

## Measuring Individual Differences in Empathy: Evidence for a Multidimensional Approach

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The past decade has seen growing movement toward a view of empathy as a multidimensional construct. The Interpersonal Reactivity Index (IRI; Davis, 1980), which taps four separate aspects of empathy, is described, and its relationships with measures of social functioning, self-esteem, emotionality, and sensitivity to others is assessed. As expected, each of the four subscales displays a distinctive and predictable pattern of relationships with these measures, as well as with previous unidimensional empathy measures. These findings, coupled with the theoretically important relationships existing among the four subscales themselves, provide considerable evidence for a multidimensional approach to empathy in general and for the use of the IRI in particular.

Empathy in the broadest sense refers to the reactions of one individual to the observed experiences of another. There are, of course, a variety of such possible reactions. Smith (1759) and Spencer (1870), writing centuries ago and a century apart, drew a nearly identical distinction between two broad classes of response: a cognitive, intellectual reaction on the one hand (an ability simply to understand the other person's perspective), and a more visceral, emotional reaction on the other. In various ways, this fundamental distinction has since been maintained. In particular, during this century psychological research regarding empathy has typically been predicated on one or the other of these general definitions. Thus, empathy has been considered by some investigators to be a cognitive phenomenon, with a resulting research focus on such "intellectual" processes as accurate perception of others (Dymond, 1949; Kerr & Speroff, 1954). Other researchers have used a definition of empathy stressing its emotional facets (e.g., Stotland, 1969) and have

studied topics such as helping behavior (Mehrabian & Epstein, 1972; Stotland, Matthews, Sherman, Hansson, & Richardson, 1978) in which emotional reactivity appears to play an important role.

Recent years have seen increased movement toward an integration of these two hitherto separate research traditions. In fact, it is a growing belief among empathy theorists and researchers that our understanding of empathy can improve only with the explicit recognition that there are both affective and cognitive components to the empathic response (Deutsch & Madle, 1975; Hoffman, 1977; Feshbach, Note 1). Accordingly, research that explores the ways in which both facets of empathy affect behavior has begun (Coke, Batson, & McDavis, 1978; Iannotti, Note 2).

Recently, Davis (1980) developed an individual difference measure of empathy (the Interpersonal Reactivity Index, IRI) based on such a multidimensional approach. Rather than treating empathy as a single unipolar construct (i.e., as either cognitive or emotional), the rationale underlying the IRI is that empathy can best be considered as a set of constructs, related in that they all concern responsiveness to others but are also clearly discriminable from each other. The 28-item IRI is a self-report measure consisting of four 7-item subscales, each tapping some aspect of the global concept of empathy. The Perspective-Taking (PT) scale assesses the tendency to spontaneously adopt the psycholog-

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ical point of view of others; the Fantasy (FS) scale taps respondents' tendencies to transpose themselves imaginatively into the feelings and actions of fictitious characters in books, movies, and plays. The other two subscales measure typical emotional reactions of the respondents: The Empathic Concern (EC) scale assesses "other-oriented" feelings of sympathy and concern for unfortunate others, and the Personal Distress (PD) scale measures "self-oriented" feelings of personal anxiety and unease in tense interpersonal settings.

Although these four individual characteristics in no way exhaust all possible reactions to others, they do provide measures of several qualities important for both theoretical and practical reasons. For instance, Hoffman (1977), in a theoretical account of the development of prosocial motives, contends that the child's capacity for nonegocentric thought (analogous to perspective-taking capacity) mediates the gradual shift from a self-oriented emotional reaction to others' distress to a more other-oriented reaction of sympathy and concern. Coke et al. (1978) considered a similar set of constructs—perspective-taking, empathic emotion, and personal distress—in an empirical investigation of emotional reactions and helping behavior among adults as well. Thus, the content domain of three of the four subscales of the IRI (the PT, EC, and PD scales) have been identified by previous theory and research as potentially important aspects of empathy. A tendency to fantasize about fictitious situations has also been shown to influence emotional reactions toward others and subsequent helping behavior (Stotland et al., 1978). Thus, the fourth IRI subscale, the FS scale, also has clear links with earlier investigations of empathy.

It should be emphasized that the content domain of each of these four scales fits the general definition of empathy as a reaction to the observed experiences of another. In addition, each of these types of empathy has received attention from theorists and researchers studying this topic (e.g., Coke et al., 1978; Dymond, 1949; Hoffman, 1977; Stotland et al., 1978). Thus, as disparate as these four constructs may appear, they accurately reflect the variety of reactions to others that

have at some time been referred to as empathy. Although restricting the use of the term *empathy* to a more narrow domain of reactions (for example, only emotional reactions, or only role-taking ability) has been standard practice for decades, an explicitly multidimensional approach such as this seems appropriate at this time. Agreement that empathy is a multifaceted phenomenon has steadily grown in recent years, with the sentiment expressed perhaps most clearly by Deutsch and Madle (1975). They advised that in "the event that new measures are developed, attempts should be made to incorporate the various concepts of empathy. It is only through the recognition that empathy measures may not represent a single construct, but rather *multiple and perhaps related constructs* that more valid measures can be developed than in the past" (p. 277; italics added).

The present article is an initial attempt to establish the convergent and discriminant validity of the four IRI subscales. Because each of the four scales measures some *specific* aspect of a more general concept, reactivity to others, there should be clear differences among the scales in terms of their relationships with other psychological constructs. To the extent that the four subscales are related to measures to which they logically should be related, and to the extent that they display no relationship to measures to which they logically should *not* be related, faith in the validity of these scales will be increased (Campbell & Fiske, 1959). Further, given recent theoretical accounts of the relationships among these aspects of empathy (Coke et al., 1978; Hoffman, 1977), the intercorrelations of the IRI subscales will also provide a test of the scales' validity.

The relationships between the four IRI subscales and five potentially related constructs are considered in this article. The five constructs are social competence / interpersonal functioning, self-esteem, emotionality, sensitivity to others, and intelligence. With the exception of intelligence, which is included simply for informative purposes, each of these constructs is expected, on theoretical and/or logical grounds, to be related to one or more of the IRI subscales. In addition, the relationship between these four IRI subscales

and two of the more widely used empathy measures are explored. A brief description of the expected pattern of relationships follows.

