Gender Roles and Behavior in Social Dilemmas: Are there Sex Differences in Cooperation and in its Justification?*

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Data from two experimental social dilemmas—a set of 66 nine-person dilemmas and a set of 64 seven-person dilemmas—were used to examine sex differences in cooperation. Women were only slightly more likely than men to cooperate with others, and variables related to the experimental setting were much more important influences on behavior than sex. Whether or not the women cooperated, they were more likely than men to justify their behavior as being altruistic and principled, to believe that they were more oriented toward harmonious group relations, and to be less nervous and upset at the end of the experiment. It is suggested that those who speculate on sex differences in cooperation may have overstated these differences and that the relationship between self-schema and behavior may vary depending on the extent to which the attributes studied relate to gender identity.

In recent years, a number of theorists and researchers have examined differences between men and women in personality orientations and social behavior. Some have suggested that few sex differences appear when traits are grouped into broad categories. Maccoby and Jacklin (1974), for instance, maintain that girls are no more compliant, conforming, or suggestive than boys (generally children were studied) and that there are no overall differences between the two sex groups in patterns of dominance or submission. The major area in which Maccoby and Jacklin reported sex differences was in aggression, which they defined as action (either physical or verbal, direct or indirect) with the intent to hurt. Even here, however, sex differences disappeared in certain circumstances, including quarreling over scarce resources (Frodi, Macauley, and Thome 1977; Maccoby 1980).

Others tend to focus on differences between males and females. Theoretical arguments, for instance, such as those proffered by David Guttman (1965, 1970), David Bakan (1966), Talcott Parsons (1954a, b; 1955), and Nancy Chodorow (1974, 1978), as well as empirical studies of self-described personality traits and world views (e.g. Bennett and Cohen 1959; Johnson, Stockard, Acker, and Nofziger 1975; Miller, 1976; Stockard and Dougherty 1983) imply that in contrast to those of men, women’s social roles, personality traits, and/or world views more often embody concerns with relations with others and interactions within a group, and thus greater cooperation with others. Some writers have extended this reasoning to suggest that females actually have a unique culture and orientation toward others which, in contrast to that of males, stresses caring, compassion, cooperative relationships, giving, and self-sacrifice (e.g. Bernard 1981; Gilligan 1982, 1986; Miller 1976).

Studies of sex differences in actual behavior, however, are relatively rare. In this paper we examine sex differences in cooperative behavior, representing the culture and orien-
SOCIAL DILEMMAS AND COOPERATIVE BEHAVIOR

Social dilemmas are situations in which individuals must decide whether they will cooperate with others within a group, thus benefiting the group as a whole, or defect from the group, thus maximizing their own personal gain (Dawes 1980). Classic examples are Hardin's overgrazing of the commons (1968), the prisoner's dilemma (Luce and Raiffa 1957), and such common problems as pollution and overpopulation (Dawes 1980; Dawes, Delay, and Chaplin 1974). In each of these situations individuals benefit by maximizing their personal gain, but the group as a whole suffers when they do so.

Descriptions of women's unique culture and orientation focus extensively on how established relationships among participants in a situation affect choices and actions, especially those in "private" realms such as the family. The public-private distinction has been used extensively in feminist theory to distinguish between the traditional worlds of males and of females (e.g. Chodorow 1971; Rosaldo 1974). We recognize that social dilemma experiments are artificial settings with potentially limited applicability to the real world. Moreover, social dilemmas usually test only cooperation in public settings, which are characterized by anonymous, short-term relationships. This observation could suggest that experimental social dilemmas are more compatible with traditional "masculine" than traditional "feminine" orientations. If so, our results may provide a relatively strict and limited test of theories regarding sex differences in cooperation.

On the other hand, some recent research indicates that patterns of sex differences in concerns about public and private affairs may be changing (Aidala and Greenblat 1986, pp. 228–29). Moreover, Gilligan (1986, p. 326) implies that women's more cooperative and more self-sacrificial moral orientation should affect their behavior in both public and private settings. (In informal debriefing sessions in our study, both male and female subjects often commented that the choices they encountered in the experiments paralleled those found in their everyday lives.) Studies of sex differences in behavior are rare, and it is difficult to study behavior systematically in private settings. Thus we believe that our results are an important first step in understanding sex differences in cooperation.

We address the following general questions: 1) Do women behave differently from men in experimental social dilemmas? 2) Do men and women report different motivations for their behavior in these settings? 3) Do men and women respond differently to the result of their decisions after they know how it affects them as individuals and as a group?

