

Children's Personal Distance and Their Empathy: Indices of Interpersonal Closeness

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We examined relations between children's preferred physical closeness with other persons and both their specific responsive empathy with these persons and their more general dispositional or trait empathy. Children ($N = 73$) in three age groups (5-, 9-, and 13-year-olds) viewed persons in videotaped vignettes, were interviewed for responsive empathy with these persons, and then placed photos of them on a grid at individually preferred distances relative to themselves. Dispositional empathy was assessed by questionnaire in a separate session. Older children placed vignette characters closer to themselves when they reported greater responsive empathy with them. There were substantial differences in responsive empathy across characters and situations, as would be expected: Adults who punished rarely elicited empathy, nor did a child who lied about another child. Consistent with the within-subjects analysis, vignette characters who elicited greater empathy also elicited closer personal distances. In both analyses (within-subjects and across vignette characters), strength of relation increased with age and was stronger for girls than boys. In contrast to responsive empathy, dispositional empathy was not significantly associated with closer personal distance, despite the significant correlation of the two empathy measures. Thus, it seems important to distinguish empathy that is responsive to particular persons and contexts from more general attitudes that may or may not generalise to specific contexts.

This study is concerned with the interaction of empathy, a process involving psychological closeness to others' experience, and personal distance, a concrete measure representing one's preferred physical closeness to other persons (Bryant, 1982; Duke & Nowicki, 1972; Guardo, 1969). In measures

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of empathy, psychological closeness is defined as an affective experience in one person that is concordantly responsive to the emotions and context of another person (Strayer, 1987). In measures of personal distance, closeness is defined in physical units representing the spatial distance another person is placed relative to oneself (Evans & Howard, 1973; Hayduck, 1978). Although some studies have suggested relations between psychological closeness (e.g. empathy) and physical closeness (e.g. personal distance) and have reported positive relations between them (Bryant, 1982; Guardo, 1969), the alignment of these two constructs remains relatively unexamined.

Empathy and personal distance can be expected to relate because the two constructs overlap theoretically. Empathy (*Einfühlung* or "feeling into") is defined and operationally construed (Feshbach, 1978; Hoffman, 1985) as a process in which we vicariously experience others' internal states as our own. This sharing of intersubjective states during empathy thus lessens the distance between self and other because the empathiser experiences the self "as if" he/she were the other person (Rogers, 1959). Empathy may in this sense be considered as a psychological parallel of the physical distance between self and other that is used to operationalise the personal distance construct. The personal distance construct conveys a physical self-boundary that may fluctuate in its physical distance from others (Horner, 1983), becoming closer, we posit, when empathy with the other is experienced. We hypothesise that children will prefer closer physical proximity with others when they have empathised with them.

The rationale for a directional hypothesis is based on the theory that the arousal of empathy entails a linking of the "internal positions" of "self" and "other", which we expect will be demonstrated also in the external positions represented by children's personal distance responses. In addition, the grounds for considering empathy rather than personal distance in the causal role rest on theory that maintains that empathy is a motivator of interpersonal behaviour (e.g. Batson, Duncan, Ackerman, Buckley, & Birch, 1981; Hoffman, 1977; Toi & Batson, 1982). This is consistent with an activity theory of causation. Although the reverse direction of effects in a functional relationship is possible (Cook & Campbell, 1979), we know of no articulation of the personal distance construct that offers a compelling rival theory of its motivational role.

Empirically, it has been shown that children's empathic disposition relates to the personal distance they maintain relative to others (Bryant, 1982). More empathic children placed generically described other persons (e.g. "a child who is fat") at a closer distance to themselves on a measurement grid than did less empathic children. These findings have been important in supporting the expected link between the constructs of empathy and personal distance, assessed in terms of general attitudes. However, it has not yet been established whether the experience of empathy in response to a

particular person is related to closer physical placement of that person relative to oneself. It should be, given that the construct of personal distance entails that proximity is responsive to the degree of relative intimacy between interactors (Burgoon & Jones, 1976; Horner, 1983). Although stimulus persons in the present study have not previously been seen by the participating children, we expect that when children empathise with a stimulus person, self and other boundaries become more "semipermeable" (Horner, 1983), and that the personal distance between them is lessened.

As this discussion implies, the perspectives afforded by two views of empathy are of particular interest. In one, empathy is regarded as a general dispositional trait (*dispositional empathy*); in the other, it is assessed as a response specific to and elicited by given persons and situations (*responsive empathy*). Both trait and responsive views together should help us understand behaviour (Bem & Allen, 1974), and our present task is to examine how each relates to personal distance. Only the dispositional construal of empathy and personal distance have been empirically examined and a relationship between them established (Bryant, 1982). Our investigation extends this work to a new measurement context, thereby assessing its generalisability, as well as examining both empathy and personal distance in more specific responsive contexts.

