The effects of dispositional empathy on emotional reactions and helping: A multidimensional approach

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Abstract

Recent research indicates that an affective state termed empathic emotion, and characterized by feelings of sympathy and compassion for another, is associated with altruistic responding. That is, persons experiencing high levels of empathic emotion offer help to another even when escape from the situation is easy. Persons experiencing high levels of another emotional state—personal distress—help much less when escape from the situation is easy. A study was conducted to test two related hypotheses. The first was that individual differences in empathy can influence empathic emotion and personal distress, above and beyond the influence of situational factors. The second hypothesis was that this effect of individual differences is due to variation in emotional and not cognitive empathy. The results provide support for both hypotheses. Regarding hypothesis 1, a significantly greater proportion of the variance in emotional reactions was accounted for when individual difference factors were included as predictors. Hypothesis 2 was also supported: It was found that a dispositional measure of emotional empathy was clearly related, and a dispositional measure of cognitive empathy was clearly unrelated, to these emotional reactions. The results provide support for a multidimensional view of empathy.

The role of empathy in producing a genuine “altruistic motivation” has received considerable attention of late. In a series of studies, Batson and his colleagues (Batson, Duncan, Ackerman, Buckley, & Birch, 1981; Coke, Batson, & McDavis, 1978; Toi & Batson, 1982) have sought to demonstrate that there is a particular type of emotional response, frequently experienced by those who observe another’s distress, that motivates the observer to help the victim. This affective state is variously referred to as empathy, empathic concern, or empathic emotion, and is characterized by feelings of warmth, compassion, and concern for the victim. Importantly, it is also clearly distinguishable from the unpleasant feelings of distress and unease which

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the observer may also experience, but which are not feelings for the victim; these distress reactions are more personal, "selfish" feelings of discomfort.

Considerable evidence has begun to accumulate demonstrating that the state of empathic emotion is reliably associated with helping behavior. Two investigations have reported a significant positive association between reported feelings of empathic emotion for and actual helping of another person (Archer, Diaz-Loving, Gollwitzer, Davis, & Foushee, 1981, Coke et al., 1978, Experiment 2). Three other studies by Batson and colleagues have used an ingenious design to demonstrate that this affective state can be legitimately termed "altruistic motivation" (Batson et al., 1981, Experiment 2; Batson, O'Quin, Fultz, Vanderplas, & Isen, Note 1; Toi & Batson, 1982). In each of these investigations a 2 × 2 matrix was formed by crossing subjects' emotional state (a preponderance of either empathic emotion or personal distress) with an "ease of escape" manipulation. "Ease of escape" refers to the costs to the subject for not helping the victim. According to the logic of this design, those subjects high in empathic emotion will help the victim regardless of the ease or difficulty of escaping the situation. Because their motive is "altruistic" (i.e., their goal is to reduce the victim's suffering) and escape is not a means to this altruistic goal, the costs associated with escape are irrelevant. Subjects lacking such an empathic motivation, and motivated instead by a desire to reduce their own distress, will demonstrate a sensitivity to the costs associated with escaping; they will tend to help when escape is difficult, but will tend not to help (i.e., to escape) when escape is easy. This was precisely the pattern found in the series of studies mentioned above. Thus, there is a growing body of evidence supporting the proposed link between empathic emotion and altruistic helping.

To date, all but one investigation examining empathic emotion and helping have used situational manipulations to produce this emotional state. Some investigations have used an instructional set (e.g., Toi & Batson, 1982); others have manipulated the apparent similarity of observer and target (Batson et al., 1981, Experiment 1); and still others have used a misattribution paradigm (Batson et al., 1981, Experiment 2). With one exception (Archer et al., 1981), no attention has been given to naturally occurring individual differences in empathy which may also affect empathic emotion. One primary goal of this investigation is to explore the contribution that individual variation in empathy makes to the experience of empathic emotion.

That individual differences in empathy may have an important influence on emotional reactions seems a reasonable hypothesis. Differences in emotional empathy have been linked to aggressive behavior and helping behavior (Mehrabian & Epstein, 1972) and to emotional reactions generally (Stotland, Mathews, Sherman, Hansson, & Richardson, 1978). More specif-
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ically, Archer et al. (1981) found that a dispositional tendency to experience emotional empathy was related to the emotional reactions of both empathic concern and personal distress, although these relations were qualified by interactions with manipulated variables. This evidence supports the view that individual variation in empathic tendencies may be an important factor in influencing emotional reactions and helping. However, to understand fully the possible contributions of empathic predispositions to emotional reactions, a brief discussion of the nature of empathy is necessary.

The Multidimensional Nature of Empathy

Empathy has long been considered by some to consist of either cognitive, nonemotional reactions to others (e.g., Borke, 1971; Dymond, 1949) or clearly affective responses (e.g., Stotland, 1969). In recent years, though, it has been argued that empathy may best be considered a set of related constructs including both emotional and nonemotional components (Davis, 1980, 1983; Deutsch & Madle, 1975; Hoffman, 1977). One advantage of this multidimensional approach to empathy is that by clearly defining the different types of reactions to others that can be called empathic, we may explore the systematic similarities and differences between these types of empathy, and their implications for other behaviors.

