
Gender Differences, Motivation, and Empathic Accuracy: When It Pays to Understand

Kristi J. K. Klein
Sara D. Hodges
University of Oregon

Two studies of college students investigated the conditions under which women perform better than men on an empathic accuracy task (inferring the thoughts and feelings of a target person). The first study demonstrated that women's advantage held only when women were given a task assessing their feelings of sympathy toward the target prior to performing the empathic accuracy task. The second study demonstrated that payments in exchange for accuracy improved the performance of both men and women and wiped out any difference between men's and women's performances. Together, the results suggest that gender differences in empathic accuracy performance are the result of motivational differences and are not due to simple differences of ability between men and women.

“You just don't understand.” “Men are from Mars, women are from Venus.” Best-selling books during the past decade lead us to believe that understanding between two people is elusive. Popular culture and gender stereotypes would further have us believe that men are particularly challenged when it comes to understanding what others are thinking or feeling. Does the empirical literature support this stereotype? And if so, is it a lack of ability, or are they simply not motivated in some situations? If men's performance really is worse, can anything improve it? Could we *pay* them to do better?

EMPATHIC ACCURACY

Ickes and his colleagues (see Ickes, 1993) coined the term *empathic accuracy* to refer to a person's capability to accurately infer what another person is thinking or feeling. It can be distinguished from other concepts such as emotional matching (i.e., actually feeling the same way as another person) (e.g., Levenson & Rueff, 1992) or concern for the other person (e.g., Batson, Fultz, & Schoenrade, 1987), which are also components of empathy but which focus on the emotional connection

between two people. Empathic accuracy focuses on the cognitive link in an interaction, that is, the ability to infer what is going through the mind of another person.

Although many empathy studies have used actors or fictional characters as the targets of empathy (e.g., Feshbach & Roe, 1968; Stotland, 1969), when studying empathic accuracy it is necessary for the target to be a person spontaneously relating his or her own real experiences. An actor can act as if he or she feels a certain emotion or thinks a certain thought and will intentionally portray the appropriate cues; however, in everyday interactions, people do not necessarily portray their mental states deliberately. Reading these complicated cues is the process of empathic inference.

Ickes and colleagues (Ickes, in press; Ickes, Bissonnette, Garcia, & Stinson, 1990; Marangoni, Garcia, Ickes, & Teng, 1995) have devised a methodology for studying empathic accuracy that compares the perceiver's inferences about the target's thoughts and feelings to the actual thoughts and feelings that the target remembered having. To collect these thoughts, target participants are videotaped while they talk about some event, topic, or problem. Following the taping, participants watch their own videotape, stopping the tape at

Authors' Note: We would like to thank Bella DePaulo, Bertram Malle, Matt O'Laughlin, and the Fall 1998 Empathy and Perspective Taking seminar at the University of Oregon for their helpful comments and Jay Breslow, Jeanna Caropreso, Tony Costanza, Wendy Hawkins, Naomi Hibshman, Linda Ivy, Edward Lubinescu, Jeff Miholer, Hadley Morotti, Elise Peltier, Donna Ralstin-Oakes, Naomi Sherry, and Darya Veach for their assistance in carrying out this research. This research was partially supported with funds to the first author by the Emotion Research Training grant at the University of Oregon, National Institute of Mental Health training Grant No. MH18935-07. Correspondence concerning this article should be addressed to Kristi Klein or Sara Hodges, Department of Psychology, 1227 University of Oregon, Eugene, OR 97403.

PSPB, Vol. 27 No. 6, June 2001 720-730

© 2001 by the Society for Personality and Social Psychology, Inc.

each moment they remember having had a specific thought or feeling while they were talking. Targets then write down these thoughts or feelings, noting the time at which they occurred on the videotape. To assess empathic accuracy toward the target, another participant, the perceiver, then watches the video, and the video is stopped at the points at which the target had recalled a thought or feeling. At these points, each perceiver is asked to infer what the target was thinking or feeling. These inferences are then compared with the target's actual reported thoughts and feelings to measure empathic accuracy. This methodology provides an objective measure of the accuracy of the perceiver's insight into the mental state of the target.

A number of different variables have been shown to affect the accuracy of a perceiver's inferences. As might be expected, the perceiver's familiarity with the target affects empathic accuracy, such that friends are more accurate than strangers (Stinson & Ickes, 1992) and the more experience perceivers have with inferring a specific target's thoughts and feelings, the more accurate they become (Marangoni et al., 1995). However, familiarity does not always increase empathic accuracy. Being in a close relationship with another person can also lead to situations in which perceivers appear to be motivated to be empathically *inaccurate*. Simpson, Ickes, and Blackstone (1995) found that when individuals in close but insecure romantic relationships were asked to infer the thoughts of a partner who was viewing an attractive member of the opposite sex, they were generally less accurate in understanding their partner's thoughts.

Thus, empathic accuracy is determined not only by the perceiver's ability to understand the other person based on familiarity with the other but also on the perceiver's motivation to understand the thoughts of the target. The importance of the perceiver's motivation was demonstrated in another way by Ickes, Stinson, Bissonnette, and Garcia (1990), who found that empathic accuracy was positively correlated with the physical attractiveness of the target. They suggested that perceivers who found the opposite sex targets to be physically attractive were more interested in getting to know the targets and were thus more motivated to be empathically accurate.