### Perspective Taking

It is expected that higher perspective-taking scores will be associated with better social functioning. The rationale for this prediction comes primarily from the theoretical work of Piaget (1932) and Mead (1934), which stresses the importance of a perspective-taking capability for nonegocentric behavior—that is, behavior that subordinates the self (or the self's perspective) to the larger society made up of other people. Perspective-taking ability should allow an individual to anticipate the behavior and reactions of others, therefore facilitating smoother and more rewarding interpersonal relationships. The tendency to use this ability, as measured by the PT scale, should be associated therefore with better social functioning. Second, it is expected that higher perspective-taking scores will be associated with higher self-esteem. In large part, this should follow from the better social functioning expected for high perspective takers. That is, to the degree that self-esteem is enhanced by rewarding social relationships, perspective taking should also enhance self-concept. Third, no relationships between perspective taking and chronic emotionality are expected. Fourth, the relationship between perspective taking and measures of "sensitivity to others" is expected to vary according to the nature of those measures. Some measures of sensitivity to others (e.g., the Public Self-Consciousness subscale; Fenigstein, Scheier, & Buss, 1975) can be described as self-oriented; high scores on such measures indicate an awareness of others only with regard to how *others view the self*. Other sensitivity measures (e.g., the Personal Attributes Questionnaire's F scale; Spence, Helmreich, & Stapp, 1974) are less self-oriented and more other-oriented; high scores on these measures reflect a concern for the other's own feelings and needs. It is predicted only that perspective-taking scores will be positively related to such other-oriented measures and not necessarily related to self-oriented ones.

### Fantasy

No relationships are expected between fantasy scores and measures of interpersonal functioning, because it is not apparent that a tendency to become deeply involved in the fictitious world of books, movies, and plays will systematically affect one's social relationships. Likewise, no relationships between self-esteem and FS scores are expected. It seems likely, however, that fantasy scores will exhibit a relationship with measures of emotionality. Stotland et al. (1978) report evidence that persons who score high on the Fantasy-Empathy (F-E) Scale tend to display greater physiological arousal (palmar sweating) to a filmed depiction of another's emotional experience and a greater tendency to help another person (at least among first-born subjects). Because the FS scale of the IRI contains the three items from the F-E Scale (see Method section) and the remaining items on the FS scale reflect much the same content, the FS scale is also expected to display a significant relationship to measures of emotionality. Finally, no relationship between FS scores and measures of sensitivity to others is expected.

### Empathic Concern

No consistent pattern of relationships is expected between empathic concern scores and measures of social functioning. It is unclear whether a tendency to experience feelings of sympathy and concern for others will systematically enhance or impair one's ability to engage in smooth, rewarding social relationships. Second, it is likewise not expected that EC scores will be consistently related to self-esteem. Third, the relationships between the EC scale—measuring a specific type of emotional response—and other measures of emotionality will depend on the precise nature of these emotionality measures. Empathic concern scores are expected, for example, to display some association with "global" measures of emotion, due to the construct of "emotional reactivity" underlying both measures; EC scores are expected to exhibit relationships with other, more specific measures of emotionality only to the degree that the specific construct being tapped is related to empathic concern. Fourth, EC

scores, which represent feelings of warmth and sympathy, should be strongly related to other-oriented measures of sensitivity to others, measures that reflect a concern *for* other people. Measures of sensitivity that are more "self-centered" should not be related to EC scores.

### Personal Distress

It is expected that personal distress scores will be clearly and negatively related to measures of social functioning. This prediction stems from the belief that persons prone to feelings of anxiety and discomfort in emotional social settings will have more difficulty establishing and maintaining rewarding social relationships than persons not characterized by such feelings. Second, it is predicted that PD scores will be significantly and negatively associated with self-esteem. As with the PT/self-esteem prediction, this is based on the mediating effect of interpersonal functioning on self-esteem. Because high PD scorers are hypothesized to have less rewarding social relationships, their self-esteem should be commensurately lower. Third, the relationship of PD scores (like EC scores) with other measures of emotionality should vary with their precise nature. Fourth, no clear prediction is offered concerning the relationship between PD scores and measures of sensitivity to others.

### Intercorrelations of the IRI Scales

Previous theory and research concerning three of the constructs measured by the IRI—perspective taking, empathic concern, and personal distress—allow the relationships *among* these three variables to serve as a further test of their validity. Hoffman (1977) proposed a developmental sequence in which young children, possessing little if any perspective-taking ability, typically experience personal feelings of fright and anxiety when witnessing others in distress. Because they are incapable of differentiating the self from others, these children are said simply to be incapable of distinguishing others' distress from their own. As perspective-taking abilities increase with age, and the self/other distinction becomes increasingly clear, these feelings of personal unease are transformed into more

other-oriented feelings of sympathy and concern for that other. Thus, greater perspective taking is said to be positively related to feelings of warmth and sympathy and negatively related to feelings of personal distress.

Coke et al. (1978), in proposing a two-stage model of empathy-mediated helping behavior, also contend that adopting the perspective of others is associated with greater feelings of sympathy and concern (empathic emotion); they do not specify any relationship between perspective taking and feelings of personal distress. Thus, it is predicted on the basis of previous work that PT and EC scale scores should be significantly and positively correlated. The relationship between PT and PD scores is slightly more problematic; although there should definitely not be a positive PT-PD correlation, it is unclear whether a negative correlation should be expected (e.g., Hoffman, 1977) or whether no correlation should be anticipated (e.g., Coke et al., 1978).

### Other Empathy Measures

Previous empathy measures have generally treated empathy as a unitary construct (although the precise nature of the construct has varied considerably). The four IRI subscales should therefore exhibit distinctive patterns of relationships with such unitary measures. In particular, the PT scale, the most clearly "cognitive" of the four IRI scales, should be most highly correlated with other "cognitive" empathy scales and least highly related to "emotional" empathy measures. The other three scales (FS, EC, PD) seem more related to emotional responsiveness and should therefore display the opposite pattern of relationships with existing empathy measures.