Recently an individual difference measure based on a multidimensional view of empathy was developed. The Interpersonal Reactivity Index (IRI; Davis, 1980) is a measure that explicitly treats empathy as a multidimensional phenomenon, and accordingly consists of four separate empathy subscales. Two of these are of special interest in this investigation. One measure is the perspective-taking (PT) scale, which assesses the spontaneous tendency of the respondent to adopt the psychological perspective of other people—to entertain the point of view of others. Of the four scales, this one most clearly taps the nonemotional, or cognitive, type of empathy. The second IRI subscale of interest is the empathic concern (EC) scale, which taps the respondent's reported tendency to experience feelings of warmth, compassion, and concern for others. Thus, in contrast to the PT scale, the EC scale is clearly a measure of emotional responsivity.1

Evidence demonstrating the validity of these IRI subscales comes from several sources. Davis (1980), in a description of the development of the

1. The IRI contains two other subscales. One of these is the personal distress (PD) scale, which assesses feelings of anxiety, distress, and unease in tense or crisis situations. Thus, the EC and PD scales tap clearly emotional reactions to the observed experiences of others. The fourth IRI scale is the fantasy (FS) scale, which assesses the respondents' tendencies to imagine themselves in the place of characters in books, movies, and plays. Although not as clearly emotional in tone as the EC and PD measures, the FS scale was found by Davis (1983) to be significantly related to other measures of emotionality, and the relations of the FS scale to other psychological measures are similar to those of the EC scale. Thus, the FS scale seems to be more a measure of emotional than cognitive empathy.
questionnaire, has reported on its psychometric properties. The factor structure of the 28-item questionnaire seems quite stable over repeated administration to different samples; in addition, the internal and test-retest reliabilities of the subscales also are satisfactory (see Method). Davis (1983) has also recently illustrated the discriminant validity of the IRI subscales by comparing the relations between each of the subscales and measures of social competence, self-esteem, emotionality, and sensitivity to others. As expected, perspective taking was consistently associated with better social functioning and higher self-esteem, in keeping with the theoretical view of perspective taking as a fundamental social skill (Mead, 1934; Piaget, 1932). It was also much less closely related to measures of emotionality than were the other IRI scales. In contrast, empathic concern scores were less consistently related to social functioning and were more strongly associated with a specific type of sensitivity to other people, one characterized by a concern for, and an emotional sensitivity to, other's thoughts, feelings, and experiences. Additionally, the EC scale displayed its highest correlation with a global measure of emotional empathy—the Mehrabian and Epstein emotional empathy scale.

Individual Differences and Emotional Reactions

As previously mentioned, one goal of this research was to test the hypothesis that individual differences in empathic tendencies will significantly affect reported levels of empathic emotion and personal distress after exposure to a needy victim. In addition, a second aim of the research was to test the proposition that these effects of individual differences on emotional reactions are due to emotional, rather than cognitive, empathy. In other words, the second goal of the research was to demonstrate the utility of a multidimensional approach to empathy. Two subscales of the IRI were used as measures of individual differences in empathy: the PT and EC scales. Scores on the EC scale (the emotional measure) were expected to be positively related to reported feelings of sympathy and concern (i.e., empathic emotion) after exposure to a needy victim. The exact nature of the relation between EC scale scores and reported personal distress is less clear. Although the emotional reactions of empathic emotion and personal distress are clearly distinct affective states with different behavioral consequences (Batson et al., 1981; Toi & Batson, 1982), in a number of experiments the correlation between these emotional states has been quite substantial. The mean correlation found in five studies was .52. (Batson et al., 1981; Batson et al., Note 1, Experiments 1, 2, and 3; Toi & Batson, 1982). Given the high correlation between these two emotional reactions in vivo, and the fact that the EC scale is substantially associated with a general measure of emotionality, it is altogether possible that EC scale scores would be related to personal distress as well as empathic emotion.
In contrast, scores on the PT scale (the cognitive measure) were expected to display much weaker relations with both of the emotional reaction measures. Because it is a measure of a cognitive, clearly nonemotional response to others, the PT scale was expected to be much less directly related to actual affective responses than was the individual difference measure (EC) that explicitly taps emotional reactivity. It should be noted that perspective-taking instructions have been used successfully to induce empathic emotion (Toi & Batson, 1982); however, the PT scale assesses only the relative tendency to engage in perspective taking in everyday life. It seems unlikely that the effect of PT scores on emotional reactions would be as strong as would an explicit instruction to adopt the psychological point of view of the target. To examine this possibility, however, an instructional set manipulation of perspective taking was also used in this study. Including a situational manipulation such as instructional set, which has previously been used successfully to produce empathic emotion, made it possible in this study to examine the contribution of individual difference variables above and beyond the impact of such a situational factor.