GENDER DIFFERENCES IN EMPATHY

Additional evidence for the importance of motivation comes from the seemingly contradictory results regarding gender differences in empathic accuracy. In a review of past research on the relationship between gender and empathic accuracy, Graham and Ickes (1997) found an interesting inconsistency. In the first seven studies using Ickes and colleagues' empathic accuracy paradigm, no

gender differences were encountered; however, in the next three studies using the same paradigm, a gender difference was found, with women showing significantly more empathic accuracy than men. The only difference between the studies that found a gender difference and those that did not was a modification of the reporting form on which perceivers inferred the targets' thoughts and feelings. The version of the form used in the studies that found women to have an advantage in empathic accuracy asked perceivers to rate how well they thought they had inferred the target's mental state following each inference. A meta-analysis of gender differences in empathic accuracy revealed that women were more accurate than men only when this new version of the form was used (Ickes, Gesn, & Graham, 2000). Graham and Ickes (1997) suggest that this minor difference in the empathic inference form motivated women to be more empathically accurate by making them aware that they were being evaluated on their empathic ability.

The idea that women's beliefs about their own empathic abilities may motivate them to be more empathic is consistent with the findings of Eisenberg and Lennon (1983) in their review of gender differences in empathy. They found that self-report measures of empathy generally produced a female advantage, indicating that women tend to see themselves as more empathic. However, when empathy was measured in more objective ways, not relying on self-report, gender differences were generally not found. At the surface, these results seem to contradict the Graham and Ickes (1997) findings that women sometimes were more empathic even using the objective measure of empathic accuracy. However, priming aspects of the traditional feminine gender role could influence empathy through a motivational path. Eisenberg and Lennon (1983) found that women report reacting more empathically than men in a variety of situations, suggesting that women view empathic skills as more important to their self-concept (Gilligan, 1982; Zahn-Waxler, Cole, & Barrett, 1991). If a woman is aware that the task she is completing is assessing her empathic capabilities, it may be important for her to perform well. She therefore may be more successful than a man completing the same objective measurement of empathy because of her increased level of motivation.

PRELIMINARY EVIDENCE

In sum, the findings in research on both self-report and objective measures of empathy suggest that gender differences in interpersonal perceptivity do not necessarily result from general differences in ability between the two sexes but may be the result of factors that motivate men and women to a different extent. However, as in the studies of empathic accuracy reviewed by Graham

and Ickes (1997), the factors that will motivate women to try harder may be subtle or unexpected. In a preliminary study on the effects of perspective taking on empathic accuracy and sympathy (Klein & Hodges, 1998), we employed a variation of Ickes and colleagues' paradigm for studying empathic accuracy. Male and female participants watched a video of either a male or female target discussing an academic problem, and empathic accuracy was assessed using a reporting form equivalent to that used in Ickes and colleagues' original studies in which gender differences were not found. Yet we unexpectedly found a strong gender difference; women who inferred the thoughts and feelings of another woman were significantly more accurate in their empathic inferences than men. Interestingly, this effect held only for the female target; empathic accuracy toward a male target was lower overall but produced no gender difference.

To confirm the results of this study, we conducted a follow-up study (Klein & Hodges, 1999) employing the same methodology but using two different targets. We replicated the results of the first study, finding a gender difference in empathic accuracy toward the female target. Additional coding of the videos indicated that the lower empathic accuracy toward the two different male targets may have been due to the fact that they were less "readable"—that is, their thoughts and feelings were rated as more difficult to guess than the female targets' given the context of the conversation.

Given the past evidence suggesting that there is generally not a gender difference in empathic accuracy, why were the women in our preliminary studies more empathically accurate than men when viewing female targets? The one major difference between our studies and those conducted by Ickes and colleagues, which did not find gender effects, was that we were measuring both sympathy (also known as empathic concern)¹ and empathic accuracy. Participants in our studies first watched the video of the target, reported how sympathetic they felt (using a questionnaire developed by Batson and his colleagues; see Batson, Early, & Salvarani, 1997; Coke, Batson, & McDavis, 1978), and then performed the empathic accuracy task. Thus, participants were asked to assess their own emotional response toward the target before inferring what that person was thinking or feeling. This in turn might have cued the participants to realize that the study was testing their interpersonal skills. Could performing the sympathy task differentially affect the motivation of men and women?

Research suggests that interpersonal skills such as empathy are generally viewed as more important to the self-concepts of women than men (Cancian & Gordon,

1988; Cross & Madson, 1997; Gilligan, 1982) and that women's efforts in empathy and perspective taking (more so than men's) are important predictors of relationship satisfaction (Davis & Oathout, 1987; Franzoi, Davis, & Young, 1985; although see also Arriaga & Rusbult, 1998). If completing the sympathy questionnaire led women to interpret the empathic accuracy task as a test of interpersonal abilities, they may have been more motivated to succeed because of the importance of the skill in the interpersonal domain to their self-concepts. Men may have been less motivated by a task evaluating their interpersonal abilities because such abilities are in general less important to their self-concepts. If this were the case, we would expect that women's advantage in empathic accuracy would disappear if they were not aware that the task they were completing assessed their abilities in the interpersonal realm. Similarly, men might perform better on an empathic accuracy task if they saw it as something that assessed their skill in a domain that was important to their self-concepts.

We conducted the following two studies to further explore some of the circumstances under which men and women perform differently on an empathic accuracy task. Our goal was to gain a greater understanding not only of why a gender difference in empathic accuracy is sometimes found but also of the personal or situational factors that are important in increasing anyone's empathic accuracy.

STUDY 1

Because female targets seem to be more readable than male targets and only the female target elicited a gender difference in empathic accuracy in our preliminary studies (Klein & Hodges, 1998, 1999), we chose to use only a female target in Study 1. To determine how motivation may play a role in leading to gender differences in empathic accuracy, we manipulated two variables. First, we manipulated the order in which the participants completed the sympathy and empathic accuracy tasks. Completing the sympathy task first was hypothesized to cue the participants to the fact that the experiment was an assessment of interpersonal responding, motivating women to perform better on the empathic accuracy task. In addition, we manipulated the instructions participants were given for the empathic accuracy task, comparing instructions that presented the task as a measure of interpersonal abilities to instructions that presented the task as a measure of cognitive ability. We believed that women would be more motivated to perform well if they thought their interpersonal abilities were being assessed, whereas men and women might be equally motivated to perform well on a task measuring cognitive abilities.