The assessment of empathy as a general emotional dispositional characteristic (e.g. Bryant, 1982; Mehrabian & Epstein, 1972) is usually based on the view that the more empathic a person is, the higher will be his/her score across questionnaire items tapping emotional expressiveness, tender feelings for others in distress, affective perspective taking, and imaginal involvement in movies and books. The assessment of empathy as a responsive measure focuses on the variability of empathic responsiveness across different emotions and situations, and frequently with the question of whether the occurrence of empathy motivates prosocial behaviour in the same context (e.g. Barnett, 1982; Batson, Fultz, & Schoenrade, 1987; Eisenberg & Miller, 1987; Strayer & Roberts, 1966; Strayer & Schroeder, 1989; Toi & Batson, 1982). The issues and hypotheses regarding empathy and personal distance follow from these two (general and specific) assessments of empathy.

Because previous research (Guardo, 1969) indicated that children use interpersonal distance as a cue to distinguish relationships (persons whose pictures were placed closer to each other were judged to be more highly acquainted or better liked than those whose pictures were placed farther apart), Brenda Bryant (1982) proposed that children with high scores on her general dispositional empathy questionnaire would not only indicate that they shared the feelings and experiences of a wide assortment of others, they would also express a willingness to place others closer to themselves than would less dispositionally empathic children. Bryant's data supported this

position, which thus provided part of a pattern of findings validating her questionnaire as a measure of dispositional empathy. We expect similar results for her measure in the present study. In addition, by also including a more context-responsive empathy measure, we can extend limited earlier findings on the relations between empathy and personal distance.

By definition, dispositional measures of empathy are not designed to assess differential and selective empathic responsiveness. Nevertheless, the importance of assessing differences in empathic responses across contexts has been noted by researchers using dispositional measures (Bryant, 1982, p. 422). The present study therefore includes a measure in which empathy is assessed in response to specific stimulus persons in given contexts. The Empathy Continuum scoring system was developed to analyse children's affective and cognitive responses to a series of emotionally evocative vignettes (Strayer, 1987, 1989, 1993). This method views empathy as an affective-cognitive process engaged to different degrees by different stimuli. Although empathy, even for dispositionally empathic persons, will not be uniformly engaged across persons or situations (Higgins & King, 1982), whenever children do respond empathically, there will be a lessening of experienced psychological distance between the self and the person with whom the child empathises.

Personal distance is operationalised in this study as an index of social space, using established measures adapted for children. Validity for such measures is based on correlations of personal distance with the actual approach behaviour of adults (Duke & Nowicki, 1972), and on evidence that both children and adults maintain less distance from friends and acquaintances than from persons of another race or sex (in the case of prepubescent children, see Bryant, 1982; Guardo, 1969).

We assessed personal distance in relation to specific persons actually observed (i.e. the stimulus characters described in Table 1, see later), rather than in response to sentences describing more abstract or stereotypic children, as previously done (e.g. Bryant, 1982, p. 417, refers to general "types" of children described as "a depressed boy or girl . . . , immature . . . , aggressive . . .", etc.). Because children in the present study were responding to cues and meanings extracted from observing specific other persons, our personal distance procedure offers a different context, and a quasi-naturalistic one, for viewing the generalisability of conclusions regarding dispositional empathy and physical closeness to a variety of persons.

Following Popper (1959), we do not seek to confirm one empathy construal or operationalisation versus another, but rather to assess which construal is best when matching a pattern of predictions to a pattern of data. From the responsive empathy hypothesis, we expect that the greater the Empathy Continuum score evoked by each stimulus person, the closer the personal distance between that stimulus person and the respondent.

Measures derived from a dispositional construal of empathy should be best suited to patterns of personal distance data representing summaries across stimulus persons. Thus the greater a child's global score on Bryant's (1982) Index of Empathy questionnaire, the closer all stimulus persons should be placed (i.e. the lower their average personal distance). Such a result would increase the generalisability of Bryant's measure to a new set of stimulus persons in emotional contexts. Both the responsive and dispositional empathy hypotheses should contribute towards clarifying the operation of responsive and trait empathy.

METHOD

Subjects

A total of 73 children in three age groups participated in this phase of a larger study on socialisation and empathy. Group 1 consisted of 15 boys and 18 girls ($M = 5.13$ years, $SD = 0.34$). Groups 2 and 3 each consisted of 10 boys and 10 girls. For Group 2, $M = 8.83$ years, $SD = 0.38$; for Group 3, $M = 13.07$ years, $SD = 0.42$. These age groups were chosen as appropriate for reflecting modal differences in cognitive mediations of empathy (Strayer, 1993). Children came from predominantly white, middle class Canadian backgrounds, as assessed by parents' education and occupations. Mean age for mothers was 37 years ($SD = 5.3$), for fathers, 39 ($SD = 6.2$). Informed consent was obtained from all participants, and parents could preview all stimulus materials.