### Method

#### *Subjects and Procedures*

Subjects were 677 male and 667 female students enrolled in introductory psychology classes at the University of Texas at Austin. Three hundred ninety-two of the males and 378 of the females participated in large group sessions (spring, 1979) during which a number of psychological tests and questionnaires were administered. Two hundred twenty-five males and 235 females participated in similar large group sessions (fall, 1980) in which the subjects were administered the IRI, the Hogan Empathy Scale, and the Mehrabian and Epstein Emotional

Empathy Scale. As part of a separate experiment, 60 males and 54 females were administered the Wechsler Adult Intelligence Scale (WAIS) Vocabulary test. Reported relationships with the WAIS are based on this smaller sample; all other reported relationships are based on samples of at least 225 for males and 204 for females. The exact numbers of subjects vary depending on the number of students attending the testing session in which a particular questionnaire was administered.

## Materials

*Interpersonal reactivity index.* All subjects in this study completed the IRI, a 28-item self-report questionnaire consisting of four 7-item subscales, each of which assesses a specific aspect of empathy. The Perspective-Taking (PT) scale measures the tendency to adopt the point of view of other people in everyday life. A sample item from the PT scale is "I sometimes try to understand my friends better by imagining how things look from their perspective." The Fantasy (FS) scale measures the tendency to transpose oneself into the feelings and actions of fictitious characters in books, movies, and plays. A sample item from this scale is "I really get involved with the feelings of the characters in a novel." Included in the seven FS items are the three items constituting the Fantasy-Empathy (F-E) Scale of Stotland et al. (1978). The Empathic Concern (EC) scale measures the tendency to experience feelings of warmth, compassion, and concern for other people. A typical item from this scale is "I often have tender, concerned feelings for people less fortunate than me." The Personal Distress (PD) scale also assesses typical emotional reactions, but rather than other-oriented feelings of concern, it taps one's own feelings of personal unease and discomfort in reaction to the emotions of others. A PD scale item is "Being in a tense emotional situation scares me."

Davis (1980) reported the psychometric properties of the measure. All four scales have satisfactory internal and test-retest reliabilities (internal reliabilities range from .71 to .77; test-retest reliabilities range from .62 to .71). As with virtually all other empathy measures, significant sex differences exist for each scale, with females scoring higher than males on each of the four scales.

*Interpersonal functioning.* Eight self-report measures relevant to effective interpersonal functioning were collected. These measures assess a wide variety of social behavior, and with one exception, all of them measure qualities that can be described as socially *dysfunctional*. Three of these come from the recently developed Extended Personal Attributes Questionnaire (EPAQ; Spence, Helmreich, & Holohan, 1979): the negatively valued Masculinity ( $M^-$ ) scale and two negatively valued Femininity scales, one for verbal passive-aggressive qualities ( $F_{VA}^-$ ) and one for communionlike characteristics ( $F_C^-$ ). These scales measure socially undesirable qualities that are typically associated more with males than females ( $M^-$ ) or vice versa (negative  $F_{VA}^-$  and  $F_C^-$ ). The eight-item  $M^-$  scale consists of self-descriptors such as arrogant, boastful, and dictatorial, clearly a socially undesirable pattern of behavior. The four-item  $F_{VA}^-$  scale includes such descriptors as whiney, complaining, and nagging—socially undesirable behaviors of a more neu-

rotic, or passive-aggressive nature. Finally, the four-item  $F_C^-$  scale consists of descriptors such as servile, gullible, and spineless. This set of attributes represents socially undesirable qualities that are less aggressive and more communal in nature than the  $F_{VA}^-$  items.

Other measures of interpersonal functioning that were collected include recently developed self-report measures of shyness (Cheek & Buss, 1981), audience anxiety (Buss, 1980), and loneliness (Russell, Peplau, & Cutrona, 1980). In addition, the Social Anxiety subscale of the Self-Consciousness Scale (Fenigstein et al., 1975) was administered to many of the subjects. This scale measures feelings of anxiety and discomfort in social settings. Finally, a measure of extraversion derived from the Self-Monitoring Scale (Snyder, 1974) was also available. Briggs, Cheek, and Buss (1980) recently demonstrated the multidimensional nature of the original Self-Monitoring Scale, identifying three distinct factors contained within the full 25-item scale. One of these has been labeled the Extraversion factor and consists of six items describing the respondent's chronic tendency to be the center of attention in groups, to tell stories and jokes, and so forth. Scores on this factor have been shown to be positively related to a measure of sociability and negatively related to a measure of shyness (Briggs et al., 1980).

*Self-esteem.* Two measures of self-esteem were collected during this investigation. The first of these is the Texas Social Behavior Inventory (TSBI; Helmreich, Stapp, & Ervin, 1974), a 17-item scale assessing self-esteem primarily in social situations. The other measure is a seven-item self-esteem scale recently developed by researchers at the University of Texas at Austin (Briggs et al., 1980).

*Emotionality.* Two measures concerned with chronic emotional reactions were also collected from many respondents. The first of these is the Masculinity-Femininity (M-F) scale from the original PAQ (Spence et al., 1974); this eight-item scale consists primarily of items denoting a *lack* of emotional vulnerability. Sample descriptors from this scale are "feelings not easily hurt" and "never cries." The second emotionality measure is the five-item Fearfulness scale from the Emotionality, Activity, Sociability, and Impulsivity (EASI) temperament measure (Buss & Plomin, 1975), which assesses the chronic tendency to experience fright and insecurity. Sample items on this measure include "I am easily frightened" and "I tend to be nervous in new situations."

*Sensitivity to others.* The next set of measures consists of a variety of instruments, all of which assess some aspect of sensitivity or awareness of other people. The precise nature of this sensitivity, however, varies from measure to measure. Two of these instruments seem similar in content: the Public Self-Consciousness scale (Fenigstein et al., 1975) and the other-directed factor derived from the Self-Monitoring Scale (Briggs et al., 1980). Both measures appear to tap an awareness of and concern with the impression one makes on other people. This type of sensitivity to others, then, includes a substantial self-concern, because one's awareness of others is limited to an awareness of the way those others perceive or judge the *self*. In contrast, the F scale of the PAQ assesses a different kind of sensitivity to others. This eight-item scale includes such items as "aware of feelings of others," "understanding of others," and "able to devote self to others,"

all of which indicate a sensitivity to others' feelings and experiences with much less concern about the implications of those feelings for the self.

