. Among these are Zahn-Waxler, Friedman, and Cummings (1983) who studied the relationship between self-reported empathic response and helping in children from nursery to the sixth grade. Assessments were made of youngsters' reactions to infant cries

in three settings and they briefly met a mother holding her infant. Later, subjects overheard a tape-recorded baby's cry from an adjacent room where the baby sat before a one way mirror. This was followed by the appearance of the mother and child in the testing room where the mother proceeded to search for the infant's bottle. Although self-reported empathy was common at all ages and there were age-related increases in helping, there was no relationship between empathy and verbal or instrumental attempts to help find the bottle. This finding may, however, have been influenced by two factors. The first is that, when the mother entered the testing room with her child, the child was no longer in distress, so that empathy eliciting cues were not immediately present. Furthermore, the object of assistance was no longer the child but rather the mother, a dissimilar and, by definition, competent figure who, despite her request for assistance, was emitting no affective cues.

More recently, Strayer and Schroeder (1989) introduced a new self-report technique which consolidates the degree of affective match with the cognitive attributions for these emotions and, recognizes the importance of measuring empathy and prosocial response in the same context. Strayer and Shroeder (1989) exposed children in three age groups (4-5, 8-9, 12-13) to a series of six videotaped emotionally evocative vignettes. Subjects were asked to identify the kind and intensity of emotion experienced by the characters depicted and to describe their own affective response. Empathy was scored in two ways, looking at both the degree of affective matching and the type of cognitive mediation allied to that match. Cognitive attributions were scored at one of seven levels progressing from no evident cognitive awareness of the shared affect to explicit role-taking, representing the highest level of cognitive mediation. As a measure of prosocial intent, the subjects were also asked whether they felt like helping any

character and what kind of help they might offer. Willingness was scored both dichotomously and as to the type and quantity of helping strategies offered.

Strayer and Shroeder (1989) found that willingness to help was positively associated with self-reported empathy. Of considerable psychometric importance was the additional finding that much of the variance in helping was accounted for by the level of cognitive mediation associated with affect. When empathy was present, willingness to help and the number of strategies offered increased with age whereas the reverse was true when empathy was not present. These findings were interpreted as confirming a positive relationship between helping and empathy that becomes more pronounced with age.

Facial and Gestural Indices of Situational Empathy

In an earlier effort, Strayer (1980) was among the first to assess empathy via facial and gestural display. Pre-school children were naturalistically observed over an 8 week period in their school setting. The criterion for empathic response was that it followed an observable emotional display by a peer and consisted of one or more of the following: participating in the peer's affect, positive reinforcement, sharing, helping, reassuring, or questioning. Strayer's (1980) data indicated that even quite young children are aware that others feel differently from themselves, and that they can and often will offer an appropriate behavioral response which is frequently accompanied by evidence of congruent affect.

Similarly, Peraino and Sawin (1980, cited in Underwood & Moore, 1982b) recorded children's facial and gestural responses during video sequences depicting the plights of different children. In each case, viewers had an opportunity to take some helpful action directed at assisting one of the distressed

children in the film. A number of significant positive correlations between state empathy and helping response were reported.

Chapman, Zahn-Waxler, Cooperman, and Iannotti (1987) set out to investigate the effects of dispositional empathy, guilt, and affective arousal on helping behavior among children from preschool to sixth grade. Subjects' facial and behavioral responses to distress incidents involving an adult, a kitten, and a mother and child were recorded. Only three statistically significant relationships were found. Negative affect was negatively related to helping in the adult-distress incident whereas the reverse was true for positive affect. In addition, aggregate affect was positively related to overall helping. This pattern of effects, which was counter to experimental and theoretical expectations, was also pervasive among the non-significant correlational findings such that eight of nine correlations between positive affect and helping had a positive sign and fourteen out of fifteen correlations between negative or neutral affect and helping had a negative sign. While these results may appear attributable to a paradoxical expression of positive affect in the face of another's distress, the authors offered an alternative explanation. Noting that children's affect was observed both at the time they perceived the other's distress and while they were actually helping, Chapman et al. suggested that the positive correlation between positive affect and helping found in this study was due to positive feelings associated with helping in its own right, representing either their affective identification with the person being helped, or possibly the rewarding character of the act of helping itself.

Multiple Indices of Situational Empathy

In a landmark attempt to develop reliable indices of children's situational empathy, Eisenberg and her colleagues conducted two studies in which they

measured response with a variety of indices including self-report, heart-rate, and facial response. Eisenberg, Schaller et al. (1988) used mood induction procedures to elicit personal distress and sympathy in third and sixth graders. Notwithstanding age and gender differences, the authors concluded that, as with adults, these two responses can be reliably differentiated in children.

Eisenberg, Fabes, Bustamante, Mathy, Miller, and Lindholm (1988) conducted a similar study with children from preschool to second grade who were exposed to a series of films designed to elicit personal distress, empathic sadness, and cognitively induced sympathy (empathic concern). Children's responses were highly consistent with film content and the various indices of emotion were consistently rather than inversely related to each other. Furthermore, although their self-reports were less clearly differentiated, even preschooler's reports were consistent with film content. In line with gender role expectations, boys were less willing than girls to reveal sadness or fear.

Building on the foregoing results, Eisenberg, Fabes, Miller, Fultz, Shell, Mathy, and Reno (1989) investigated the relationship between situational empathy and both helping and donating behavior among adults and children (second and fifth graders). Although children's reports of personal distress and empathic concern did not consistently relate to their prosocial tendencies, measures of facial expression and heart rate deceleration did relate to these tendencies in the predicted direction. An additional finding of interest was that, although facial sadness was associated with self reports of both personal distress and empathic concern, it was positively correlated with facial concerned attention (indicating empathic concern) and negatively correlated with facial personal distress. This suggests that the association of sadness with self-reports of affect may have reflected an overall willingness to reveal emotion. With respect to their overall

findings, the authors concluded that their data was: (1) consistent with the view that the distinction between personal distress and empathic concern is a critical one; (2) consistent with the notion that personal distress and sympathy are differentially related to prosocial intentions and behavior; and, (3) difficult to reconcile with the mood-management hypothesis.

Overall, the above described findings provide compelling evidence of a positive relationship between situational empathy and prosocial behavior which is apparent when: empathy is induced using means that promote an other-oriented focus; when empathy is assessed via facial/gestural or physiological means; or, when empathy is assessed by self report in the same context as prosocial behavior. Additionally, the frequency of prosocial action appears to increase with age (Barnett et al., 1979; Zahn-Waxler et al., 1983) as does its relationship to self-reported empathy (Strayer & Shroeder, 1989).

Dispositional Empathy and Prosocial Behavior in Children

Although several correlational studies (e.g. Hoffman & Saltzstein, 1967; Dlugokinski & Firestone, 1974) linking other-centered modes of discipline and prosocial behavior have provided indirect evidence of the influence of dispositional empathy, more direct research has produced mixed findings.

Picture-Story Measures of Dispositional Empathy

By far the most common measure of children's dispositional empathy has been the Feshbach and Roe Affective Situations Test (FASTE) (Feshbach & Roe,

1968) and variations thereof. This test operationalizes empathy as affective matching and involves presenting children with a series of pictures accompanied by stories and asking them how they feel and how the child in the story feels.

Using the FASTE, Feshbach and Feshbach (1969) examined the relationship between empathy and teacher-reported aggression among children aged 4 to 5 and 6 to 7. Although no significant relationship emerged for girls, interesting results appeared for boys. Empathy was negatively associated to aggression for older boys but, contrary to expectations, it was significantly and positively associated with aggression for younger male subjects.

Also contrary to experimental expectations, Levine and Hoffman (1975) failed to find any evidence of a relationship between the cooperative behavior of four-year-olds and their scores on the FASTE.

Concerned that the FASTE confounded projection with empathy, Ianotti (1978) altered the format by including pictures in which situational and affective cues were both congruent and incongruent. Using empathy scores based on the ability to match affective cues in the incongruent pictures, Ianotti found a significant negative correlation between age and empathy and a significant positive correlation between age and altruism. In contrast to the findings reported by Feshbach and Feshbach (1969), examination of the data revealed a positive relationship between empathy and altruism for the younger group and a negative relationship for the older group and there was no meaningful pattern of findings with respect to aggression.

In a study which, despite its misleading publication date, was conducted after the work described by Ianotti (1978), Ianotti (1977) reported that cross-sectional data with respect to boys aged 7 and 10 revealed age-related increases in altruism and role-taking but not empathy. Ianotti (1977) also noted whether

subjects relied on situational or expressive cues and, in so doing, shed some light on his counterintuitive findings. He found that older subjects, possibly demonstrating an awareness that people may mask their emotions, tended to rely increasingly on situational versus affective cues when the two were incongruent. Correlational data suggested that the development of role-taking is related to increases in empathy and altruism. Ianotti (1977) concluded that the cues to which young empathizers respond may have been confounded or ignored in previous studies.

Other researchers have obtained more straight forward results. Buckley, Siegal, and Ness (1979) modified the FASTE by asking children aged 3 to 8 to choose from four pictures the facial expression that matched the emotion experienced by a child in a story. High scorers were more likely than their peers to help a playmate pick up the pieces of a spilled puzzle and to voluntarily share a single cookie. The absence of any reference to affective matching does, however, raise the question of whether social perspective-taking was confounded with empathy.

Barnett, Mathews, and Howard (1979) found that 6- and 7-year-old boys who scored high on the FASTE were rated as less competitive than their low scoring peers. No significant relationship was found for girls, perhaps because girls in general are socialized to be less overtly competitive than boys.

Working with a younger population, Marcus, Telleen, and Roke (1979) and Marcus, Roke, and Bruner (1985) found that the FASTE scores of preschoolers were positively correlated with observer and teacher ratings of cooperation. Interestingly, facial responses to the FASTE recorded during the second of these studies were negatively related to cooperation. Marcus et al. (1985) concluded that two different facets of empathy were tapped and noted that it was the more

cognized one that predicted cooperation, a finding that fits well with Hoffman's theory.

Eisenberg-Berg and Lennon (1980) also recorded both the verbal and non-verbal responses of 4- and 5-year-olds and introduced a new and potentially revealing element by looking separately at solicited versus unsolicited acts of helping and sharing. High empathic responding tended to be negatively related to unsolicited prosocial behavior but positively related to solicited acts of helping or sharing. In contrast to the findings of Marcus et al. (1983), correlations between non-verbal expressions of empathy and altruism were somewhat higher than those between verbal measures and behavior. The authors concluded that a re-examination of the measures used to assess children's empathy is indicated and noted that "...it is quite possible that all measures which assess young children's empathy by asking how they feel (in a situation which is not free of demand characteristics) assess, in part, social desirability." (p. 556). Certainly, work with adults (e.g. Archer et al., 1981; Eisenberg, Miller et al., 1989) does indicate that empathy and responsiveness to social influence go hand in hand.

One of the concerns with the FASTE, the summing of responses reflecting fear, anger, and other emotions to produce an overall empathy score (Hoffman, 1975, 1981), was addressed by Feshbach (1982). In the course of research directed at the development of empathy-training procedures, a new measure of empathy was developed for use with third and fourth graders. Youngsters viewed a series of audiovisual tapes, illustrating children experiencing one of five emotions: pride, happiness, anger, fear, or sadness. In addition to identifying their own emotions and that of the depicted characters, subjects were asked to rate the intensity of their experience on a 10-point scale. Empathy was scored both dichotomously, as to the presence of an affective match and in terms of

intensity. Breaking down the results by gender, scoring procedure, and type of affect produced a complex pattern of findings.

Overall, girls responded more empathically than boys. Regardless of scoring procedure and the particular affect in question, empathy for girls was positively associated with strong self-concept; positively associated with peer, teacher, and self-ratings of prosocial behavior, and negatively associated with teacher, peer, and self-ratings of antisocial behavior.

Based on the matching procedure, boys' empathy to both euphoric and dysphoric emotions was associated with competencies in the verbal and perspective-taking domains. When the intensity X matching procedure was used, a quite different picture emerged. Euphoric sensitivity was associated with aggressive and antisocial behavior, poor self-concept, high aggression anxiety and low prosocial behavior whereas dysphoric sensitivity was associated with helping, social sensitivity, low aggression and high aggression anxiety. It seems that, at least for boys in middle childhood, sensitivity to euphoric and dysphoric affect imply quite different things.

Feshbach's (1982) findings do a great deal to explain some of the previous results reported with respect to picture/story indices, particularly for subjects in middle childhood. It seems that, for males of this age, straight forward affective matching may tap primarily skills in the cognitive domain and there are indications that boys require greater cognitive sophistication or more evocative stimuli to respond as strongly as girls. The mixed findings with respect to females in this and earlier studies may be a function of the dependent variables or may reflect a ceiling effect related to overall higher scores of girls which might be due to gender differences in empathy or, alternatively, to gender differences in patterns of responding to this type of measure.

There are other reasons to question the extent to which picture/story indices measure what they are supposed to measure. The potentially confounding effect of social desirability mentioned by Eisenberg and Lennon (1980) is but one. Lennon, Eisenberg, and Carroll (1983) reported that the experimenter's gender has a significant effect on responses, and Hoffman (1971, 1981) noted that the required veridicality of response may confound empathy with cognitive and verbal ability, a suggestion which receives some support from Feshbach's (1982) findings.

Perhaps the most important concern was raised by Krebs and Russell (1981) who proposed that measures such as the FASTE may, in some cases, tap into the child's egocentricity in a way congruent with Hoffman's model. They wrote: "...young children who score high on them may become engulfed by their own emotional reactions and, lacking in the ability to distinguish between their own perspective and that of someone who needs help, fail to realize that they can be an agent of assistance." (p.1958). Put another way, by stressing veridical affective matching, they may selectively tap into the child's personal distress as opposed to his/her empathic concern, the theoretically more mature form of empathic response which has been demonstrated to be the better predictor of prosocial behavior among adults.

The suggestion that psychometric issues are responsible for inconsistent research findings in studies involving picture/story indices is supported by the meta-analytical work of Eisenberg and Miller (1987). Although they did not differentiate between subject populations on the basis of age or between situational and dispositional empathy, the authors concluded that, although picture/story indices are not associated with prosocial behavior, such a relationship is apparent when empathy is assessed by other means.

Projective Measures of Dispositional Empathy

Recently, Chapman, Zahn-Waxler, Cooperman, and Ianotti (1987) tapped both cognitive and affective processes in an assessment procedure which uses picture/story indices as projective measures of the tendency to empathize. Children from preschool to the sixth grade were exposed to a series of illustrated stories in which a victim suffered some distress in the presence of a child observer who reacted in different ways. The subjects were then asked to explain the observer's actions, to describe the observer's feelings and whether the observer felt that way for him/herself or for the victim.

The tendency towards prosocial behavior was observed in laboratory incidents involving a kitten, a mother and infant, and an adult experimenter. Consistent with experimental hypotheses and with Hoffman's thesis regarding the association of empathy and guilt, attributions of empathy and guilt were positively associated with all indices of helping except that involving the adult experimenter.

Facial and Gestural Measures of Dispositional Empathy

Eisenberg, McCreath, and Ahn (1988) looked at the influence of dispositional empathy by measuring situational empathy in one situation and prosocial behavior in a separate and temporally removed situation. Children aged 46 to 68 months were exposed to 2 videotapes depicting distress of other children. Their facial and gestural reactions were recorded and self reports were obtained via questioning and a picture matching procedure. At a later date, these children were paired with a same sex peer and given a single desirable toy. Their interactions, with a focus on sharing, were recorded. The data revealed that spontaneous prosocial actions were positively associated with facial indices of

empathy during the film whereas requested prosocial behavior was related to anxious reactions during the film. The authors tentatively suggested that reactions of empathic concern are more likely to be associated with prosocial acts that arise from other oriented concern whereas anxious reactions are more likely associated with acts that arise from egoistic or compliance-oriented concerns. Interestingly, this pattern is the opposite of that reported by Eisenberg and Lennon (1980) who found that preschoolers' FASTE scores were positively related to solicited prosocial behavior and negatively related to unsolicited prosocial behavior. Possibly due to young children's inability to differentiate and describe subtle shades of emotion, there was no significant relationship between self-reports of affect in response to the film and behavior. The extent to which methodological variations may influence research findings is, once again, underscored.

Self-Report Measures of Dispositional Empathy

A number of researchers have chosen to assess empathy via self-report using the Mehrabian and Epstein (1972) scale or with Bryant's (1982) downward extension of this instrument.

Peraino (1977, cited in Underwood and Moore, 1982b) found no relationship between the dispositional empathy of boys from the eleventh and twelfth grades, as assessed with the Mehrabian and Epstein (1972) scale, and their helping behavior during a modified version of the Prisoner's Dilemma Game. Given the clearly hypothetical nature of this measure and considering that young people in our society, especially males, are socialized to be competitive, one

must, however, question whether the dependent measure was a valid indicator of prosocial tendencies.

This may explain why Eisenberg and Mussen (1978) who used the same measure of empathy, found that high scoring boys from the ninth, eleventh and twelfth grades volunteered more time to help the experimenter than did their low-scoring peers. This relationship was not, however, replicated for girls.

Bryant (1982) adapted the Mehrabian and Epstein scale for use with children. Subjects in the first, fourth, and seventh grades were assessed with this measure as well as with the FASTE, a measure of social desirability, teacher ratings of aggression, a measure of reading achievement, and an acceptance of individual differences measure. Once again, girls scored higher than boys and the findings showed that empathy becomes more stable with age. Empathy scores were linked with acceptance of individual differences for both sexes and with reductions in aggression for boys in the first and fourth grades, but not for girls.

Studies utilizing Bryant's (1982) scale have since produced mixed results. Barnett et al. used both the Bryant (1982) scale and teacher ratings to assess the empathy of children in the sixth grade. Prior to being given the opportunity to construct activity books for hospitalized children, subjects were exposed to one of four mood inductions in which they recalled sad or neutral incidents related either to themselves or to others. In all conditions, the high empathy children constructed nonsignificantly more books than low empathy children and, in the sad-other condition, they constructed significantly more books than other participants.

Barnett and Thompson (1985) used scores on Bryant's (1982) measure to categorize fourth and fifth grade children into high and low empathy groups.

Dependent measures included Bragiansky's measure of Machiavellianism, teacher ratings of helpfulness, and scores on a test of prosocial reasoning. Highly empathic children had significantly lower Machiavellianism scores and cited other-oriented reasons for their own helping behavior more frequently than did their peers. They were also cited by their teachers as more likely to be helpful in situations where cues were subtle and had to be inferred, but not in obvious need situations where others factors such as social norms may be more influential. This pattern is analogous to that reported by Eisenberg et al. (1988) in their work with much younger children.

Eisenberg, Shell, Pasternak, Beller, Lennon and Mathy (1987) conducted a seven-year longitudinal study looking at developmental changes in prosocial moral reasoning and its interaction with empathy and behavior in middle childhood. Participants were two groups of children followed for 5 to 7 years or interviewed for the first time at either ages 9 to 10 or 11 to 12. They found that empathy, as assessed by the Bryant (1982) scale, was positively related to reasoning which demonstrated concern for the needs of the other and negatively related to hedonistic reasoning. Although unrelated to low-cost measures of helping, empathy was related to high-cost measures (donations to UNICEF) at age 11-12 but not at 9-10. This latter finding supports Hoffman's (1977) suggestion that the link between altruism and empathy increases with age and that older children are capable of empathizing with a group of distant others. It would, however, have been interesting to see if high-cost measures of helping would have been related to empathy had the object of help had been more concretely available, or if the empathy inducing stimulus had been more evocative than needy children depicted in a UNICEF poster. Reasoning was also related to high cost measures of helping, however, the stronger relationship between

empathy and prosocial behavior found among older children was not mediated by the association of both constructs to moral judgement because the relationship between empathy and reasoning did not increase with age. With respect to this, the authors concluded that: "Empathy and sympathy probably affect behavior directly as well as through their indirect effects on moral cognitions." (p. 718)

Other researchers have obtained more equivocal results. Rothenberg (1984) reported that the helping behavior of sixth grade girls was unrelated to their scores on the Bryant (1982) measure but that such behavior was correlated with an, unfortunately unspecified, cluster of items on this scale. Sturvesant (1985) (cited by Bryant, 1987) found empathy to be related to donating but not to helping behavior and Eisenberg, Pasternak and Lennon (1984) (cited by Bryant, 1987) found it was not related to either helping nor donating.