Method

PARTICIPANTS

Participants were 121 introductory psychology students at the University of Oregon who received course credit for their participation. The participants were 71 women and 50 men ages 17 to 27 (mean age = 19.1). Students participated alone or in groups of two or three; however, those participating in groups did not interact with each other.

STIMULUS VIDEO

This study used one female empathy target who was videotaped while being interviewed about an academic problem she had recently experienced. The target used for this study was a woman from another university who had recently received her scores from the Graduate Record Exam and found that her math score was not high enough to make the cutoff for the graduate school that she wanted to attend. The video was approximately 5 minutes long.

Following the procedure designed by Ickes, Bissonnette, et al. (1990), the target, after being interviewed about her academic problem, watched the video of herself in the interview and stopped the tape at any point at which she remembered having had a specific thought or feeling. She then noted the time on the video cassette recorder and wrote out the content of the thought or feeling she had remembered. The target in this study recorded four different thoughts.

PROCEDURE

Two variables were manipulated in this study: the instructions participants were given for the empathic accuracy task (described below) and the order in which participants completed the sympathy and empathic accuracy tasks. Participants were given instructions presenting the empathic accuracy task as either a measure of empathic skill or a measure of cognitive ability, or were given no special instructions. Crossing this instruction manipulation, the order of the tasks was varied such that participants filled out the sympathy questionnaire either before or after completing the empathic accuracy task. Thus, participants were randomly assigned to one of three instruction conditions (cognitive, empathy, or control) and one of two order conditions (sympathy before or sympathy after).

Before beginning these tasks, participants were first given 10 minutes to write about their most recent academic setback (such as receiving a lower grade on a paper or midterm than expected).² They then watched the target video completely through, after which they were each given cassette tape players with headphones that contained instructions for filling out all of the subsequent questionnaires. Each participant was given a head-

phone set with different instructions; at each experimental session, all of the participants were in different conditions.

The cassette-taped instructions first directed the participants either to fill out the sympathy questionnaire or a filler questionnaire, depending on the order condition to which they were assigned.³ The sympathy questionnaire was a measure developed by Batson and colleagues (Coke et al., 1978) that lists six adjectives related to feelings of sympathy, such as *tender*, *compassionate*, and *soft-hearted*, and eight adjectives related to personal distress reaction, such as *alarmed*, *grieved*, and *troubled*. Participants rated on 7-point scales (1 = *not at all*, 7 = *extremely*) the extent to which they felt each of these emotions as a result of viewing the video.

After completing one of the two questionnaires (sympathy or filler), participants listened to instructions for completing the empathic accuracy task. Participants in the cognitive condition were given the following instructions:

The second questionnaire involves watching the video a second time. This time while you watch the video, the tape will be stopped at certain intervals. When the tape is stopped, you will be asked to write down what you think the woman in the video is thinking or feeling at that moment. *This is a task that involves cognitive ability. Comprehending and attending to the information presented will help you perform this task.*

In the empathy condition, instructions were the same except that the last two sentences read as follows:

This is a task that involves empathy. Empathizing with and taking the perspective of the woman in this situation will help you perform this task.

In the control condition, the last two sentences were omitted. The cassette then described how to fill out the empathic inference form.

Participants then watched the video again, this time to test their empathic accuracy toward the target in the video using the same procedure as Marangoni et al. (1995) (i.e., the standard stimulus paradigm; Ickes, in press). The video was stopped at the points at which the targets had reported having a specific thought or feeling. Participants were then instructed to infer the target's thoughts or feelings at that moment and write a description of the content of the thought or feeling.

Following the empathic accuracy task, participants listened to the headphone set again and were instructed to fill out either the sympathy or filler questionnaire (whichever they had not completed previously).⁴ Participants were then thanked for their participation and debriefed.

COMPUTATION OF EMPATHIC ACCURACY

Empathic accuracy scores were obtained by comparing the content of the targets' specific thoughts and feelings with the inferences made by participants. This was done by four independent judges rating how similar the participants' inferences of the thoughts and feelings were to the target's actual reported thoughts and feelings using a coding scheme devised by Ickes, Bissonnette, et al. (1990). Judgments were made using a 3-point scale to rate accuracy, ranging from 0 (*essentially different content*) to 1 (*somewhat similar, but not the same, content*) to 2 (*essentially the same content*). The interrater reliability (Cronbach's alpha) of the four judges' ratings was .84.

The mean of the four judges' ratings was then calculated to derive a score (ranging from 0 to 2) for each of the participants' inferences. Following convention set by Ickes and his colleagues (Ickes, Bissonnette, et al., 1990), these scores were then summed and converted to a proportional scale such that accuracy scores could range from a lower bound of .00 (zero accuracy) to a theoretical upper bound of 1.00 (complete accuracy).

Results

A 3 (instruction) \times 2 (order) \times 2 (gender) ANOVA on empathic accuracy revealed a significant main effect for gender, $F(1, 109) = 7.37, p = .008$. No other main effects or interactions were significant. We hypothesized that women's advantage in empathic accuracy would hold only when they completed the sympathy questionnaire prior to the empathic accuracy task, and that when the sympathy questionnaire was completed afterward, women's accuracy would not differ from men's. Simple effects contrasts to test this hypothesis revealed that when completing the sympathy questionnaire after empathic accuracy was assessed, women ($M = .45$) and men ($M = .42$) did not differ in empathic accuracy, Cohen's $d = .19, F(1, 117) = .50, ns$. However, when sympathy was measured before empathic accuracy, there was a significant difference between men's ($M = .40$) and women's ($M = .53$) accuracy, $d = .75, F(1, 117) = 8.29, p = .005$ (see Figure 1).