*Intelligence.* Three measures of intellectual ability were obtained for this investigation. A large number of subjects in the group testing session gave permission to use their Scholastic Aptitude Test (SAT) scores; therefore, both SAT-Verbal and SAT-Quantitative scores were obtained from university records for the majority of respondents. In addition, a smaller sample of subjects from a separate experiment completed a written form of the vocabulary portion of the WAIS (Wechsler, 1955), and these scores were available for those respondents.

*Other empathy measures.* Finally, two other measures of empathy were collected from a number of the respondents. One of these—the Mehrabian and Epstein Emotional Empathy Scale (1972)—clearly treats empathy as the tendency to respond emotionally to the experiences of others. This questionnaire inquires about

a variety of possible emotional reactions that the respondent typically experiences. The heterogeneity of emotional reactions tapped by this measure makes it a more global indicant of emotionality than either of the more specific emotionality measures described earlier. The second empathy measure is the Hogan Empathy Scale (1969), which may be considered a more “cognitive” measure than the Mehrabian and Epstein scale. In developing this instrument, Hogan took as his point of departure a clearly nonemotional definition of empathy: “the apprehension of another's condition or state of mind without actually experiencing that person's feelings.” The test itself consists of 64 true–false items chosen from the Minnesota Multiphasic Personality Inventory (MMPI) and the California Psychological Inventory (CPI; Gough, 1969) that best discriminated between two groups previously judged as high and low in empathy according to the original definition. (See Hogan, 1969, for a more detailed description of the item selection process.)

Table 1  
*Relationships Between Interpersonal Reactivity Index Subscales and Psychological Measures*

Measure	Perspective Taking		Fantasy		Empathic Concern		Personal Distress	
	Females	Males	Females	Males	Females	Males	Females	Males
<b>Interpersonal functioning</b>								
Shyness	-.20	-.13	.02	.21	.07	.15	.44	.49
Loneliness	-.13	-.23	.05	.22	-.19	-.11	.22	.24
Social anxiety (SCI)	-.17	-.07	.02	.22	.12	.14	.39	.43
Audience anxiety	-.12	-.10	.08	.02	.13	.19	.34	.37
M <sup>-</sup> (EPAQ)	-.28	-.30	.03	-.02	-.35	-.30	.07	-.11
F <sub>VA</sub> <sup>-</sup> (EPAQ)	-.25	-.19	.13	.03	-.01	-.14	.27	.20
F <sub>C</sub> <sup>-</sup> (EPAQ)	-.08	.05	.06	-.02	.09	.07	.25	.29
Extraversion (SM Scale)	.05	.12	.00	-.05	.07	-.09	-.30	-.30
<b>Self-esteem</b>								
TSBI	.26	.20	.03	.04	.17	.11	-.38	-.44
Briggs et al. Self-Esteem Scale	.20	.25	-.19	-.17	.01	-.11	-.38	-.45
<b>Emotionality</b>								
M–F scale (PAQ)	.07	-.02	-.21	-.22	-.23	-.19	-.41	-.54
Fearfulness (EASI)	-.21	-.22	.18	.15	.16	.10	.53	.59
<b>Sensitivity to others</b>								
Public self-consciousness (SCI)	-.07	-.17	.19	.25	.21	.14	.12	.18
Other-directedness (SM Scale)	-.15	-.30	.14	.20	-.07	.00	.19	.35
F scale (PAQ)	.33	.37	.15	.29	.55	.58	-.12	-.01
<b>Intelligence</b>								
SAT-Quantitative	.13	.01	.08	.03	-.10	-.07	-.09	.01
SAT-Verbal	.09	-.02	.12	.24	-.08	-.07	-.12	-.01
WAIS Vocabulary	.07	.15	.28	.11	-.22	-.10	-.19	-.08

*Note.* Sample sizes for the Wechsler Adult Intelligence Scale (WAIS) Vocabulary are 60 males and 54 females. All other *ns* are at least 225 males and 204 females. Correlations of .10 or higher are significant beyond the .05 level for these variables. For the WAIS correlations, coefficients of .23 or greater are significant beyond the .05 level. SCI = Self-Consciousness Index; EPAQ = Extended Personal Attributes Questionnaire; M<sup>-</sup> = negative masculinity; F<sub>VA</sub><sup>-</sup> = negative femininity verbal passive aggressive; F<sub>C</sub><sup>-</sup> = negative femininity communal, SM = self-monitoring; TSBI = Texas Social Behavior Inventory; PAQ = Personal Attributes Questionnaire; SAT = Scholastic Aptitude Test; EASI = Emotionality, Activity, Sociability, and Impulsivity.

## Results

Table 1 displays the correlations between the four IRI subscales and the other psychological measures in this study. Because not every measure was administered in each testing session, these data do not constitute a full matrix, and the number of respondents contributing to each correlation coefficient varies according to the number of respondents present in a given session. For ease of explication, the results pertaining to each of the four IRI subscales are described separately below.

### *Perspective Taking*

As expected, perspective taking was found to be consistently related to the measures of interpersonal functioning. As Table 1 indicates, for 15 of the 16 possible values (eight measures for males and females separately) PT scores are negatively related to the measures of social dysfunction and positively related to extraversion; that is, high perspective takers report less social dysfunction and more social competence. These relationships are strongest for two of the "negative" scales from the EPAQ:  $M^-$  that denotes negative agentic characteristics such as boastfulness and arrogance, and  $F_{VA}^-$ . Thus, perspective taking is associated with an interpersonal style marked by a relative *lack* of boasting and verbal aggression, two obviously dysfunctional social behaviors. The mean correlation of PT scores with all eight measures is  $-.15$  (corrected for the positive extraversion correlation), which reflects a modest but consistent pattern of results.

Also as expected, perspective taking displays a consistent though modest relationship with self-esteem. Both measures of self-esteem are positively and significantly related to PT scores for both males and females. The mean correlation, again collapsed over self-esteem measure and respondent sex, is  $.23$ .

No relationships were expected between PT scores and the measures of emotionality; the evidence, however, is mixed. The  $M-F$  scale of the PAQ, which reflects primarily an emotional invulnerability and lack of responsiveness to emotional situations, is unrelated to the PT scale (mean  $r = .02$ ), as expected. However, the Fearfulness scale (EASI) exhibits a different pattern. The modest neg-

ative correlation existing between PT scores and fearfulness indicates that a greater perspective-taking tendency is associated with less self-reported nervousness, anxiety, and insecurity.