Larrieu and Mussen (1986) assessed the prosocial behavior of fourth graders via naturalistic observation and peer reports of sharing, caring and helping. They found that the behavior of girls was unrelated to their scores on the Bryant (1982) scale, but that the scores of boys were related to peer ratings with respect to caring and the tendency to stick up for others. The authors do, however, caution that the low frequency of prosocial behaviors observed during 30-minute time samples weaken their findings. Finally, Larrieu and Mussen note that the three categories of behavior used as dependent measures in their study appeared to be relatively independent of each other. This calls to attention the importance of looking at criterion validity of prosocial behavior as well as personality measures in understanding and planning research.

Only one study which used a multidimensional self-report with younger subjects is available. Although gender was not included as an independent variable, Litvack-Miller and McDougall (1991) found that the charitable donations

of junior high school students were positively related to both overall IRI scores and scores on the EC scale only. Analyses with respect to scores on the other scales were not performed.

Overall, it appears that empathy, as assessed by self-report, is related to prosocial behavior more often than it is not and that this relationship is stronger for males than for females. A number of possible explanations suggest themselves. The relationship between empathy and behavior might be *qualitatively different for males and females. Girls, who tend to score higher on* these scales, may be more empathic or more prosocial to the extent that a ceiling effect occurs or may exaggerate their responses in line with gender-typed expectations. Alternatively, it may be that unidimensional that measures confound empathic concern with other gender-related factors.

Returning briefly to the research on situational empathy, the work of Eisenberg, Fabes et al. (1988) sheds some light on the question of gender. They found that, regardless of gender, children's heart rate tended to accelerate during a film designed to provoke anxiety and tended to decelerate during films intended to provoke sadness and empathic concern. Similarly, facial responses and self-reports during the film followed the same pattern for boys and girls, although the latter were more likely to demonstrate sadness and report fear. Heart rate was also a better predictor of facial sadness for boys than for girls. These findings suggest that, although psychophysiological markers indicate analogous patterns of vicarious affective response, girls are more likely than boys to overtly express negative emotions.

By looking at the relationship between situational and dispositional indices, Eisenberg and Fabes et al. (1988) also provided some insight as to how these different response tendencies may affect scores on the Bryant (1982) scale.

Heart rate was unrelated to dispositional empathy for females but deceleration during the film designed to induce empathic concern was positively associated with boys' scores. Are the response patterns of girls such that their self-reports of dispositional empathy have less validity than those of boys? Eisenberg and Fabes et al. reported an additional finding which suggests that this is not necessarily the case. The authors noted that, on the basis of face validity, four items on the Bryant scale appear to tap empathic concern most closely and that scores on these four items were higher for decelerators of both sexes than for accelerators of both sexes. It is thus reasonable to suggest that, owing to its global approach to the measurement of empathy, the Bryant scale may confound empathic concern with broader factors such as general interpersonal responsiveness and the willingness to accept and express affect.

In summary, there does appear to be an overall tendency for dispositional empathy to be predictive of prosocial behavior among children, although this relationship clearly varies as function of measurement technique and other variables. Despite psychometric difficulties, picture/story indices such as the FASTE appear to predict prosocial behavior with some regularity for younger subjects. In addition, projective measures or the use of situational empathy in one situation to predict behavior in a second situation appear to be promising approaches. Finally, self-report measures would seem to be good indicators for older children, but their unidimensional nature limits the extent to which adult/child comparisons can be made and may possibly cloud the issue of gender-related differences.

The Development of Empathy: Empirical Considerations of Hoffman's Model

The final section of this review shall be devoted to a survey of research exploring developmental patterns in the genesis and evolution of empathy. In keeping with the purpose of this review, findings shall be examined in the light of Hoffman's developmental model.

Clearly, there are strong conceptual similarities between the constructs of personal distress and empathic concern as described in the literature and Hoffman's concepts of empathic and sympathetic distress. To the extent that the literature supports the idea that empathic concern and personal distress are qualitatively and motivationally distinct and that the former is the better predictor of prosocial action, it also supports Hoffman's model, albeit not necessarily his developmental hypotheses.

Developmentally, a number of assumptions proceed from Hoffman's model. One would expect to see: evidence of empathy throughout the lifespan - even in earliest infancy; age-related increases in empathic concern; and, age-related decreases in personal distress. One would also expect to see an increasingly evident relationship between empathy and prosocial behavior.

Indirect support for the latter assumption may be found in the considerable literature reporting that prosocial behavior does increase with age (e.g. Rushton & Weiner, 1975; Barnett et al., 1979; Zahn-Waxler et al., 1983), and there is some evidence that this pattern is mediated by empathy. Strayer and Shroeder (1989) reported that children's willingness to help and the number of helping strategies offered increased with age when empathy was present, but that the reverse was true when empathy was not present, and Eisenberg, Shell et al. (1987) found that

high cost measures of helping were linked with empathy at age 11-12 but not at age 9-10. While it would be premature to draw firm conclusions, it can nonetheless be said that the available evidence in this regard is in line with expectations generated by Hoffman's theory.

With respect to the proposition that empathy is present throughout the lifespan, Hoffman (1977) suggested that infants' pre-cognitive or minimally cognitive responses to others' affect are primitive forms of empathy and may be understood to be innately based precursors of full empathic responses.

A striking example of early response to affect in others is the reactive cry of infants. Sagi and Hoffman (1976) found that, when exposed to tape recordings of a computer generated cry, silence, or a spontaneous infant cry, neonates (average age 30 hours) cried selectively in response to the latter stimuli. Martin and Clark (1982) replicated these findings in two studies with even younger neonates (mean age 18.3 and 28.8 hours, respectively) and reported four new findings: (a) crying infants continued to cry when exposed to the crying of another infant; (b) crying infants exposed to their own cry tended to stop crying; (c) calm infants exposed to their own cry demonstrated little response; and (d) calm infants remained calm when exposed to the cries of a chimpanzee or an older child. These findings tend to refute afferent feedback explanations of the reactive cry and support the notion that the roots of empathy are innately based. Indeed, the reactive cry may be considered an empathic response, albeit a primitive one, in that it is clearly a response to another's affect rather than to the presence of generally noxious stimuli.

Motor mimicry, an overt action by an observer that is mimetic of the situation of the observed, has also been viewed as a form of primitive empathic responding. While there is no evidence that motor mimicry involves the affective

dimension that is a defining feature of empathy, one can reasonably hypothesize that motor mimicry, in combination with afferent feedback, links the infant's affective experience with that of his/her caregiver and that such linking is an important precursor of more mature empathic response. Certainly, there is evidence that children as young as two months old regulate their emotions in relation to their mothers' expression of affect (Trevvarthen, 1984).

Hoffman suggests that the second level of empathic response emerges when children possess a clear self-other distinction, but are not yet able to take the perspective of another. Thus, they are aware that the other, and not the self, is the victim and may attempt to soothe the other in much the same way that they would comfort themselves.

Research findings consistent with Hoffman's predictions have been reported by Radke-Yarrow and Zahn-Waxler (1984) who summarized a series of studies conducted over a dozen years and involving more than 300 children from age 10 months to 8 years. Notwithstanding individual variation, developmental changes were documented in both group and individual patterns. From the ages of 10 to 14 months, children's reactions to the distress of others consisted primarily of agitation, crying, whimpering, silent attending, and seeking out their own mothers visually or by reaching. These responses occurred not only upon hearing cries, but in response to other distress cues as well. By age 2, distress crying waned and positive actions, primarily patting or touching the victim, began to appear. By the middle or end of the second year, these actions developed into more differentiated and appropriate interventions such as embracing the victim, enlisting the aid of a third party, and giving things to the victim. Furthermore, what they gave was not random but was, "by and large, out of the child's own experience of comfort - a toy, a cookie, a bottle, a blanket, a teddy bear" (Radke-

Yarrow & Zahn-Waxler, 1984, p. 90) These latter interventions would seem to reflect an element of sympathetic as opposed to self-oriented vicarious response.

Perhaps because of measurement difficulties associated with studying toddlers, most of the research on the development of empathy has focused on youngsters of pre-school or school age who may be posited to be in Hoffman's third or fourth stage of empathic development. In reviewing this considerable body of research, I will continue with the convention of categorizing studies according to the type of indices used.

Developmental Research Involving Situational Empathy

Developmental Research Using Multiple Measures of Situational Empathy

In recent years, a number of researchers have explored the use of physiological indices, generally in combination with other measures, to assess dispositional empathy.

Wilson and Cantor (1985) exposed two groups of youngsters, aged 3 to 5 and 9 to 11 to one of two types of videotapes depicting either a television protagonist's fear or the frightening stimulus itself. In addition to having their physiological responses recorded during viewing, participants were interviewed as to their reactions, the reasons for their reactions, and their perceptions of the protagonist's affect.

Research findings revealed that, while even the youngest children were generally able to identify the protagonist's emotion, they tended to be less aroused in the 'protagonist's affect' condition than under conditions in which they were exposed to the threatening stimulus itself whereas older children responded

with high arousal levels to both types of stimulus. Older participants also tended towards role-taking explanations more than did younger children, many of whom indicated concern for the self rather than protagonist. Not only do the observed developmental differences support the notion that role-taking enhances empathic response, they are also congruent with the idea that younger children's vicarious affective response is more likely to be self-oriented whereas that of older children is more likely to turn on concern for the other.

Eisenberg, Fabes, Schaller, and Miller (1989) summarized three studies in which they and their colleagues attempted to evoke responses analogous to empathic concern and personal distress and to explore qualitative, gender-related, and developmental issues by measuring response via a combination of physiological and other indices.

In the first of these studies (Eisenberg, Fabes et al., 1988), preschoolers and second graders were exposed to brief videotapes designed to elicit personal distress, empathic concern, or sadness. Although there were few age or gender differences in heart rate or facial expression, it was noted that girls were more facially expressive than boys and that boys' facial sadness decreased with age. Self-report indices, both verbal and non-verbal (selecting a picture of an appropriate facial expression), indicated that older children's affective responses were more situationally appropriate than that of younger subjects.

The second study (Eisenberg, Schaller et al., 1988) involved children from the third and sixth grades as well as adults. Participants were asked to recall events from their own experience in order to induce either personal distress, empathic concern, or neutral affect. As was the case with younger subjects, females manifested more facial responsivity than males across all age groups. Adults of both sexes did, however, tend to moderate their expressiveness by

demonstrating more positive affect. With respect to self-report data, girls and older children were more likely than boys and younger children to report reactions consistent with the nature of the induction. Heart rate differences due to age and/or sex were not apparent.

The third study, conducted by Eisenberg, Shea, Carlo, and Knight (in press) (cited by Eisenberg, Fabes, Schaller, & Miller, 1989), involved third and fifth graders as well as adults. Subjects were exposed to a pilot TV show, supposedly about real people, in which a mother described the accident her children had been in and sought help in dealing with the demands of its difficult aftermath. Once again, males tended to display less facial distress than females and adults less than children. Additionally, males' facial sadness was observed to decrease with age. Self-report data indicated that girls' empathic concern increased somewhat with age and that they were also more likely than boys to experience distress. Among adults, women reported more negative affect, more sympathy and more distress than did men. "Overall, females reported more sympathy than did males, and the tendency to report sympathy increased with age." (p. 115) This finding suggests that males' age-related decrease in facial expressiveness reflects the effects learned social behavior rather more than it reflects affective experience.

Despite the different methodology employed in these three studies and the somewhat different results produced, Eisenberg, Fabes, Shaller, and Miller (1989) were able to conclude that, overall, the data revealed a consistent pattern. With respect to gender, females tend to report and facially express more distress and more empathic concern than males, regardless of age. In line with developmental predictions, self-report data indicates that situationally appropriate empathic concern and sadness tend to increase with age, especially for females, although

the extent to which this is due to age-related increases in the tendency to respond in a socially desirable manner has not been determined. Finally, the data indicate that, although there is a generally positive relationship between indices, this interrelation tends to decrease with age, possibly due to adults' greater ability to cognitively control and inhibit the expression of emotion, to concerns with respect to self-preservation, and/or to differences in the contextual meaning of stimuli.

Developmental Research Involving Dispositional Empathy

Developmental Research With Picture-Story Measures of Dispositional Empathy

Whereas the foregoing have studied developmental change in situational empathy, others have focused on dispositional empathy. Among those who have used the FASTE or similar measures are Marcus, Telleen, and Roke (1979) who found that the FASTE scores of youngsters between 37 and 61 months increased significantly with age. Interestingly, Lennon, Eisenberg, and Carroll (1986), who worked with children aged 50 to 67 months, reported age-related increases in both FASTE scores and facial/gestural empathy but noted that these two indices were unrelated, a finding which suggests that they measure different facets of empathy.

In contrast to the foregoing, neither Bazar (1977) nor Ianotti (1985) (both cited in Lennon & Eisenberg, 1987) found a positive relationship between preschoolers' age and empathy, although in both cases, the age ranges were quite narrow (less than 16 months).

Working with a slightly older population, Feshbach and Feshbach (1969) reported that the FASTE scores of children aged 6-7 were significantly higher than those of children aged 4-5, a finding later replicated by Powell (1971) (cited by Feshbach 1978).

Marcus et al. (1985), working with youngsters aged 41 to 81 months, rated facial and vocal indicators of empathy during the administration of the FASTE. They found a marginally significant ($p < .06$) age-related increase in FASTE scores and reported findings with respect to facial and vocal indicators which underscore the extent to which measurement techniques influence outcome. Although vocal and facial measures were highly correlated, only the vocal indices were positively related to FASTE scores. Furthermore, whereas FASTE scores were positively correlated with teacher ratings of cooperation, the opposite held true for facial empathy. Marcus et al. (1985) concluded that they had likely been measuring different facets of vicarious emotional responsiveness, a suggestion which is consistent with the Lennon et al. (1986) findings noted above and which supports the proposition that empathy should not be conceived of as a unidimensional construct.

Moving on into the early elementary school years, Kuchenbecker, Feshbach, and Pletcher (1974, cited in Feshbach, 1978) conducted a study involving children from kindergarten as well as from first and second grade. Analyses yielded a highly significant main effect for grade which corresponded to developmental changes observed on comprehension measures. Extending the age range slightly, Fay (1970, cited in Feshbach, 1978) found significant age-related increases in the FASTE scores of 6- and 8-year-olds, Knudson and Kagan (1982) reported increases from 66 to 109 months of age, and Powell (1971, cited

in Feshbach, 1978) reported directionally consistent but small and nonsignificant differences between 6- and 10-year olds.

In a review of the FASTE, Feshbach (1978) concluded that empathy, as measured by this instrument, increases from preschool until the mid-elementary school years. Feshbach further suggested that the apparent leveling off that occurs at that time is likely a function of the content of the FASTE which, though frequently employed with older populations, was in fact developed for use in early childhood.

The data become more complex when stories are used in which protagonists' affect, as indicated by facial cues, are not consistent with contextual cues. Ianotti (1975, cited in Lennon & Eisenberg, 1987) attempted to distinguish empathy from projection by operationalizing empathy as emotion consistent with others' facial expression. He found that empathy decreased significantly from ages six to nine, a trend also noted by Kurdek and Rodgon (1975) and Watson (1976, cited in Eisenberg & Lennon, 1987) who used a similar measurement technique. These counter intuitive findings were later explained in the work of Ianotti (1977) who altered his approach by scoring empathy as either emotional or situational matching. He found no age-related changes in empathy but did conclude that reliance on facial as opposed to contextual cues decreases with age, a trend which likely reflects developmental increments in perspective taking skill and the consequent awareness that facial expressions may conceal as well as reveal.

The work of Hughes, Tingle, and Sawin (1981) further highlights the interaction between perspective-taking and empathy. Subjects were exposed to a series of stories accompanied by slide presentations and then questioned about their own emotional responses, the emotional responses of the characters

depicted, and about their understanding of the reasons for these responses. Although there was little age-related change in the accuracy of matching responses or emotional labelling, the explanations for these labels and responses did alter with age. Younger subjects were more likely to rely on situational cues whereas older subjects made inferences that involved psychological reasons for emotion and were more likely to spontaneously put themselves in the place of others. The authors concluded that "between the ages of 5 and 8, children become increasingly aware of other person's perspectives in emotion-eliciting situations and of the personal and psychological characteristics of others (and themselves) that may be involved in emotional experience." (p. 127). Of additional interest was the finding that the order of questioning affected responses. When 'self' questions preceded 'other' questions, young children's understanding was improved, indicating that introspection is a step towards understanding others.

Thompson and Hoffman (1980) modified the picture-story approach in a rather unique way in order to provide a test of Hoffman's (1978) suggestion that guilt is heightened by empathy when the two co-occur. Semiprojective stories describing explicit wrongful acts were shown to children in the first, third, and fifth grades. Subjects were asked how they would feel if they were the wrongdoer, why they would feel that way, and to complete the story. To arouse empathy, half the children were also asked to imagine and to describe how they would feel if they were the victim. Developmental findings revealed that older children exhibited greater concern for the victim's welfare and greater guilt. Furthermore, subjects in the empathy induction group verbalized more guilt and more concern, suggesting that empathy does mediate guilt in children of school age.

In summary, the literature indicates that children's empathic responses, as measured by picture/story indices, increase with age until the mid-elementary

school years and then may level off (Lennon and Eisenberg, 1987). The work of Thompson and Hoffman (1980) and Hughes et al. (1981) suggests that this may be because the further developmental change is qualitative rather than quantitative and cannot be captured through straight forward matching responses. Findings from those studies which contrast picture/story indices with other measures contribute to a growing body of evidence attesting to the, as yet unspecified, multidimensionality of children's vicarious emotional response.

Developmental Research Using Self-Report Measures of Dispositional Empathy

The self-report measure most widely used with youngsters is Bryant's (1982) adaptation of the Mehrabian and Epstein (1982) scale. Initial reliability and validity studies of the Bryant questionnaire involved a total of 330 youngsters from the first, fourth, and seventh grades. The questionnaire itself was composed of reworded versions of seventeen of Mehrabian and Epstein's 33 questions, as well as several parallel items in which the gender of the stimulus figure was specified. Bryant found that females reported more empathy than males and that seventh graders responded more empathically than did fourth graders but that there was no significant difference between first and fourth graders. Consistent with this, Strayer (1983, cited in Lennon & Eisenberg, 1987) reported no meaningful change in the Bryant Scale scores of 6-and 8-year-olds whereas Kalliopuska (1980, cited in Lennon & Eisenberg, 1987) did find that children's Mehrabian and Epstein scores increased from age 9 to 11.

Of additional interest is Bryant's (1982) finding that cross-sex responsiveness was curvilinearly related to age whereas same-sex

responsiveness differed for males and females such that the former became less responsive with age whereas the opposite was true for the latter. This is in line with Asakawa and Shwalb's (1985, cited in Eisenberg & Lennon, 1987) report that age-related increases in empathy during the elementary school years were qualified by a decrease in empathy towards outgroup boys from fourth to seventh grade.

Overall, the results of studies using unidimensional questionnaires produce a pattern of effects which indicate that there are some developmental increments in empathy from the first to the seventh grade, but that both gender and similarity of the stimulus are important qualifying factors.

Though somewhat less germane to this review, work with adolescents points to a direction for future research by indicating that multidimensional measures of empathy may be more potentially revealing than their unidimensional counterparts. Indeed, whereas unidimensional measures reveal no age-related increases during this period (e.g. Adams, Shaneveldt, & Jenson, 1979; Adams, 1983; Hanson & Mullis, 1985), Davis and Franzoi (1991) have demonstrated that a multidimensional approach is capable of tapping developmental change.

Drawing on Hoffman's (1875, 1976) work, Davis and Franzoi (1991) hypothesized age-related increases in perspective-taking and empathic concern and decreases in personal distress during adolescence. Analysis of the IRI scores of subjects tested yearly for three years, beginning at either the ninth or tenth grades, revealed substantial temporal stability (.56 between the first and second years; .65 between the second and third years) and replicated adult patterns (Davis, 1980) by revealing that females scored higher than males on all subscales except for perspective-taking. Most importantly, all three age-related predictions were born out, a finding which supports Hoffman's theory and

suggests strongly that a shift in emphasis from quantitative to qualitative dimensions is critical to the understanding of developmental change in patterns of vicarious emotional response. As Moore (1987) suggests, perhaps:

... we should not expect a positive relation between affective responding and age above early elementary school and that the changes in the empathy/sympathy complex that do occur are governed by cognitive factors through which children and adolescents become gradually more aware of the inner experiences of others. What emerges over time is an increasingly subtle and elaborated network of affective and cognitive responding to the emotions of others. Age may not lead to an increase in empathy if what we mean by empathy is "an affective state that stems from the apprehension of another's emotional state or condition and is congruent with it." (p. 345)

Summary and Rationale

The intent of this review was to trace the three streams of theoretical and empirical literature which, at the point of their convergence, form the rationale for this study.