Additional simple effects contrasts tested the hypothesized interaction between instruction condition and gender (see Figure 2). Women were expected to be more empathically accurate than men when they were instructed that the empathic accuracy task involved empathy; however, no gender differences were expected in the cognitive or control conditions. As predicted, women in the control condition ($M = .45$) were not significantly more accurate than men in the control condition ($M = .38$), $d = .39, F(1, 109) = 1.56, p = .21$. Likewise, women ($M = .48$) and men ($M = .42$) in the cognitive instruction condition did not significantly differ in

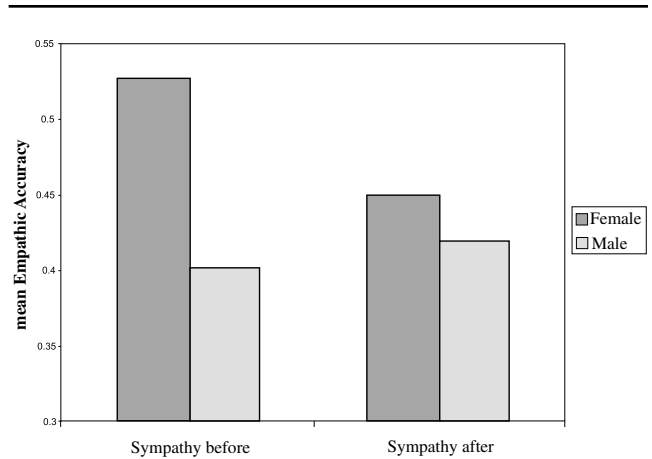


Figure 1 The effects of gender and order of sympathy questionnaire on empathic accuracy in Study 1.

NOTE: When completing the sympathy questionnaire before the empathic accuracy task, women performed significantly better than men; however, no significant gender differences were found in the sympathy after condition.

empathic accuracy, $d = .39, F(1, 109) = 1.52, p = .22$. The expected gender difference in the empathy instruction condition was not significant; however, there was a marginal effect showing women ($M = .53$) to be more empathically accurate than men ($M = .43$), $d = .56, F(1, 109) = 1.79, p = .08$.

Further analyses revealed no correlation between reported sympathy and empathic accuracy, $r(121) = .13, p = .14$.

Discussion

As in our preliminary studies (Klein & Hodges, 1998, 1999), when women were given the sympathy questionnaire before completing the empathic accuracy task, they were more empathically accurate than men. However, Study 1 demonstrates that women did not maintain this advantage when they completed the sympathy questionnaire after empathic accuracy was assessed. This finding provides support for our hypothesis that gender differences arise from motivational differences. If women simply had more ability to empathize than men, their advantage in empathic accuracy should be unaffected by other experimental manipulations. The fact that women were not significantly more accurate than men when they completed the sympathy questionnaire after the empathic accuracy task suggests that completing this questionnaire first enhanced women's performance in empathic accuracy.

We believe that being asked about their sympathetic emotional reaction to the target video led women to believe that the experiment was concerned with the more stereotypically feminine ability of interpersonal emotional responding. Their belief that an important self-relevant skill was being assessed with the empathic

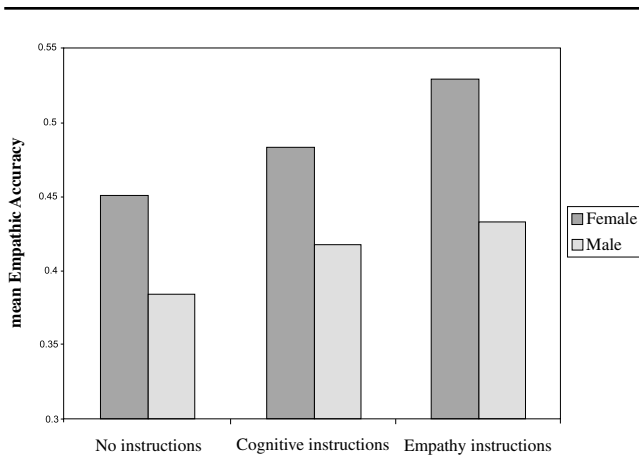


Figure 2 The effects of instruction type by gender on empathic accuracy in Study 1.

NOTE: After receiving empathy instructions, women had a marginally significant advantage over men; however, empathic accuracy in the cognitive instructions and control conditions did not significantly differ by gender.

accuracy task led to greater success in this condition. However, when women were not cued to the nature of the study by the sympathy questionnaire, we hypothesized that they did not view the empathic accuracy task as highly relevant to interpersonal interactions and thus were not any more empathically accurate than men.

In addition to our hypothesis that completing the sympathy questionnaire would increase women's motivation to be empathically accurate, we also predicted that providing instructions as to the empathic nature of the task would motivate women (but not men) to be more accurate. Just as filling out a questionnaire about sympathy might activate women's gender roles, being told that they should empathize with the woman in the video may also lead women to recognize that the task at hand is relevant to their female role, motivating them to try harder to succeed in this task. Although the mean empathic accuracy scores followed the predicted pattern, no significant effect of instructions was found.

In sum, the results from Study 1 suggest that certain variables differentially affect the performance of men and women in an empathic accuracy task. Factors that cue women in to the fact that empathy and interpersonal sensitivity are involved in the empathic accuracy task seem to improve women's empathic accuracy performance relative to men's. Furthermore, this supports the notion that motivation is important in determining empathic accuracy; by removing a factor that appears to motivate women to perform more accurately (the sympathy task), we could decrease women's performance on the empathic accuracy task to almost the level of the men's performance.