Perspective taking demonstrated an inverse pattern of relationships with the two types of sensitivity to others measures described earlier. As expected, PT scores were positively related to the other-oriented sensitivity measure (i.e.,  $F$  scale); in addition, a markedly weaker and negative relationship emerged between PT scores and the self-oriented sensitivity measures, (the Public Self-Consciousness scale and the scale derived from the Self-Monitoring Scale). Thus, the sensitivity to others that is characteristic of high perspective takers seems to be mediated not by a concern for how the self is perceived by others, but by a more selfless concern for the others' feelings and reactions.

Finally, as the correlations between perspective-taking scores and the intelligence measures in Table 1 indicate, there is no reliable relationship between intelligence (as measured by the SAT Verbal, SAT Quantitative, and WAIS Vocabulary Test) and a perspective-taking tendency. The average correlation, collapsed across intelligence measures and sex, is  $.07$ .

*Summary.* As expected, higher PT scores were consistently associated with better social functioning and higher self-esteem; the relationships, however, were modest in size. Although unrelated to one of the emotionality measures ( $M-F$  scale), as expected, PT scores displayed a small negative relationship with the other measure (Fearfulness scale). It is interesting that perspective taking displayed inverse relationships with two types of measures of sensitivity to others. As predicted, it was positively related to the PAQ's  $F$  scale, assessing an unselfish sensitivity to others, but was slightly negatively related to measures of a more "self-centered" awareness of other people. Finally, PT scores were not significantly related to any of the measures of intellectual ability.

### *Fantasy*

In accord with expectations, Fantasy scale scores are essentially unrelated to measures

of social functioning (mean  $r = .07$ ). In fact, with the exception of three of these measures (shyness, loneliness, and social anxiety), among males only, the correlations between FS scores and social competence hovered consistently around the zero point. These particular three measures were all positively correlated with FS scores, indicating a modest tendency for fantasy scores, among men only, to be associated with more shyness, loneliness, and anxiety in social settings. Fantasy orientation was also generally unrelated to self-esteem (mean  $r = -.07$ ), although it did display a modest negative correlation with one of the self-esteem scales (Briggs et al., 1980). Thus, the predicted pattern of relationships between fantasy scores and measures of social competence and self-esteem are generally supported.

It was expected that FS scores would be related to measures of chronic emotionality; this expectation was generally upheld. The correlation with the M-F scale (mean  $r = -.21$ ) indicates a significant tendency for high fantasizers to report a lack of emotional invulnerability (and, by implication, a certain degree of emotional vulnerability); coupled with this is a small positive correlation between FS scores and scores on the Fearfulness scale, indicating some tendency for high fantasizers to be slightly more fearful. Taken together, this pattern suggests that high fantasizers are slightly more susceptible to emotional responses.

In contrast to high perspective takers, those scoring high on the FS scale reported greater sensitivity to others for both types of sensitivity measures. Scores on both the self-oriented and other-oriented measures were positively correlated with FS scores. It is interesting, however, that these relationships were somewhat stronger in all three cases for males than females.

Finally, scores on the FS scale were positively, and in the case of the verbal measures, significantly related to intellectual ability. Whereas the mean correlation, averaged over all three measures and subject sex, was .14, the corresponding coefficient for the measures of verbal intelligence alone (SAT Verbal and WAIS Vocabulary) was .19, indicating a small but consistent relationship between

verbal intelligence and the tendency to become involved with fictitious characters.

*Summary.* Unlike perspective taking, fantasy scores were generally unrelated either to self-esteem or to measures of social functioning although there was a tendency for males to display a relationship between fantasy orientation and three of the social dysfunction measures. Higher FS scores were modestly associated with measures of verbal intelligence and with a tendency toward emotional reactivity. In addition, fantasizers demonstrated a tendency to be more sensitive to others, although this factor was accentuated slightly for men.

### *Empathic Concern*

As expected, no consistent pattern of relationships emerged between EC scores and measures of interpersonal functioning. However, the overall correlation of  $-.01$  somewhat masks several significant but contradictory relationships that were discovered. There was a generally positive relationship, for example, between EC scores and the measures of shyness, social anxiety, and audience anxiety; that is, persons characterized by a disposition toward sympathy and concern for others reported more anxiety and unease around others. At the same time, however, significant negative relationships with empathic concern were found for loneliness and the constellation of negative agentic traits in the M<sup>-</sup> scale. Thus, although slightly prone to anxiety and shyness, the individual with high levels of empathic concern also reported less loneliness and a lack of a particularly undesirable interpersonal style. As expected, the relationships between EC scores and self-esteem were weak (mean  $r = .05$ ) and essentially nonsignificant.

The relationships between empathic concern and the measures of emotionality were nearly identical to those found for the Fantasy scale. Subjects scoring high on the EC scale displayed slight tendencies toward emotional vulnerability (as measured by the M-F scale) and chronic fearfulness and insecurity (the Fearfulness scale).

An interesting pattern of results emerged from the correlations of EC scores and the



sensitivity to others measures. Although empathic concern displayed little relationship with the two self-oriented measures (mean  $r = .07$ ), a substantial correlation (mean  $r = .57$ ) with the F scale of the PAQ was found. Thus, consistent with expectations, the EC scale is strongly associated with a measure of selflessness and concern for others.

Scores on the EC scale exhibited consistently negative, but marginally significant, relationships with the intelligence measures. All three of the measures are negatively correlated with EC scores for both sexes, but the average correlation was only  $-.11$ .

*Summary.* Although the overall correlation with measures of interpersonal functioning was low, high EC scores were positively associated with some shyness and anxiety but negatively related to an undesirable interpersonal style characterized by boastfulness and egotism. Relationships with self-esteem were weak, as expected. More importantly, empathic concern was related to measures of emotionality and to a nonselfish concern for other people. Little association with intelligence was evident.