Method

Overview

Within the context of an experiment concerned with reactions to various broadcast media, subjects heard a tape recorded appeal for help from a young woman. Prior to hearing the appeal, subjects received one of two instructional sets: They were instructed either to adopt the perspective of the person on the tape (i.e., to imagine how the person felt) or merely to listen carefully to the tape recording. Following this, subjects responded to a questionnaire assessing their emotional reactions, and were given an opportunity to volunteer help to the woman they had heard on the tape. The emotion and helping measures served as the primary dependent measures in this study.

Subjects

Subjects were 84 male and 74 female students enrolled in introductory psychology classes at the University of Texas at Austin. Participation in the experiment served as partial fulfillment of course requirements. All subjects were pretested on the IRI at the beginning of the semester in large group testing sessions. The IRI is 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 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 I." There are two other IRI subscales less relevant to the present study. 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.” 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 among the seven FS items are the three items constituting the Fantasy-Empathy (F-E) Scale of Stotland et al. (1978). Internal reliabilities for the four scales range from .71 to .77, and test-retest reliabilities from .62 to .71 (Davis, 1980). As with most empathy measures, significant sex differences existed for each scale, with females scoring higher than males on each of the four.

Procedure

Subjects were run individually, in small experimental cubicles, using a procedure modeled closely after Coke et al., (1978, Experiment 1). Upon arriving, each subject was led to the cubicle by the experimenter. The experimenter then delivered the cover story, informing the subject that the study was concerned with reactions to, and perceptions of, various broadcast forms, such as radio, TV, and movies. Subjects were told that they would hear three actual broadcasts during the session—two short radio broadcasts, and the sound portion of a pilot tape produced by a local public access TV facility. Following these instructions, subjects’ informed consent to participate was obtained.

The experimenter then informed the subjects that they were ready for the first tape—a short public events show from the University of Kansas radio station. Subjects were told that there would be no special instructions for the first tape; they were merely to listen to the tape, and then complete three questionnaires assessing their reactions to it. The experimenter explained that, “for control purposes,” the subject would be left alone in the cubicle while listening to the tape and answering the questionnaires. The experimenter then briefly explained how to operate the tape recorder, gave the subject an envelope containing the questionnaires, and instructed the subject to knock on the door when s/he was finished. The experimenter then left the cubicle.

Two of the three questionnaires given to the subject consisted of filler items to lend authenticity to the cover story. They inquired about tape quality, content of the broadcast, and the subject’s reactions. The third questionnaire consisted of 22 items assessing the subject’s emotional state; this questionnaire was also presented following the second, critical tape. It was included at this point to reduce any suspicions that might have arisen at its later administration.

When the subject completed the questionnaires and knocked on the cubicle door, the experimenter re-entered the cubicle and introduced the second tape, explaining that it was the audio portion of a pilot tape from a community television station, and that it consisted of a brief description of needy persons. At this point, the experimenter gave the subject an envelope containing one of two sets of instructions, explaining that the subject was to read them carefully, and to follow them while listening to the tape. Subjects in the perspective-taking instruction condition were given the following instructions:
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In a few moments, you will be hearing about a particular individual. As you listen to the tape, please imagine how that person feels. Picture to yourself how that person feels. As you listen to the tape, concentrate on the person's experiences. You should try to identify with the feelings and reactions that this person is experiencing. In your mind's eye, try to visualize how it would feel for you to be in this situation.

Subjects in the observe instructions condition received the following instructions:

In a few moments, you will be hearing about a particular individual. While listening to the tape, please listen very carefully. Pay close attention to what is said, and try to remember as much of the tape as you can. You should try to make your memory of what is said as accurate and complete as possible. In sum, pay as careful attention to the tape as you can.

When the subject had finished reading the instructions, the experimenter left, instructing the subject to listen to the tape, and then to complete the three questionnaires assessing reactions to it. The tape used in this experiment was identical to that used by Coke et al. (1978, Experiment 1) and describes the situation of Katie Banks, a senior at the university. Katie's parents had recently been killed in a tragic accident. Katie's father did not have life insurance, and Katie was desperately struggling to support her surviving younger brother and sister while she finished her last semester of college. Katie badly needed money, but she also needed transportation to the grocery store and laundry, and sitters to stay with her younger brother and sister while she attended her two night classes. The announcer then interviewed Katie. In a grief-stricken voice, she stated that obtaining a job that would enable her to support her brother and sister was impossible unless she graduated. Unless she did so, she feared that she would have to give them up for adoption.

After hearing the tape, subjects then responded to the second set of three questionnaires. The first questionnaire they filled out was a 22-item mood measure indicating their feelings on a series of 7-point Likert-type scales. The second questionnaire contained several filler items, as well as a check on the instructional set manipulation. The third questionnaire consisted of filler items similar to those administered after the first tape.