METHODS

To examine our research questions, we used data from two social dilemma experiments conducted initially for different purposes.¹ One, conducted in 1983–84, involved 66 step-level dilemmas (van de Kragt, Orbell, and Dawes 1986); the other, conducted in 1984, involved 64 continuous social dilemmas (Orbell, van de Kragt, and Dawes forthcoming). Participants were recruited by advertisements in newspapers and from undergraduate classes. All were at least of college age, with an average age in the early to mid 20s. None had participated in earlier experiments of the project. They were predominantly white, about half were students, and the majority of the nonstudents were unemployed. About half the participants were women; very few groups contained a disproportionate number of either sex. The respondents reported having relatively little spending money available each week, an indication that most subjects participated to earn extra money.

Experimental Designs and Measures

Both experiments involved procedures used commonly in social dilemmas: individuals had to decide whether or not to donate some of their own resources, in this case money. If they chose to donate the money, it would

¹ Additional details on the experiments and their original purpose are given in an appendix, which is available from Professor Stockard, Department of Sociology, University of Oregon, Eugene, OR 97403.
benefit others (Smith 1976). All participants were given a promissory note for a sum of money (either five or six dollars) and were told that they had to decide either to keep the money or to turn it in. Generally, a decision to return the money meant that others would have a chance to obtain more money. All decisions were made confidentially, and none were disclosed to others in the experiment. Because real-life decisions are made in different types of settings, each experiment had characteristics that varied among groups of subjects, who were assigned randomly to the experimental conditions.

The first experiment varied three factors: 1) whether or not subjects could perceive their own decision to cooperate as critical; that is, whether or not the group payoff and their private payoff were contingent upon their own choice to cooperate; 2) whether or not subjects discussed the dilemma before making their choice; and 3) whether or not a set group of subjects was designated as those who had to provide the public good. Each of these factors was crossed with the others, resulting in eight different experimental conditions. Each replication in the first experiment had nine players. If enough people returned (in this case) the five dollars (i.e., cooperated), all players would receive an extra 10 dollars. In games with a “designated set,” only the decisions of those in the set were crucial to provision of the public good, and only the decisions of those people were analyzed.

Fourteen subjects were included in each of the replications in the second experiment; at the beginning of the session they were divided by lot into two groups of seven subjects each. In all conditions subjects were told that if they chose to keep (in this case) the six dollars, they would have that money at the end of the game, but if they chose to give away the money, six other people in the experiment would receive two dollars each, for a group benefit of 12 dollars. Subjects’ individual payoff (beyond the four dollars that all subjects received for participating) would be a function of their own decision to “keep” or to “give” and of the simultaneous decisions of others in the experiment. The second experiment also had three crossed factors, producing a total of eight conditions: 1) subjects’ prior understandings about who would receive the 12 dollars generated by a decision to cooperate; half the groups were told that it would go to individuals in the other group and the other half were told that it would go to people in their own group; 2) whether or not the subjects discussed the decision they were to make; and 3) the subjects’ final understandings (after discussion when that was required) at the time of decision making, about who would receive the 12 dollars generated by a decision to cooperate. In half the groups, understandings about who the recipients would be were left as stated originally. In the other half, it was announced that “for experimental purposes” there would be a “switch” in beneficiaries: among subjects who believed originally that beneficiaries would be in their own group, beneficiaries now would be in the other group, and vice versa. Eight replications were run in each of the eight conditions.

As is common in such experiments, the terms “cooperate” and “defect” were not used in the instructions given the subjects. It was clear, however, both from the comments made in the instructions given the subjects. It was clear, however, both from the comments made in the instructions given the subjects. It was clear, however, both from the comments made in the instructions given the subjects. It was clear, however, both from the comments made in the instructions given the subjects. It was clear, however, both from the comments made in the instructions given the subjects. It was clear, however, both from the comments made in the instructions given the subjects. It was clear, however, both from the comments made in the instructions given the subjects. It was clear, however, both from the comments made in the instructions given the subjects. It was clear, however, both from the comments made in the instructions given the subjects.

In both experiments, after the subjects had indicated their choices confidentially, they were asked to evaluate the importance of different motivating factors in making their decisions. The format of the questionnaire form differed between the two experiments, but each included measures of the importance of principled, altruistic, and selfish motives. The first experiment also measured the importance of risk as a motive. In the first experiment subjects ranked the importance of principled, altruistic, and selfish motives.