#### *Personal Distress*

Almost without exception, the eight measures of interpersonal functioning were consistently associated with scores on the PD scale. In 15 of 16 relationships possible (eight measures in two sexes) the sign of the correlation was consistent; higher levels of personal distress were associated with higher levels of social dysfunction and lower levels of social competence. The strongest relationships in this set were with shyness, social anxiety, and extraversion. Individuals characterized by high levels of personal distress tended to report being more shy, more socially anxious, and less extraverted than those with low PD scale scores. The sole exception to this pattern was the M<sup>-</sup> scale from the EPAQ; in sharp contrast to the remaining measures, it was essentially unrelated to PD scores. The hypothesized relationship between chronic personal distress and self-esteem was also borne out by the data. High scorers on the PD scale were much more likely to report low self-esteem on both measures than were low scorers.

The observed links between personal distress and emotional reactivity were illuminating. High PD scorers exhibited a substantial tendency toward emotional vulnerability (M-F scale) coupled with an equally strong tendency toward chronic fearfulness. Although the general pattern of those relationships is similar to those of the FS and EC scales, their magnitude is substantially greater. Thus, the PD scale, more so than the FS and EC scales, seems to be associated with a strong tendency toward a particular type of emotionality—one characterized by fearfulness, uncertainty, and vulnerability.

Consistent and significant positive correlations were found between personal distress and the self-oriented measures of sensitivity to others. The mean correlation of  $.21$  indicates a modest but consistent tendency for high PD scores to be associated with a concern for the self as the object of others' evaluations. In contrast, and unlike the pattern found for the EC scale, personal distress was essentially unrelated to the F scale, indicating a lack of relationship between PD scores and a more other-oriented concern and sensitivity.

Scores on the personal distress scale were slightly negatively related to the intelligence indexes with this pattern slightly more pronounced for females (mean  $r = -.13$ ) than for males (mean  $r = -.03$ ).

*Summary.* By far the most substantial relationships in this investigation involved the Personal Distress Scale. Although unrelated to measures of intelligence, PD scores were strongly associated, as expected, with lower self-esteem and poor interpersonal functioning (especially shyness and social anxiety). More so than the Empathic Concern and Fantasy subscales, the PD scale was also strongly associated with a specific "emotional" constellation of vulnerability, uncertainty, and fearfulness.

#### *Intercorrelations of the IRI Scales*

It was predicted on the basis of previous theory and research that perspective taking, empathic concern, and personal distress scores would be related in a specific fashion. In particular, it was expected that perspective taking would be (a) positively related to em-

Table 2  
*Intercorrelations of the Interpersonal Reactivity Index Subscales for Males and Females in Two Samples*

Subscale	Sample 1 <sup>a</sup>						Sample 2 <sup>b</sup>					
	Perspective-Taking		Empathic Concern		Personal Distress		Perspective-Taking		Empathic Concern		Personal Distress	
	M	F	M	F	M	F	M	F	M	F	M	F
Fantasy	.10	.12	.30	.31	.16	.04	.13	.15	.36	.35	.14	-.08
Perspective-Taking			.33	.30	-.16	-.29			.32	.38	-.21	-.32
Empathic Concern					.11	.01					.22	-.03

Note. Correlation coefficients of .10 or greater are significant beyond the .05 level. M = males, F = females.

<sup>a</sup> Sample 1: spring 1979, *N*s = 392 males and 378 females.

<sup>b</sup> Sample 2: fall 1980, *N*s = 225 males and 235 females.

pathic concern, and (b) *not* positively related to personal distress (i.e., either independent of, or negatively correlated with, PD scores). The intercorrelations of the four subscales for males and females separately are displayed in Table 2. Sample 1 consists of the 770 subjects who completed the IRI in the spring of 1979; Sample 2 consists of those 460 subjects who completed the IRI during the fall of 1980. Both samples were made up of students enrolled in introductory psychology classes. As is clear from the table, perspective-taking and empathic concern scores were significantly and positively related in both samples for both sexes (mean  $r = .33$ ). In addition, perspective taking and personal distress were

consistently and negatively associated (mean  $r = -.25$ ). Thus, both predictions are supported.

The only other substantial correlation emerging from this analysis was between Fantasy and Empathic Concern scale scores (mean  $r = .33$ ). The size of this relationship (clearly significant but not overwhelming) was consistent with the fact that these two scales had similar but not identical patterns of relationships with the other variables in Table 1. The other intercorrelations in Table 2 were noticeably smaller (FS-PT, mean  $r = .13$ ; FS-PD, mean  $r = .07$ ; EC-PD, mean  $r = .08$ ), although they all approached or reached the .05 significance level due to the sample size.

Table 3  
*Relationships Between the Interpersonal Reactivity Index Subscales and Two Empathy Scales*

Subscale	Hogan Empathy Scale		Mehrabian and Epstein Emotional Empathy Scale	
	M	F	M	F
Perspective-Taking	.42	.37	.22	.17
Fantasy	.15	.15	.48	.56
Empathic Concern	.11	.25	.63	.56
Personal Distress	-.25	-.40	.36	.12

Note. *N*s = 225 males and 235 females. All correlation coefficients are significant beyond the .05 level. M = males, F = females.

### Other Empathy Measures

It was also anticipated that the four IRI subscales, representing different facets of the multidimensional construct empathy, would be differentially related to existing unidimensional measures of empathy. In particular, it was predicted that the PT scale would be most highly associated with cognitive empathy measures and that the other three IRI subscales would be more related to emotional empathy measures.

Table 3 displays the relationships obtained between the four IRI scales and two of the more widely used extant empathy instruments: the Mehrabian and Epstein Emotional Empathy Scale (emotional) and the

Hogan Empathy Scale (cognitive). Consistent with expectations, the cognitive Hogan scale was most highly correlated (mean  $r = .40$ ) with the cognitive PT scale. Although the FS and EC scales were substantially less correlated with this instrument (mean  $r$ s of .15 and .18, respectively), the PD scale was significantly and negatively associated (mean  $r = -.33$ ). In contrast, the PT scale displayed the *least* association of the four IRI scales with the Mehrabian and Epstein measure (mean  $r = .20$ ). Whereas the FS and EC scales displayed substantially greater associations with this emotional measure (mean  $r$ s of .52 and .60, respectively), as expected, the PD scale again exhibited a relationship whose magnitude most closely approximated that of the PT scale (mean  $r = .24$ ). These results, therefore, generally support the multidimensional view of empathy presented here, with the PD scale results providing the only minor anomaly.