Materials and Procedure

All children viewed six emotionally evocative videotaped vignettes. Their content and nine main characters (*italic*) are described briefly in Table 1. Further details (such as emotions elicited) have been presented elsewhere (Strayer, 1993; Strayer & Roberts, in press). Vignettes portrayed a variety of emotions in contexts thought to be available to the interpersonal experiences of children. Nevertheless, previous exposure to the precise content of the vignettes was judged to be unlikely.

Children were individually interviewed after first watching all vignettes. Each story in turn was cued by a picture, and children described the vignette's content in their own words, as a check on memory and comprehension. In all cases, events were clearly understood. Children were then asked to report each stimulus person's emotion and its intensity, and whether they themselves had felt neutral ("OK", "just regular") or an emotion (and its intensity) in response to the vignette. Pre-tested cartoon faces depicting emotional expressions (happy, sad, angry, afraid, disgusted, surprised, and neutral) were available so that verbal ability would not affect

TABLE 1
Description of Videotape Stimulus Vignettes

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1. **Old House:** Three children sneak into a yard at night. A *boy* climbs up creaking stairs to peer through a window into the house. A looming shadow of a man appears above him, and the children run away. (Source: commercial film.)
 2. **Spilled Milk:** A husband and wife have an angry exchange while their daughter watches TV. The man leaves and the woman shouts at the girl to come to dinner; the *girl* accidentally knocks over a glass of milk and the *mother* slaps her. (Source: *12½ Cents*, National Film Board of Canada.)
 3. **Jeannie:** A young *woman* talks directly to the viewer about the difficult life she and her children had with her abusive husband. (Source: *Loved, Honoured, and Bruised*, National Film Board of Canada.)
 4. **Skates:** A *girl* and *boy* argue over taking turns on her new skates. The boy calls her names and threatens to tattle. She pushes him down; he runs crying to her parents. The boy lies; the *father* believes his story and gives the girl's skates to the boy as her punishment. (Source: *Our Vines have Tender Grapes*, obtained from Dorothy Flapan, who used it in a 1968 study.)
 5. **Canes:** A *girl* talks pleasantly about her life and the fun she has despite her physical disability. (Source: *I'll Find A Way*, National Film Board of Canada.)
 6. **Circus:** A father and daughter go to see the circus train. The elephant performs some tricks. The *girl* jumps and laughs excitedly, and is lifted up on the elephant's trunk. (Source: *Our Vines have Tender Grapes*.)
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Note: Main characters are in *italic*. Films are in black and white; total viewing time is approximately 30 minutes. Further information is given in Strayer (1993).

attributions. Intensity of emotion was reported on a 3-point scale: 0 = none, 1 = a little, 2 = a lot.

Children were asked their reasons for any self-experienced emotion in order to determine the different interpretations for shared emotion reported between child and stimulus person (the hypothesised cognitive mediators of empathy). These protocols were used for Empathy Continuum scores.

Empathy Continuum. The Empathy Continuum scoring system (Strayer, 1987, 1993) integrates the degree of affective sharing (degree of match between own and stimulus person's emotion) with the child's cognitive attribution for his/her own emotions. The Empathy Continuum contains seven different levels of cognitive mediation, derived from models of empathy development (Feshbach, 1975; Hoffman, 1975) and levels of interpersonal understanding (Hughes, Tingle, & Sawin, 1981; Selman, 1976).

As shown in Table 2, Empathy Continuum scores of 0 or 1 indicate whether the subject recognises that the other person is experiencing an emotion, a necessary but not sufficient cognitive precursor to empathy. Higher Empathy Continuum scores integrate the extent of affective

TABLE 2
Empathy Continuum Scoring System

<i>Cognitive Level</i>	<i>Score</i>	<i>Affect Match</i>	<i>Description</i>
I. (No empathy)			
	0	0	No emotion reported for character
	1	1	Character's emotion identified, but no or no concordant emotion for self
II. No attribution or irrelevant reasons are provided (I just didn't like it)			
	2	1	Similar emotion in self and character
	3	2	Same emotion, different intensity
	4	3	Same emotion, same intensity
III. Attribution based on story events (I felt scared of that creepy house)			
	5	1	Similar emotion in self and character.
	6	2	Same emotion, different intensity
	7	3	Same emotion, same intensity
IV. Attribution refers to a specific character's situation (I felt scared when he went up to that old house)			
	8	1	Similar emotion in self and character
	9	2	Same emotion, different intensity
	10	3	Same emotion, same intensity
V. Attribution indicates transposition of self into situation or association to one's own experiences (Well, I'm scared but curious, like him, about stuff like that)			
	11	1	Similar emotion in self and character
	12	2	Same emotion, different intensity
	13	3	Same emotion, same intensity
VI. Attribution indicates responsiveness to a character's internal state (I was sad because she felt so put down)			
	14	1	Similar emotion in self and character
	15	2	Same emotion, different intensity
	16	3	Same emotion, same intensity
VII. Attribution indicates semantically explicit role-taking (If I were in her place ... I'd be angry at him for treating me like that)			
	17	1	Similar emotion in self and character.
	18	2	Same emotion, different intensity
	19	3	Same emotion, same intensity