When the subject completed the three questionnaires and knocked on the door, the experimenter returned, delivering the following instructions:

Okay, here is the final broadcast. It's a local sports report from a public radio station in San Antonio. Before you listen to it, though, I have to give you this letter from the woman you just heard about on the last tape. The reason I'm giving you this is that the professor in charge of this study, Dr. ___ had to ask her permission to use the tape in this experiment. Since she let us do the tape, Dr. ___ thought it would be nice to do something for her. Her story is part of the ACTV pilot, or test show, and it won't actually be seen on TV, so Dr. ___ is letting her ask people in this study for help by writing a letter to them. I'll leave it here, and if you want to read the letter, please do so before listening to the last tape—there's a response form in the envelope that we prepared for her. No matter what you decide to do, please put the response sheet in one of
these envelopes when you're finished, seal it up, and toss it in that box over there. Then listen to the last tape and fill out the questionnaires, just like before.

The letter from “Katie Banks” was an appeal to the subjects to help her by donating their time to baby-sit, do chores, and provide transportation. Included with the letter was a response form, on which the subjects could record their name, address, phone number, and the number of hours (from 0 to 5 or more) they were willing to volunteer. Whether the subject volunteered help or not, s/he then sealed the response form in an envelope and put it in a box on the table. The box already contained two sealed envelopes addressed to Katie Banks.

When subjects played the last tape, they heard a message informing them that the experiment was over; at that point, the experimenter re-entered the cubicle and escorted the subject to a different cubicle, where a full debriefing took place.

**Mood Indices**

The 22 mood items used in this study were the same as those employed by Archer et al. (1981), and nearly identical to those used by Coke et al. (1978): Thirteen thought to reflect feelings of personal distress, seven denoting empathic concern, and two filler items made up the questionnaire. Subjects recorded their feelings concerning each item on a 7-point scale running from 1 (“not at all”) to 7 (“very”).

The responses to the mood questionnaire administered after exposure to the appeal for help were subjected to factor analysis (principal axes factoring, with varimax rotation), and three distinct factors emerged. As expected, and consistent with earlier studies, one of these factors reflected feelings of concern for the needy woman (moved, soft-hearted, sorrowful, touched, concerned, and compassionate) and another reflected feelings of personal discomfort and anxiety (worried, uneasy, distressed, troubled, and upset). All items listed above loaded on their respective factor at or beyond .60. Two indices were therefore constructed, corresponding to these two factors, and consisting simply of the mean of the subject’s responses to the items making up each factor.\(^2\) Since the same mood questionnaire was administered both before and after exposure to the critical tape, it was also possible to construct premeasures for both of these mood indices by averaging the subject’s responses to the identical items on the first questionnaire. These scores served as “baseline” measures of empathic emotion and personal distress for each subject.

**Results**

**Effectiveness of the Manipulation**

To assess the effectiveness of the instructional set manipulation, an analysis of variance was conducted on responses to the manipulation check item, which asked subjects to indicate to what extent they had “attempted to imagine the feelings of the person in need.” Instructional set and subject

\(^2\) A third factor, consisting of four adjectives denoting feelings of irritation (disturbed, perturbed, irritated, bothered) also emerged from the factor analysis. Because these emotional reactions were not theoretically germane to this investigation, only the empathic emotion and personal distress factors were used in subsequent analyses.
sex served as the independent variables in this analysis, and the SPSS simultaneous regression solution was specified (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). As expected, a significant main effect for instructional set, $F (1,162) = 9.71, p < .01$, was obtained, with those subjects who received perspective-taking instructions reporting greater attempts to imagine the feelings of the needy person ($M_s = 4.51$ vs. $4.07$ on a 1-7 scale). Thus the instructional set appears to have had the desired effect. In addition, female subjects ($M = 4.49$) also reported more perspective-taking attempts than did males ($M = 4.11$), $F (1,162) = 5.97, p < .02$.

**Individual Differences and Emotional Reactions**

Table 1 displays the correlations between subject sex, instructional set, the two individual difference variables, and the emotional reactions of empathic emotion and personal distress. It is clear from this table that the EC scale is significantly related to both types of emotional reactions. The PT scale, as predicted, bears noticeably weaker relations to these variables, neither of which is statistically significant. It thus appears that, consistent with predictions, emotional, and not cognitive empathy, is associated with emotional reactions.

A more stringent and appropriate assessment of the contributions that individual differences make to these emotional reactions is also possible. Hierarchical regression analysis (Cohen & Cohen, 1975), in which predictor variables are entered into the regression equation in a predetermined order, can be used to assess the predictive power provided by such variables above and beyond that accounted for by a situational manipulation. In the following analyses a hierarchical strategy was used for the dependent variables of reported empathic emotion and personal distress. On the first step of each analysis, three predictors were entered. The first is a “baseline” measure of the appropriate dependent variable. Because the 22-item mood questionnaire was administered to every subject before and after exposure to the critical tape, reported feelings of empathic emotion and personal distress before exposure to the victim can serve as premanipulation levels of these affective states. These scores were entered at the first step of the

**Table 1. Zero-order correlations between reported emotional reactions and instructional set, subject sex, PT scale scores, and EC scale scores.**

<table>
<thead>
<tr>
<th></th>
<th>Empathic emotion index</th>
<th>Personal distress index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional set</td>
<td>.20**</td>
<td>.11</td>
</tr>
<tr>
<td>Sex</td>
<td>.27**</td>
<td>.29**</td>
</tr>
<tr>
<td>EC scale scores</td>
<td>.28**</td>
<td>.24**</td>
</tr>
<tr>
<td>PT scale scores</td>
<td>.07</td>
<td>.01</td>
</tr>
</tbody>
</table>

**$p < .01$  
$p < .05$**
regression analyses to control for each individual's own baseline level of the affective state. Instructional set and subject sex were also entered as predictors at step 1. Since these three predictors were entered simultaneously, the effect of the analysis was to assess the impact of each variable while controlling for the effects of the other two.