Having discovered how to reduce women's motivation to be empathically accurate, our next task was to determine whether we could somehow increase men's performance. What factors might motivate men to perform well on the empathic accuracy task? In our first two studies, men did not seem to perform better when they knew that interpersonal skills were being assessed, but we were willing to wager that both men and women could be motivated by money. If gender differences are primarily a result of differential motivation between men and women, we should be able to increase the empathic accuracy of both men and women by paying them according to their performance on the empathy task. Thus, Study 2 was designed to investigate this idea by introducing payment in exchange for empathic accuracy.

STUDY 2

In our second study, participants were randomly assigned to receive monetary payments according to their performance on the empathic accuracy task or no payments. In addition, as an exploratory condition, some participants were given feedback based on their performance but no money. We then compared the three groups' empathic accuracy performance. We predicted that both men and women would be most accurate in the money condition in which they knew they would be paid according to how accurately they inferred the thoughts and feelings and that there would be no gender difference in empathic accuracy in this condition because money would be equally motivating to men and women. However, a gender difference was expected in the control condition, replicating the findings of the sympathy-before condition in Study 1, with women more empathically accurate than men because they would be filling out the sympathy questionnaire before empathic accuracy was assessed. The feedback condition was included to control for the possible confound of providing participants with both feedback and money; however, we had no specific predictions about how feedback alone might affect empathic accuracy.

Method

PARTICIPANTS

Participants were 108 undergraduate psychology students at the University of Oregon. Data from 1 participant were dropped because she inadvertently walked off with the questionnaire with the dependent measure. The remaining participants were 53 females and 54 males ages 17 to 42 (mean age = 20.4).

PROCEDURE

Participants were randomly assigned to one of three conditions: money, feedback, or control. Participants

were run in groups of 1 to 5, and all participants in a single session were assigned to the same condition. As in the first study, participants first wrote about their own most recent academic setback, but in this study, they also completed a trial run of the empathic accuracy task in order to become acquainted with the task and to be introduced to their condition: money, feedback, or control. We were concerned that participants in the money condition would not believe they would actually receive money until we completed the trial run and they were paid according to their accuracy.

For the trial run, participants first watched a target video of a woman discussing her struggles in a Spanish class and how the class workload interfered with other aspects of her life. After watching the video once through, the experimenter explained that the participants would watch the video again and were to try to infer the thoughts and feelings of the target. Then, participants in the money condition were told the following:

It is important to us that you try your best at inferring the thoughts and feelings of this person, so we will reward your accurate performance with money. You will be paid if you are able to infer what the person in the video is thinking. The points at which I stop the video are points where the person in the video actually reported having a thought or feeling; therefore, we can measure your accuracy by comparing what you think the person was thinking to what she was actually thinking. We will rate your accuracy in the following way: If you correctly infer the content, you will score a 2 and will be given \$2 for your answer; if you are somewhat correct but not exactly right, you will score a 1 and will be given \$1 for your answer; if you are incorrect, you will be given no payment. The video will be stopped four times, so you could make up to \$8. Are there any questions?

Participants in the feedback and control conditions were given no additional instructions. Everyone then watched the video and recorded their inferences of the target's thoughts and feelings. Participants in the money and feedback conditions then handed their inferences to the experimenter, who gave them to another experimenter in a separate room to code for empathic accuracy. Inferences were coded by this experimenter in the same way as in the previous studies.⁵

While their inferences for the first video were being coded, all participants completed a variety of questionnaires, including the sympathy questionnaire used in the first study and the first half of a 44-item questionnaire assessing Big Five personality dimensions. Participants in the feedback condition then received the ratings of how well they had inferred the thoughts and feelings of the target, and the rating scale was explained to them. Those in the money condition received both the feed-

back on how well they had performed and payment in accordance with to how well they scored, receiving \$2 for each accurately inferred thought or feeling and \$1 for each inference that was somewhat accurate. Payment was enclosed in an envelope so that participants were not aware of their performance relative to others in their group.

All participants then were told that they would repeat the same procedure, this time with a different video. They watched the video from Study 1, with the woman who had trouble on the Graduate Record Exam, and then watched the video a second time to infer thoughts and feelings. They again filled out the questionnaire measuring their sympathetic response toward this target and completed the second half of the Big Five personality inventory and then received feedback, feedback and money, or neither. Finally, participants were thanked for their participation and debriefed.

COMPUTATION OF EMPATHIC ACCURACY

Empathic accuracy was calculated using the same procedure as in the previous study.⁶ Three independent judges who were blind to condition coded the accuracy of the participants' inferences. The inferences were also coded by the second experimenter during the experiment (to provide the feedback to the participants) who was aware of the condition to which participants were assigned. However, no reliable differences were found in the ratings given by the experimenter, so they were included in the mean ratings used to compute empathic accuracy. Interrater reliability among the four judges was .87 (Cronbach's alpha; reliability without the judge who was not blind to condition was .82).

Results

The first video was used only as a trial run to acquaint the participants with the procedure and conditions, and analyses reported below are for the second video. As expected, participants in the money condition seemed rather skeptical that they would actually receive money for their performance until they were paid for their accuracy on the trial video. In addition, those in the feedback condition were not aware that they would be given feedback until after the trial video, so the motivating effects of receiving feedback could only be measured for the second video. Participants in all conditions were exposed to the sympathy measure before seeing the second video, which is a factor that played a role in producing gender differences in Study 1.