The first of these streams is comprised primarily of the theoretical work of Hoffman (1975, 1977, 1981, 1982) who, drawing on developmental principles and the empirical work of others, created a model of how the capacity to empathize

may unfold and evolve throughout childhood and adolescence. Heuristically, it provides an elegant and parsimonious framework for understanding what otherwise appears to be an almost hopelessly confusing array of research findings with respect to children's vicarious emotional response and its relationship to behavior. Nonetheless, although this theory is supported by a broad range of research in the domain of developmental psychology, it has been the object of very little direct research and its ultimate value to our understanding of empathy remains to be established through systematic testing and exploration.

The second of these streams is the considerable body of literature (e.g. Coke et al., 1978; Batson et al., 1979, 1981, 1987) dealing with situational empathy and its influence on behavior. This stream provides strong evidence that the vicarious emotional response of adults to another's situation is comprised of at least two related but qualitatively and motivationally distinct affective states which may be described as empathic concern and personal distress. These affective states correspond closely to Hoffman's hypothetical constructs of sympathetic and empathic distress.

Although consistent and reliable measurement techniques have yet to be developed, initial exploration (Eisenberg, Fabes et al., 1988; Eisenberg, Schaller et al., 1988) indicates that these states can be distinguished and described in children and may be the key to understanding the apparently inconsistent relationship between empathy and behavior in this population. Furthermore, this initial exploration suggests that research paradigms and findings developed with adults can provide a useful starting point for new approaches to research with children.

The third stream of literature is that which deals with dispositional empathy. Although previous researchers were able to demonstrate that the tendency to

respond vicariously is related to prosocial behavior, it was Davis (1980) who made the important leap of tying developmental theory with respect to capacity to empirical evidence with respect to situational response by developing a multidimensional measure of dispositional empathy. Although this measure, the Interpersonal Reactivity Index, is relatively new, it has stood tests demonstrating its construct and predictive validity, and its ability to tap what appears to be a stable, though not static, personal trait (Davis, 1982, 1983; Davis & Franzoi, 1991). The development of a comparable measure for children would appear to be a promising step in the systematic exploration of developmental change and constancy.

In the context of these three streams of research, the goal of this investigation is to draw on and extend multidimensional measurement techniques initially developed for use with adults in order to test a number of hypotheses that proceed from Hoffman's (1975, 1977, 1981, 1982) developmental model and which pertain to the structure and development of dispositional empathy and its relationship to behavior during the period of middle childhood.

Hypotheses

The following hypotheses fall into three categories. Hypothesis 1 relates to the structure of empathy in middle childhood and derives primarily from the work of Davis (1980). Hypotheses 2 and 3 are developmental and derive largely from the theoretical work of Hoffman (1975, 1977, 1987). Hypotheses 4 through 6 pertain to the relationship between empathy and behavior and are intended to test

the extent to which empirical findings with adults (Davis, 1983; Batson & Coke, 1981; Batson et al. 1983; Toi & Batson, 1982) may be extended to younger populations.

1) It is predicted that, in middle childhood, children's dispositional empathy is composed of four traits which can be described as: the tendency to transpose oneself into the role of fictional characters (F); the tendency to take the perspective of others (PT); the tendency to experience personal distress (PD); and, the tendency to experience empathic concern (EC).

It is further predicted these factors of dispositional empathy are related to each other such that:

- a) EC is positively correlated to PT and F and unrelated to PD.
- b) PD is negatively correlated with PT.
- c) F is positively related to PT and unrelated to PD.

2) It is predicted that older children will report greater dispositional empathic concern and perspective-taking than will younger children.

3) It is predicted that, older children will report lesser dispositional personal distress than will younger children.

4) It is predicted that a composite measure of dispositional empathy will predict prosocial/altruistic behavior in middle childhood to an extent that accounts for at least .36 of the variance ($r = .6$) and that this effect will be apparent even after the effects of age and gender are accounted for.

It is further predicted that, of the four component factors of overall dispositional empathy, empathic concern will be the best predictor of prosocial/altruistic behavior in middle childhood.

5) It is predicted that subjects exposed to a perspective-taking instructional set will demonstrate greater altruistic behavior, as measured by donations of time and money than will those exposed to an "observe" instructional set.

6) It is predicted that behavioral responsiveness, as measured by donations of time and money, to a perspective-taking instructional set as opposed to observational instructional set will be positively affected by dispositional perspective-taking and will be unaffected by the tendency to present oneself in an unrealistically positive manner.

CHAPTER III

EXPERIMENTAL DESIGN

Sample

The initial group of subjects consisted of 497 youngsters drawn from 5 Calgary area schools. Of these, 19 subjects were excluded because of missing data. The remaining sample included: 119 males and 98 females from the second grade; 57 males and 79 females from the fourth grade; and 60 males and 65 females from the sixth grade, all of whom participated in the first data collection session. Two hundred and seventy-six of the children attend one of the three participating schools which are considered to be in 'high-needs' areas. Two hundred and two of the children attend one of the two remaining schools which draw primarily from a middle- to upper-middle class population. All five schools, four Catholic and one Jewish, emphasize religious education and make an attempt to inculcate in their students an appreciation for the needs of others and the importance of prosocial action.

Of the above, 436 students also participated in the second data collection session and teacher ratings were completed for 187 subjects. One hundred and thirty-five subjects, 37 second graders, 53 fourth graders, and 45 sixth graders, participated in the test-retest procedures.

Materials

Adapted Interpersonal Reactivity Index (A-IRI)

This instrument, chosen to explore and measure dispositional empathy, is an adaptation of the IRI developed by Davis (1980). The IRI consists of 28 self-descriptive items followed by 5 response choices ranging from "not at all like me" to "exactly like me". Items are organized into four subscales intended to measure separate, and relatively independent aspects of global empathy: Perspective-Taking (PT); Empathic Concern (EC); Fantasy (F); and, Personal Distress (PD).

Davis (1980) reported that the IRI's test-retest reliability with adults ranges from .62 to .81. Internal reliability for each of the four subscales ranges from .70 to .78. The EC subscale has been shown to correlate positively with the PT subscale ($r = .33$ for males and $.30$ for females) and the F subscale ($r = .30$ for males and $.31$ for females) and is nearly orthogonal to the PD subscale ($r = .11$ for males and $.01$ for females). PT is very modestly correlated with F ($r = .10$ for males and $.12$ for females) and is inversely related with PD ($r = -.16$ for males and $-.29$ for females). F and PD are also very modestly correlated ($r = .16$ for males and $.04$ for females).

In order to adapt the IRI for use with children, a pilot study was conducted which involved administering the IRI to 22 children in the ninth month of the first grade. Items were read aloud and the class members discussed what they thought each item meant while the experimenter made notations as to those words and phrases with which they had difficulty. Reworded items were individually readministered to 10 children until all of them demonstrated

understanding by explaining the items and providing appropriate examples. The A-IRI may be found in Appendix A.

Altruism Questionnaire

The Altruism Questionnaire consists of six vignettes in which a child is faced with a choice of helping or not helping; sharing or not sharing; and, cooperating or not cooperating. The main actors in the vignettes all have androgynous names. Three have no gender identification, two are identified as male and one as female. Two of the recipients of aid are male children, one is a female child, one is an elderly woman, one is a puppy, and one is a peer whose gender is not identified.

Following each vignette, participants are asked to choose from three possible courses of action the one which most closely matches what they would do in that situation. In each case, one response involves not helping and provides a reasonable justification for that choice; one response involves low-cost helping; and, one response involves high-cost helping based on empathy for the other's feeling (see Appendix B).

Social Desirability Scale

This scale was designed to assess subjects' tendency to bias self-descriptive responses in an unrealistically positive direction. It consists of 19 items, 10 of which are distractors and 9 of which describe various forms of laudable or virtuous behavior. Respondents are asked to designate whether each

statement describes how they are "sometimes", "usually", or "always". Responses in the latter category are scored as being unrealistically biased (see Appendix C).

Teacher Rating Scale

Participating teachers were asked to rate subjects' observed tendency to spontaneously engage in cooperative, helping, sharing and comforting behavior on a 5 point rating scale ranging from "rarely" to "very often". In recognition of the many demands on their time, the teachers were told that this questionnaire was optional, although its importance was stressed (see Appendix D).

Film Evaluation Forms

The primary purpose of the film evaluation forms was to facilitate data management in that it allowed the experimenter to identify which treatment group subjects had been in. This questionnaire consists of 6 self-descriptive statements describing the children's affective response to the film, "I Heard A Child Cry Out". The response format includes five choices ranging from "not at all like me" to "exactly like me" (see Appendix E).

Time Donation Forms

These forms ask the respondent to indicate how many hours, from 0 to 10, he/she would be willing to volunteer in order to help with fund raising for Foster Parents Plan, assuming parental permission (see Appendix F).

"I Heard A Child Cry Out"

This film was developed by Foster Parents' Plan and was recommended by their representative for use with children. Although it describes Foster Parents' Plan in general terms, the primary focus during the first twenty minutes of the film, that portion viewed by subjects, is on a single family consisting of a mother, two elderly grandparents, and three young children. The family lives in a one-room hut in an urban slum without running water or sanitation facilities. As sole breadwinner, the mother earns approximately one dollar a day for twelve hours of work. In the course of the film, viewers are shown the educational, medical, and other services that would become available to the family if one of the children were to become a foster child. Perhaps the most striking for young viewers is the final scene in which the children receive new clothing and shoes in which they skip off, smiling for the first time in the film.

Ethical Considerations

Informed Consent

Prior to data collection, the experimenter met with teachers to review procedures and goals of the research, to address their concerns, and to obtain their consent (Appendix G). Letters of consent were also sent to parents, and in those cases where parents were new immigrants, English letters were accompanied by translations in Portuguese, Spanish, Vietnamese, or Polish (see

Appendix H). Following data collection, the children were debriefed and a debriefing letter was sent to their parents (see Appendix I).

Anonymity of Subjects

In order to protect their privacy, subjects were identified only by the last four digits of their phone numbers. The one exception to this was the Time Donation Form which, for the sake of realism, required the youngsters to use their complete phone numbers, the first three digits of which were obliterated following data entry. Subjects without phones were asked to enter the first letter of the given name four times.

Procedure

Data was gathered in three sessions. The first two sessions were separated by a period of seven to eight days and the last session occurred four weeks after the second meeting. During the first session, subjects completed the A-IRI, The Altruism Questionnaire, and the Social Desirability Scale, in the order listed. Prior to beginning, the concept of anonymity was explained and precautions for protecting anonymity were reviewed. The children were also reminded that they could withdraw from the study at any time. Before administering the Altruism Questionnaire, children were reminded that they were being asked what they would do rather than what they should do. The difference between these two concepts was briefly discussed and examples were offered.

All measures were administered by the experimenter. Although those who were able to do so were free to complete the measures independently, all instructions and items were read aloud to the second graders. Participants were invited to seek clarification at any time and, as a result of their questions, the following modifications were made to the protocol after the first data collection sessions:

1. In advance of administration, negatively worded items on the A-IRI (e.g. "I do not get upset when...") were pointed out and the appropriate response format was reviewed.
2. In advance of administration, item 10 on the A-IRI, "I feel bad and like I cannot help when friends or people in my family are very upset." was explained as "wanting to help and feeling bad because you can't."
3. In advance of administration, the word "excited" in item 24 on the A-IRI was explained as being an unpleasant rather than a pleasant feeling of excitement.
4. In administering the A-IRI to second graders, the first six items were read twice as they are written, and the second time as a series of questions (e.g. Is it exactly like you to imagine about things that might happen to you; Is it a lot like you to...?).

Prior to the second session, participants were randomly divided into two groups. The "observe instructional-set" group were simply told that they would be watching a film about Foster Parents' Plan and that later, the experimenter would be asking them about their reactions to this film. During presentation of the film, children in the control group were supervised by a teacher designated by the principal. Children in the perspective-taking group were supervised by the experimenter who, prior to film presentation, delivered a brief exhortation intended

to arouse perspective taking. The model for this exhortation may be found in Appendix J.

Later in the day, the experimenter visited participating classes where she gave each subject a coded Film Evaluation Form clipped to a similarly coded envelope containing \$0.50 in nickels. Children were instructed to fill out these forms and to designate whether they had watched the film with the experimenter or with a teacher. After the forms were collected, participants were informed that, if they wished, they could donate up to \$0.45 to Foster Parents' Plan. Once again, both anonymity and freedom of choice were stressed. In order to reduce demand characteristics and protect the children's privacy, all participants were instructed to place one hand entirely inside the envelope and remove from 1 to 10 coins which they were then to place immediately in their pocket or desk before sealing their envelope and, regardless of the envelope's contents or the lack thereof, to place it in the donation box. Instructions may be found in Appendix K.

After all the envelopes were returned, Time Donation Forms were distributed. Subjects were told that, sometimes, organizations like Foster Parents' Plan conduct special fund raising drives and that it is helpful to them if they know, in advance, the amount of assistance that they can count on in different communities. The subjects were asked to provide this information by indicating how much time they might be willing to volunteer, assuming parental permission, and to include their full phone numbers so that they could be contacted should such an activity take place in Calgary in the near future (see Appendix L for instructions). Subsequently, participants were debriefed, were given the opportunity to ask questions, and were given debriefing letters for their parents (see Appendix M).

Readministration of the A-IRI for the purpose of obtaining test-retest reliabilities were conducted four weeks after the second session and about five weeks after the initial A-IRI administration. The experimenter readministered the A-IRI in the second grade, and classroom teachers supervised retesting in the fourth and sixth grades.

Statistical Procedures

Prior to testing the first hypothesis with respect to the structure of empathy, test-retest reliabilities were computer for each item and those items with an r of less than .33 were eliminated from further analyses.

Remaining A-IRI data was subjected to factor analysis with an oblique rotation specified. Examination of eigenvalues suggested that either a four- or five-factor solution would be optimal as that was the point at which the remaining factors accounted for relatively little additional variance. Both solutions were attempted with the four-factor, oblique solution producing the most readily interpretable and theoretically compatible result. A model based on the results of this analysis was then constructed and subjected to confirmatory factor analysis using the LISREL 6.6 program. In order to compare the goodness of fit of this overall model for the various subgroups, separate confirmatory factor analyses were conducted for males and females and for each grade level.

Satisfied that the goodness of fit for the overall group was acceptable, four new variables consisting of the four factor scores were created and were assigned the following provisional labels: Perspective-Taking-2 (PT2), Fantasy-2

(F2), Empathic Concern-2 (EC2) and, Personal Distress-2 (PD2). Scale scores were tabulated and both internal and test-retest reliabilities were computed.

In order to test the second and third hypotheses pertaining to age-related change, a MANOVA was performed with grade and gender as the independent variables and EC2, F2, PD2, PT2, and overall A-IRI scores as the dependent variables. As the MANOVA and subsequent univariate F-tests revealed significant age and gender related differences for the PT2, EC2, and PD2 scores, post hoc contrasts were performed.

Hypothesis 4, which pertains to the relationship between empathy and behavior, was tested by conducting four series of regression analyses. Within each series, a separate analysis was conducted for each of the dependent variables: teacher ratings of cooperation, teacher ratings of helping, teacher ratings of sharing, Altruism Questionnaire scores, time volunteered, and monetary donations. SES was entered as a covariate in all analyses involving monetary donations as the dependent variable.

The first series of regression analyses were conducted with overall A-IRI scores as the predictor variable. In order to explore robustness of effects and because the MANOVA had revealed age and gender related differences in overall A-IRI scores, the second series consisted of stepwise multiple regression with age and sex entered as predictor variables on the first two steps.

The third series of analyses was a stepwise multiple regression with PT2, F2, EC2, and PD2 as the predictor variables. Because MANOVA had revealed age and gender related differences in subscale scores, a fourth series of regression analyses were conducted in which grade and sex were entered at the first step and PT2, F2, EC2 and PD2 scores were then entered stepwise.

In order to test for treatment effects predicted in Hypothesis 5, two ANOVAs were performed. The first included SES as a covariate, treatment as the independent variable, and monetary donations as the dependent variable. The second ANOVA included treatment as the independent variable and time volunteered as the dependent variable.

To test Hypothesis 6 with respect to the interactive effects of treatment and the dispositional tendency towards perspective-taking, stepwise regression analyses were performed with scores on the Social Desirability Questionnaire and the interaction between treatment and PT2 scores as predictor variables and monetary donations and time volunteered as the dependent variables. In the analysis for monetary donations, SES was entered at the first step.

In order to aid with interpreting and understanding the data, a number of post-hoc analyses were conducted. These included regression analyses to determine the effects of social desirability on EC2, PT2, PD2, and F2 scores as well as on the various dependent variables, and correlation analysis to examine the interrelationship between dependent variables.

CHAPTER IV

RESULTS

Item Reliabilities

The first step in the data analysis was to examine the reliability of A-IRI items and remove from analysis those whose reliabilities were unacceptably low. A cut off point of $r = .330$ was chosen and six items which fell below this criterion were discarded.

Table 1
Test-Retest Reliability Coefficients for A-IRI Items (n = 135)

Item #	r	Item #	r
1	<u>.329</u>	15	<u>.288</u>
2	.531	16	.514
3	<u>.328</u>	17	.485
4	.629	18	<u>.293</u>
5	.398	19	<u>.323</u>
6	.352	20	.334
7	.409	21	<u>.304</u>
8	.344	22	.538
9	.573	23	.502
10	.683	24	.378
11	.379	25	.495
12	.445	26	.456
13	.489	27	.427
14	.347	28	.444

The Structure of Empathy

Hypothesis 1 focused on the structure of dispositional empathy in middle childhood, by predicting that dispositional empathy would be found to be composed of four traits which can be described as: the tendency to transpose oneself into the role of fictional characters (F); the tendency to take the perspective of others (PT); the tendency to experience personal distress (PD) and, the tendency to experience empathic concern (EC).

Hypothesis 1 further predicted that these factors would be related to each other such that:

- a) EC is positively correlated with PT and F and unrelated to PD.
- b) PD is negatively correlated with PT.
- c) F is positively related to PT and unrelated to PD.

Initial exploration was conducted via factor analysis with an oblique rotation specified. Perusal of eigenvalues suggested that either a four- or a five-factor solution would be optimal as that was the point at which the remaining factors accounted for relatively little additional variance. The four-factor solution was deemed to be most readily interpretable and, furthermore, produced a set of items which was sufficiently similar qualitatively to allow the four-factors to be understood within the a priori theoretical framework from which this study proceeded, that being the factor structure found by Davis (1980) in his work with adults.

Based on the above and in order to determine the goodness of fit of the four-factor model to the data, confirmatory factor analyses using the LISREL 6.6 program was performed. Although results of the initial confirmatory analysis

(Table 2, Model A) for the total population were promising, goodness of fit indices were less satisfactory for the various subgroups.

The LISREL 6.6 program also produces a table of modification indices which guide the user in the process of modifying the model specified in order to improve its fit. Each index is equal to the expected decrease in chi-square if a single constraint is relaxed and the greatest improvement in fit is obtained by freeing the parameter with the largest index. Only one parameter is freed at a time, since the freeing of a given constraint may decrease or eliminate the improvement made possible by freeing a second constraint. This procedure continues until the largest modification index does not exceed 3.84, at which point no appreciable improvement is likely to result ("Joreskog and Sorbom", 1981, cited by Long, 1989).

Following adjustments made in accordance with the modification index and in keeping with theoretical assumptions, a satisfactory adjusted goodness of fit (AGFI = .962) was achieved for the overall population. Goodness of fit indices for subgroups continued to be relatively poor, indicating the presence of significant age and gender related differences (Table 2, Model D). At this point in the analyses, the largest modification index was less than 3.84 but the model did include three items with nonsignificant loadings. One subsequent analysis, in which all three nonsignificant relationships were removed, was therefore conducted, producing the final model (Table 2, Model E).

In order to illustrate progressive changes in goodness of fit that resulted from the modification process, Table 2 gives the probabilities, chi-square over degrees of freedom, adjusted goodness of fit indices, and root mean square residual for five successive models. Model A was derived from the initial analysis. Models B and C are examples of successive improvements. Model D is the final

model, including the three nonsignificant loadings, and Model E is the final model after the three nonsignificant loadings are removed. Factor loadings and factor correlations are given in Tables 3 and 4, respectively, and are depicted graphically in Figure 1.