As the second step of the analyses, the two IRI scales were entered into the equation. The net effect of this procedure was to assess the impact of individual difference variables after the impact of baseline measure, instructional set, and sex were assessed. Thus, any observed influence of individual difference variables reflects the additional contribution to explained variation in emotional reactions above and beyond that accounted for by previous predictors. It is therefore a stringent test of the predictive utility of the individual difference variables. Finally, as the third step of these analyses, another set of predictors was entered: all the two-way interactions which involve combining the independent variables of sex, instructional set, PT, and EC scores. The results of these two regression analyses appear in Table 2.

**Empathic emotion.** The baseline measure of empathic emotion entered at step 1 was significantly and positively related to empathic emotion after exposure to the victim, \( F(1,152) = 9.99, < .01 \). Instructional set and subject sex, also entered at step 1 of the analysis, were likewise both significantly associated with reported feelings of empathic emotion. Females, \( F(1,152) = 13.30, p < .001 \), and subjects receiving the perspective-taking instructional set, \( F(1,152) = 7.25, p < .01 \), reported greater feelings of warmth and compassion after hearing the stimulus tape. As step 2 of this analysis, the two individual difference measures of empathy were entered into the regression equation. As expected, the EC scale, \( F(1,150) = 10.94; p < .001 \), was significantly associated with greater feelings of warmth and concern; the PT scale, in contrast, was not significantly related to this affective state, \( F < 1 \). Thus, the clearly cognitive measure was unrelated, and the clearly emotional measure was significantly related, to reported empathic emotion. As the third step of the analysis, the six interaction terms were entered. None of them exerted statistically significant effects on the dependent measure.

When using the hierarchical approach, one may compute the increase in \( R^2 \) resulting from the addition of new predictors at each succeeding step of the regression equation. Importantly, when this is done in the present analysis, it is found that the increase in \( R^2 \) from step 1 (.17) to step 2 (.23) is statistically significant, \( F(2,150) = 5.88, p < .01 \). Thus, as predicted, the addition of the two individual difference factors at step 2 significantly

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3. Effect coding was used for subject sex (−1 = males; +1 = females) and instructional set (−1 = observe instructions; +1 = perspective-taking instructions). In order to reduce collinearity among the interaction terms, subjects' IRI scale scores were recoded (by subtracting the sample mean on that scale from the subject's score) to reflect deviations from the mean. Thus, IRI scores could have negative as well as positive values.
increased the predictive power of the regression model. Finally, the addition of the six interaction terms in the third step of the regression analysis yielded a nonsignificant \((F < 1)\) increase in \(R^2\) (from .23 to .25).

**Personal distress.** The relation between the baseline measure of personal distress and reported personal distress after exposure to the victim was only of borderline significance, \(F(1,152) = 2.86, p < .10\). The instructional set variable also entered at the first step was likewise marginally related to personal distress, \(F(1,152) = 2.63, p < .15\), but subject sex was clearly related, \(F(1,152) = 16.21, p < .001\); females reported higher levels of personal unease and anxiety than did males.

As the second step of the analysis, the two IRI scales were entered into the equation. As expected, and as was the case for the empathic emotion analysis, no significant relation was found between reported degree of personal distress and PT scale scores, \(F(1,150) = 2.31, p > .10\). Scores on the EC scale, however, were significantly and positively associated with this affective state, \(F(1,150) = 8.09, p < .01\). As with the analysis of the empathic emotion index, no interaction terms attained a conventional level of significance.

The comparison of variance accounted for \((R^2)\) at each step of the hierarchical analysis again revealed that the increase from step 1 (.11) to step 2 (.16), resulting from the inclusion of the two individual difference

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**Table 2.** Effect of predictor variables in the hierarchical regression analyses on reported feelings of empathic emotion and personal distress.