A 3 (condition) \times 2 (gender) ANOVA on empathic accuracy on the second video revealed a significant main effect of gender, $F(1, 101) = 4.14$, $p = .045$, such that women were more accurate than men overall, and a sig-

nificant main effect of condition, $F(2, 101) = 6.87, p = .002$ (see Figure 3). To test the hypothesis that participants in the money condition would be most accurate, a planned contrast compared the empathic accuracy of participants in the money condition ($M = .45$) to the mean accuracy of those in the feedback ($M = .35$) and control ($M = .35$) conditions. This contrast was significant, $F(1, 101) = 12.62, p = .0006$. A second planned orthogonal contrast comparing the feedback and control conditions was not significant.

The interaction between condition and gender was marginally significant, $F(2, 101) = 2.57, p = .082$. Planned simple effects contrasts on the effect of gender at each condition directly tested the hypothesis that men and women would differ in empathic accuracy in the control and feedback conditions but not in the money conditions. As predicted, women ($M = .42$) were more accurate than men ($M = .28$) in the control condition, $d = .98, F(1, 101) = 8.52, p = .004$, whereas no significant gender differences were found in the money condition, $d = .31, F(1, 101) = .831, p = .36$ (female $M = .48$, male $M = .43$). Participants in the feedback condition also showed no gender differences, $d = .10, F(1, 101) = .094, p = .76$ (female $M = .34$, male $M = .36$).⁷

Discussion

A gender difference in empathic accuracy was again found only under certain conditions. Simple effects contrasts demonstrated a substantial gender difference in empathic accuracy in the control condition, whereas men and women in the feedback and money conditions did not differ in empathic accuracy. We had predicted that women would be more accurate than men in the control condition because they had completed the sympathy questionnaire, replicating the findings of Study 1. Participants in the money condition in Study 2 also completed the sympathy questionnaire before doing the empathic accuracy task, but we predicted that the motivating effects of money would eliminate the gender differences by increasing the men's performance on the empathic accuracy task.

This prediction was supported by our data; in the money condition, both men and women performed well. Empathic accuracy in the money condition was significantly greater than in the feedback and control conditions, indicating that in the money condition, both men and women were motivated to try harder at inferring the thoughts and feelings of the target. Thus, support was found for our hypothesis that motivating factors can increase empathic accuracy: When given monetary compensation, participants perform better overall than when they are not provided with this extrinsic motivator. Furthermore, men and women performed equally well on the empathic accuracy task, suggesting that although

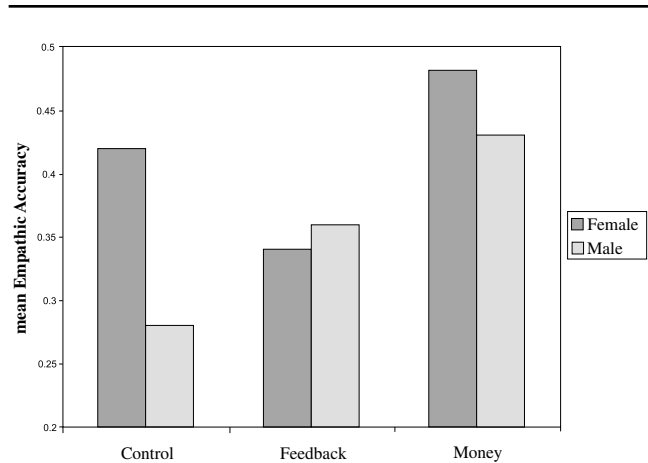


Figure 3 The effects of gender and condition on empathic accuracy in Study 2.

NOTE: Men and women differed significantly in empathic accuracy in the control condition but not in the feedback or money conditions.

completing a sympathy task is a factor that only motivates women to be more accurate, payment in exchange for performance provides a motivation for both women and men to do well.

Although women's performance in the feedback condition was slightly lower than in the control condition and men's performance was slightly higher, neither of these differences was significant. We had no specific predictions regarding the feedback condition; we included it as a comparison to the money condition to determine whether providing both money and feedback had an effect above and beyond simply providing feedback. These results suggest that the increases in empathic accuracy in the money condition were due to participants' receiving the money itself, not simply to receiving feedback. Further research is needed to clarify the effects of feedback without monetary rewards on empathic accuracy.

GENERAL DISCUSSION

These studies were designed to investigate the role of motivation in empathic accuracy and to demonstrate the conditions under which a gender effect results from differential motivation between men and women. Although the gender difference that we found in our preliminary studies fit with the common stereotype of women's having greater empathic ability than men, Studies 1 and 2 suggest that it is not a difference in ability that leads women to be more empathic in some circumstances but a difference in motivation. Certain factors in the situation seem to cue women that the skill that is being measured is relevant to their female gender role, which in turn motivates them to try harder to understand what the other person is thinking or feeling.

Our findings support the conclusions reached by Ickes and colleagues (Graham & Ickes, 1997; Ickes et al., 1999) regarding the conditions under which gender differences appear in empathic accuracy. In a meta-analysis of 15 empathic accuracy studies, Ickes et al. (1999) found that women were more accurate than men only when they were asked to make self-estimates of their own empathic accuracy. They suggest that when perceivers evaluate their own performance on the task, the fact that they are being evaluated on their empathic ability is made salient. This seems to have the same effect as the sympathy questionnaire in our studies—it cues women to the fact that a trait relevant to their female gender role is being assessed, which motivates them to perform better but has no effect on the performance of men. Thus, our studies expand on the findings of Ickes et al. by directly manipulating a motivating factor present in the situation as a between-subjects, within-study variable.

Although factors that make the nature of the empathic accuracy task salient seem to motivate only women to perform better on this task, Study 2 demonstrated that men can also be motivated to improve their performance. When provided monetary compensation for accurate inferences, both men and women demonstrated greater empathic accuracy than their counterparts who were not provided with this extrinsic motivator. Notably, women performed even better when given money than when motivated by the sympathy task.