Table 2
Measures of Goodness of Fit for the Overall Population and Subgroups

	Model	χ^2	p	χ^2/df	AGFI	RMS
Total Population	A	445.06	.000	2.19	.901	.058
	B	236.60	.004	1.30	.941	.040
	C	185.73	.224	1.08	.951	.035
	D	135.24	.923	0.84	.962	.029
	E	139.64	.907	0.85	.961	.030
Males	A	316.24	.000	1.56	.869	.065
	B	227.50	.012	1.25	.897	.053
	C	179.39	.334	1.04	.911	.048
	D	152.23	.657	0.95	.916	.044
	E	316.29	.000	1.94	.916	.044
Females	A	334.84	.000	1.65	.859	.072
	B	223.86	.018	1.23	.889	.057
	C	208.18	.031	1.21	.891	.055
	D	178.87	.146	1.12	.900	.051
	E	382.24	.000	2.35	.897	.052
Grade 2	A	372.36	.000	1.83	.838	.075
	B	226.36	.014	1.24	.882	.059
	C	187.73	.195	1.09	.895	.055
	D	163.06	.418	1.02	.901	.050
	E	371.42	.000	2.27	.902	.051
Grade 4	A	248.93	.015	1.23	.831	.078
	B	202.04	.147	1.11	.840	.066
	C	192.70	.134	1.12	.837	.064
	D	183.27	.100	1.14	.832	.064
	E	670.65	.000	4.11	.833	.066
Grade 6	A	330.89	.000	1.63	.760	.097
	B	254.60	.000	1.40	.793	.084
	C	238.43	.001	1.39	.796	.082
	D	215.38	.002	1.34	.801	.079
	E	865.95	.000	5.31	.798	.079

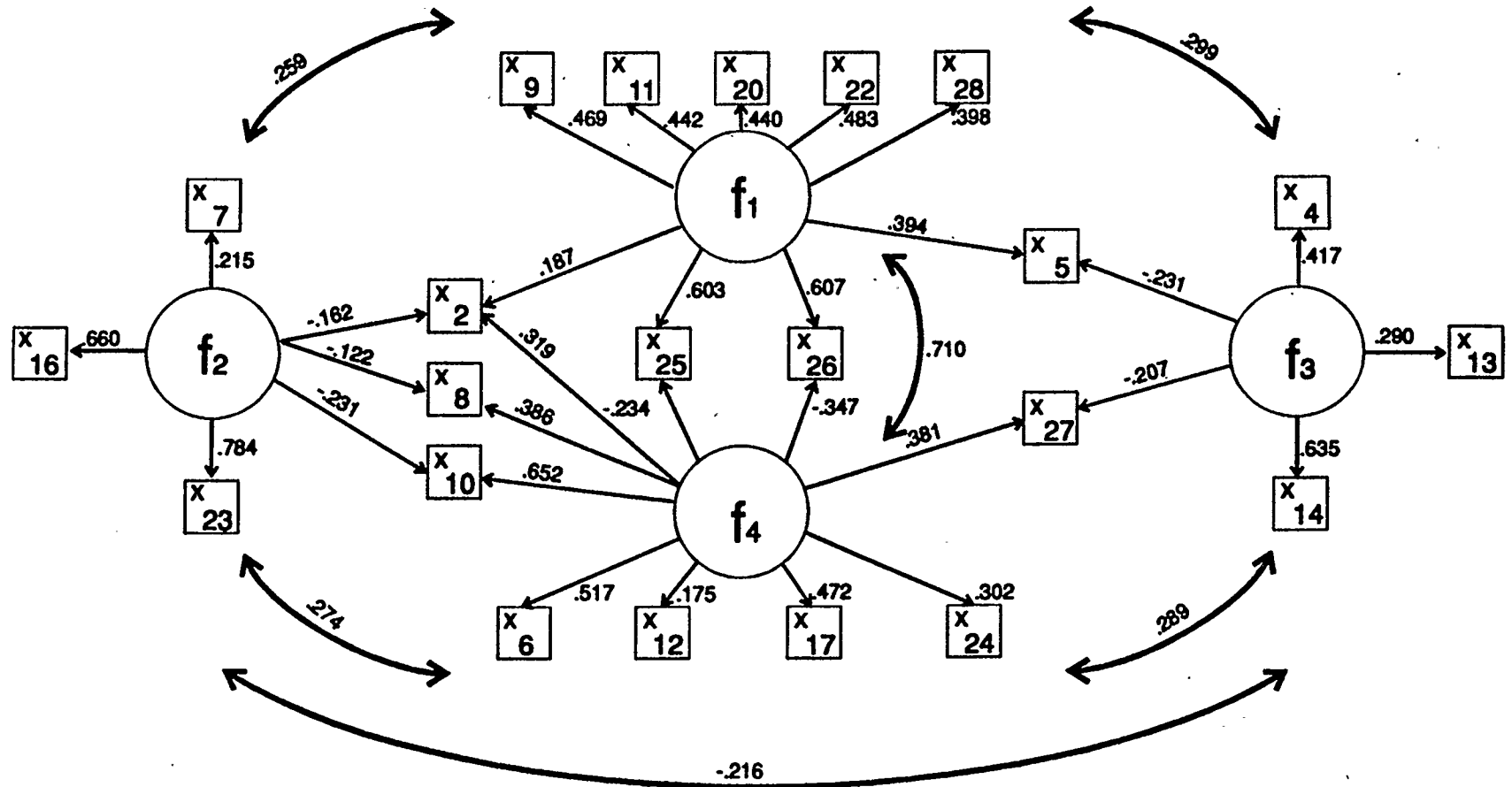
Table 3
Item Loadings for Maximum Likelihood Factor Analysis

	Factor 1 (PT2)	Factor 2 (F2)	Factor 3 (EC2)	Factor 4 (PD2)
Item 2	1.87	-.162		.319
Item 4			.417	
Item 5	.394		-.231	
Item 6				.517
Item 7		.215		
Item 8		-.122		.386
Item 9	.469			
Item 10		-.231		.652
Item 11	.442			
Item 12				.175
Item 13			.290	
Item 14			.635	
Item 16		.660		
Item 17				.472
Item 20	.440			
Item 22	.483			
Item 23		.784		
Item 24				.302
Item 25	.603			-.234
Item 26	.607	.299		-.347
Item 27			-.207	.381
Item 28	.398			

Table 4
Pattern Matrix

	Factor 1 (PT2)	Factor 2 (F2)	Factor 3 (EC2)	Factor 4 (PD2)
Factor 1 (PT2)	1.000			
Factor 2 (F2)	.259	1.000		
Factor 3 (EC2)	.299	-.216	1.000	
Factor 4 (PD2)	.710	.274	.289	1.000

Figure 1



Although findings are not unequivocal, particularly in light of the poor goodness of fit achieved for the different grade and gender subgroups, the results of confirmatory factor analyses tend to support the hypothesis that dispositional empathy during middle childhood can be explained through the use of a four-factor model. In order to determine whether the nature of these four factors is in keeping with the predictions made in Hypothesis 1, one must examine the items that comprise them (listed in Table 5).

Davis (1980) described the Perspective-Taking factor found in his work with adults as reflecting the tendency to shift perspectives when dealing with people in real-life situations.

With respect to Factor 1, items 11, 25, and 28 clearly refer to intentional and purposive perspective-taking in real-life situations and, as such, would seem to describe the same tendency as Davis' (1980) PT factor. The remaining items do not, however, fit clearly into the pattern described by Davis. Rather, items 5 and 26 would seem to describe the tendency to transpose oneself into the role of literary characters whereas items 9, 20, and 22 describe vicarious emotional response which is compassionate in tone and appears to involve some degree affective matching. In order to reflect the congruence between Factor 1 and Davis' PT factor, and with no intent to diminish the differences between them, this grouping was assigned the provisional label of Perspective-Taking-2 (PT2).

The Fantasy factor described by Davis (1980), includes items which appear to tap the proclivity to transpose oneself into fictional situations such as those depicted in movies or books.

Factor 2 presents rather clearly as describing the tendency to fantasize, albeit only in response to audiovisual material, a distinction not apparent in Davis' (1980) work with adults. Once again, and in order to reflect the similarities

between Factor 2 and Davis' F factor, and notwithstanding their differences, this grouping was assigned the provisional label of Fantasy-2 (F2).

Items composing Davis' (1980) Empathic-Concern factor describe the respondent's tendency to experience feelings of warmth, compassion and concern for others.

Factor 3 would seem to describe the tendency to become concerned or upset about the plight of others but lacks the element of self-oriented distress so prominent in Factor 4 and the flavor of affective sharing seen in Factor 1. Although they do not communicate the same sense of compassion or warmth, these items are closest in tone to Davis' EC items. This factor was therefore assigned the provisional label of Empathic Concern-2 (EC2).

Davis (1980) described the Personal-Distress factor as being comprised of items which reflect the respondent's tendency to experience feelings of discomfort, fear, and distress when witnessing the distress of others.

With respect to Factor 4, items 6, 10, 24, 17, and 27 clearly refer to self-oriented distress in response to the plight of others. Therefore, although items 2, 12, and 8 do not have equivalent face validity, this factor was given the provisional label of Personal Distress-2 (PD2).

Overall, examination of the items that cluster about the above-described four factors reveals that, despite their differences, there are important parallels between them and the four factors described by Davis (1980). It may therefore be said that the results of analyses provide support for the notion that dispositional empathy in middle childhood is comprised of four factors which may be described as: perspective-taking, fantasy, empathic concern, and personal distress.

Table 5
Item Groupings: LISREL Estimates (Maximum Likelihood)

Factor 1: Perspective- Taking 2	5.	It seems like I feel the feelings of the people in the stories I read or hear.
	9.	When I see another kid being picked on or teased, I feel like I want to help them.
	11.	I try to understand my friends better by imagining what things are like for them.
	20.	Things that I see make me feel sad or happy.
	22.	It is easy for me to feel sorry for other people.
	25.	When I'm mad at someone, I try to imagine how they feel for a while.
	26.	When I am reading an interesting book or listening to an interesting story, I imagine how I would feel if the things in the story were happening to me.
	28.	Before telling someone that I don't like something about them, I try to imagine how I would feel if someone told me that.
Factor 2: Fantasy 2	7.	When I watch a movie or TV show, I don't imagine that I'm in it.
	16.	After seeing a TV show or watching a movie, I feel like I am one of the people in the story.
	23.	When I watch a good movie or video, it is easy for me to pretend that I am one of the characters.
Factor 3: Empathic Concern 2	4.	I don't feel very sorry for other people when they are having problems or feeling bad.
	13.	When I see someone get hurt, I stay calm.
	14.	When my friends or people in my family have problems, it does not bother me a lot.
Factor 4: Personal Distress 2	2.	I feel sorry for other kids whose lives are not as good as mine.
	6.	When someone is hurt or in bad trouble, I feel afraid and uncomfortable.
	8.	When my friends are having a disagreement or an argument, I try to listen to everybody before I decide who is right.
	10.	I feel bad and like I cannot help when my friends or people in my family are very upset.
	12.	When I read a book or watch a movie, I get so interested in it that I don't notice anything else.

Table 5 (continued)

17. When other people are feeling bad or are very upset, I feel scared.
24. When there is an emergency, like when someone is badly hurt, I get very excited.
27. When someone needs help in an emergency, like when they are badly hurt, I get too upset to do anything at all.

Although there are elements of agreement, predictions referring to the interrelationships between factors are generally not well supported by the results of confirmatory factor analyses (see Table 4 and Figure 1).

In keeping with predictions based on Davis' (1980) model, EC2 is positively related to PT2. In contrast to these predictions, EC2 is negatively associated with F2 and positively associated with PD2, and PD2 has a strong positive relationship with PT2. As hypothesized, F2 is positively correlated with PT2, however, it is also positively associated with PD2, disconfirming the prediction that they would be unrelated. All these relationships are statistically significant ($t < 2.0$).

The A-IRI and Subscales

Prior to testing Hypotheses 2 and 3, it was necessary to create a scoring system for the A-IRI. In order to do so, four subscales based on the results of confirmatory factor analysis were created. Descriptive statistics for these scales as well as for overall A-IRI scores are given in Table 6. Comparison of means and medians suggests that most of the distributions approach symmetry, the notable exception being the scores of sixth graders on the F2 subscale which are skewed in a negative direction.

Table 6
Descriptive Statistics for A-IRI Subscales and Total

Scale	Population		Mean	Median	SD
PT2	overall	(n=478)	3.323	3.250	.738
	grade 2	(n=217)	3.296	3.286	.768
	grade 4	(n=136)	3.115	3.125	.687
	grade 6	(n=125)	3.249	3.250	.729
F2	overall	(n=478)	2.879	2.667	1.124
	grade 2	(n=217)	2.954	3.000	1.157
	grade 4	(n=136)	2.870	2.667	1.123
	grade 6	(n=125)	2.757	4.333	.638
EC2	overall	(n=478)	4.044	4.333	.868
	grade 2	(n=217)	3.846	4.000	.964
	grade 4	(n=136)	4.180	4.333	.789
	grade 6	(n=125)	4.240	4.333	.687
PD2	overall	(n=478)	3.099	3.125	.719
	grade 2	(n=217)	3.131	3.125	.797
	grade 4	(n=136)	3.024	3.000	.655
	grade 6	(n=125)	3.129	3.125	.638
A-IRI	overall	(n=478)	3.246	3.273	.510
	grade 2	(n=217)	3.264	3.273	.507
	grade 4	(n=136)	3.193	3.227	.523
	grade 6	(n=125)	3.272	3.273	.502

Test-retest reliabilities (Table 7) were computed for both the overall group and for the different grade levels. Notwithstanding the small size of the F2 and EC2 scales, test-retest reliabilities are only acceptable, ranging from .416 to .763. However, using only the oldest subjects for comparison, test-retest reliabilities for sixth graders (.53 to .76), approach those reported by Davis (1980) in his work with adults, which ranged from .62 to .76 after an interval of approximately two months. Nonetheless, they do indicate that the characteristics measured are somewhat stable over the short term.

Table 7
Test-Retest Reliabilities for A-IRI Subscales
(5 week interval)

Scale	Population	N of Cases	r
PT2	overall	135	.640
	grade 2	37	.532
	grade 4	53	.693
	grade 6	45	.763
F2	overall	135	.580
	grade 2	37	.416
	grade 4	53	.693
	grade 6	45	.548
EC2	overall	135	.588
	grade 2	37	.581
	grade 4	53	.573
	grade 6	45	.604
PD2	overall	135	.623
	grade 2	37	.649
	grade 4	53	.652
	grade 6	45	.532

Internal consistency reliabilities for the total population as well as for the different grade levels were also computed and are given in Table 8. Even given the small size of scales F2 and EC2, internal reliabilities are somewhat low.

Table 8
Internal Reliabilities for A-IRI Subscale

Scale	Population	N of Cases	Alpha
PT2	overall	437	.642
	grade 2	189	.603
	grade 4	129	.629
	grade 6	119	.736
F2	overall	437	.515
	grade 2	189	.435
	grade 4	129	.524
	grade 6	119	.647
EC2	overall	437	.441
	grade 2	189	.396
	grade 4	129	.483
	grade 6	119	.411
PD2	overall	437	.586
	grade 2	189	.591
	grade 4	129	.514
	grade 6	119	.609

The Development of Dispositional Empathy

Hypotheses 2 and 3 addressed developmental questions by predicting that older children would report greater dispositional empathic concern and perspective-taking and less dispositional personal distress than would younger children.

The first step in testing Hypotheses 2 and 3 was to conduct multivariate analysis of variance (MANOVA) with grade and gender as the independent variables and PT2, EC2, F2, and PD2 scores as the dependent variables. Although gender is not considered in Hypotheses 2 and 3, it is considered in Hypothesis 4 and it was therefore important to determine what, if any, effects it had on the various subscale scores. The results of the MANOVA, given in Table 9, revealed the presence of both grade and gender-related effects and indicated that there were no significant interactive effects.

Table 9:
Multivariate Analysis of Variance: Grade by Sex on Subscale Scores

Source of Variation	f	df	p
Sex	6.16	5,466	<.000
Grade	2.95	10,934	<.001
Sex by Grade	0.85	10,934	.581

Subsequent univariate F tests (Table 10) revealed the presence of significant gender-related effects for the PT2, PD2, and EC2 scales and of significant grade-related effects for the PT2 and EC2 scales. The absence of grade-related effects on PD2 scores is contrary to the prediction made in

Hypothesis 3 and we can therefore conclude that self-reported personal distress does not diminish with age during middle childhood.

Table 10
Univariate F-Tests
The Effects of Gender and Grade on Subscale Scores

Source of Variation	Variable	F	df	p
Gender	PT2 Scores	11.63	1,470	.001
	EC2 Scores	10.73	1,470	.001
	PD2 Scores	9.54	1,470	.002
Grade	PT2 Scores	3.11	2,470	.046
	EC2 Scores	9.66	2,470	<.001
	PD2 Scores	1.62	2,470	.200

The results of post-hoc contrasts, given in Table 11, and examination of cell means, presented in Table 13, provide support for the predictions regarding self-reported empathic concern but fail to support predictions regarding self-reported perspective-taking.

With respect to self-reported empathic concern, the EC2 scores of sixth grade subjects were significantly higher than those of fourth or second grade subjects. Although examination of cell means reveals a directionally consistent trend, the difference between the EC2 scores of second and fourth graders was not significant.

Findings with respect to self-reported perspective-taking are both and surprising and counter-intuitive in that the only significant contrast was between

second and sixth graders with the latter having somewhat lower, rather than higher PT2 scores than the former.

Some light was shed on this unusual finding as a consequence of later analyses conducted in order to test Hypothesis 4. Regression analyses revealed age-related increases in measures of real or teacher reported prosocial behavior and age-related decreases in hypothetical measures, suggesting that young children are more likely to exaggerate their prosocial intent in a socially desirable direction. This finding raised the possibility that the higher PT2 scores of second grade subjects were related to their tendency to respond in a socially desirable way. In order to examine this possibility, post-hoc regression analyses were conducted looking at the effects of scores on the Social Desirability Questionnaire on the four A-IRI subscale scores. Results of these analyses, given in Table 12, indicate that social desirability accounts for a small but significant portion of the variance in PT2 scores, and provides indirect support for the notion that the effects of social desirability may have obscured possible age-related changes in the tendency towards self-reported perspective-taking. Interestingly, it also appears that social desirability has a very small but still significant negative effect on EC2 scores.

Table 11
Post-Hoc Contrasts

Effect	Variate	F	df	p
Males vs. Females	PT2 Scores	11.61	1,470	0.001
	EC2 Scores	10.75	1,470	0.001
	PD2 Scores	9.56	1,470	0.002
Grade 4 vs. Grade 2	PT2 Scores	0.32	1,470	0.573
	EC2 Scores	1.36	1,470	0.245
Grade 6 vs. Grade 2	PT2 Scores	4.46	1,470	0.037
	EC2 Scores	6.76	1,470	0.01
Grade 6 vs. Grade 4	PT2 Scores	1.90	1,470	0.169
	EC2 Scores	12.46	1,470	0.001

Table 12
Regression Analyses: The Effects of Social Desirability on PT2, EC2, PD2 and F2 Scores

Dependent Measure	Beta	R²	t	p
PT2	.173	.028	3.83	<.001
F2	.027	.001	.60	.549
EC2	-.106	.009	-2.32	.021
PD2	.013	.002	.01	.989

Table 13
Cell Means and Standard Deviations for PT2, EC2, and PD2 Scores

	Scale	Grade	Gender	Mean Score	Standard Deviation	N of Cases
#1	PT2	2	male	3.229	.717	119
	PT2	2	female	3.378	.822	98
	PT2	4	male	3.008	.734	57
	PT2	4	female	3.197	.650	77
	PT2	6	male	3.054	.728	60
	PT2	6	female	3.424	.690	65
	PT2	all	male	3.133	.728	236
	PT2	all	female	3.335	.738	240
	PT2	2	both	3.299	.768	217
	PT2	4	both	3.119	.691	134
	PT2	6	both	3.249	.729	125
	PT2	all	both	3.233	.739	476
#3	EC2	2	male	3.797	.963	119
	EC2	2	female	3.905	.967	98
	EC2	4	male	3.953	.907	57
	EC2	4	female	4.331	.653	77
	EC2	6	male	4.083	.771	60
	EC2	6	female	4.385	.566	65
	EC2	all	male	3.908	.909	236
	EC2	all	female	4.172	.807	240
	EC2	2	both	3.846	.964	217
	EC2	4	both	4.171	.791	134
	EC2	6	both	4.240	.687	125
	EC2	all	both	4.041	.868	476
#4	PD2	2	male	3.050	.809	119
	PD2	2	female	3.229	.967	98
	PD2	4	male	2.901	.662	57
	PD2	4	female	3.101	.644	77
	PD2	6	male	2.996	.611	60
	PD2	6	female	3.246	.644	65
	PD2	all	male	3.003	.728	236
	PD2	all	female	3.195	.700	240
	PD2	2	both	3.133	.797	217
	PD2	4	both	3.019	.656	134
	PD2	6	both	3.129	.638	125
	PD2	all	both	3.097	.720	476

The Effect of Gender

Although the direction of gender-related effects was not specified, the literature indicates that self-reported empathy tends to be higher for females of all ages than for males. The results of multivariate analysis of variance (Table 9), univariate F tests (Table 10), subsequent post-hoc tests (Table 11), and perusal of cell means, reveal that the data obtained in this study conforms to this oft repeated pattern. Girls' scores on the EC2, PT2, and PD2 scales are significantly higher than those of boys and this pattern is consistent, regardless of grade level.