In Experiment One, factor analysis revealed four dimensions consisting of the following elements: 1) principled (fairness, trust, self-esteem, honesty, morality, conscience, and justice); 2) altruistic (group pay and concern for others); 3) selfish (own pay, concern for self); and 4) risk (distrust, risk). Experiment Two

2 In Experiment One, factor analysis revealed four dimensions consisting of the following elements: 1) principled (fairness, trust, self-esteem, honesty, morality, conscience, and justice); 2) altruistic (group pay and concern for others); 3) selfish (own pay, concern for self); and 4) risk (distrust, risk). Experiment Two
In the second experiment the subjects also were asked to rate themselves on a series of qualities as expressed by descriptive adjectives. Two scales were used: one measured relationality, or orientation toward others, and the other measured assertive and aggressive characteristics (see Gill, Stockard, Johnson, and Williams 1987; Johnson et al., 1975). The first scale is found commonly to differentiate between males and females and is used to bolster the argument that women are more oriented toward cooperative relations than men. Although the second scale commonly does not differentiate between males and females, it could be hypothesized that this scale would be related to a tendency for subjects to act in their own interests and to defect.

After completing these questions, the players left the experiment room one at a time to be paid. To ensure confidentiality, those who were left behind were asked not to discuss their decisions with each other. In the payoff room they were paid according to the outcome of the game and were told of the decisions that the other players made as a group, but not who did what individually. Then they were asked to complete one more form, which was identical for both experiments; this form asked the subjects to rank their feelings on nine bipolar items, on a seven-point scale. Responses to these items were factor analyzed; three dimensions resulted. Items on these dimensions were combined in additive scales, which were averaged to produce comparable ranges in scores. The scales measured reactions or moods, signifying the extent to which the subjects reported that they were upset, satisfied, and nervous. The subjects also produced two elements for each of three dimensions: 1) principled (doing the right thing and being fair); 2) altruistic (increasing others' pay and concern for others); and 3) selfish (self-interest and increasing own pay). On the postdecision form, each of these elements was matched with the elements in other dimensions, resulting in a total of 12 bipolar items. Summed scales were developed from the pairings of elements in each dimension; they represent the extent to which subjects report one set of motives as more important than another set in their decisions.

Subjects were asked to mark how much each adjective described him or her, on a four-point scale. Adjectives used in the “relationality” scale were considerate, good-natured, warm, obliging, sympathetic, pleasant, and understanding. Adjectives used in the “assertive” scale were assertive, aggressive, stern, forceful, and outgoing.

Bipolar items used on the “upset” scale were angry-pleased, cheated-treated fairly, betrayed-dealt with honestly, foolish-clever, and disillusioned-pleasantly surprised. Items on the “satisfied” scale were happy-sad and better off-worse off. Items on the “nervous” scale were anxious-relaxed and tense-calm.

As discussed in the text below, the only variable that interacted with sex in influencing choice was discussion in Experiment One. This variable also was entered as an independent variable in the analyses of the second and third research questions. Because we found no significant interaction of this experimental variable with sex in any of these analyses, these results are not reported in the text but are available from the authors on request.

We used standard procedures of model fitting to

RESULTS

Sex Differences in Choice

Table 1 gives the results of the analysis of the subjects’ choice in both experiments. The models which fit the data best were relatively simple, and indicated that the most important influences on subjects’ decisions were those associated with the experimental design. Re-
Table 1. Results of Logit Analysis of Influence of Gender and Design Variables on Choice by Experiment

| Variable (Predicted Category) | Experiment One | | Experiment Two | |
|------------------------------|----------------|----------------|
| **Constant** | | | | |
| Choice (cooperate) | .57 (7.41) | -.17 (−3.28) | | |
| **Main Effects** | | | | |
| Gender (female) | .12 (1.94) | .10 (1.95) | | |
| Discussion (yes) | .55 (8.36) | .19 (3.57) | | |
| Designated set of contributors [set] (yes) | .31 (4.28) | | | |
| Group and own pay contingent on actions [contingent] (yes) | .36 (4.99) | | | |
| Initial beneficiary of choice [benefit] (own group) | | .22 (4.24) | | |
| Beneficiary switched to other group [switch] (no) | | −.002 (−0.03) | | |
| **Interactions** | | | | |
| Set by contingent (yes, yes; no, no) | .20 (2.75) | | | |
| Gender by discussion (female, discussion; male, no discussion) | .14 (2.15) | | | |
| Discussion by benefit (yes, own; no, other) | | .19 (3.64) | | |
| Discussion by switch (yes, no; no, yes) | | .11 (2.07) | | |
| Benefit by switch (own, no; other, yes) | | .16 (3.06) | | |
| Likelihood ratio chi-square | 8.80 | 1.63 | | |
| degrees of freedom | 9 | 8 | | |
| probability | 0.46 | 0.99 | | |