matching for self and character with its reported cognitive mediation. (Of course, some emotions reported by children in response to vignette characters were not empathic, as when they reported anger in response to the boy in "Skates".) Level II is characterised by no evident cognitive awareness of the reason for shared affect. Level III is characterised by direct personal reaction to stimulus events. Level IV indicates a minimal focus on the other person in these events. In Level V, the focus on the other's experience is greater and is mediated by association to events in one's own

life. Level V indicates a more internal perspective than Level IV, which conveys only a person-in-situation focus. Responses based explicitly on the character's feelings are coded at Level VI, and explicit role-taking, which many (e.g. Hoffman, 1977) propose as the highest level of empathic mediation, is coded at Level VII. Inter-scorer reliability for the Empathy Continuum was 0.86 or better for affective match and cognitive level (cf. Strayer, 1993).

Across the nine characters identified in Table 1, Empathy Continuum scores ranged from 0 to 18, with an average score of 4.2 ($SD = 4.7$). For some analyses, an aggregate Empathy Continuum score was derived for each child by averaging their nine responses. Children's mean aggregated score was 4.2, $SD = 2.5$.

Bryant Index of Empathy. Bryant's (1982) Index of Empathy for Children (administered a week before or after the Empathy Continuum procedure) consists of 22 items for children and adolescents and is based on Mehrabian and Epstein's (1972) version for adults. A global score for empathy is based on children's agreement (= 1) or disagreement (= 0) with items tapping attributes including emotional expressivity and attitudes (e.g. "sometimes I cry when I watch TV"; "people who kiss and hug in public are silly"), sympathy (e.g. "it makes me sad to see a girl who can't find anyone to play with") and empathy (e.g. "seeing a girl crying makes me feel like crying"). This measure has established short-term test-retest reliability as well as discriminative and convergent validity (Bryant, 1982).

Because the youngest children in the present study were five years old, and Bryant's measure had not previously been applied to children younger than Grade 1, internal consistency was examined in order to determine whether the questionnaire was appropriate for this age group. The obtained Cronbach's alpha (0.48) indicated a low level of internal coherence. Thus analyses for the Bryant measure will be reported separately for the two older age groups. For these children, scores ranged from 5 to 18, $M = 11.8$, $SD = 3.5$. (For the entire sample, $M = 11.6$, $SD = 3.2$.)

Personal Distance. The present measure of personal distance is an adaptation of paper-and-pencil ratings (Duke & Nowicki, 1972) and uses more cognitively concrete procedures appropriate for young samples. Children in the present study were asked to place Velcro-backed photos of videotape characters on a square felt wall-hanging "however close or far to you that feels best or most comfortable for you". The felt wall-hanging, which was 3.5 feet square, had a mirror in its centre, and was placed so that the child could see his/her face reflected. Velcro strips (one for each character) radiated from this central point, and each strip was marked in eight equal units. The child could place the picture at any point along the

radius from the self. Practice trials, using pictures of the child's mother and a "monster", indicated that children understood this procedure—all children placed the mother closer to the self.

Personal distance scores for individual characters ranged from 0.5 to 8; $M = 3.3$, $SD = 2.1$. For some analyses, an aggregate personal distance score was derived for each child by averaging his/her responses across all nine characters. For this aggregate, $M = 3.3$, $SD = 1.2$.

RESULTS

Before addressing the main issue of relations between empathy and personal distance, we first describe age and gender tendencies for these measures, and address the preliminary question of how well our measure of responsive empathy evoked differential reactions across characters and situations.

Descriptive Findings

Age. As expected, given their cognitive component, Empathy Continuum scores averaged over all six vignettes showed a steady increase with age [$F(2, 67) = 21.28$, $P < .0001$]. Means were 2.7, 4.6, and 6.2, for the 5-, 9-, and 13-year-old groups, respectively. In contrast, scores on our dispositional measure did not change with age, [$F(1, 36) = 0.04$, $P > .80$], a finding consistent with other samples (see Lennon & Eisenberg, 1987, for a review).

Age differences followed a somewhat different pattern for aggregated personal distance [$F(2, 67) = 6.10$, $P < .005$], with 9-year-olds placing vignette characters at a greater distance than did children in either of the other groups. Means were 3.0, 4.0, and 3.1, respectively, for 5-, 9-, and 13-year-olds. Taken together, these patterns suggest that empathy and personal distance may be affected by distinct, albeit related, developmental processes.

Gender Differences. Consistent with other samples (Lennon & Eisenberg, 1987), girls had higher empathy scores on both measures. For aggregated Empathy Continuum scores [$F(1, 67) = 4.31$, $P < .05$], means were 4.6 and 3.8 for girls and boys, respectively. For the Bryant Index, [$F(1, 36) = 8.29$, $P < .01$], means were 13.2 and 10.2, respectively.