The Relationship of Dispositional Empathy to Prosocial Behavior

Hypothesis 4 addressed the relationship between dispositional empathy and behavior by predicting that a composite measure of dispositional empathy will predict prosocial/altruistic behavior to an extent that would account for at least .36 of the variance and that this effect would be apparent even after the effects of grade and gender were removed.

Hypothesis 4 further predicted that, of the four component factors of overall dispositional empathy, empathic concern would be the best predictor of altruistic behavior, even after the effects of grade and gender are removed.

In order to test the first set of predictions made in Hypothesis 4, two series of regression analyses were performed. The results of the first series of

regressions, in which overall A-IRI scores were entered as the predictor variable and the various measures of prosocial or altruistic behavior were entered as dependent variables, are given in Table 14. Although dispositional empathy, as measured by the A-IRI, did not account for .36 of the variance in the dependent measures, more moderate effects ranging from .017 to .083 of the variance were found. A-IRI scores accounted for a significant proportion of the variance of scores on the Altruism Questionnaire, teacher ratings of comforting, teacher ratings of sharing, and monetary donations and for a proportion of the variance for teacher ratings of cooperation and composite teacher ratings which approaches the commonly accepted criteria for significance.

Table 14
Regression Analyses for Overall A-IRI Scores

Dependent Variable	R	R²	Beta	t	p	N
Altruism Questionnaire	.274	.075	.274	6.20	<.001	475
Teacher Ratings of Comforting	.184	.034	.184	2.54	.012	187
Teacher Ratings of Helping	.099	.01	.099	1.35	.179	187
Teacher Ratings of Sharing	.148	.022	.148	2.04	.043	187
Teacher Ratings of Cooperation	.132	.017	.132	1.80	.072	187
Composite Teacher Ratings	.132	.017	.132	1.81	.072	187
Time Volunteered	.039	.002	.04	.79	.430	407
Monetary Donations*	.288	.083	.228	4.92	<.001	436

* effects of SES removed at first step

The results of the second series of regression analyses, in which the effects of age and grade were forcibly removed by specifying that they be entered into the equation prior to A-IRI scores, are given in Table 15. With the effects of gender and grade removed, overall A-IRI scores continued to account for small but significant proportions of the variance of Altruism Questionnaire scores and monetary donations and for marginally significant proportions of the variance in teacher ratings of comforting and sharing behavior. Although the size of the relationship does not meet the standard set in Hypothesis 4, we may nonetheless conclude that overall dispositional empathy, as measured by the A-IRI, does predict some types of prosocial and even altruistic behavior in middle childhood.

The effects of grade and gender, though not addressed in the hypothesis, are also worthy of comment. With respect to the grade, it appears that older children were more likely to make monetary donations and to be rated as prosocial by their teachers, except in the category of helping. On the two hypothetical measures of prosocial tendency, the Altruism Questionnaire and Time Volunteered, age apparently had the reverse effect, such that the children in younger grades were more likely to report the intention to respond prosocially. With respect to gender, females were more likely than males to report prosocial intent or to engage in prosocial behavior on all measures except for teacher ratings of sharing and time volunteered.

Table 15
Multiple Regression Analyses for Overall A-IRI Scores Controlling
for Grade and Gender

Dependent Variable	Independent Variables	Block	R ² Change	Beta	t	p
ALTRUISM	Grade	1		-.211	-4.832	<.001
	Gender*	1		-.092	-2.103	.036
	A-IRI Scores	2	.065	.259	5.919	<.001
TR1	Grade	1		.200	2.914	.004
	Gender*	1		-.262	-3.760	<.001
	A-IRI Scores	2	.014	.122	1.755	.081
TR2	Grade	1		.0746	1.0287	.305
	Gender*	1		-.190	-2.579	.011
	A-IRI Scores	2	.003	.059	.800	.425
TR3	Grade	1		.168	2.319	.022
	Gender*	1		-.076	-1.041	.299
	A-IRI Scores	2	.014	.122	1.670	.097
TR4	Grade	1		.253	3.611	<.001
	Gender*	1		-.165	-2.320	.021
	A-IRI Scores	2	.006	.084	1.181	.239
TRC	Grade	1		.196	2.270	.006
	Gender*	1		-.182	-2.550	.013
	A-IRI Scores	2	.006	.085	1.181	.239
TIME	Grade	1		-.176	-3.581	<.001
	Gender*	2		-.101	-2.035	.425
	A-IRI	2	.000	.219	.444	.657
MONEY	SES	1		-.199	-4.737	<.001
	Grade	2		.373	3.728	<.001
	Gender*	2		-.152	-3.583	<.001
	A-IRI Scores	3	.040	.203	4.776	<.001

ALTRUISM = Altruism Questionnaire
 TR1 = Teacher Ratings of Comforting
 TR2 = Teacher Ratings of Helping
 TR3 = Teacher Ratings of Sharing
 TR4 = Teacher Ratings of Cooperation
 TRC = Composite Teacher Ratings
 TIME = Time Volunteered
 MONEY = Monetary Donations

* Males coded as 2, Females coded as 1

In order to test the second part of Hypothesis 4 regarding the relative contributions of the four components of empathy, two additional series of multiple regression analyses were performed. The first of these consisted of stepwise regressions with EC2, PT2, F2, and PD2 scores entered as predictor variables and the various measures of prosocial behavior entered as the dependent variables. Results of these analyses, given in Table 16, provide some, albeit not entirely consistent, support for the hypothesis that empathic concern would be the best predictor of prosocial and/or altruistic behavior.

As anticipated, neither F2 nor PD2 scores had significant predictive value for any of the dependent measures. PT2 scores accounted for a significant proportion of the variance of teacher ratings of comforting and monetary donations and were the best predictor of scores on the Altruism Questionnaire. In keeping with predictions, EC2 scores were the best predictor of 6 out of 8 dependent measures and accounted for a secondary but still significant proportion of the variance of the seventh measure. Consistent with the results of analyses involving overall A-IRI scores, none of the subscale scores had significant predictive value for time volunteered, a finding which likely tells us more about the nature of the dependent measure than about the predictive value of the independent variables.

Table 16
Stepwise Multiple Regression for PT2, F2, EC2, and PD2 Scores
(Variables in the Final Equation)

Dependent Variable	Variable in Equation	Beta	R² or R² Change	t	p
Altruism Questionnaire	PT2	.253	.064	5.73	<.001
	EC2	.134	.018	3.04	.003
Teacher Ratings of Comforting	EC2	.238	.060	3.39	<.001
	PT2	.186	.035	2.66	.009
Teacher Ratings of Helping	EC2	.218	.048	3.04	.003
Teacher Ratings of Sharing	EC2	.254	.065	3.58	<.001
Teacher Ratings of Cooperation	EC2	.218	.048	3.04	.003
Composite Teacher Ratings	EC2	.271	.074	3.83	<.001
Time Volunteered	NA	NA	NA	NA	NA
Monetary Donations*	SES	-.183		-4.02	<.001
	EC2	.204	.043	4.50	<.001
	PT2	.193	.036	4.24	<.001

NA No Variables Entered
 * SES forced entry at first step.

Because both the dependent measures and A-IRI subscale scores are significantly related to grade and gender, a second series of analyses was conducted in which the effects of grade and gender were removed by specifying that they be entered into the equation at the first block. Results of these analyses, given in Table 17, reveal that once the effects of age and grade are removed, EC2 scores are the best predictor of real, reported, or hypothetical behavior on 5 of 8

dependent measures while accounting for smaller amounts of the variance of an additional 2 variables. PT2 scores are the best predictor for 2 dependent measures and, once again, none of the A-IRI subscales scores had significant predictive value for time volunteered.

Table 17
Stepwise Multiple Regression Analyses for PT2 and
EC2 Scores Controlling for Grade and Gender
(Variables in the Final Equation)

Dependent Variable	Independent Variables	Beta	R ² Change	t	p
Altruism Questionnaire	Grade	-.233		-5.136	<.001
	Gender*	-.076		-1.725	.085
	PT2	.233	.052	5.380	<.001
	EC2	.167	.026	3.776	<.001
Teacher Ratings /Comforting	Grade	.179		2.628	.009
	Gender*	-.222		-3.175	.002
	EC2	.155	.022	2.214	.028
	PT2	.140	.020	2.054	.041
Teacher Ratings /Helping	Gender*	-.164		-2.236	.027
	EC2	.176	.029	2.396	.018
Teacher Ratings /Sharing	Grade	.151		2.12	.036
	EC2	.232	.053	3.25	.001
Teacher Ratings /Cooperation	Grade	.240		3.423	.001
	Gender*	-.145		-2.018	.045
	EC2	.145	.020	2.017	.045
Composite Teacher Ratings	Grade	.176		2.505	.013
	Gender*	-.147		-2.047	.049
	EC2	.207	.039	2.878	.004
Time Volunteered	Grade	-.177		-3.597	<.001
	Gender*	-.104		-2.112	.035
Monetary Donations	SES**	-.188		-4.492	<.001
	Grade	.358		8.423	<.001
	Gender*	-.142		3.348	.001
	PT2	.188	.035	4.462	<.001
	EC2	.111	.011	2.575	.010

* Males coded as 2, females coded as 1

** SES entered at first step

The finding that grade-related effects differ for the hypothetical as opposed to the report-based or behavioral measures and the somewhat different ways in which the dependent measures are related to predictor variables, raises the question of criterion validity. Indeed, of the 8 dependent measures, only monetary donations is a direct measure of behavior. The decision was therefore made to examine the interrelationship between the variables as well as the extent to which they are related to the tendency to present oneself in an unrealistically positive manner. In order to do so, two post-hoc analyses were conducted.

The results of the first of these analyses, a correlation matrix for the dependent variables, is given in Table 18 and reveals two basic groupings, real or reported behavior, and hypothetical behavior. The first grouping consists of teacher ratings and monetary donations, which with one exception are all positively and significantly related to each other. The exception to this is the relationship between teacher ratings of helping and monetary donations which is directionally consistent but only marginally significant. As can be seen, the interrelationship between the various classes of teacher rated behavior is very strong whereas their relationship to monetary donations is somewhat weaker but nonetheless consistent. Using monetary donations as the anchor for criterion validity, we may conclude that teacher ratings of observed behavior provide a meaningful measure of prosocial tendency.

In contrast, the two hypothetical measures of behavior, time volunteered and scores on the Altruism Questionnaire, are significantly and positively related to each other and unrelated to other measures. From this, we may conclude that responses to hypothetical questions are not a meaningful predictor of actual altruistic/prosocial behavior.

Table 18
Correlation Matrix for Dependant Variables

	Altruism Question- naire	Teacher Ratings of Comforting	Teacher Ratings of Helping	Teacher Ratings of Sharing	Teacher Ratings of Cooperation	Composite Teacher Ratings	Monetary Donations
Teacher Ratings: Comforting	.021 (p = .388)						
Teacher Ratings: Helping	.046 (p = .266)	.774 (p = <.001)					
Teacher Ratings: Sharing	.004 (p = .478)	.702 (p = <.001)	.745 (p = <.001)				
Teacher Ratings: Cooperation	.026 (p = .362)	.711 (p = <.001)	.744 (p = <.001)	.709 (p = <.001)			
Composite Teacher Ratings	.000 (p = .493)	.894 (p = <.001)	.900 (p = <.001)	.879 (p = <.001)	.872 (p = <.001)		
Monetary Donations	.036 (p = .278)	.210 (p = .003)	.107 (p = .082)	.168 (p = .014)	.231 (p = .001)	.189 (p = .007)	
Time Volunteered	.090 (p = .036)	.058 (p = .233)	.101 (p = .101)	.042 (p = .300)	-.008 (p = .458)	.052 (p = .256)	.027 (p = .288)

The second group of post-hoc analyses, a series of regressions looking at the extent to which scores on the Social Desirability Questionnaire account for variance in dependent measures, reveal that self-presentational bias accounts for a significant portion of the variance of both hypothetical measures but is not significantly related to measures of real or reported behavior. Results of regression analyses are given in Table 19.

Table 19
Regression Analyses for the Effects of Social
Desirability on Dependent Variables

Dependent Measure	Beta	R²	t	p
Altruism Questionnaire	.295	.087	4.026	<.001
Teacher Ratings of Comforting	.034	.005	.440	.660
Teacher Ratings of Helping	.109	.006	1.433	.154
Teacher Ratings of Sharing	-.011	.006	-.147	.884
Teacher Ratings of Cooperation	.036	.004	.475	.635
Composite Teacher Ratings	.023	.005	.295	.768
Monetary Donations	-.112	.006	-1.473	.142
Time Volunteered	.140	.017	2.763	.006

Findings with respect to the effect of self-presentational bias on hypothetical measures, in addition to explaining some of the observed patterns, raise questions about the relationship between overall A-IRI and subscale scores to Altruism Questionnaire scores found in earlier analyses. In order to clear up these questions, two additional regression analyses were performed in order to determine the extent to which A-IRI scores and subscale scores account for the variance in Altruism Questionnaire scores after the effects of social desirability are removed.

Results, given in Table 20 reveal that even after the effects of social desirability are removed overall A-IRI scores continue to account for a significant portion of the variance in Altruism Questionnaire.

Table 20
Regression Analyses for Altruism Questionnaire Scores
Controlling for Social Desirability Scores

Independent Variable in the Equation	Step	Beta	t	p
Social Desirability Score	1	.197	4.52	<.001
A-IRI Score	2	.259	5.95	<.001
Social Desirability Score	1	.194	4.38	<.001
PT2	2	.219	4.97	<.001
EC2	3	.151	3.47	<.001

The finding that monetary donations, unlike other non-hypothetical measures were best predicted by PT2 rather than EC2 gave rise to yet a third post-hoc analysis. Noting that the tendency towards perspective-taking was hypothesized (Hypothesis 6) to enhance treatment effects, the purpose of this analysis was to determine to what, if any extent, situational variables obscured the effects of dispositional variables. Multiple regression analysis was therefore performed with SES entered in the first block, the treatment entered in the second block, and A-IRI subscale scores entered stepwise in the third block.

As can be seen in Table 21, after treatment effects are removed EC2 appears as the most influential dispositional variable, accounting for a marginally greater amount of the variance (.001) than PT2. It therefore appears that the

component of empathy assessed by PT2 exerts its effects on behavior most strongly in situations calling for explicit perspective taking.

Table 21
Stepwise Multiple Regression Analysis for the Effects of
A-IRI Subscale Scores
on Monetary Donations Controlling for Treatment Effects
(Variables in the Equation)

Independent Variable	Beta	R² Change	t	p
SES	-.184	.034	-3.90	<.001
EC2	.189	.035	4.03	<.001
PT2	.187	.034	3.97	<.001

In summary, the predictions made in Hypothesis 4 are generally well supported by the data although effects are not fully consistent and, in some cases, are not as large as hypothesized. Specifically, dispositional empathy, as measured by the A-IRI, accounted for a small but significant proportion of the variance on four of eight dependent measures before the effects of grade, gender and social desirability were removed and on two of eight dependent measures after these effects were accounted for. Self-reported empathic concern was the best predictor of 5 out of 8 dependent variables and the second best predictor of 2 additional variables even after the effects of grade and gender were removed. After treatment effects were removed EC2 scores also accounted for the greatest part of the variance in monetary donations, albeit by a very small margin. We can therefore conclude that, notwithstanding the effects of other factors, dispositional

empathy and, particularly the tendency to experience empathic concern, do predict prosocial behavior in middle childhood.

The Effect of Instructional Set

Hypothesis 5 predicted that subjects exposed to a perspective-taking instructional set would demonstrate greater altruistic behavior, as measured by donations of time and money, than would those exposed to an "observe" instructional set.

In order to test Hypothesis 5, an analysis of variance (ANOVA) was conducted with instructional set as the independent variable and donations of time and money as the dependent variables.

Results of ANOVA fail to support the prediction made in Hypothesis 5. Although the effects of perspective-taking instructions were in the direction predicted by Hypothesis 5, only the effects on monetary donations approached statistical significance. Cell means are given in Table 22 and results of ANOVA are given in Table 23.

Table 22
Cell Means and Standard Deviations for Time Volunteered
and Monetary Donations by Treatment

	N	Variable	Mean	SD
Observe Instructional Set	186	Time	2.107	1.676
	200	Donations	2.475	3.085
Perspective-Taking Instructional Set	192	Time	2.312	1.775
	206	Donations	3.073	3.578

Table 23
Analysis of Variance: Treatment Effects on
Time Volunteered and Monetary Donations

Dependent Variable	df	F	p
Time Volunteered	1,376	1.33	.249
Monetary Donations*	1,403	3.20	.075

* affects of SES partialled out

Dispositional Perspective-Taking and Instructional Set

Hypothesis 6 predicted that behavioral responsiveness, as measured by donations of time and money, to a perspective-taking instructional set as opposed to an observational instructional set, would be positively affected by the tendency to perspective-take and be unaffected by the tendency to present oneself in an unrealistically positive manner.

In order to test Hypothesis 6, stepwise multiple regression analyses were conducted with Social Desirability scores and the interaction between treatment and PT2 scores as the independent variables. Social desirability scores were entered prior to PT2 scores. Monetary donations and time volunteered were entered as the dependent variables. Results of these analyses, given in Table 24, provide partial support for Hypothesis 6. The amount of time volunteered was, as noted previously, related to social desirability but was unaffected by the interaction between PT2 scores and instructional set. In light of earlier failures to find meaningful effects for this dependent variable, the lack of interactive effects is unsurprising and serves to underscore concern about the criterion validity of this measure. A significant portion of the variance in monetary donations was

accounted for by the interaction between PT2 scores and instructions to perspective-take. Given the criterion validity of this dependent measure, these results are important and serve to provide good support for the intent, if not the detail of Hypothesis 6. Also worthy of note is the finding that self-presentational bias, as measured by Social Desirability scores, was negatively related to monetary donations.

Table 24
Multiple Regression Analyses for Treatment, Social Desirability and Interactive Effects of Treatment and PT2 Scores on Time Volunteered and Monetary Donations

Dependent Variable	Independent Variables	Beta	R² Change	t	p
Time Volunteered	Social Desirability	.141		2.76	.006
Monetary Donations*	SES	-.176		-3.65	<.001
	Social Desirability	-.096	.016	-1.99	.047
	Treatment by PT2	.126	.007	2.62	.009

* SES forcibly removed at first step

CHAPTER V

DISCUSSION

The Structure of Empathy

The first hypothesis of this study focuses on the central issue of the structure of children's dispositional empathy. Drawing on Davis' (1980) work with adults, two sets of predictions were made. The first of these pertains to the factor structure of dispositional empathy during middle childhood, hypothesizing that it is comprised of four component factors which are analogous to the four factors described by Davis: the tendency to transpose oneself into the role of fictional characters (F); the tendency to take the perspective of others (PT); the tendency to experience personal distress (PD); and the tendency to experience empathic concern (EC). The second set of predictions addresses the interrelationship between factors, hypothesizing that they are similar to those reported by Davis (1980).