a The effect parameters associated with the independent variables represent the log of the odds that an individual in the predicted category of an independent variable would cooperate. The effect parameter associated with the dependent variable is the log of the odds associated with cooperation as opposed to defection.
b The z-scores are interpreted in the standard way: \( z ≥ 1.96 \) has an associated \( p ≤ .05 \); \( z ≥ 2.58 \) has an associated \( p ≤ .01 \); \( z ≥ 3.29 \) has an associated \( p ≤ .001 \).

Results with the first experiment indicated a preponderance of cooperation and showed that subjects were more likely to cooperate in groups where discussion took place, where there was a designated set of contributors, and where production of the public good was contingent on subjects' contribution. In the second experiment, defection occurred more often; subjects were more likely to cooperate in groups where discussion took place, when they believed that the benefits would accrue to their own group, and when the beneficiary was not changed to the other group during the experiment.

Females were slightly more likely than males to cooperate in both experiments (69% of the females versus 66% of the males in Experiment One and 47% of the females versus 37% of the males in Experiment Two). In the first experiment, however, the effect of sex interacted with the effect of discussion; slightly fewer females than males cooperated in groups without discussion (46% of the females versus 52% of the males), but more females than males cooperated in groups with discussion (92% of the females versus 80% of the males). Sex did not interact with any other experimental variable in its effect on choice in either experiment.

Sex Differences in Reported Motivations

Panels A and B of Table 2 show the analyses of the subjects' reasons for making their choice. For the first experiment (Panel A) the multivariate effects were significant for the main effects of both choice and sex and for the interaction effect. Thus it is appropriate to consider only the interaction effect. This effect was significant for the altruism dimension, and there was a trend towards significance for the principled dimension. Subjects who cooperated (both males and females) were more likely than those who defected to cite principled and altruistic motives, but the difference was much larger for males than for females. Among defectors, females were much more likely than males to cite principled and altruistic reasons for their decision, but among cooperators the sex difference was much smaller. Neith
### Table 2. Results of Multivariate Analyses of Variance

<table>
<thead>
<tr>
<th>Dimensions Studied</th>
<th>F-Ratios1</th>
<th>Mean Scores and Standard Deviations2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Main Effects of Choice</td>
<td>Main Effects of Sex</td>
</tr>
<tr>
<td></td>
<td>Cooperators</td>
<td>Females</td>
</tr>
<tr>
<td>A. Reasons Given for Choice in Experiment One</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manova</td>
<td>26.43***</td>
<td>2.73*</td>
</tr>
<tr>
<td>Principles</td>
<td>67.56***</td>
<td>8.52**</td>
</tr>
<tr>
<td>Altruism</td>
<td>38.82***</td>
<td>6.74**</td>
</tr>
<tr>
<td>Selfishness</td>
<td>26.48***</td>
<td>1.12</td>
</tr>
<tr>
<td>Risk</td>
<td>8.97**</td>
<td>0.15</td>
</tr>
<tr>
<td>B. Reasons Given for Choice in Experiment Two</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manova</td>
<td>76.83***</td>
<td>2.45</td>
</tr>
<tr>
<td>Altruism vs. selfishness</td>
<td>190.2***</td>
<td>4.62*</td>
</tr>
<tr>
<td>Principles vs. altruism</td>
<td>2.76</td>
<td>0.84</td>
</tr>
<tr>
<td>Selfishness vs. principles</td>
<td>186.79***</td>
<td>6.81**</td>
</tr>
<tr>
<td>C. Self-Ratings in Relationality and Aggressive-Assertive Traits in Experiment Two</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manova</td>
<td>2.58</td>
<td>5.94**</td>
</tr>
<tr>
<td>Relational</td>
<td>0.94</td>
<td>11.91***</td>
</tr>
<tr>
<td>Assertive</td>
<td>3.80*</td>
<td>0.11</td>
</tr>
<tr>
<td>D. Reactions to Experiment One</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manova</td>
<td>0.82</td>
<td>2.49</td>
</tr>
<tr>
<td>Upset</td>
<td>0.01</td>
<td>0.51</td>
</tr>
<tr>
<td>Satisfied</td>
<td>0.96</td>
<td>4.22*</td>
</tr>
<tr>
<td>Nervous</td>
<td>0.68</td>
<td>3.15</td>
</tr>
<tr>
<td>E. Reactions to Experiment Two</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manova</td>
<td>21.24***</td>
<td>3.51*</td>
</tr>
<tr>
<td>Upset</td>
<td>38.38***</td>
<td>0.76</td>
</tr>
<tr>
<td>Satisfied</td>
<td>24.34***</td>
<td>0.75</td>
</tr>
<tr>
<td>Nervous</td>
<td>3.67</td>
<td>4.26*</td>
</tr>
</tbody>
</table>