<table>
<thead>
<tr>
<th></th>
<th>Empathic emotion index</th>
<th>Personal distress index</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>(\beta)</td>
<td>(r)</td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline mood level</td>
<td>.23</td>
<td>.22</td>
</tr>
<tr>
<td>Instructional set</td>
<td>.20</td>
<td>.20</td>
</tr>
<tr>
<td>Subject sex</td>
<td>.27</td>
<td>.27</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC scale score</td>
<td>.27</td>
<td>.28</td>
</tr>
<tr>
<td>PT scale score</td>
<td>-.02</td>
<td>.07</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructions (\times) Sex</td>
<td>.06</td>
<td>.01</td>
</tr>
<tr>
<td>Instructions (\times) PT</td>
<td>.06</td>
<td>.00</td>
</tr>
<tr>
<td>Sex (\times) EC</td>
<td>-.09</td>
<td>-.02</td>
</tr>
<tr>
<td>Sex (\times) EC</td>
<td>.05</td>
<td>.04</td>
</tr>
<tr>
<td>PT (\times) EC</td>
<td>.12</td>
<td>.07</td>
</tr>
</tbody>
</table>

\[ R^2 = .17 \]

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\[ R^2 = .11 \]

\[ R^2 = .23 \]

\[ R^2 = .16 \]

\[ R^2 = .25 \]

\[ R^2 = .18 \]

\[ **p < .01 \]

\[ *p < .05 \]
Table 3. Proportion of subjects offering help as a function of instructional set and subject sex. (Mean level of help actually offered is in parentheses.)

<table>
<thead>
<tr>
<th>Perspective-taking instructions</th>
<th>Observe instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Males</strong></td>
<td></td>
</tr>
<tr>
<td>.195 (.488)</td>
<td>.163 (.442)</td>
</tr>
<tr>
<td>N = 41</td>
<td>N = 43</td>
</tr>
<tr>
<td><strong>Females</strong></td>
<td></td>
</tr>
<tr>
<td>.242 (.636)</td>
<td>.415 (1.00)</td>
</tr>
<tr>
<td>N = 33</td>
<td>N = 41</td>
</tr>
</tbody>
</table>

variables, was significant, $F (2,150) = 4.46$, $p < .05$. Thus, the addition of the individual difference variables again significantly improved the regression equation's ability to predict an emotional response. Finally, the increase in $R^2$ from step 2 (.16) to step 3 (.18) was nonsignificant, $F < 1$; the addition of the six interaction terms again failed to improve the prediction of emotional reactions.4

Helping

The first step in analyzing the helping results was simply to note the incidence of helping which occurred. Table 3 displays the proportion of subjects who offered any help at all, as a function of subject sex and instructional set; the mean level of help offered (in hours) is displayed as well. As the table indicates, females receiving a perspective-taking instructional set were the most likely to offer help, with 42% of these subjects responding to the appeal. Response rates in the other three cells of this table were lower and roughly equivalent ($M = 20\%$).

A second step in examining the helping results is to use helping as a dependent variable while employing the same hierarchical regression strategy used earlier for the emotional reaction measures. Accordingly, a multiple regression analysis nearly identical to those reported earlier was carried out.

4. Because the EC scale displays the strongest association with a general measure of emotionality (the Mehrabian and Epstein Emotional Empathy Scale), it seemed the best choice in this study for a measure of emotional empathy; consequently only the PT (cognitive) and EC (emotional) scales were used in the regression analyses. A set of additional analyses was carried out, however, in which the other two IRI scales—the FS and PD scales—were included. Because these two scales clearly have a more emotional than cognitive tone, it was expected that they would be related to some degree to the emotional reactions under study in this investigation. This proved to be the case. The zero-order correlations between the FS scale and the two emotional indexes were: .25 (empathic emotion) and .21 (personal distress). The correlations for the PD scale were: .33 (empathic emotion) and .29 (personal distress). When the FS and PD scales were added to the hierarchical regression analyses, both scales were significantly and positively related to empathic emotion (both $p$'s < .05) and marginally positively related to personal distress (both $p$'s < .10). The relations observed between PT scores, EC scores, and emotional reactions in the original analyses were unchanged by the addition of the FS and PD scores to the analyses.
Table 4. The effect of predictor variables in the hierarchical regression analysis on offers to help.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>β</th>
<th>r</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional set</td>
<td>.07</td>
<td>.08</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Subject sex</td>
<td>.17</td>
<td>.18</td>
<td>4.81*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC scale score</td>
<td>.04</td>
<td>.10</td>
<td>&lt;1</td>
</tr>
<tr>
<td>PT scale score</td>
<td>.06</td>
<td>.09</td>
<td>&lt;1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructions × Sex</td>
<td>.16</td>
<td>.12</td>
<td>3.75*</td>
</tr>
<tr>
<td>Instructions × PT</td>
<td>.25</td>
<td>.16</td>
<td>7.49**</td>
</tr>
<tr>
<td>Instructions × EC</td>
<td>-.20</td>
<td>-.06</td>
<td>5.16*</td>
</tr>
<tr>
<td>Sex × PT</td>
<td>-.02</td>
<td>.02</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Sex × EC</td>
<td>.09</td>
<td>.05</td>
<td>1.12</td>
</tr>
<tr>
<td>PT × EC</td>
<td>.02</td>
<td>-.01</td>
<td>&lt;1</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>R^2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>= .04</td>
<td></td>
<td></td>
</tr>
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<td></td>
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</tr>
</tbody>
</table>

The difference between this analysis and the previous one is that no “baseline” measure of helping is available for inclusion at step 1 of this analysis. Thus, as the first step of this analysis, only subject sex and instructional set were entered as predictors; as step 2, the two IRI scales were entered, and as step 3, the two-way interactions were entered. These results appear in Table 4.