The results of confirmatory factor analysis provide support for the conclusion that, during middle childhood, empathy can indeed be understood in terms of a four-factor model which is analogous to, but not the same as, the model described by Davis (1980). The second group of predictions, regarding the interrelationship of factors, were not supported by statistical analysis. Indeed, the pattern of factor interrelationships produced by this research is quite different from that found by Davis and may be understood to represent an ontogenetic precursor of mature trait empathy. By examining the similarities and differences between Davis' adult model and the one derived from this research, it is hoped that we may shed some light on both on the nature of children's empathy and on

its evolutionary course. The first step in doing so is to look at the content of the scales themselves and, in so doing, to highlight points of convergence and divergence.

One of the major differences between Davis' (1980) model and the current one is in the composition of their respective perspective-taking factors, the former of which reflects a greater sense of intentionality than the latter and is more clearly cognitive, as opposed to affective, in tone. In his work with adults, Davis found a cluster of items which clearly describe the tendency towards intentional and purposive perspective-taking (PT). The analogous factor (PT2) produced in this study is not so clear cut. While three of the four PT items that were retained in analysis did load on the PT2 factor, they clustered together with a number of items from other IRI scales. Of these, item 26 is fundamentally similar to the PT items in that it describes intentional perspective-taking and differs only in that it refers to a fictional character, a difference which may be an artifact of the extent to which young people reify the characters in books but which more likely reflects the purposive perspective-taking that children need to engage in order to breath life into those about whom they read or hear. Of the remaining four PT2 items, two refer to concern for others but, more strikingly, they all communicate elements of emotional sharing and compassion which are more affective than cognitive in tone. Collectively, PT2 appears to describe a combination of purposive perspective-taking directed at understanding the affect of another and unintentional affective role-taking which involves some degree of feeling for or with the other.

Factor F2, like Davis' (1980) F factor, describes the individual's tendency to transpose oneself into the role of fictional characters. Unlike Davis' F, it includes only items that refer to fictional characters presented in TV or movies rather than

in books. It is suggested that this distinction is an artifact of the type and extent of imaginal processing required in order to 'make real' the characters presented in books as opposed to on TV or in a movie. In reading or listening to a story, one is given minimal information and must actively imagine how characters look and sound, their facial expressions and body language, and the setting in which the action occurs. In contrast, watching TV or movies is a passive process. A great deal of information is given and, if one is prone to fantasy, it is possible to slide into the role of evocative characters with very little active investment on the part of the viewer.

Empathic concern (EC), as described by Davis (1980), reflects the tendency to respond to the experiences of others with other-oriented feelings of concern. EC2 differs from EC in that the former does not communicate the sense of compassion and affective sharing not seen in the latter. Rather, the cluster of items comprising EC2 appears to describe the tendency to become unpleasantly aroused by the distress of others, albeit without the element of self-oriented concern so apparent in the personal distress factor (PD2). Neither does EC2 have the quality of affective matching or sharing so evident in the perspective-taking PT2, thus implying greater affective distance and a more prominent sense of distinction between self and other.

As described by Davis (1980), the personal distress factor (PD) describes the tendency to respond to the negative affective experience of others with feelings such as fear, discomfort and anxiety. Of the eight items that comprise PD2, five are from the PD scale and clearly describe self-oriented concern in response to the distress of others. The face validity of the remaining three items is not as clear but they are nonetheless compatible with the defining theme of personal distress. Item 12 would seem to tap the tendency to become engulfed

in the experiences of others, perhaps reflecting the lack of boundaries between self and other that Hoffman (1977) suggests is a feature of personal distress. Two other items (2 and 8) may be understood to refer to guilty or anxious responses to the distress of others and, as such, may reflect the social-anxiety and self consciousness associated with the tendency to experience personal distress (Davis 1982; Davis & Franzoi, 1991).

In examining the interrelationship between factors we find that, in contrast to Davis' (1980) finding that perspective-taking (PT) has a weak negative relationship with personal distress (PD)

($r = -.16$ for males; $r = -.29$ for females), PT2 and PD2 are strongly and positively correlated ($r = .71$) in children. This relationship may be understood to be a function of the element of affective sharing so prominent in both factors. Noting that the two items which load on both PT2 and PD2 are perspective-taking items which have a positive relationship with the former and a negative relationship with the latter, one may conceive of these two factors as different forms of the same tendency towards affective matching which diverge qualitatively as a consequence of the influence of perspective taking. While this interpretation is congruent with Hoffman's (1977) proposal that increasingly mature perspective-taking skills transform the unitary experience of empathy into two somewhat distinct experiences, it would also suggest that PT2 is a precursor of adult empathic concern (EC) as well as a moderating variable in its development.

If PT2 is a precursor of EC, what is the precursor of PT and where does EC2 fit? Referring once again to our model (see Figure 1), we see that EC2 is negatively related to F2, a factor defined by the tendency to transpose oneself into the role of others, and that the two items that load negatively on EC2 (items 5 and 27) refer to "feeling the feelings" of others and becoming immobilized by

excitement in an emergency situation. Indeed, while EC2 describes arousal in response to the experience of others it lacks the element of affective matching or emotional contagion to the extent that this deficiency may be its defining feature. Put another way, EC2 is defined by the individual's tendency to maintain a strong self-other distinction in the face of vicariously arousing situations and, as such, it too is a logical precursor of EC. Although he did not explicitly differentiate between perspective-taking and making a distinction between self and other, and although he wrote about capacity rather than tendency, this too is congruent with Hoffman's (1977) model.

In light of the foregoing and in view of the findings that both PT2 and EC2 predict prosocial/altruistic behavior, the current model would suggest that both these factors may be ontogenetic precursors of adult empathic concern. The tendency to perspective-take and the tendency to maintain a strong self-other distinction in vicariously arousing situations may not be one and the same and over the course of development, both may serve to transform vicarious affect into mature empathic concern. At the same time, perspective-taking may increasingly come under conscious control so that it eventually emerges as a distinct, cognitively toned factor.

While the above described model provides a reasonable and theoretically grounded way to understand the available data, goodness of fit indices reveal a poorer fit for the various subgroups. This model must therefore be viewed as a work in progress, drawn in broad strokes which do not capture subtle age and gender related differences. It remains to be seen through future research to what extent inconsistencies of fit are due to psychometric issues as opposed to actual changes in the structure of empathy during the period of middle childhood.

Notwithstanding the above, the current model does parallel Davis' (1980) model in important ways and, as will be seen in the discussion of hypotheses 4 to 6, the relationship between component factors and behavior is generally consistent with predictions based on that model. Although the evidence is far from conclusive, I believe that, at this point, there is sufficient justification to put aside the cautious habit of referring to component factors by their provisional labels and (except in reference to A-IRI subscale scores) to begin referring to them as empathic-concern, perspective-taking, fantasy, and personal distress.

The Development of Dispositional Empathy

Hypothesis 2 focused on developmental changes in the nature of empathy by postulating that, as children mature, the tendencies towards empathic concern and perspective-taking would increase. Data analysis confirmed the presence of age-related increments in the tendency to experience empathic concern but, contrary to expectations, indicated that the tendency towards self-reported perspective-taking decreases with age from the second to sixth grades.

The Tendency To Experience Empathic Concern

Hoffman (1977, 1981) argued that sympathetic distress, defined as feelings of compassion and concern, emerge as a function of the child's developing

perspective-taking skill and sense of the distinction between self and other.

Based on this, it was hypothesized that self-reported empathic concern, a parallel concept named by Coke et al., (1978) and operationalized as scores on a subscale of the A-IRI, would increase as a function of age between the second and sixth grades.

Data analysis confirmed this prediction. The empathic concern scores of sixth grade subjects were significantly higher than those of subjects in the second and fourth grades. The difference in empathic concern scores between the latter two groups was also in the direction predicted by the hypothesis but did not meet the criteria for statistical significance. This trend is similar to the findings of Bryant (1982) who reported that seventh graders responded more empathically than fourth graders but that there was no significant difference between first and fourth graders, as well as those of Strayer (1983) and Kalliopuska (1980, cited in Eisenberg & Lennon, 1987) who reported increments in self-reported empathy between the ages of nine and eleven but not between ages six and eight.

Considering Hoffman's (1977, 1981) ideas regarding the transformative effect that evolving perspective-taking skills have on vicarious emotional response, and noting that perspective-taking ability has been significantly and consistently related to increasing chronological age regardless of the method of measurement (Shantz, 1983), the above described findings may be largely explained by developmental increments in perspective-taking skill. Taking into consideration that the defining feature of EC2 appears to be the tendency to maintain a firm self-other distinction in the face of vicariously arousing experience, it is more specifically suggested that the increase in empathic concern between grades four and six is related to shifts in that aspect of perspective-taking which

enhances children's capacity to regulate their own affective experience through the use of cognitive strategies.

This suggestion is supported by the work of Selman (1980) who concluded that, between the ages of 10 and 15, there is a "shift in viewing the self from passive observer (a keeper of secrets, a hider of ideas, a forgetter of unpleasant feelings) to an active psychological manipulator of inner life..." (p. 104). Moreover, research regarding children's knowledge and use of self-regulatory strategies has provided evidence that although children as young as age six can, to some extent, use mentalistic strategies to intensify or reduce their own affective response, they are rarely able to articulate these strategies and, unless cued to do otherwise, are prone to focus on action-oriented means of emotional self-management such as altering or leaving the situation (Meerum Terwogt, Schene, & Harris, 1986). In contrast, children aged ten and beyond have greater confidence in their ability to alter negative feelings, have a broader range of options, and cite mentalistic strategies as often as youngsters in their mid-teens (Harris & Lipian, 1989; Harris, Olthof, & Meerum Terwoft, 1981; Meerum, Terwogt & Olthof, 1989).

Summarizing their own work and that of others, Meerum Terwogt and Olthof (1989) concluded that, while young children are quite similar to adults with regard to the strategies they use, the development of greater metacognitive awareness and a broader understanding the appropriate application of emotional regulatory strategies, results in greater conscious control as well as more flexible and adaptive deployment of these strategies. While the research cited typically involves the use of fictional or hypothetical stimulus situations, it is likely that the development of strategies for the self-regulation of affect in real-life situations follows a parallel though perhaps not temporally matched course. The observed

increment in empathic concern scores between the fourth and sixth grades may therefore be causally related to the tendency for older children to make more and increasingly flexible use of such strategies in order to maintain firm boundaries between the self and other, and to thereby moderate their response to vicariously arousing situations.

The Tendency To Engage In Perspective-Taking

There is considerable evidence that both children's capacity to perspective-take and their propensity towards perspective-taking increases with age (e.g. Flavell, Botkin, Fry, Wright, & Jarvis, 1968; Selman, 1980) during middle childhood. Furthermore, the finding that self-report measures are capable of tapping this increasing propensity during the period of middle adolescence (Davis & Franzoi, 1991) suggests that such measures might be similarly revealing when administered to younger subjects. Therefore, the finding that second grade subjects had higher perspective-taking scores than sixth grade subjects is both confusing and counter-intuitive.

A possible explanation for this apparent conundrum is brought to mind by the results of regression analyses (conducted in order to test Hypothesis 4) which revealed age-related decreases in the tendency to report prosocial intent which stood in contrast to age-related increases in actual altruistic behavior and most categories of teacher-reported prosocial behavior. This pattern suggested that younger children are more likely than older children to exaggerate their prosocial intentions in an unrealistically positive direction, a suggestion which received

some support from the subsequent finding that scores on the Social Desirability Questionnaire accounted for small but significant portions of the variance of both hypothetical measures but not of measures of actual or teacher-reported behavior. This, in turn, raised the possibility that the unexpected age trend found for perspective-taking scores might also be related to the effects of social desirability, particularly since a number of the items included in this subscale are value laden in a way that even the youngest subjects might be expected to understand. To explore this possibility further, regression analyses were conducted with social desirability scores as the predictor variable and subscale scores as the dependent variables. Results of these analyses reveal that social desirability does indeed contribute to the variance in perspective-taking scores. In contrast, effects on fantasy and personal distress scores are nonsignificant and effects on empathic concern scores are significant but both weak and negative in direction.

Although the amount of variance in perspective-taking scores accounted for by social desirability is small, the difference between the perspective-taking scores of second and sixth graders is similarly lacking in magnitude and the possibility that social desirability accounts for this difference cannot be dismissed. Neither, however, can it be confirmed. Rather, circumstantial evidence in the form of similar age-related trends and the finding that perspective-taking scores are affected by social desirability, suggest that age-trends in the tendency towards perspective-taking may have been obscured by the confounding effects of social desirability.

The Tendency To Experience Personal Distress

Hypothesis 3 predicted that older children would report less personal distress than would younger subjects. This hypothesis was disconfirmed when results of MANOVA failed to reveal age-related changes in self-reported personal distress. These findings suggest that, while empathic concern becomes a more prominent response during middle childhood there is no accompanying decrease in the tendency to experience personal distress, but rather that these two types of response continue to coexist. That is, empathic concern is added to the youngster's repertoire without diminishing the presence of personal distress.

These findings are not unreconcilable with Hoffman's theoretical formulations nor are they incompatible with the literature regarding situational empathy in adults. Indeed, in discussing the qualitative transformation of empathy, Hoffman (1977; 1981) did not specify quantitative change but observed that children: "...continue to respond in a purely empathic, quasi-egoistic manner - to feel uncomfortable and highly distressed themselves - but they also experience a feeling of compassion or what I call sympathetic distress..." (p.185).

With respect to the literature on situational empathy in adulthood, there is evidence that, although vicarious affect can be characterized as being predominantly composed of either empathic concern or personal distress (e.g. Coke et al., 1978; Fultz et al., 1986; Toi & Batson, 1982), these two states are consistently and positively related to each other (Batson et al., 1987a).

In consideration of the foregoing, it might be justifiable to conclude that age-trends were not found because developmental change in empathy manifests itself primarily through changes in empathic concern. There is, however, some recent evidence to suggest that this is not the case. In contrast to the findings

produced in this study, Davis and Franzoi (1991) reported significant decreases in the self-reported personal distress of adolescents studied longitudinally over a three year period.

As only two studies, this one and that of Davis and Franzoi (1991), have addressed the issue of developmental change directly, any attempt to draw firm conclusions at this time would be premature. It is, however, worth considering the possibility that a developmental shift in the tendency to experience personal distress does not occur until early to middle adolescence, perhaps as a consequence of the process of individuation or of youngsters' increasing sense of their own ability to deal competently with distressing situations and a resulting reduction in the anxiety provoked by such situations. Firmer conclusions would seem to await further research, especially findings of a longitudinal study spanning the transition from childhood to adolescence.

Summary Comments

Overall, these findings have important implications for understanding the development of empathy. The results support Moore's (1987) contention that, so long as we look for increases in affective matching rather than for more subtle cognitively governed change, we should not expect to see a positive relationship between age and empathy beyond the early elementary school years. Indeed, it appears that increments in the tendency to respond empathically are due primarily to changes in empathic concern. Unidimensional measures may be insufficiently sensitive to detect changes in this single factor and measures that focus on affective matching may fail to recognize it at all.

The Relationship of Dispositional Empathy to Prosocial Behavior

The Relationship of Overall Empathy to Prosocial Behavior

The first set of predictions put forth in Hypothesis 4 postulated that overall dispositional empathy, as measured by total A-IRI scores, would predict prosocial behavior to an extent that would account for .36 of the variance. While this prediction was not confirmed, the A-IRI scores did account for marginally significant proportions of the variance in teacher ratings of comforting and sharing and for significant but quite small proportions of the variance in monetary donations and scores on the Altruism Questionnaire, both before and after the variance due to grade and gender was removed from the equation.

The overall A-IRI score may be understood to be a measure of the global tendency to experience vicarious affect in response to the situation of others. It does not, however, discriminate between qualitatively different types of response and, because of the uneven number of items in the various subscales, reflects perspective-taking and personal distress to a greater extent than it does empathic concern and the tendency towards fantasy. Given that research with adults has indicated that dispositional empathic concern is the best predictor of altruistic behavior and that personal distress is not predictive of such behavior (e.g. Davis 1983a; Davis 1983b; Fultz, Batson et al., 1986; Eisenberg, Miller et al., 1989), it is not surprising that effects were so weak. As noted by Eisenberg (1983) and Eisenberg, Miller et al., (1989), the relationship between trait empathy and altruistic behavior in adults is weaker than the relationship between state empathy and behavior, likely because the former relationship is an indirect one, moderated and mediated by situational variables which vary as function of context. Hence, the presence of even small effects would seem to support the robustness of the

relationship between trait empathy and behavior as well as to the construct validity of the A-IRI.

Of considerable importance is the relationship between overall A-IRI scores and monetary donations. Monetary donations provided a measure of behavior whose cost for the giver was directly proportional to the benefit for the recipients and which took place in a context that offered little opportunity for either recrimination or external reinforcement. Moreover, since there was an interval of several hours between viewing the film and the collection of donations, since subjects were given ample opportunity to justify keeping all the money, and since they had no chance of witnessing the positive consequences of their acts, it is unlikely that donors were motivated by sadness or by the prospect of either empathy-specific rewards or self-sanctions. In the absence of other plausible avenues of reward, monetary donations may be a true measure of altruism and may serve as a marker for the criterion validity of the other dependent variables.

The Relationship of Component Traits of Empathy to Prosocial Behavior

Previous research with adults (e.g. Coke et al., 1978; Batson et al., 1981) has provided strong evidence that situational empathic concern predicts altruistic behavior to a greater extent than situational personal distress. Similarly, the work of Davis (1983a, 1983b) indicates that of the four component factors of dispositional empathy, empathic concern is the best predictor of prosocial action among adults. Hence, the second set of predictions made in Hypothesis 4 addressed the relative contributions of the four component factors of dispositional

empathy, postulating that empathic concern, as assessed by the EC2 scale of the A-IRI, would be the best predictor of children's prosocial/altruistic behavior and intent. This hypothesis was largely supported by the results of regression analyses. Empathic concern was found to account for the greatest part of the variance of five of eight dependent measures and for a secondary but still significant amount of the variance of two additional measures, even after the variance due to age and gender were removed. Perspective-taking was found to be the best predictor of two of eight dependent measures and to account for a smaller but still significant proportion of the variance of a third. For purposes of clarity, the following section will be organized according to the general category of the dependent measures under discussion.

Measures of Altruistic Intent

The two measures of altruistic intent, the Altruism Questionnaire and the amount of time volunteered to assist with fund raising, were found to be very modestly correlated with each other and unrelated to the other, more behaviorally grounded, dependent variables. Results of regression analyses looking at the effects of social desirability suggest that this modest correlation is related to children's tendency to bias their responses in an unrealistically positive manner when asked how they would respond in hypothetical situations. This common thread of social desirability also provides a plausible explanation for the finding that, unlike the other dependent measures in this study and in contrast to the well documented trend for prosocial behavior to increase with age (Underwood & Moore, 1982), scores on both the Altruism Questionnaire and amount of time volunteered were found to be inversely related to grade. Indeed, it would be

unsurprising for younger and less socially experienced children to have difficulty predicting their own behavior and therefore to base their responses on learned moral dicta. Interestingly, there are parallels between these findings and Strayer and Shroeder's (1989) report that, when situational empathy was present, willingness to help increased with age but that the reverse was true when situational empathy was not aroused. Most importantly, the lack of correlation between measures of prosocial intent and other dependent variables such as teachers' ratings of prosocial tendency and monetary donations indicates that responses to hypothetical questions lack criterion validity and are not a good predictor of behavior.

If the Altruism Questionnaire is not an index of prosocial/altruistic behavior, what does it measure? To some extent, it assesses the tendency towards positive self-presentational bias and this influence may well account for a portion of its relationship to perspective-taking scores which also, to some extent, measure this same tendency. It is, however, unlikely that social desirability contributes all the variance predicted by perspective-taking scores nor can it explain the variance accounted by empathic concern, with which it has a small but significant relationship.

Perhaps the Altruism Questionnaire should best be conceptualized as an indicator of moral reasoning. Recalling that the highest scoring response options on the Altruism Questionnaire are those which describe high-cost, empathically justified helping and that the lowest scoring responses generally offer utilitarian or hedonistic reasons for declining assistance, it may be that this questionnaire assesses the tendency towards empathically oriented moral reasoning, the use of empathic explanations to justify the rightness or wrongness of an act. Such an interpretation is congruent with the findings of Eisenberg, Shell, et al., (1987) who

reported that scores on the Bryant (1982) empathy scale were positively related to reasoning which demonstrated a concern for others and negatively related to hedonistic reasoning and that this relationship did not increase with age.