Corresponding with this finding, there was a marginal tendency for girls to indicate closer personal distances with vignette characters [$F(1, 67) = 3.56$, $P < .07$]. Means for aggregated distance scores were 3.1 and 3.6, respectively, for girls and boys.

Did Children Respond Differentially to Vignette Characters?

In order to adequately test hypotheses concerning responsive empathy, it is necessary to present persons and situations that evoke different amounts of empathy. Stimulus vignettes were pre-tested and chosen in part to achieve this response diversity (Strayer, 1993).

As shown in Table 3, empathy was more likely to be reported for some vignette characters than for others, [$\chi^2(8) = 149.6, P < .00001$; Cramer's $V = 0.48$]. (Because patterns were similar for boys and girls, only combined results are presented here.) Several patterns emerged from an examination of adjusted standardised deviates, which are similar to z -scores and indicate table cells that depart significantly from expected values in a χ^2 analysis (Brown, 1990, p. 275). First, punitive adults seldom elicited empathy from the children in this sample. For the mother in *Spilled Milk* and the father in *Skates*, standardised deviates were -5.99 and -6.50 , respectively. (Negative values indicate less-than-expected levels of empathy.) Similarly, the boy in *Skates*, who lies to gain an advantage, also seldom elicited empathy (standardised deviate = -4.72). In contrast, characters who endured undeserved hardship were likely to elicit empathy. This held for the mother who discusses her abusive husband (*Jeannie*, standardised deviate = 3.67) and for a character who is physically handicapped (*Canes*, standardised

TABLE 3
Percentage of Children Making Empathic Responses (Empathy
Continuum scores ≥ 2) to Vignette Characters

Vignette and Character	Empathic Responses (%)		
	Girls ($N = 38$)	Boys ($N = 35$)	Combined ($N = 73$)
<i>Old House</i> : boy	60.5 ^a	34.3	47.9
<i>Spilled Milk</i> : girl	52.6	37.1	45.2
<i>Spilled Milk</i> : woman	5.3 ^a	8.6 ^a	6.8 ^a
<i>Jeannie</i> : woman	63.2 ^a	54.3 ^a	58.9 ^a
<i>Skates</i> : girl	50.0	40.0	45.2
<i>Skates</i> : boy	13.2 ^a	14.3 ^a	13.7 ^a
<i>Skates</i> : father	2.6 ^a	5.7 ^a	4.1 ^a
<i>Canes</i> : girl	57.9 ^a	60.0 ^a	58.9 ^a
<i>Circus</i> : girl	73.7 ^a	68.6 ^a	71.2 ^a

Notes: See Table 1 for a description of vignettes and characters; see Table 2 for a description of Empathy Continuum scores.

^a Values differ significantly from expected in chi-square analyses: see text. (For the combined sample, the expected value for all stimulus characters is 39%.) For girls: $\chi^2(8) = 92.84, P < .00001$, Cramer's $V = 0.52$ (expected value = 42%); for boys: $\chi^2(8) = 62.87, P < .00001$, Cramer's $V = 0.45$ (expected value = 36%).

deviate = 3.67). In addition, empathy was often elicited in joyful contexts. The girl in *Circus*, who was delighted by her experience, elicited empathy more often than stimulus persons in other vignettes (standardised deviate = 5.96). Overall, then, a range of empathy was evoked by the persons presented in the stimulus materials.

Responsive Empathy

The responsive empathy hypothesis is concerned with the relationship between empathy scores for a particular stimulus person and corresponding personal distance scores. According to this hypothesis, stimulus persons who evoked more empathy should be placed closer to children than those who evoked less empathy. To assess this expectation directly, Empathy Continuum and personal distance scores for each vignette character were averaged across the entire sample ($N = 73$). As shown in Fig. 1, stimulus persons who evoked more empathy were indeed placed closer to respondents [$r(7) = -.77, P < .01$]. Standardised residuals ranged from -1.3 to 1.7 , indicating that there were no significant exceptions to this linear