Instructional set failed to display a significant association with helping (F < 1) at step 1 of the analysis, while the effect of sex was significant, F(1,153) = 4.81, p < .05. Females were more likely to offer help than were males. Neither the PT nor the EC scales, entered at step 2, had a significant effect on helping (F's < 1). However, the addition at step 3 of the six interaction terms yielded three significant effects, all involving instructional set. The Instructional Set × Sex interaction, F(1,145) = 3.75, p < .06, is the result of the pattern observed earlier in Table 3: Females were significantly more likely to help than were males when a perspective-taking instructional set was given, F(1,145) = 7.39, p < .01, but not when the observe set was administered (F < 1). The other two interactions involve instructional set and individual difference variables. The Instructional Set × PT interaction, F(1,145) = 7.49, p < .01, is due to the fact that PT scores have no effect on helping when the observe set is administered (F < 1) but have a

5. An identical analysis was also conducted on the actual amount of help offered. The pattern of results for this analysis was virtually identical to that reported for the dichotomous measure.
significant facilitating effect among subjects receiving the perspective-taking set, $F(1,145) = 4.35, p < .05$. The Instructional Set × EC interaction, $F(1,145) = 5.16, p < .05$, reflects a different pattern. Empathic concern (EC) scale scores have a marginally significant positive relation with helping among those given the observe instructions, $F(1,145) = 2.89, p < .10$, but have no effect at all when perspective-taking instructions are given. Thus, the effects of subject sex and PT scores on helping are significant when perspective-taking instructions are given, while the effects of EC scores emerge only when these instructions are not given, (i.e., when observe instructions are administered).

We have seen earlier that, consistent with expectations, empathic emotion was influenced both by situational (instructional set) and individual difference (the EC scale) factors. The final analysis to be reported here tests the hypothesized link between helping and the two emotional reactions of empathic concern and personal distress. A multiple regression analysis was conducted on the dichotomous helping measure, with scores on the empathic emotion and personal distress indexes serving as predictors. As anticipated, feelings of sympathy and concern were significantly—$F(1,172) = 6.95, p < .01$—related to actual helping; feelings of personal distress and unease were not ($F < 1$).

Discussion

The goals of this study were twofold: To demonstrate generally that individual differences in empathy exert a significant influence on the important affective reactions of empathic emotion and personal distress, and to demonstrate more specifically that—consistent with a multidimensional view of empathy—measures of emotional, rather that cognitive, empathy are most clearly related to these emotional reactions. The results provided strong support for both propositions.

It is clear from this investigation that individual differences in empathy—as measured by the two IRI scales—had a significant impact on the emotional reactions that subjects reported after exposure to an appeal for help. In both of the hierarchical regression analyses it was found that adding the PT and EC scales to the regression equation significantly increased the explained variance in emotional reactions. More importantly, this effect of individual differences was above and beyond that accounted for by instructional set, subject sex, and each subject's baseline level of the emotional state in question. These results therefore represent a strong test of the hypothesis that individual difference factors significantly influence important emotional reactions. It is also noteworthy that the addition of the six interaction terms (five of which involve an individual difference measure) produced no significant increase in $R^2$ for either of the two emotional reaction indexes. It appears that in this study the influence of empathic
predispositions on emotional reactions is direct, uncomplicated by interactions with other variables.

The second major hypothesis of this investigation was that the observed effects of individual differences on emotional reactions would be due to variations in emotional empathy (i.e., the EC scale), and not to variations in cognitive empathy (i.e., the PT scale). This hypothesis received clear support. The zero-order correlations appearing in Table 1 display the expected pattern; PT scale scores were unrelated to either of the emotional reactions (mean $r = .04$), while the EC scale displayed a significant positive association with both (mean $r = .26$). This pattern held as well when the hierarchical regression analyses were carried out. For both emotional reactions, the PT scale was unrelated and the EC scale was clearly related to degree of emotional response. Thus, a multidimensional view of empathy receives support from these data.

This finding reinforces the pattern found in other recent research employing a multidimensional approach to empathy. For example, Davis (1983) found that scores on the PT and EC scales displayed distinctly different patterns of relations with other psychological measures. The PT scale was minimally related to measures of chronic emotionality, but exhibited a consistent pattern of association with measures of social functioning and social self-esteem. Scores on the EC scale were not consistently related to these latter constructs, but were strongly related to a measure of global emotionality (the Mehrabian and Epstein Emotional Empathy Scale) and to indicants of other-oriented sensitivity and concern. Davis (in press) recently investigated helping in a naturally occurring “easy escape” context: the annual muscular dystrophy telethon. In that study, respondents with higher EC scores were significantly more likely to contribute money to the muscular dystrophy telethon. In contrast, and consistent with the present investigation, PT scale scores were unrelated to monetary contributions. Finally, Bernstein and Davis (1982) have demonstrated a different pattern: When the behavior under study is not an emotional reaction, or some act (like helping) strongly affected by emotional reactions, PT scale scores can predict behavior better than can EC scores. Those investigators recently examined the relation between empathy and accuracy in person perception. Using a forced-choice technique to assess accuracy—one that eliminates several methodological problems which typically accompany such research (Cronbach, 1955)—they found high scores on the PT scale to be associated with greater success at matching target persons with their self-descriptions. More importantly, 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. Together with these previous findings, the results of the present study lend further support to the suggestion that empathy can be usefully considered as a set of related
constructs, and that the facet of empathy most influential in affecting any specific behavior will depend upon the specific nature of that behavior.