Contradicting this interpretation is Eisenberg, Shell, et al.'s finding that reasoning was modestly related to helping, a result which was not replicated in this study.

Echoing the results of analyses conducted with overall A-IRI scores, the amount of time volunteered to assist with fund raising was unrelated to any of the predictor variables except for grade and social desirability, a finding which would seem to speak more to the lack of soundness of the dependent measure than to the relationship between empathy and altruism. The difficulties associated with time volunteered as a measure of prosocial/altruistic inclination likely derive from one or more of three sources, its hypothetical nature, its positioning in the study following the giving of monetary donations, and/or the way in which it was scored. Having made their donations, participants may have felt that they had discharged their moral obligations to the needy or may have begun to feel some reactivity towards the requests of the experimenter. Alternatively, it may be that gradients of helping were insufficiently sensitive and that dichotomous scoring, comparing those who volunteered with those who did not, would have revealed a more substantial relationship than comparisons based on the amount of time volunteered.

Teacher-Reported Prosocial Behavior

The finding that all four categories of teacher-reported behavior as well as the composite measure were strongly intercorrelated is unsurprising and may be, at least partially attributed to a halo effect. More importantly, with respect to the criterion validity of these measures, none were significantly related to social

desirability and four out of five were significantly and positively related to monetary donations, with the fifth relationship achieving marginal significance. From this we may conclude that teacher ratings of behavior are a valid way of assessing the tendency towards prosocial behavior.

In support of Hypothesis 4, empathic concern was the best predictor of all categories of teacher-reported prosocial behavior as well as a composite of teacher ratings, even after the variance accounted for by grade and gender was removed. No significant effects were found for either fantasy scores or personal distress scores whereas perspective-taking scores accounted for a secondary proportion of the variance in teacher ratings of comforting.

The consistency of these results provides compelling evidence that the tendency to experience empathic concern contributes to a broad spectrum of prosocial behaviors. In contrast, the tendency to experience personal distress is unrelated to these behaviors.

A singular exception to the above described pattern is the finding that perspective-taking accounted for an amount of the variance in comforting behavior almost equivalent to that accounted for by empathic concern. Unlike cooperation, sharing or helping, comforting behavior is rarely elicited by direct requests and perhaps is therefore more dependent on the tendency towards perspective-taking. Alternatively, the element of affective matching that is a part of the perspective-taking factor may be more involved in non-instrumental responses such as comforting than it is in instrumental acts of assistance such as sharing.

Altruistic Behavior

Although initial regression analyses indicated perspective-taking scores were a better predictor of monetary donations than were empathic concern scores, even after grade and gender effects were removed, this pattern was reversed after accounting for the effects of specific exhortations to perspective-take. While this finding supports the hypothesis that empathic concern would be the best dispositional predictor of altruistic behavior, it must be noted that the difference in the variance accounted for by these two factors was less than .001. Their influence should therefore be considered functionally equivalent.

The question remains as to whether this equivalence is a function of the particular stimuli used in this study or whether the same effects would have been apparent even had the stimulus situation placed less demand on perspective-taking. For instance, would they have been present if the potential recipients of aid had been more similar to the subjects? While the answer to this question awaits further study, the pattern of results found for teacher-ratings of behavior suggests that the influence of this component of empathy varies as a function of the situational need for purposive perspective-taking. The rather large decrease in the amount of variance accounted for by perspective-taking after treatment effects had been removed would further support this argument as would Davis' (1983a) report that PT effects were salient only in interaction with instructional set. In contrast, the finding that empathic concern was related to both monetary donations and teacher-reported behavior even in the absence of specific instructions suggests that the tendency towards empathic concern is minimally affected by demand characteristics of this type and has quite direct effects on behavior.

The Effects of Gender

One of the persistent issues in the study of the relationship between empathy and altruism/prosocial behavior in children has been that of gender. Although females consistently score higher on indices of empathy (Hoffman 1977b; Eisenberg & Lennon, 1987; Feshbach, 1982), a notable proportion of studies have failed to find a relationship between trait empathy and behavior for girls even when such a relationship was apparent for boys (e.g. Barnett et al., 1979; Bryant, 1982; Eisenberg & Mussen, 1978; Feshbach & Feshbach, 1969; Larrieu & Mussen, 1986). Explanations for this phenomenon have centered around the issue of differential socialization and several possibilities have been raised. One of these possibilities is that girls' empathy scores are elevated and confounded by a greater willingness to report affective responsiveness, a willingness which may be associated with the tendency to bias self-reports in keeping with gender stereotypic ideas of females as being nurturant and compassionate. Alternatively, it has been suggested that girls' greater empathy and/or their greater tendency to behave prosocially has led to ceiling effects. The results of this study indicate that, gender differences in prosocial behavior aside, the higher empathy scores of girls do predict prosocial/altruistic behavior. Although confirmation awaits replication by future research, it may be that multidimensional approaches to measurement avoid or minimize the confounding effects of possible gender-related differences in response tendencies.

Summary Comments

The foregoing research findings have meaningful implications for understanding the existing body of literature and for informing future research in this area. Although the effects were small, analyses consistently indicated that dispositional empathic concern and, to a lesser extent, the tendency to engage in perspective-taking, predict helping behavior in childhood, whereas the tendency to experience personal distress does not. Given the extent to which the empathic concern factor is marked by self-other differentiation, these findings refute the notion that helping is only altruistic when the needs of the helper are undifferentiated from those to whom aid is offered (Piliavin et al., 1982). Persuasive support is provided for the idea that previous failures to find a consistent empathy-behavior relationship in middle childhood were due to psychometric difficulties arising from the use of unidimensional measures, particularly those which rely on affective matching, and which are therefore likely to confound other-centered forms of empathic responses with the more egocentric tendency to become engulfed by one's own response to the experience of others.

The empathy-behavior relationships that emerged are generally consistent with predictions based on the work of Davis (1983a; 1983b) and Hoffman (1977; 1981). Support is thereby provided for the construct validity of the A-IRI and the four-factor model on which it was based as well as for elements of Hoffman's (1977; 1981) theory pertaining to the qualitative and motivational differentiation of empathy.

The Effect of Instructional Set

Hypotheses 5 and 6 addressed the effects of instructional set and their interaction with disposition. It was predicted that subjects who had been exposed to an exhortation designed to elicit perspective-taking would demonstrate greater altruistic behavior, as measured by money donated and time volunteered, than would subjects who were asked to only observe the film. Moreover, it was predicted that the effects of perspective-taking instructions would be enhanced by the dispositional tendency to perspective-take.

Although effects were in the predicted direction and, in the case of monetary donations, approached the accepted criteria for significance, the results of analyses did not support Hypothesis 5 and indicated that instructional set alone did not have a significant influence on helping behavior.

In contrast, analyses conducted to test Hypothesis 6 revealed that the interaction between instructional set and dispositional perspective-taking accounted for a significant amount of the variance in monetary donations. This finding adds further weight to the evidence that the effects of the tendency towards perspective-taking are subject to the influence of situational demands and suggests that the heightened responsiveness to demand characteristics of those high in dispositional empathy may be due primarily to this component factor. With respect to implications for the model, these findings support the construct validity of the perspective-taking scale.

As in previous analyses, no significant effects other than social desirability were revealed for the amount of time volunteered. Once again, this finding is attributed to poor criterion validity, underscoring the importance of using multiple measures in the assessment of behavior.

Limitations of This Research

As psychometric difficulties have been a pervasive stumbling block in previous research, so do they present themselves as the major limitation of this study. To some extent, psychometric concerns were to be expected as the focus of this research was not on creating a new measure, but rather on adapting an old measure for a new population in order to look at trait empathy in middle childhood through a multi-dimensional lense. This effort appears to have been largely successful but findings must nonetheless be viewed with caution engendered by the less than ideal internal and test-retest reliabilities of the A-IRI as well as by the inconsistencies of fit between the factorial model on which it was based and the data from population subgroups.

Although the size of behavioral effects were generally small, they were sufficiently consistent across dependent measures to support the overall model, indicating that the relationships under investigation are nevertheless robust. Indeed, the use of multiple dependent measures provides a form of internal replication with respect to empathy-behavior relationships. Analyses with respect to structural and developmental hypotheses did not, however, have the component of internal replication that allows us to point to consistency rather than effect size for support. Caution is thus especially important with respect to these hypotheses and both structural and developmental conclusions must be viewed as tentative. Their value may ultimately prove to be primarily heuristic.

A second, albeit less important limitation, involves the subject population, all of whom were drawn from schools with an explicitly religious orientation. While there is no reason to believe that these children are fundamentally different from those whose education has a more secular flavor, it is possible that the focus on

moral education may have primed them to be more responsive to requests for monetary donations or to respond to the Altruism Questionnaire in accordance with formally taught principles.

Another limitation of this study is related to its timing. Data was collected during the war in the Persian Gulf, and it is possible that media attention to the plight of victims as well as the climate of public concern may have enhanced the tendency for subjects to respond in a helpful way to those less fortunate than themselves. With respect to the subjects drawn from the Jewish school which participated, the timing may have had the reverse effect. During visits to the school it was apparent that both students and teachers were intensely concerned with events occurring in the middle east. In response to this concern, at least one child decided to donate his honorarium to Israel rather than to Foster Parent' Plan and there may have been others who made the same choice.

Implications of The Model

Notwithstanding the foregoing limitations and the caution they must engender, the current model of dispositional empathy has a number of broad implications.

One intriguing if serendipitous finding was that A-IRI items pertaining to taking the role of literary characters loaded on the perspective-taking factor whereas items pertaining to taking the role of characters portrayed in movies or on television loaded on the fantasy factor. In our society, where children between the ages of 3 and 11 watch an average of three to four hours of television a day (Shaffer, 1989), the effects of television on the personal and intellectual

development of children is an area of concern. The results of this research raise the question of whether long hours in front of the television interfere with the development of a propensity towards perspective-taking by substituting passive viewing for activities such as reading or imaginative play. Beyond the content of programming, be it violent or educational, does the type of processing required by television viewing have subtle effects on the development of empathy and related behavior patterns? Should further research confirm the pattern of item loadings produced in this study, this question might merit further thought and investigation.

Perhaps most importantly, a multidimensional view of empathy with a focus on the different motivational qualities of empathic concern and personal distress would seem to have implications for clinical practice as well as for the way in which we conceptualize some of the antecedents of empathy. Rather than conceiving of individuals as being either empathic or unempathic, we may consider the possibility that they are maladaptively empathic. That is, they respond to the experience of others with an affective response which is congruent with the experience of the other but takes the form of personal distress rather than empathic concern and therefore stimulates behavior which is not helpful and which, in fact, may be counter-productive or even destructive.

Some support for this idea may be found in the literature on parent-child attachment and its relationship to empathy and prosocial behavior. In summarizing their own research and that of others, Kestenbaum, Farber, and Sroufe (1989) note that securely attached toddlers and young children tend to respond empathically to others whereas those who show avoidant or anxious-resistant patterns of attachment may appear unempathic or, though aroused, may respond inappropriately by attacking, displaying anxiety, or engaging in

behaviors which suggest that they are blurring the boundaries between their own distress and that of the other. In the context of the current model, one might postulate that the type of parental responsiveness that is presumably a part of a secure relationship is likely to foster a tolerance for negative affect and a sense of competence with respect to the management of distress. In contrast, repeated rejection or erratic response in times of emotional need would engender anxious and fearful responses to negative affect, responses associated with the tendency towards personal distress. Related to this, is the work of Main and George (1985) who, based on their research with abused toddlers, concluded that a specific vulnerability to experience fear and anger at the distress of others can develop early in life. Taking this idea further, there are members of the clinical population who are generally considered to be unempathic but who may, perhaps more fruitfully, be conceptualized as maladaptively empathic. If this is the case, then approaches to intervening with such individuals might involve addressing attachment issues, helping families to alter enmeshed patterns of interpersonal relationships, and/or working to transform the experience of personal distress to empathic concern through the use of cognitive mediational strategies with a focus on the boundaries between self and other.

With respect to the antecedents of empathy, the current model has the potential to broaden the way in which we examine approaches to child rearing and socialization and their relationship to empathy and prosocial behavior. The existing body of literature (e.g. Hoffman, 1963; Hoffman & Saltzstein, 1967; Hoffman, 1974) provides strong evidence that other-oriented and inductive disciplinary practices, as opposed to practices that stress power-assertion or love-withdrawal, foster a prosocial orientation, particularly when the former are carried out within the context of a nurturant relationship. It would seem that

disciplinary practices which focus the wrong-doer's attention on possible aversive consequences to the self would be conducive to the development of personal distress whereas inductive approaches which focus attention on the other and model a cognitively mediated form of empathy would be conducive to the development of empathic concern. Similarly, an emphasis on reparative discipline, helping the youngster to find ways to ameliorate or make reparations for the harm he/she has done, may foster a sense of control and reduce the implicit threat associated with the distress of others. Working within the framework of this model, there are a number of implications, not only for preventative care and education but also for working with troubled youngsters, particularly those whose acting-out behaviors have brought them into residential care.

Summary Comments and Directions Future Research

The intent of this research was threefold: to determine whether the structural model developed by Davis (1980) could be fruitfully applied to understanding dispositional empathy in childhood; to examine developmental hypotheses derived from the work of Hoffman (1977; 1981), and; in order to accomplish the first two goals, to adapt multidimensional measurement techniques developed for adults for use with elementary school age children.

With regard to the first goal outlined above, this research has provided strong evidence that dispositional empathy in middle childhood is comprised of four factors which are similar to those described by Davis (1980) both qualitatively and in terms of their relationship to prosocial or altruistic behavior.

These findings, taken together with those of Davis and Franzoi (1991), Litvack-Miller and McDougall (1991) and others who have focused more exclusively on adult populations, argue for developmental continuity but provide only speculative fodder for understanding developmental change. Notwithstanding the promising face, factorial, and even predictive validity of this model for the overall population studied, the results of separate confirmatory factor analyses reveal a relatively poor fit for the various population subgroups. While this may, to some extent, be a consequence of the relatively small size of the subgroups, results do suggest that the model is insensitive to potentially important age and gender related differences. Greater understanding of these differences and of the developmental course along which they evolve awaits longitudinal investigations as well as replication studies involving a sufficient number of youngsters to allow for separate analyses at different age levels.

Research findings with respect to the relationship between empathy and behavior confirm that dispositional empathic concern does predict altruistic action whereas dispositional personal distress does not, and suggest that the effects of dispositional perspective-taking are subject to the influence of situational demands. These findings add compelling support to the argument that previous failures to find consistent age-related trends or relationships between children's dispositional empathy and behavior have been largely due to the use of unidimensional measurement techniques. The findings are particularly germane to understanding research with picture/story indices of empathy which, by focusing on veridicality and intensity of response, have likely tapped primarily the tendency to experience personal distress, to the relative exclusion of empathic concern.

Regarding future directions, it would seem that replication studies which make use of a range of dependent measures, which vary both implicit and explicit demands for perspective-taking, and which contrast empathy-behavior relationships for different age-groups, would enhance our understanding of the nature and development of empathy and would contribute importantly to the bridging of theory and application.

Support has also been provided for those elements of Hoffman's (1977; 1981) model that pertain to the qualitative and motivational differentiation of empathy and to age-related increases in empathic-concern which are temporally congruent with shifts in perspective-taking capacity. Questions regarding the developmental course of dispositional perspective-taking and personal distress are unresolved. This study revealed little or no change in these two dimensions whereas Davis and Franzoi's (1991) work with adolescents indicated a steady developmental progression in which personal-distress declines and the tendency to perspective-take becomes more prominent with age. A better understanding of the developmental course of these elements of dispositional empathy would seem to await the findings of longitudinal research and/or of cross-sectional research spanning the transition from childhood to adolescence.

With respect to the multidimensional measurement of dispositional empathy, the A-IRI may be characterized as a step in the right direction. Its performance in this study argues for its basic soundness whereas the small size of effects found, and its relatively low reliability attest to the need for improvement. The further development of the A-IRI would seem to be an integral part of further factor analytic research and would be a valuable tool in the continuing exploration of both developmental trends and empathy-behavior relationships.

Finally, it seems that the greatest challenge of all will be to bridge theory and practice. In an increasingly complex, conflicted, and divided world, a greater understanding of how we may foster prosocial development would seem to be a priority.

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APPENDIX A
ADAPTED - INTERPERSONAL REACTIVITY INDEX

Grade: 2 4 6

Age: 6 7 8 9 10 11 12

Boy

-160-
Girl

Last 4 numbers of your phone number: _____

(Example: If your phone number is 281-7273, write 7273)

DIRECTIONS: Please mark each sentence in the following way:

If the sentence describes how you would feel or act EXACTLY, put a circle around the words "EXACTLY LIKE ME"

If the sentence describes how you would feel or act A LOT, put a circle around the words "A LOT LIKE ME"

If the sentence describes how you would feel or act MORE THAN IT DOES NOT, put a circle around the words "MORE LIKE ME"

If the sentence describes how you would feel or act A LITTLE, put a circle around the words "A LITTLE LIKE ME"

If the sentence describes how you would feel or act NOT AT ALL, put a circle around the words "NOT AT ALL LIKE ME"

- 1) I imagine or pretend about things that might happen to me.

NOT AT ALL
LIKE ME

A LITTLE
LIKE ME

MORE
LIKE ME

A LOT
LIKE ME

EXACTLY
LIKE ME

.....

.....

.....

.....

- 2) I feel sorry for other kids whose lives are not as good as mine.

NOT AT ALL
LIKE ME

A LITTLE
LIKE ME

MORE
LIKE ME

A LOT
LIKE ME

EXACTLY
LIKE ME

.....

.....

.....

.....

- 3) I find it hard to understand what my friends are thinking or feeling.

NOT AT ALL
LIKE ME

A LITTLE
LIKE ME

MORE
LIKE ME

A LOT
LIKE ME

EXACTLY
LIKE ME

.....

.....

.....

.....

- 4) I don't feel very sorry for other people when they are having problems or feeling bad about something.

NOT AT ALL
LIKE ME

A LITTLE
LIKE ME

MORE
LIKE ME

A LOT
LIKE ME

EXACTLY
LIKE ME

.....

.....

.....

.....

- 5) It seems like I feel the feelings of the people in stories I read or hear.

NOT AT ALL	A LITTLE	MORE	A LOT	EXACTLY
LIKE ME	LIKE ME	LIKE ME	LIKE ME	LIKE ME
.....

- 6) When someone is hurt or in bad trouble, I feel afraid and uncomfortable.

NOT AT ALL	A LITTLE	MORE	A LOT	EXACTLY
LIKE ME	LIKE ME	LIKE ME	LIKE ME	LIKE ME
.....

- 7) When I watch a movie or a TV show, I don't imagine that I'm in it.

NOT AT ALL	A LITTLE	MORE	A LOT	EXACTLY
LIKE ME	LIKE ME	LIKE ME	LIKE ME	LIKE ME
.....

- 8) When my friends are having a disagreement or an argument, I try to listen to everybody before I decide who is right.

NOT AT ALL	A LITTLE	MORE	A LOT	EXACTLY
LIKE ME	LIKE ME	LIKE ME	LIKE ME	LIKE ME
.....

- 9) When I see another kid being picked on or teased, I feel like I want to help them.

NOT AT ALL	A LITTLE	MORE	A LOT	EXACTLY
LIKE ME	LIKE ME	LIKE ME	LIKE ME	LIKE ME
.....

- 10) I feel bad and like I cannot help when my friends or people in my family are very upset.

NOT AT ALL	A LITTLE	MORE	A LOT	EXACTLY
LIKE ME	LIKE ME	LIKE ME	LIKE ME	LIKE ME
.....

- 11) I try to understand my friends better by imaging what things are like for them.

NOT AT ALL	A LITTLE	MORE	A LOT	EXACTLY
LIKE ME	LIKE ME	LIKE ME	LIKE ME	LIKE ME
.....

- 12) When I read a book or watch a movie, I get so interested in it that I don't notice anything else.

NOT AT ALL	A LITTLE	MORE	A LOT	EXACTLY
LIKE ME	LIKE ME	LIKE ME	LIKE ME	LIKE ME
.....