1 Degrees of freedom for the multivariate results are 4 and 364 in Panel A, 3 and 437 in Panel B, 2 and 426 in Panel C, 3 and 442 in Panel D, and 3 and 433 in Panel E. Degrees of freedom for the univariate results are 1 and 367 in Panel A, 1 and 439 in Panel B, 1 and 427 in Panel C, 1 and 444 in Panel D, and 1 and 435 in Panel E.

2 Standard deviations are shown in parentheses. In Panels A and B a higher score indicates that a dimension was rated more important by the subjects. In Panels C, D, and E a higher score indicates that subjects rated themselves as less like the attributes on the dimension.

* p<.05  ** p<.01  *** p<.001.

interaction effects nor the sex effects were significant for the selfish and risk dimensions. The second experiment (Panel B) showed no more than a trend toward significance for the multivariate interaction effect. This finding involved the univariate results for the principles versus altruism and the selfishness versus principles dimensions. The multivariate results and those for the altruism versus selfishness and the selfishness versus principles scales were significant for both choice and sex. Females were more likely than males to describe themselves as acting for altruistic rather than for selfish motives; as in the first experiment, this difference was somewhat larger among defectors than among cooperators. Similarly, females were more likely than males to describe themselves as acting for principled rather than for selfish reasons, but in contrast to the other results, this difference appeared only among cooperators. Panel C of Table 2 gives the results for the analysis of the relationships among self-rated personality traits and the subjects' choice and sex in the second experiment. Significant effects by choice appeared for the self-rating on the "assertive" scale; significant effects by sex appeared for the self-rating on the "relational" scale. Subjects who defected saw themselves as more assertive than those who cooperated, but did not rate themselves differently in respect to relationality. Females, whether they cooperated or defected, saw themselves as more oriented toward
harmonious group relations than males. There were no significant sex differences in self-ratings of assertiveness.

Sex Differences in Reactions to the Results

Panels D and E of Table 2 give the results of the analysis of the subjects' reactions to their experiences after receiving their payments. In the first experiment, the only significant result was the main effect of sex, with a significant difference on the individual "satisfied" scale and a trend toward significance on the "nervous" scale. The women reported themselves as more satisfied and less nervous than the men after the experiment. Results for Experiment Two showed significant main effects for both choice and sex. Those who cooperated were more upset and less satisfied, but also less nervous, than those who did not. The significant univariate effect for sex involved the nervous scale; again, males reported themselves as more nervous than females.

Table 3 gives the results of the logit

<table>
<thead>
<tr>
<th>Variable (Predicted Category)</th>
<th>Experiment One</th>
<th>Experiment Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.09 (12.47)</td>
<td>.97 (12.75)</td>
</tr>
<tr>
<td>Main Effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Original choice (cooperate)</td>
<td>.15 (1.69)</td>
<td>-.24 (3.11)</td>
</tr>
<tr>
<td>Sex (female)</td>
<td>.02 (0.26)</td>
<td>+.02 (0.22)</td>
</tr>
<tr>
<td>Interaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choice by sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(cooperate, female; defect, male)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood ratio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>chi-square</td>
<td>0.74</td>
<td>0.00</td>
</tr>
<tr>
<td>df</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>p</td>
<td>.39</td>
<td>1.00</td>
</tr>
</tbody>
</table>

The effect parameters associated with the independent variables represent the log of the odds that an individual in the predicted category of an independent variable would make the same decision at the end of the experiment as she or he did originally. The effect parameter associated with the dependent variable is the log of the odds associated with making the same choice, as opposed to not making the same choice.