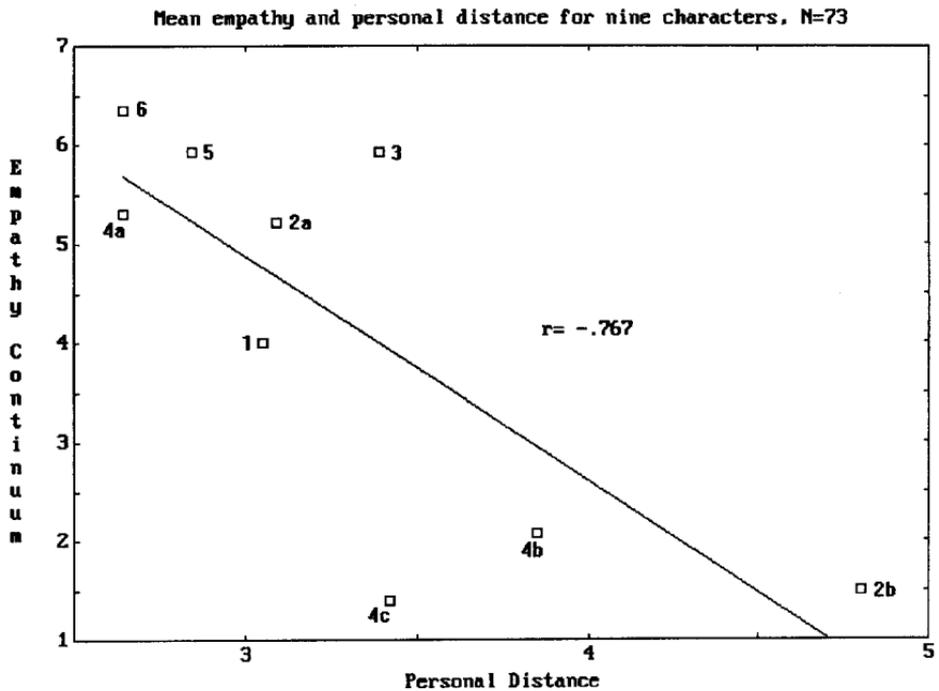


FIG. 1. Mean personal distance and Empathy Continuum scores for each of nine vignette characters, averaged across all 73 children. 1, boy, vign. 1 (see Table 1); 2a, girl, vign. 2; 2b, mother, vign. 2; 3, woman, vign. 3; 4a, girl, vign. 4; 4b, boy, vign. 4; 4c, father, vign. 4; 5, girl, vign. 5; 6, girl, vign. 6.

trend (i.e. despite disparities in age, gender, and circumstances, all stimulus characters approximated the same basic function between empathy and personal distance).

Separate analyses suggested that this relation becomes increasingly clear with age. For 5-year-olds, vignette characters' elicited empathy and personal distance correlated at $r(7) = -.41, P < .15$; for 9-year-olds $r(7) = -.59, P < .05$; for 13-year-olds $r(7) = -.78, P < .01$]. Separate analyses also suggested that this relation may be clearer for girls [$r(7) = -.82, P < .01$] than for boys [$r(7) = -.27, P < .25$].¹

The responsive empathy hypothesis also suggests that when children experience more empathy, they will place characters closer to themselves than when they experience less empathy. This within-subjects hypothesis was tested by deriving two summary scores for each child: (1) mean personal distance from those characters who evoked an Empathy Continuum score below the child's own average Empathy Continuum score; and (2) mean personal distance from those characters who evoked an Empathy Continuum score at or above the child's own Empathy Continuum average. (By averaging scores in this way, we obtained a more stable index than if we had calculated within-subject correlations.) These two summary scores were then entered as dependent variables in a 3 (age) \times 2 (sex) repeated measures analysis of variance.

As expected, children did indeed place vignette characters closer when they experienced greater empathy [$F(1, 65) = 17.18, P < .0001$]. When empathy was lower, personal distance scores averaged 3.6; when empathy was higher, personal distance averaged 3.0, a decrease of 0.45 standard deviations. This expected main effect for empathy was qualified by important interactions with age [$F(2, 65) = 3.35, P < .05$] and gender [$F(1, 65) = 4.33, P < .05$]: The relation between empathy and personal distance increased with age and was stronger for girls than for boys. Specifically, as shown in Fig. 2, empathy had little impact on the personal distance scores of 5-year-olds (a difference of 0.2 units on the personal distance measure), but became important as age increased: Differences for 9- and 13-year-olds were 0.8 and 1.2 units, respectively. (As often with linear trends assessed at three points, only the two extremes differed significantly—for the comparison between 5- and 13-year-olds [$t(34) = 3.04, P < .01$]. Trends for both sexes were in the same direction, but differences were statistically significant only for girls ($M = 2.6$ and 3.7 in the high and low empathy conditions), whereas for boys, means were 3.4 and 3.7 , respectively.

¹ The reduced sampling error associated with mean scores implies that the P values given in this section are conservative because they are based on the greater variability present in individual scores. Because we are dealing with mean scores rather than individual scores, there are no recognised methods that we know of for testing correlations across groups (e.g. for comparing vignette-character correlations for boys and girls).