The findings of this study with regard to helping are generally consistent with the work of Batson and his colleagues. The most important result is that the emotional reactions of warmth, sympathy, and concern were significantly related to helping, while reactions of personal distress and unease were not. Based on the analysis offered by Batson et al. (1981), this is precisely the pattern to be expected. In their terminology, the situation facing subjects in this experiment constituted an "easy escape" condition. That is, subjects declining to help in this study did not anticipate any negative consequences from their decision. They did not know the victim and had no reason to believe that they would ever meet her. In addition, their decision to help or not was ostensibly a private one, with their response placed in a sealed envelope which did not identify them in any way. Batson et al. (1981) argue that, regardless of the ease or difficulty of escape, feelings of empathic emotion will provide an altruistic motive to help; thus, a relation between reported empathic emotion and helping is expected. Uncomfortable feelings of personal distress, on the other hand, can be reduced by either helping or escaping (i.e., not helping); when escape is easy, as in the present study, greater personal distress will therefore not necessarily lead to helping, and thus no strong relation between personal distress and helping can be expected. Since that is exactly the pattern found here, these results are consistent with the Batson et al. (1981) research.

One possible discrepancy between these results and some earlier work by Batson and his colleagues is the lack of a simple and direct relation in this study between the instructional set manipulation and helping. Toi and Batson (1982), for instance, recently found a significant effect of instructional set on helping under conditions of easy escape; Coke et al. (1978, Experiment 1) report the same finding under conditions comparable to those of the present study. However, there was no evidence in this investigation of any direct effect of instructional set on helping. Thus, consistent with Batson's earlier work, this study revealed (a) a significant effect of instructional set on reported empathic emotion, and (b) a significant effect of empathic emotion on helping. What the present research failed to replicate is the earlier finding that instructional set also exerted a simple effect on helping.

It may be that the instructional set manipulation in this study was not strong enough to influence helping. That is, instructions were powerful enough to affect emotional reactions to the victim, and those emotional reactions had the expected effects on helping, but the instructional set itself was not strong enough to influence helping directly. It should be noted, however, that the instructional set variable was involved in three interactions that did affect helping. When perspective-taking instructions were admin-
istered, females helped more than did men, and those high in perspective-taking tendency helped more than did those low in such a tendency. In both cases, then, perspective-taking instructions allowed another variable to influence helping. In the third interaction, perspective-taking instructions erased the effect that EC scale scores exerted on helping in the absence of perspective-taking instruction. It seems clear, then, that while there was no "main effect" for instructional set on helping, instructions were not unimportant to helping. In any event, the presence or absence of a direct effect of instructions on helping may in a sense be less important than the other results reported here. It can be argued that the real significance of an instructional set lies in its impact on the theoretically crucial state of empathic emotion, which is said to motivate altruistic responding. As Coke et al. (1978) stated, and consistent with the present findings, "perspective-taking affects helping only as a result of its effect on one's empathic emotional response" (p. 753). If this is true, then the apparent effect of instructions on helping is in a sense epiphenomenal, and is less central to an explanation of the nature of altruistic responding.

One final finding of the study that bears some discussion is the association between EC scale scores and reported feelings of personal distress. As mentioned earlier, this result was not completely unanticipated. First, given its high correlation with the Mehrabian and Epstein Empathy measure, the EC scale probably measures to some degree a general tendency toward emotional reactivity. Second, it has also been the rule, rather than the exception, that actual feelings of empathic concern and personal distress cooccur to a great degree. Thus, the finding that both types of emotional reaction are significantly predicted by EC scale scores is not surprising. It might have been expected, however, that the size of the relation would be stronger for empathic emotion, since the EC scale was developed for the purpose of measuring the chronic tendency to experience exactly that emotional reaction (Davis, 1980). Table 1 reveals that the correlation between EC scores and empathic emotion is slightly higher than that between EC scores and personal distress; however, the difference is a small one.

Future research using different types of helping opportunities may shed further light on this matter. All of the research explicitly examining the link between empathic emotion and helping has thus far been in settings that seem likely to evoke higher levels of empathic emotion than of personal distress. For example, all the studies have been conducted in laboratory settings, often when the victim was not physically present. Helping opportunities that appear to be emergencies, and/or in which stronger feelings of personal distress and anxiety may be more likely, could reduce the high correlation between empathic emotion and personal distress, and will surely provide a basis for generalizing the convincing results found thus far, to a wider range of settings.
Reference Notes


References


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