SUMMARY AND DISCUSSION

The results related to the first research question indicate that women tend to cooperate only slightly more than men in social dilemmas. Because discussion interacted with sex in affecting behavior in one of the experiments but not in the other, this is probably a chance result rather than a special susceptibility of females to discussion. No other experimental variable interacted with sex in influencing choice behavior. This finding indicates that males and females usually reacted in similar
ways to conditions which were designed to promote cooperative behavior, including those which made their cooperation essential to the well-being of the group (the set and the contingent aspects of the first experiment). Most important, the influence of sex was much smaller than the influence of the various experimental variables.

Results related to the second and third research questions indicate that sex differences in choice were relatively unassociated with sex differences in the motivations reported to underlie the decision or with reactions to the results of the experiments. Although subjects who cooperated were much more likely than those who defected to cite principled and altruistic motives for their decisions, women were more likely than men, even among defectors, to describe their decision as motivated by principles and altruism. Similarly, in the second experiment female defectors were more likely than male defectors to describe themselves as oriented toward promoting harmonious group relations. In contrast to what could be expected if women were more inclined than men to cooperate, women who defected did not regret their decision more than men who defected, and women reported being less nervous than men after the experiment, regardless of their behavior. In addition, if the subjects' decisions were governed by hindsight, the trend for women to cooperate more often, which was observed in the original choices, would become even smaller and virtually would disappear.

The results related to the first research question can be seen as lending some support to the work of Bernard (1975, 1981), Gilligan (1982, 1986), Miller (1976), and others who posit a distinct culture or world of women that incorporates notions of caring and cooperation with others. Except for the condition of no discussion in the first experiment, women cooperated slightly more often than men in all the experimental settings tested (cf. Bonacich 1972). In contrast, the results from the third research question do not support the notion of a unique women's culture: women who did not cooperate did not express more anxiety than men and in fact were less nervous. In addition, if the subjects could make their decisions after knowing the results of the experiment, the reported sex differences would be much smaller. (See Caldwell 1976 and Goehr-
tribute to the social good. Numerous studies of
gender stereotypes document these percep-
tions (e.g., Broverman, Vogel, Broverman,
Clarkson, and Rosenkrantz 1972), and studies
of self-perceived personality traits indicate that
women generally believe that these traits de-
scribe themselves (Gill et al. 1987; Johnson et
al. 1975). Dawes (1985) suggests that the cul-
turally accepted self-schema of females may
lead them to believe that they have greater
concern with interpersonal relationships than
does that of males. We suggest further that
females’ views of themselves as cooperative
and group-oriented may be linked so closely
with their gender identity—their view of them-
selves as female—that when their behavior con-
tricts this “self-schema” they may be less
likely to recognize it and may justify it with
notions that conform to their self-concept and
their view of socially defined roles.

We also believe that these results point to a
need for careful distinctions among analyses
of behavior, social roles, gender stereotypes,
and self-descriptions of personality traits.
This need may be especially compelling when
these areas are linked closely with deeply held
self-views such as gender identity and when
they may lead to alternative interpretations of
some of the theories of sex differences. It is
possible, for instance, that Gilligan’s (1982)
view of females’ moral reasoning and Ber-
ard’s (1975, 1981) description of females’
unique culture may reflect females’ accep-
tance of gender differences in social roles and
their views of gender stereotypes and of their
own personality traits more strongly than they
reflect any extensive or actual male-female
difference in group-oriented cooperative be-
behavior (cf. Brabeck 1983).

Further research is needed in this area.
Although studies of social dilemmas are
becoming more common, few include an
explicit analysis of gender differences in
behaviors. Studies should be conducted to
examine sex differences in moral behavior
and in motivations in social dilemmas with
“public goods” other than money. A dilemma
requiring the provision of a public good
associated traditionally with masculine quali-
ties (such as strength) might result in greater
coopération from males than from females
(cf. Kerr and MacCoun 1985), while a
dilemma requiring the provision of a stereo-
typically feminine quality (such as nurturance
or caretaking) might result in greater coopera-
tion from females (cf. Eagly and Crowley
[1986] for a discussion of sex differences in
helping behavior). Such procedures also
could counter the alleged “masculine bias” of
social dilemma experiments.

Perhaps most important would be studies
which extend the examination of moral
behavior beyond the social dilemma frame-
work and perhaps examine behavior in
nonexperimental settings with long-standing
relationships typical of those described by
Bernard, Gilligan, and Miller. Only with such
extensive examination of a broad range of
settings are we likely to learn more about the
relationship among the motivations, moral
behavior, and self-perceived personality traits
of men and women.

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