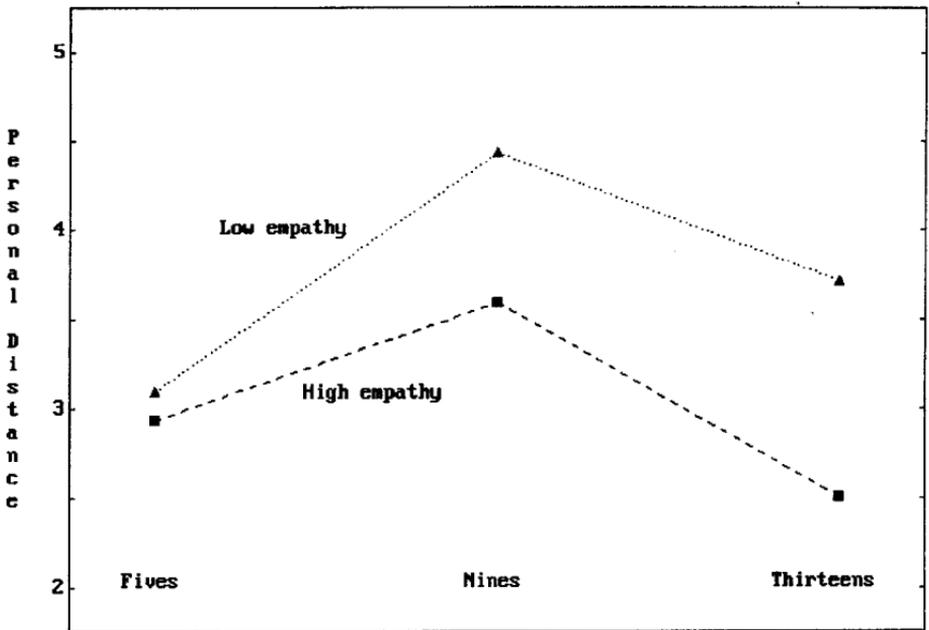


FIG. 2. Personal distance as a function of empathy (high or low) and age. Note that higher personal distance scores indicate that the stimulus person was placed farther from the self.

Dispositional Empathy

It follows from the dispositional hypothesis that children who show more dispositional empathy should also experience greater empathy in response to particular persons and situations. This hypothesis was tested by correlating Bryant's Total Index score with children's mean Empathy Continuum score. As expected, the hypothesis was supported, [$r(38) = .27, P < .05$].

The hypothesis that greater dispositional empathy is associated with closer personal distance was examined by correlating mean personal distance scores with Bryant's Index of Empathy. Although in the expected direction, results were not statistically significant, [$r(38) = -.11, P < .20$].

DISCUSSION

Present findings support the idea that children's physical closeness to other persons is correlated with empathy and may be facilitated when empathy is present, a conclusion consistent with earlier work (Bryant, 1982; Guardo, 1969), and with theories underlying these constructs (Horner, 1983; Rogers, 1959). The present study extends previous research by providing contextual

measures of empathy and personal distance, measures that indicate that the link between empathy and personal distance becomes stronger with age. Thus, our findings document the value of distinguishing empathy and personal distance that are responsive to particular persons and contexts from more general attitudes or response preferences as assessed in dispositional questionnaire measures.

Responsive Empathy

We found, using Empathy Continuum scores, that empathy was related to the placement of others relative to oneself, and that this pattern became stronger with age. This supports our reasoning that empathy, which entails an active sharing of another person's experience ("as if" it were one's own), should be associated with a greater psychological closeness with the other person as translated into the concrete, physical dimensions of personal distance.

Although it might be argued that psychological closeness considered in terms of frequency and diversity of interactions or intimacy might influence both empathy and personal distance, the children in our study had never seen our stimulus persons before participating in this research. Although our research design cannot rule out alternative causal hypotheses, we believe that, on theoretical grounds, the contention that empathy is a causal factor in this simplified, research context is the most reasonable way to interpret our findings. Further research is needed to clarify how empathy and personal distance may differ when measured among friends, acquaintances, and strangers in the complexities of ongoing relationships and real-life contexts.

Present findings indicate the information to be gained by using responsive empathy measures that assess affective-cognitive responses to specific stimulus persons in specific emotional contexts. They establish that empathy with these stimulus persons is related to personal distance responses to them (Fig. 1), and that within individual children, more empathic responses are associated with closer personal distances (Fig. 2). Having established in the present study positive but differential relations for empathy and physical closeness across different persons and emotional contexts, much remains to be done in further research to clarify the contextual factors involved. Specifically, relevant stimulus factors (person, emotion, situation) might be experimentally manipulated in order to understand why particular persons and contexts are responded to more empathically than others. In addition, we need to examine the bases for individual differences in children's responsiveness to particular stimuli. For example, child-rearing or personal histories may facilitate some children's greater responsiveness to financially less fortunate others, and so forth.

Age-related Differences

Empathy Continuum scores increased with age in this sample (as we expected, given the cognitive components of this measure), and in addition, the relation between Empathy Continuum scores and personal distance showed increased strength with age. This pattern is consistent with the “dose-response gradient” that one would expect on the theoretical grounds discussed in our Introduction. That is, to the extent that there is a causal connection between empathy and personal distance, then as empathy increases with age, the effects of empathy should also increase. Thus we found little relation for 5-year-olds, whose mean responses were, on average, at Cognitive Level II of the Empathy Continuum (see Table 2)—that is, they reported emotions that were similar to those they attributed to story characters, but they offered fewer coherent reasons for their responses. Empathy and personal distance were more strongly related among 9-year-olds, whose mean responses were, on average, at the boundary between Cognitive Levels II and III—they were beginning to be able to relate their emotional responses to the experiences of others. Finally, empathy and personal distance were most clearly related for 13-year-olds, whose mean responses were, on average, firmly in Level III. Thus our results are consistent with the view that as emphatic responses grow in complexity and strength, their effects in other areas (such as personal distance) should become clearer and stronger.