It may seem obvious that success in empathic inference is contingent upon the perceiver's motivation to understand the plight of another person. A desire to succeed generally improves performance on any task, and motivation may play an even more important part when it comes to accurately reading other people (DePaulo, Brittingham, & Kaiser, 1983). However, the extent to which motivation affected empathic accuracy seems somewhat remarkable, given that empathy and its related constructs are often characterized as individual difference variables (e.g., Davis, 1983; Hogan, 1969; Mehrabian & Epstein, 1972). Although measures of individual differences in empathy do not generally predict empathic accuracy (Ickes, Stinson, et al., 1990; Klein & Hodges, 1998; 1999), our results do not negate the presence of individual differences in empathic ability. The variability of empathic accuracy scores in the money condition did not differ substantially from those in the control condition, suggesting that even when motivated, individuals differ somewhat in their ability to achieve empathic accuracy. If motivation were the whole story, we would expect performance to become more homogeneous across people in the presence of a very powerful situational motivator (such as money).

However, our results also suggest that differences in empathy are situationally dependent, and an individual

who is motivated to accurately empathize in a certain situation may perform poorly in a different situation that also calls for empathy (see also Arriaga & Rusbult, 1998; Ickes & Simpson, in press). For example, a medical doctor may find that her patients are not following their treatment regimens and she cannot comprehend what could possibly be going through their minds that would prevent them from taking the actions that would positively influence their health. However, when she goes home and finds her husband eating junk food instead of broccoli, she has no trouble understanding the thoughts and desires that led to his preferred unhealthy behavior. Different situations and relationships may strongly influence a perceiver's desire and motivation to accurately empathize with others.

In our study, gender was a substantial factor in determining which situations would motivate perceivers to be empathically accurate and which would not. However, the manipulation that elicited this gender difference was quite subtle. That the placement of a questionnaire or the addition of an evaluative rating (as in Graham & Ickes, 1997; Ickes et al., 1999) could have such notable influence on motivation and, in turn, the empathic accuracy performance of women is striking.

Limitations and Implications for Future Research

Although the evidence from these studies and others (e.g., Ickes et al., 1999) suggests that gender differences that appear in empathic accuracy are due to motivational factors present in the situation, we have no independent measure of perceivers' motivation to perform the task. Evidence that these manipulations do in fact make women more aware of the relevance of the task to their perceived gender roles would strengthen the present findings. In addition, further research is needed to determine additional factors that could motivate both men and women to be more empathically accurate.

Subsequently, the next step in understanding the relationship between motivation and empathy is to discover the limits of motivation in determining empathy—how far can it take us? Other factors such as shared experience (Batson et al., 1996) or cognitive capacity (Hodges & Wegner, 1997) may affect empathy processes, as may general knowledge about the target of empathy, as Stinson and Ickes (1992) demonstrated. They showed that friends were more empathically accurate than strangers and that this effect was mediated by the friends' greater understanding of each others' knowledge structures rather than an increased motivation to empathize with friends.

In sum, motivation seems to be a key component in the process of empathizing with another person. The gender difference that was found in our studies seems to

be adequately explained by differential motivation between men and women under different circumstances. We believe that this is an encouraging finding, suggesting that greater empathic accuracy can be achieved by virtually anyone who is given the proper motivation. When all else fails, if you find yourself faced with someone who just cannot seem to understand your point of view, it might be worthwhile to offer him or her a dollar. It may even work on someone from Mars.

NOTES

1. Other researchers refer to this construct as *empathy* or *empathic concern*. To avoid confusion, we have chosen to use the term *sympathy* to describe the emotional response to another person's plight.

2. Students were asked to write about their own experiences because one additional goal of the preliminary study had been to explore the role of similarity of experience on empathic accuracy. Although the results of these explorations were inconclusive, the writing exercise, which provided students with an introduction to the later task of watching the videos, was continued in these studies to keep the procedure consistent.

3. The filler questionnaire was included to equalize the time spent before watching the video for the second time, making it possible to run both conditions simultaneously. Although it is possible that this irrelevant task might have distracted participants momentarily, after completing the questionnaire they watched the video a second time while making empathic inferences. Thus, even if they were distracted by the filler task, this should not have adversely affected their empathic accuracy.

4. Participants also completed the Bem (1974) Sex-Role Inventory and Davis's (1983) Interpersonal Reactivity Index as an exploratory investigation of these measures' relationship to empathic accuracy. However, the results were either nonsignificant or inconsistent and will not be discussed further.

5. The experimenter coding the thoughts and feelings was not blind to condition because she also assembled the money envelopes for the money condition. However, during the experiment, we were not concerned that the ratings were completely unbiased; what was important was to give participants a general idea of how well they were doing on the task. These thoughts and feelings were later coded by judges who were blind to condition.

6. Although empathic accuracy is coded in the same way in both studies, raw scores are not necessarily comparable across studies (see Ickes et al., 1999). The absolute value of the empathic accuracy score is dependent on the coders' use of the scale, which can differ between studies. Analysis of interrater reliability shows that although coders evidence individual differences in how they use the rating scale, reliability is independent of mean rating.

7. An additional analysis included session as a factor to check for interdependence among participants who participated together in a session. Session had no effect on empathic accuracy, $F(24, 80) = 1.22$, $p = .249$.

REFERENCES

Arriaga, X. B., & Rusbult, C. E. (1998). Standing in my partner's shoes: Partner perspective taking and reactions to accommodative dilemmas. *Personality and Social Psychology Bulletin*, *24*, 927-948.

Batson, C. D., Early, S., & Salvarani, G. (1997). Perspective taking: Imagining how another feels versus imagining how you would feel. *Personality and Social Psychology Bulletin*, *23*, 751-758.

Batson, C. D., Fultz, J., & Schoenrade, P. A. (1987). Distress and empathy: Two qualitatively distinct vicarious emotions with different motivational consequences. *Journal of Personality*, *55*, 19-39.