### Discussion

The proposition that empathy can best be considered a set of related constructs and that the IRI subscales constitute valid measures of four of these facets of empathy was tested in three ways. Hypothesized relationships *among* the IRI subscales, *between* the subscales and other psychological measures, and *between* the subscales and extant empathy measures were examined. Taken together, the results from these three strands of investigation provide strong support for the original proposition. The IRI scales not only exhibit the predicted relationships among themselves but are also related in the predicted fashion with other empathy measures and with indexes of social competence, self-esteem, emotionality, and sensitivity to others.

These results support a multidimensional view of empathy because they provide evidence that the four qualities tapped by the IRI are indeed separate constructs, each related in specific and specifiable ways with other psychological measures. The Perspective-Taking scale, for instance, displays a distinctive pattern of association with better interpersonal functioning, higher self-esteem, and relatively little emotionality. The Em-

pathic Concern scale exhibits a very different pattern—one characterized by no consistent association with social competence or self-esteem and by a clear relationship with emotional reactivity (Emotional Empathy scale) and selfless concern for others (F scale). The Personal Distress scale represents still another distinctive pattern of relationships. Although similar to the PT scale in terms of its consistent (though reversed) relationships with social competence and self-esteem, high levels of personal distress are also uniquely associated with heightened emotional vulnerability (M-F scale) and a strong tendency toward chronic fearfulness. The Fantasy scale—the scale least grounded in previous theoretical work—displays a pattern generally similar to that of the EC scale. Even so, there are some differences between the two: The FS scale bears a stronger relationship with measures of verbal intelligence and a much lower one with other-oriented sensitivity (F scale) than does the EC scale.

These distinct profiles of the IRI scales (largely in accord with predictions) are reinforced by the pattern of correlations among the IRI scales themselves. The positive correlation between PT and EC scores was consistent with prior theoretical (Hoffman, 1977) and empirical (Coke et al., 1978) treatments of these constructs. The negative correlation between PT and PD scores is also consistent with Hoffman's (1977) view. In fact, these results may be seen as evidence, within a static adult sample, of the developmental empathy sequence posited by Hoffman. Although it is unclear whether Hoffman himself would have predicted precisely these results, they are certainly consistent with his formulation.

The relationships between the IRI scales and two other measures of empathy also generally support the multidimensional view. As expected, the "cognitive" PT scale was the IRI scale most highly correlated with the "cognitive" Hogan measure and the one least related to the Emotional Empathy Scale. Also as expected, the FS and EC scales displayed the opposite pattern: low correlations with the Hogan scale and high correlations with the Mehrabian and Epstein measure. Somewhat surprising was the magnitude of

the relationships between the PD scale and the two empathy measures; the size of these relationships more closely matched those of the PT scale than those of the other two "emotional" scales (FS and EC). One reason for this result may stem from the nature of the Hogan measure. During the construction of that instrument, there was a substantial emphasis on social competence in the definition of empathy used to select items (Hogan, 1969). In fact, one way to conceptualize the Hogan measure is as an indicant of cognitive-empathy-mediated social skillfulness (e.g., social acuity and social knowledge). The strong and consistent negative relationships found in this investigation between PD scores and indexes of social functioning suggest that PD scores will therefore be significantly and negatively related to the Hogan measure, because the Hogan scale also contains a clear "social competence" flavor. This proved to be the case. With regard to the relationship between the Personal Distress and the Emotional Empathy scales, it may be reiterated that the Mehrabian and Epstein instrument taps a wide assortment of emotional reactions, only a few of which reflect the tendency to feel strong personal *distress* in response to others' problems. This may help account for the relatively small relationship between the "global" Mehrabian and Epstein Emotional Empathy Scale and the more focused Personal Distress scale.

A word of caution should be voiced concerning the data in this study. Because they consist entirely of correlations between one self-report measure (the IRI) and a number of other such measures, there clearly are limits to the interpretations that can be made. No true causal inferences, for example, can be drawn from results such as these. In addition, the large size of the sample in most of these analyses resulted in significant correlations as low as .10. It becomes important, then, to look whenever possible for consistent patterns of relationships instead of individual correlation coefficients. The eight interpersonal functioning measures provide the best opportunity for this, and indeed the pattern of correlations between these variables and the perspective-taking and personal distress scales are clear and are as predicted. The perspective-taking / interpersonal-function-

ing correlations, however, are modest in size. Therefore, although the direction of the relationships is consistent and is as predicted, it should also be apparent from these data that perspective taking cannot be described as a *powerful* influence on interpersonal functioning. It seems more likely that social competence is influenced by a number of variables, of which perspective taking is only one.

Confidence in a correlational investigation such as the present one can be increased when comparable findings also emerge from studies that use measures other than simple self-reports. Recently, several such investigations using the IRI have been conducted, and their results underscore the value of this multidimensional approach. For instance, Bernstein and Davis (1982) recently examined the relationship between empathy and accuracy in person perception. Using a forced-choice technique to assess accuracy—one which eliminates several methodological problems that typically accompany such research (Cronbach, 1955)—these investigators found high scores on the PT Scale to be associated with greater success at matching target persons with their self descriptions. More important, this "cognitive" ability to judge other persons accurately was related *only* to the cognitive Perspective-Taking scale and was not associated with scores on the other three IRI measures.

Similarly, Davis (Note 3) recently compared the relative impact on emotional reactions of scores on the Perspective-Taking and Empathic Concern scales. (For theoretical reasons, the Fantasy and Personal Distress scales were not included.) Subjects' emotional reactions were assessed (via a mood questionnaire) following exposure to a young woman in distress. It was found that the "emotional" measure, the EC scale, was strongly related to reported emotional reactions; these emotional reactions were in turn associated with later helping behavior. In contrast, scores on the PT scale displayed no direct relationship with either emotional reactions or subsequent helping. Thus, the results of these two experimental investigations bolster an already strong case for the multidimensional nature of empathy in general and for the utility of the IRI in particular.