Superimposed on this pattern of an increasingly strong link between empathy and personal distance was a significant main effect of age on personal distance, which was greatest in the 9-year-old group. It is notable that during this period (middle childhood), competitive social comparison processes and voluntary gender segregation also reach a high point (Hartup, 1983; Ruble, Boggiano, Seldman, & Lobel, 1980). These processes may be reflected in our findings that our middle childhood group of 9-year-olds emphasised the boundary between themselves and others by increasing physical distance.

Gender-related Differences

The relation between empathy and personal distance appeared more clearly for girls than for boys in both the character-based analysis (Fig. 1) and the within-subjects analysis (Fig. 2). In part, this (like the age-related changes) may reflect a dose-response gradient, given that girls' Empathy Continuum scores were on average higher than boys'. Statistically, we would expect the character-based correlation for girls to be larger than that for boys, simply because the range of scores for girls is greater than the range for boys. It is also possible that gender-linked factors are partly at work, and further research is needed to identify them and explicate their role in the relation

between empathy and personal distance. For example, gender role socialisation may make empathic responses more acceptable for girls (perhaps even more required), and may also affect how children interpret basic emotional experiences such as sadness, anger, and fear, as well as emotional expressiveness and restraint (e.g. Brody, 1985; Maccoby, 1980; Strayer & Roberts, in press). It is possible that such factors may contribute to or potentiate the relation between empathy and personal distance for girls.

Dispositional and Responsive Empathy

Although scores on the Bryant questionnaire and mean Empathy Continuum scores were significantly related, the correlation was modest, indicating that in addition to assessing dispositional empathy, each measure also reflects variance that is not shared with the other. (As discussed earlier, the two measures only partially overlap in their dimensions. The Bryant questionnaire assesses emotional expressiveness, tender feelings for others in distress, and imaginal involvement in movies and books, as well as empathy, whereas the Empathy Continuum assesses concordant affect and its cognitive mediation.) We now discuss other possible differences as they may relate to personal distance.

Children's scores on Bryant's (1982) Index of Empathy questionnaire were not significantly related to their personal distance scores averaged across stimulus persons. Previous findings of significant relations for this measure of dispositional empathy and personal distance (Bryant, 1982) were based on a procedure that differed in how stimulus persons were portrayed. Instead of witnessing the interactions of actual stimulus persons (as in our videotapes), children were given brief descriptions of generalised others of the same age and sex as themselves (e.g. "a child who is fat"). Children thus responded to descriptions that likely induced a set to evaluate general characteristics, such as fatness, poorness at school, and so forth. Thus, what we learn from this previous research is that empathic children are more tolerant (allow closer personal distance) in their evaluations of prototypes described with generally negative characteristics.

Given that children with high dispositional empathy scores are endorsing questionnaire items that include emotional tolerance and benevolent attitudes towards others in negative circumstances (Bryant, 1982), it is consistent that they should also show greater tolerance in a personal distance measure using descriptions of generalised others in negative circumstances. Thus the relation reported by Bryant (1982) could be due to the range of attributes sampled by the questionnaire items (Bryant, 1987). That is, children could have been responding both in the questionnaire and the personal distance measure to general classes of circumstances based on "categorical knowledge" (Ross, 1981), rather than making differentiated

responses to actual persons in specific circumstances. When only general classes of people are presented (as in Bryant, 1982) this may cue such categorical knowledge and prompt personal distance responses reflective of what ideally "should" take place given a socially desirable evaluative set, which empathic persons are likely to display (Lennon & Eisenberg, 1987; Ross, 1981).

In contrast, children in the present study responded to specific others (including those differing from the child in both age and sex) whom they had just seen actively engaged in videotaped vignettes. The individual specificity of the stimulus persons and differentiated reactions to them were salient in this measurement context. (We know that children in this study were responding to the stimulus person as individuals because there are differences both in their empathic responding for each character and in that character's personal distance placement.) Thus children in the present study were making responses that were more "personal" than "categorical".

In this context, the questionnaire measure of dispositional empathy was not a significant indicator of personal distance. This suggests that general or categorical empathic responsiveness may be insufficient to predict more concrete responses to specific persons and situations, a pattern found for attitudes and behaviour in many domains (Brown, 1986). The present investigation has shown that dispositional and responsive empathy are significantly correlated, but that the latter depends also on stimulus factors, such as the justice or injustice of the person's behaviour and the emotions elicited by the situation.

If empathy is present as a trait in children, we think that it is especially informative to assess the active manifesting of this trait in terms of children's affective-cognitive involvement with other persons across contexts. The critical issue is the conditions under which traits transfer to acts when opportunities for empathy are present. Only further joint considerations of dispositional and responsive empathy can address this issue more fully.

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