- 13) When I see someone get hurt, I stay calm.
- | | | | | |
|-----------------------|---------------------|-----------------|------------------|--------------------|
| NOT AT ALL
LIKE ME | A LITTLE
LIKE ME | MORE
LIKE ME | A LOT
LIKE ME | EXACTLY
LIKE ME |
| | | | | |
- 14) When my friends or people in my family have problems, it does not bother me a lot.
- | | | | | |
|-----------------------|---------------------|-----------------|------------------|--------------------|
| NOT AT ALL
LIKE ME | A LITTLE
LIKE ME | MORE
LIKE ME | A LOT
LIKE ME | EXACTLY
LIKE ME |
| | | | | |
- 15) When I get into an argument, I am sure that I am right and don't pay very much attention to what the other person has to say.
- | | | | | |
|-----------------------|---------------------|-----------------|------------------|--------------------|
| NOT AT ALL
LIKE ME | A LITTLE
LIKE ME | MORE
LIKE ME | A LOT
LIKE ME | EXACTLY
LIKE ME |
| | | | | |
- 16) After seeing a TV show or watching a movie, I feel like I am one of the people in the story.
- | | | | | |
|-----------------------|---------------------|-----------------|------------------|--------------------|
| NOT AT ALL
LIKE ME | A LITTLE
LIKE ME | MORE
LIKE ME | A LOT
LIKE ME | EXACTLY
LIKE ME |
| | | | | |
- 17) When other people are feeling very bad or are very upset, I feel scared.
- | | | | | |
|-----------------------|---------------------|-----------------|------------------|--------------------|
| NOT AT ALL
LIKE ME | A LITTLE
LIKE ME | MORE
LIKE ME | A LOT
LIKE ME | EXACTLY
LIKE ME |
| | | | | |
- 18) When I see other kids being treated unfairly or getting picked on, I don't feel very sorry for them.
- | | | | | |
|-----------------------|---------------------|-----------------|------------------|--------------------|
| NOT AT ALL
LIKE ME | A LITTLE
LIKE ME | MORE
LIKE ME | A LOT
LIKE ME | EXACTLY
LIKE ME |
| | | | | |
- 19) I usually do the right thing when there is an emergency, like when someone else is hurt and needs help.
- | | | | | |
|-----------------------|---------------------|-----------------|------------------|--------------------|
| NOT AT ALL
LIKE ME | A LITTLE
LIKE ME | MORE
LIKE ME | A LOT
LIKE ME | EXACTLY
LIKE ME |
| | | | | |
- 20) Things that I see happen make me feel sad or happy.
- | | | | | |
|-----------------------|---------------------|-----------------|------------------|--------------------|
| NOT AT ALL
LIKE ME | A LITTLE
LIKE ME | MORE
LIKE ME | A LOT
LIKE ME | EXACTLY
LIKE ME |
| | | | | |

- 21) I think that when people disagree, it is important to listen to both of them because they could both be right.

NOT AT ALL LIKE ME	A LITTLE LIKE ME	MORE LIKE ME	A LOT LIKE ME	EXACTLY LIKE ME
.....

- 22) It is easy for me to feel sorry for other people.

NOT AT ALL LIKE ME	A LITTLE LIKE ME	MORE LIKE ME	A LOT LIKE ME	EXACTLY LIKE ME
.....

- 23) When I watch a good movie or video, it is easy for me to pretend that I am one of the people in the show.

NOT AT ALL LIKE ME	A LITTLE LIKE ME	MORE LIKE ME	A LOT LIKE ME	EXACTLY LIKE ME
.....

- 24) When there is an emergency, like when someone is badly hurt, I get very excited.

NOT AT ALL LIKE ME	A LITTLE LIKE ME	MORE LIKE ME	A LOT LIKE ME	EXACTLY LIKE ME
.....

- 25) When I'm mad at someone, I try to imagine how they feel for a while.

NOT AT ALL LIKE ME	A LITTLE LIKE ME	MORE LIKE ME	A LOT LIKE ME	EXACTLY LIKE ME
.....

- 26) When I am reading an interesting book or listening to an interesting story, I imagine how I would feel if the things in the story were happening to me.

NOT AT ALL LIKE ME	A LITTLE LIKE ME	MORE LIKE ME	A LOT LIKE ME	EXACTLY LIKE ME
.....

- 27) When someone needs help in an emergency, like when they are badly hurt, I get too upset to do anything.

NOT AT ALL LIKE ME	A LITTLE LIKE ME	MORE LIKE ME	A LOT LIKE ME	EXACTLY LIKE ME
.....

- 28) Before telling someone that I don't like something about them, I try to imagine how I would feel if someone told me that.

NOT AT ALL LIKE ME	A LITTLE LIKE ME	MORE LIKE ME	A LOT LIKE ME	EXACTLY LIKE ME
.....

APPENDIX B
ALTRUISM QUESTIONNAIRE

Last 4 numbers of your phone number: _____

Grade: 2 4 6

Age: 6 7 8 9 10 11 12

Boy

Girl

- 1) One morning Chris was so late in getting ready for school that he didn't even have time to finish breakfast. By the time the lunch bell rang, Chris was really hungry. As he was unwrapping his sandwich, Chris noticed a kid, sitting alone and looking sad and hungry. Chris thought that he must have lost his lunch or forgotten to bring it. Chris didn't know what to do.

What would you do?

- a) I would tell the teacher.
 - b) I would not share because the other kid should learn to be more careful about remembering lunch and because I might be hungry in the afternoon.
 - c) I would share because I could imagine how I would feel if I were that kid.
- 2) Terry was on the way to meet some friends at the circus. The circus came to town only once a year and she had saved for months to buy a ticket. Terry was thinking about all the amazing things she would see at the circus when she heard something that sounded like crying. By the side of the road lay a puppy. Its leg looked like it had been broken, probably by a passing car. Terry didn't know what to do.

What would you do?

- a) I would keep going because if I didn't, I would miss the circus and my friends might be mad.
- b) I would stop and help because I could imagine how hurt and frightened the puppy must feel.
- c) I would feel bad but would not pick up the puppy because it is not safe to touch strange animals.

- 3) Morgan and Chris were watching their favorite TV show when Chris's mom came in and said to Chris "You know that you can't watch TV until your room is clean. You go and do it now and Morgan can either help you or stay here and watch TV until you're done." Morgan didn't know what to do.

What would you do?

- a) I would help Chris clean up because I could imagine how I would feel if I had to clean my room while my friend got to watch our favorite TV show.
 - b) I would not help Chris clean up because Chris would probably not help me in the same situation.
 - c) I would watch the show so that I could tell Chris all about the parts he missed.
- 4) One day, on the way to school, Dale was walking behind an old lady who was carrying a bag of groceries. Suddenly, a kid on a skateboard came zooming by at top speed. The lady was so surprised that she dropped her groceries and they scattered all over the sidewalk. What a mess! Dale didn't know what to do. It was almost time for the bell to ring and Dale's teacher did not like it when kids were late.

What would you do?

- a) I would go right to school because, if I didn't, I would be late and would get in trouble.
 - b) I would go right to school and tell the principle about the kid on the skateboard.
 - c) I would help the lady pick up her groceries because I could imagine how upset I would be if that happened to me.
- 5) One day a man from a factory came to Jaimie's school. He showed the kids a movie about how erasers were made and, before he left, he gave each of the kids two of the fancy erasers that were made in his factory. Later, in the playground, Jaimie saw a really little girl crying. She had been playing with her erasers and had lost them. Jaimie didn't know what to do.

What would you do?

- a) I would tell the teacher and maybe she could get more erasers.
- b) I would tell the little girl to search the playground more carefully for the erasers.
- c) I would give the little girl one of my erasers because I could see how sad she was.

- 6) A big snow castle building contest was being held at the park. Robin was really excited because he was a great snow castle builder and thought he had a good chance to win a ribbon. After he had been working for a while, Robin stopped to take a look at what the other kids were building. It was then he noticed one little boy who couldn't seem to get his snow to stick and whose castle kept falling down. The little boy was crying. Robin didn't know what to do.

What would you do?

- a) I would tell the little boy how to get his snow to stick together and give him other advice.
- b) I would get right back to work on my castle so that I could do a good job and finish my castle.
- c) I would tell the little boy he could be my partner and we could finish my castle together.

APPENDIX C
SOCIAL DESIRABILITY SCALE

ABOUT ME

Last 4 numbers of your phone number: _____

If a sentence describes the way you always are, circle "ALWAYS".

If a sentence describes the way you usually are, circle "USUALLY".

If a sentence describes the way you sometimes are, circle "SOMETIMES".

THERE ARE NO RIGHT OR WRONG ANSWERS. JUST BE HONEST WITH YOURSELF.

1)	I try to do the right thing.	ALWAYS	USUALLY	SOMETIMES
2)	My friends and I have fun together.	ALWAYS	USUALLY	SOMETIMES
3)	I like everyone I know.	ALWAYS	USUALLY	SOMETIMES
4)	I have trouble making up my mind.	ALWAYS	USUALLY	SOMETIMES
5)	I try my best in school.	ALWAYS	USUALLY	SOMETIMES
6)	I like to play alone.	ALWAYS	USUALLY	SOMETIMES
7)	I tell the truth.	ALWAYS	USUALLY	SOMETIMES
8)	I get upset easily.	ALWAYS	USUALLY	SOMETIMES
9)	I play nicely with my friends.	ALWAYS	USUALLY	SOMETIMES
10)	I would rather watch TV than read.	ALWAYS	USUALLY	SOMETIMES
11)	I remember to say "please" and "thank-you".	ALWAYS	USUALLY	SOMETIMES
12)	I would rather play outside than inside.	ALWAYS	USUALLY	SOMETIMES
13)	I obey my parents and my teachers.	ALWAYS	USUALLY	SOMETIMES
14)	I wish I were older.	ALWAYS	USUALLY	SOMETIMES
15)	I follow the rules at school and at home.	ALWAYS	USUALLY	SOMETIMES
16)	I enjoy going to birthday parties.	ALWAYS	USUALLY	SOMETIMES
17)	I tell the truth.	ALWAYS	USUALLY	SOMETIMES
18)	I have trouble getting up in the morning.	ALWAYS	USUALLY	SOMETIMES
19)	I am very polite.	ALWAYS	USUALLY	SOMETIMES
20)	School is fun.	ALWAYS	USUALLY	SOMETIMES

APPENDIX D
TEACHER'S RATING SCALE

Please rate each of your students on the following characteristics using a scale of 1 to 5 wherein:

1 = rarely

[illegible]

APPENDIX E
FILM EVALUATION FORM

Last 4 numbers of your phone number: _____

(Example: If your phone number is 281-9872, write 9872)

- 1) Watching the movie about Foster Parents Plan made me feel like crying.
EXACTLY LIKE ME A LOT LIKE ME MORE LIKE ME A LITTLE LIKE ME NOT AT ALL LIKE ME
- 2) Watching the movie about Foster Parents Plan made me care about the people I saw.
EXACTLY LIKE ME A LOT LIKE ME MORE LIKE ME A LITTLE LIKE ME NOT AT ALL LIKE ME
- 3) Watching the movie about Foster Parents Plan made me feel upset.
EXACTLY LIKE ME A LOT LIKE ME MORE LIKE ME A LITTLE LIKE ME NOT AT ALL LIKE ME
- 4) Watching the movie about Foster Parents Plan made me feel sad.
EXACTLY LIKE ME A LOT LIKE ME MORE LIKE ME A LITTLE LIKE ME NOT AT ALL LIKE ME
- 5) Watching the movie about Foster Parents Plan made me feel like helping.
EXACTLY LIKE ME A LOT LIKE ME MORE LIKE ME A LITTLE LIKE ME NOT AT ALL LIKE ME
- 6) Watching the movie about Foster Parents Plan made me feel troubled.
EXACTLY LIKE ME A LOT LIKE ME MORE LIKE ME A LITTLE LIKE ME NOT AT ALL LIKE ME

APPENDIX F
TIME VOLUNTEER FORM

THE VOLUNTEER FORM

First Name: _____

Phone: _____

Sometimes, organizations like Foster Parents' Plan, have fund raising drives in different cities. They may raise money by doing things like collecting bottles or selling raffle tickets.

If Foster Parents' Plan were to have a fund raising drive in your neighbourhood, how many hours would you volunteer to help?

Underline Your Answer

- a) I would not volunteer any time.
- b) I would volunteer 1 to 2 hours.
- c) I would volunteer 3 to 4 hours.
- d) I would volunteer 5 to 6 hours.
- e) I would volunteer 7 to 8 hours.
- f) I would volunteer 9 to 10 hours.

APPENDIX G
TEACHERS' LETTER OF CONSENT

Dear Teacher,

Within the next few weeks, I will be collecting data at your school for a research project, the purpose of which is to explore developmental changes in empathy and its relationship to prosocial behavior in middle childhood. It is hoped that a more fully developed understanding of these processes and relationships will facilitate the creation of school-based and other programs designed to foster prosocial and discourage anti-social behavior.

All data will be collected in large groups during two sessions of approximately 45 minutes and separated by 4 to 7 days. During the first session, students will complete three questionnaires. During the second session, they will watch and rate a film about Foster Parents' Plan and a number of measures of prosocial behavior will be made. After an interval of 3 to 4 weeks, half the students will be asked to redo one of the questionnaires for the purpose of checking stability of response patterns. Students will be paid a small fee (50 cents) for their participation and will be given the opportunity to donate part of this sum back to Foster Parents' Plan.

In order to protect the children from persuasive efforts or coercion from others and to prevent them from discussing their donations in advance, it is important that they not be informed of the opportunity to donate in advance. Please do not discuss the donations with the students prior to the data collection.

Students' participation is entirely voluntary and they are free to withdraw from the study at any time. At no time will students be subjected to coercion of any kind. All parents will receive a letter of consent outlining the general form of the study in advance, and additional details will be provided in a debriefing letter to be sent home following data collection.

Data will be collected in such a way as to protect participants' anonymity and reports of the research findings will be made available to the school. These reports, and other published reports, will contain only group data. No reporting of individual data will be done.

In addition to giving up some class time, participating teachers will be asked to rate each student on a five-point scale which contains statements tapping cooperation, helping, sharing, and comforting behavior. Approximate time to complete this measure is less than one minute per student.

Arrangements for non-participating students will be made in consultation with the principal and participating teachers.

If you have any questions or would like more information about the specifics of the study, please do not hesitate to contact me at 259-6007 (home).

Sincerely,

Willa Miller, B.Ed., M.Sc.

I do/do not agree to participate in the above described study.

Name: _____ Signature: _____

APPENDIX H
LETTER OF PARENTAL CONSENT

Dear Parents,

On February 22 and March 1, 1991, I will be conducting a research study at [name of school]. The purpose of this study is to investigate the development of empathy, the capacity to feel for others, and its relationship to caring and compassionate behavior.

Students will be asked to complete several questionnaires. Additionally, there will be behavioral measures of prosocial behavior and a teacher-completed measure. Data collection will be conducted in large groups and will require approximately one to one and a half hours of class time. All data will be collected in such a way as to ensure the students' anonymity. Students will be paid a small fee (50 cents) for their participation. After an interval of approximately one month, randomly selected students will be asked to redo one of the questionnaires, a task that will require approximately 10-15 minutes.

In order to discourage the children from discussing their responses in advance, and in order to protect them from peer pressure, more complete details about the exact measures and more specific goals of the study will be provided in a letter to be sent home shortly following data collection. If, however, you have any questions or would like to know more about the study, please do not hesitate to contact me at 259-6007.

Please return this form no later than February 18, 1991.

Sincerely,

Willa Miller, M.Sc., C.Psych.

I give permission for my child, _____, to participate in the above-described study.

I do not give permission for my child, _____, to participate in the above-described study.

Signature of Parent or Guardian

APPENDIX I
PARENTS' DEBRIEFING LETTER

Dear Parents,

I would like to thank you for allowing your child to participate in the recently conducted research on the development of empathy and prosocial behavior.

On the first day of the study, in order to examine how empathy develops and changes over the period of childhood, students in grades 2, 4, and 6 completed an empathy questionnaire. In order to determine how empathy relates to behavior, each participant was asked to complete a questionnaire which asked how he/she would respond to six situations calling for sharing, helping, or cooperation. Additionally, teachers were asked to rate each child's tendency to demonstrate sharing, helping, comforting, and cooperation in the classroom setting.

On the second day of the study, participants watched a film about Foster Parents' Plan. They were then asked to evaluate the film, given the opportunity to donate part (no more than 45 cents) of their earnings to this charity, and were asked how much time they would be willing to volunteer for a bottle drive for this same organization, if one were to be held in their neighbourhood. The children were repeatedly told that the money was theirs to keep and that they should only donate or volunteer time if they wanted to. They were also asked not to discuss their choices with each other. In order to protect children's privacy and avoid pressure from classmates or others, all children were given a large envelope with ten nickles. All were required to put their hand completely inside the envelope and remove at least one nickel. They were all then told to seal their envelopes and, regardless of the contents or the lack of contents, to return it to the donation box.

I hope that your child enjoyed participating in this study, and that he/she gained something by learning about the work that Foster Parents' Plan does with underprivileged children in other countries. The organization has certainly gained by virtue of the generation donations made by so many children and new knowledge has been acquired which may help us to promote the development of caring behaviors which are of benefit to both individuals and society.

As soon as the results of this study are processed and written up, a copy will be forwarded to the school. Once again, thank you for your help.

Sincerely,

Willia Miller, M.Sc., C.Psych.

APPENDIX J
INSTRUCTIONS FOR PERSPECTIVE-TAKING TREATMENT GROUP

In a few moments we're going to be watching a film about Foster Parents Plan, but before we start I'm going to ask you to do something special. I'd like you to watch this film not only with your eyes and ears but also with your hearts and imaginations.

In this film you're going to see a family. While you're watching I'd like you to try your best to imagine what it would be like if you were one of the children in that family, if you didn't have a nice place to live, or enough to eat, if you couldn't go to school and learn - even if you wanted to. I'd like you to imagine how it would feel if you couldn't go to a doctor when you were sick. I'd like you to imagine how you would feel if you found out that there were people, like the people of Foster Parents Plan, who cared enough to help your family have a better life.

Now, parts of this film are pretty sad and I know that it can be hard to watch sad things and especially to imagine that they're happening to us. What I'm asking you to do is hard but I'd like you to try anyway. If you can, try to watch this film with your hearts and with your imaginations. Later, I'll be asking you what that was like for you, how it made you feel. Does everyone understand what I'm asking? Who can tell me?

(provide further clarification as needed)

APPENDIX K
INSTRUCTIONS FOR MAKING MONETARY DONATIONS

In your envelope you each have 50 cents - 10 nickels. The 50 cents is your money. You earned it by answering all those questions for me. That really was a lot of work and so this is really money you earned. That means it's up to you to decide what to do with it - to spend it, or save it, or give it away. Only you know what's most important to you. If you want, you can give some of this money, not all of it, to Foster Parents Plan to help children like the ones you saw in the film.

This is what I'd like you to do. When I tell you that it's okay, I want each of you to open your envelope and take out the money you want to keep. You can take out all ten nickels, or nine nickels, or five nickels, as many as you want, but everybody must take out at least one nickel. You have to keep at least one of the nickels for yourself. The money you leave inside the envelope will go to Foster Parents Plan.

Remember, this is your money. You earned it and only you can decide what to do with it so it really isn't something you should discuss with your friends. To keep it really private, I want you to put your whole hand inside the envelope and, without showing anybody, put the money you're going to keep in a pocket or in your pencil case or desk (experimenter demonstrates). Then, seal the envelope and put it in the box. Even if the envelope is empty, I want you to seal it and put it in the box.

Once again, put your hand completely in the envelope, take out the money you're going to keep and put it quickly away. Leave the money you want to give to Foster Parents Plan in the envelope. Seal the envelope and return it to the box over there. Remember, you must keep at least one nickel and, remember, this is a private decision.

Is everyone clear about what to do?

(check understanding and provide additional clarification as needed)

APPENDIX L
INSTRUCTIONS FOR COMPLETING TIME DONATION FORMS

Has anyone here ever helped raise money for charity or for a club or a team?

(Children are given a few minutes to discuss their experiences as fund raisers.)

Sometimes, organizations like Foster Parents Plan raise money by doing some of the things you've talked about, by collecting bottles and in other ways. When they're planning fund raising it helps them if they know how much help they can count on in each city. Foster Parents Plan might be doing some fund raising in Calgary. On the form it asks you how many hours you might be willing to spend helping, collecting bottles or doing other work, if they do decide to do fund raising here. Of course, you would have to get your parents' permission. Just circle the amount of hours you would be willing to help if your parents said it was okay.

Fill out the form with your first name and your phone number and then put it upside-down on your desk so no one else can see what you decided. When you're all done, I'll collect them and pass them on to the people who need this information.