Batson, C. D., Sympon, S. C., Hindman, J. L., Decruz, P., Todd, R. M., Weeks, J. L., Jennings, G., & Burris, C. T. (1996). "I've been there,

too": Effect on empathy of prior experience with a need. *Personality and Social Psychology Bulletin*, *22*, 474-482.

Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, *42*, 155-162.

Cancian, F. M., & Gordon, S. L. (1988). Changing emotion norms in marriage: Love and anger in U.S. women's magazines since 1900. *Gender and Society*, *2*, 308-342.

Coke, J. S., Batson, C. D., & McDavis, K. (1978). Empathic mediation of helping: A two-stage model. *Journal of Personality and Social Psychology*, *36*, 752-766.

Cross, S. E., & Madson, L. (1997). Models of the self: Self construals and gender. *Psychological Bulletin*, *122*, 5-37.

Davis, M. (1983). Measuring individual differences in empathy: Evidence for a multi-dimensional approach. *Journal of Personality and Social Psychology*, *44*, 113-126.

Davis, M. H., & Oathout, H. A. (1987). Maintenance of satisfaction in romantic relationships: Empathy and relational competence. *Journal of Personality and Social Psychology*, *53*, 397-410.

DePaulo, B. M., Brittingham, G. L., & Kaiser, M. K. (1983). Receiving competence-relevant help: Effects on reciprocity, affect, and sensitivity to the helper's nonverbally expressed needs. *Journal of Personality and Social Psychology*, *45*, 1045-1060.

Eisenberg, N., & Lennon, R. (1983). Sex differences in empathy and related capacities. *Psychological Bulletin*, *94*, 100-131.

Feshbach, N. D., & Roe, K. (1968). Empathy in six and seven year olds. *Child Development*, *39*, 133-145.

Franzoi, S. L., Davis, M. H., & Young, R. D. (1985). The effects of private self-consciousness and perspective taking on satisfaction in close relationships. *Journal of Personality and Social Psychology*, *48*, 1584-1594.

Gilligan, C. (1982). *In a different voice: Psychological theory and women's development*. Cambridge, MA: Harvard University Press.

Graham, T., & Ickes, W. (1997). When women's intuition isn't greater than men's. In W. Ickes (Ed.), *Empathic accuracy* (pp. 117-143). New York: Guilford.

Hodges, S. D., & Wegner, D. M. (1997). The mental control of empathic accuracy. In W. Ickes (Ed.), *Empathic accuracy* (pp. 311-339). New York: Guilford.

Hogan, R. (1969). Development of an empathy scale. *Journal of Consulting and Clinical Psychology*, *33*, 307-316.

Ickes, W. (1993). Empathic accuracy. *Journal of Personality*, *61*, 587-610.

Ickes, W. (in press). Measuring empathic accuracy. In J. Hall & F. Bernieri (Eds.), *Interpersonal sensitivity: Theory, measurement and applications*. Hillsdale, NJ: Lawrence Erlbaum.

Ickes, W., Bissonnette, V., Garcia, S., & Stinson, L. L. (1990). Implementing and using the dyadic interaction paradigm. In C. Hendrick & M. S. Clark (Eds.), *Review of personality and social psychology: Vol. 11. Research methods in personality and social psychology* (pp. 16-44). Newbury Park, CA: Sage.

Ickes, W., Gesn, P. R., & Graham, T. (2000). Gender differences in empathic accuracy: Differential ability or differential motivation? *Personal Relationships*, *7*, 95-109.

Ickes, W., & Simpson, J. A. (in press). Motivational aspects of empathic accuracy. In G. J. O. Fletcher & M. Clark (Eds.), *Blackwell handbook in social psychology: Interpersonal processes*. Malden, MA: Blackwell.

Ickes, W., Stinson, L., Bissonnette, V., & Garcia, S. (1990). Naturalistic social cognition: Empathic accuracy in mixed-sex dyads. *Journal of Personality and Social Psychology*, *59*, 730-742.

Klein, K. J. K., & Hodges, S. D. (1998, August). *Factors affecting the cognitive and emotional components of empathy*. Poster presented at the annual convention of the American Psychological Association, San Francisco.

Klein, K. J. K., & Hodges, S. D. (1999, June). *Gender differences, motivation, and empathic accuracy: When it pays to understand*. Poster presented at the annual convention of the American Psychological Society, Denver.

Levenson R. W., & Rueff, A. M. (1992). Empathy: A physiological substrate. *Journal of Personality and Social Psychology*, *63*, 234-346.

- Marangoni, C., Garcia, S., Ickes, W., & Teng, G. (1995). Empathic accuracy in a clinically relevant setting. *Journal of Personality and Social Psychology*, *68*, 854-869.
- Mehrabian, A., & Epstein, N. (1972). A measure of emotional empathy. *Journal of Personality*, *40*, 525-543.
- Simpson, J. A., Ickes, W., & Blackstone, T. (1995). When the head protects the heart: Empathic accuracy in dating relationships. *Journal of Personality and Social Psychology*, *69*, 629-641.
- Stinson, L., & Ickes, W. (1992). Empathic accuracy in the interactions of male friends versus male strangers. *Journal of Personality and Social Psychology*, *62*, 787-797.
- Stotland, E. (1969). Exploratory investigations of empathy. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 4, pp. 271-312). New York: Academic Press.
- Zahn-Waxler, C., Cole, P. M., & Barrett, K. C. (1991). Guilt and empathy: Sex differences and implications for the development of depression. In J. Garber & K. A. Dodge (Eds.), *The development of emotion regulation and dysregulation* (pp. 234-272). Cambridge, UK: Cambridge University Press.

Received August 13, 1999

Revision accepted May 1, 2000