Finally, the measures of intelligence used

in this study, which were included for exploratory purposes, yielded small relationships with the IRI scales. The EC and PD scales displayed consistently negative and usually negligible relationships with all three intelligence indexes (mean  $r$ s of  $-.11$  and  $-.08$ , respectively). Conversely, the PT and FS scales generally displayed small positive correlations ( $r$ s of  $.07$  and  $.14$ , respectively). In fact, the only correlation of any size (and it is quite modest) was between scores on the Fantasy scale and the two measures of verbal intelligence (WAIS Vocabulary and SAT Verbal); the overall correlation of  $.19$  indicates a small but reliable tendency for high fantasizers to possess higher verbal facility and vocabulary.

In fact, this finding points to a more general constellation of attributes characterizing those who score highly on the Fantasy scale. This scale, remember, was the one least grounded in previous empathy theorizing; as a result, fewer firm predictions regarding its relationships to other measures were offered. The pattern of fantasy relationships that emerged from this investigation, however, is intriguing. As previously noted, high fantasizers tend to be more fluent verbally. They also tend toward emotionality, as evidenced by the relationships between FS scores and the M-F, Fearfulness, and the Mehrabian and Epstein Emotional Empathy scales. In addition, males with high FS scores show a modest tendency toward shyness, loneliness, and social anxiety. The picture emerges, then (especially among males), of high fantasizers as people who are intelligent, emotional, and somewhat withdrawn and ill at ease in social settings. Such persons might well be expected to devote time and intellectual involvement to the nonsocial worlds of books, movies, and television—as the content of the Fantasy scale items implies. The link between fantasy orientation and involvement with nonsocial pursuits such as the mass media is a potentially fascinating avenue for further research.

#### Reference Notes

1. Feshbach, N. D. *Empathy in children: A special ingredient of social development*. Invited address to the meeting of the Western Psychological Association, Los Angeles, April 1976.

2. Iannotti, R. *The elements of empathy*. Paper presented at the biennial meeting of The Society for Research in Child Development, San Francisco, March 1979.
3. Davis, M. H. *Perspective taking, empathic emotion, and helping: A further test of a two-stage model*. Manuscript submitted for publication, 1982.

#### References

- Bernstein, W. M., & Davis, M. H. Perspective-taking, self-consciousness and accuracy in person perception. *Basic and Applied Social Psychology*, 1982, 3, 1-19.
- Briggs, S. R., Cheek, J. M., & Buss, A. H. An analysis of the Self-Monitoring Scale. *Journal of Personality and Social Psychology*, 1980, 38, 679-686.
- Buss, A. H. *Self-consciousness and social anxiety*. San Francisco: Freeman, 1980.
- Buss, A. H., & Plomin, R. *A temperament theory of personality development*. New York: Wiley, 1975.
- Campbell, D. T., & Fiske, D. W. Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 1959, 56, 81-105.
- Cheek, J. M., & Buss, A. H. Shyness and sociability. *Journal of Personality and Social Psychology*, 1981, 41, 330-339.
- Coke, J., Batson, C., & McDavis, K. Empathic mediation of helping: A two-stage model. *Journal of Personality and Social Psychology*, 1978, 36, 752-766.
- Cronbach, L. J. Processes affecting scores of "understanding of others" and "assumed similarity." *Psychological Bulletin*, 1955, 52, 177-193.
- Davis, M. A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology*, 1980, 10, 85.
- Deutsch, F., & Madle, R. Empathy: Historic and current conceptualizations, measurement, and a cognitive theoretical perspective. *Human Development*, 1975, 18, 267-287.
- Dymond, R. F. A scale for the measurement of empathic ability. *Journal of Consulting Psychology*, 1949, 13, 127-133.
- Fenigstein, A., Scheier, M., & Buss, A. H. Public and private self-consciousness: Assessment and theory. *Journal of Consulting and Clinical Psychology*, 1975, 43, 522-527.
- Gough, H. G. *Manual for the California Psychological Inventory* (Rev. ed.). Palo Alto, Calif.: Consulting Psychologists Press, 1969.
- Helmreich, R. L., Stapp, J., & Ervin, C. The Texas Social Behavior Inventory (TSBI): An objective measure of self-esteem or social competence. *JSAS Catalog of Selected Documents in Psychology*, 1974, 4, 79.
- Hoffman, M. L. Empathy, its development and prosocial implications. In C. B. Keasey (Ed.), *Nebraska Symposium on Motivation* (Vol. 25). Lincoln: University of Nebraska Press, 1977.
- Hogan, R. Development of an empathy scale. *Journal of Consulting and Clinical Psychology*, 1969, 33, 307-316.
- Kerr, W. A., & Speroff, B. G. Validation and evaluation of the empathy test. *Journal of General Psychology*, 1954, 50, 369-376.
- Mead, G. H. *Mind, self, and society*. Chicago: University of Chicago Press, 1934.

- Mehrabian, A., & Epstein, N. A measure of emotional empathy. *Journal of Personality*, 1972, 40, 525-543.
- Piaget, J. *The moral judgment of the child* (M. Gabain, trans.) New York: Harcourt, Brace & World, 1932.
- Russell, D., Peplau, L. A., & Cutrona, C. The revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence. *Journal of Personality and Social Psychology*, 1980, 39, 472-480.
- Smith, A. *Theory of moral sentiments*. London: A. Miller, 1759.
- Snyder, M. Self monitoring of expressive behavior. *Journal of Personality and Social Psychology*, 1974, 30, 526-537.
- Spence, J. T., Helmreich, R. L., & Holohan, C. K. Negative and positive components of psychological masculinity and femininity and their relationships to self-reports of neurotic and acting out behaviors. *Journal of Personality and Social Psychology*, 1979, 37, 1673-1682.
- Spence, J. T., Helmreich, R. L., & Stapp, J. The Personal Attributes Questionnaire: A measure of sex role stereotypes and masculinity-femininity. *JSAS Catalog of Selected Documents in Psychology*, 1974, 4, 43.
- Spencer, H. *The principles of psychology*. London: Williams and Norgate, 1870.
- Stotland, E. Exploratory studies in empathy. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 4). New York: Academic Press, 1969.
- Stotland, S., Mathews, K., Sherman, S., Hansson, R., & Richardson, B. *Empathy, fantasy, and helping*. Beverly Hills, Calif.: Sage, 1978.
- Wechsler, D. *Manual for the Wechsler Adult Intelligence Scale*. New York: The Psychological Corporation, 1955.

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