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The Relationship between Sex-Role Stereotypy and Trust among Women, as Measured by Cooperation/Competition.

Dissertation

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

Miriam Whitsett Cardi, B.Sc., M.A.

The Ohio State University 1972

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I. Introduction

This investigation tests the hypothesis that females tend to trust males more readily than they do other females. This phenomenon, if demonstrated, is thought to be a reflection of low or vulnerable self-esteem and to relate to the culturally assigned status and role of women and the individual woman's acceptance of this status and role as the norm. Sex role stereotypy is the ascription of significant differences in attitudes, traits and behaviors to men and women. Its relationship to trust among women will be explored.

Trust, as used throughout the study refers to cooperative behavior. That is, the referrent or criterion of trust will be behaving as if the other is trusted or not trusted to cooperate also. Such behavior implies the presence of a) an attitude of trust or b) a motive to trust. Differentiation between these two: a) that the other is basically benevolent and cooperative, and b) that the other is not these but can be propitiated and thereby induced to cooperation - will be attempted. Trusting behavior and statements of trust in others have been demonstrated to be closely associated with trustworthiness (Deutsch, 1960; Rotter, 1970; Wrightsman, 1966). It is reasoned that trustworthiness is one component of self-esteem. If this is the case, cooperation by a person with a comfortable degree of self-esteem may well be a manifestation of trust; whereas cooperation by a person with low or insecure
self-esteem could be understood as an effort to propitiate. Examination of the level of self-esteem of the cooperater may furnish an insight into the reason for cooperation beyond that provided by the contingencies of the situation in which cooperation occurs. Whether or not that distinction is clarified, this experiment will focus on cooperative behavior as the measure of trust. The opportunity to engage in cooperative behavior will be provided through the medium of a 2 person mixed motive game generally known as The Prisoner's Dilemma, in which the two participants have a conflict of interests but must cooperate with each other to avoid a mutually detrimental outcome (Solomon, 1960).

Three realms of experience have converged to shape the question about women's propensity for trust of and in their own sex. The first is the pronounced difference between folk stereotypes of women as "catty", covertly envious of one another and hostile and competitive toward other women, in contrast to the stereotype espoused by professional psychology. The latter view the female as passive, accommodative, compassionate and cooperative (Vinacke, 1969, Gough, 1952).

The author's clinical experience as a psychotherapist has produced the impression that most female patients, although patently more concerned with conflict centering on the men in their lives, are less ready to tolerate small faults and offenses from females and more ready to impute (or recognize) hostility and unfavorable motives in them. Observations from encounter groups and group therapy suggest that females in these situations tend to address themselves more often to males when seeking or offering help or approval.
The third area of relevant experience derives from the author's participation both as member and leader of all-female groups. The reluctant realization was that in this variety of groups trust and cooperation were very much more difficult to achieve than in any previously experienced mixed sex groups. This in spite of the fact that the majority of the participants were apparently highly motivated to understand and cooperate with other women. These latter experiences were the crucible in which all of the earlier perceptions and dissonances crystallized into the questions: Do women tend to distrust and refuse cooperation with their own sex? If so, why?

This experiment seeks a definitive answer to the first of these questions and explores the second.

The practical import of such an inquiry extends into private, public and professional life. What are the consequences to the developing psyche of the little girl who is most often cared for and taught preponderantly by women, women who may feel distrustful of and competitive toward their young charges? What is the social loss if half of the population distrusts itself and its own kind? What is the utility of a science of psychology that holds inaccurate propositions about the behavior of one out of two persons? If the thesis of this study is supported, that is if it is the culturally assigned and reinforced tendency to distrust and withhold cooperation from her own kind, how will the situation be changed?
II. Background of the Study and Formulation of the Hypotheses

Trust is the object of much praise but of curiously little and disconnected research. Because it is considered an essential building block of healthy personality (Erikson, 1950) some research has been concerned with identifying patterns of child rearing associated with the development of basic trust in individuals. Rotter (1970), asserting that "if trust weakens, the social order collapses" has recently studied a particular aspect of it which he defines as the expectancy that the word or promise, verbal or written of another or a group can be relied upon. Social psychology has been interested in trust as one of a number of attitudes resulting from group membership. The usual finding in sociometric studies is that perceived similarity is directly associated with positive attitudes towards the other. On the other hand the phenomenon of intra-group distrust in disadvantaged minority groups, while recognized and described has seldom been empirically investigated.

Allport (1954) delineates a number of attitudes and behaviors which are likely to result from membership in a group that suffers discrimination and disparagement. He differentiates the tendency toward these behaviors according to whether the individual is inclined to be extropunitive or intropunitive. In the latter case he predicts pas-
sivity, clowning [being cheerful about misfortune, being amusing], self-hate, in-group aggression, sympathy with all victims, symbolic status striving and neuroticism. Consider the similarity between this list and a number of traits extolled or deplored as characteristics of the female sex.

The status of women in this culture is such that they may be accurately described as discriminated against and disparaged. Women are the largest definable group not yet assured of completely equal rights by the Constitution. Their achievement of equality under the law in specific instances such as the right to vote, to own property etc., is relatively recent and/or incomplete. Laws that appear to grant women special privilege such as exemption from the draft, the right to alimony and "protective" labor laws imply disability or handicap as innate in women.

The economic status of women is similarly disadvantaged. They earn less than men who are doing identical work or have equivalent education (Women's Bureau Bulletin 294, 1969). Higher paid work and higher status positions are not so open to women as to men and education and training for higher status and better paid work is not so open, officially or unofficially to women (Sandler, 1970). The career

1Author's parenthetical statement.

2The proposed 27th Amendment to the Constitution of the United States reads "Equality of rights under the law shall not be denied or abridged by the United States or by any State on account of sex." It was passed by the House of Representatives in October, 1971 and the Senate in March, 1972. As of April 22, 1972 it had been ratified by 15 states.
into which most women are urged, that of wife and mother, is not covered by any minimum wage or other legislation setting safety standards. Fringe benefits such as sick pay, vacations, health insurance and retirement income in this career are non-existent, inferior to, or dependent upon the husband's position, if not his disposition.

The social status of women is ambiguous at best. The woman who marries, in a sense loses her former identity in her change of name and in fact loses some rights she formerly held, e.g., to enter into contracts alone. At the same time the woman who does not marry is the object of pity, humor, suspicion, scorn -- "old maid", "career woman", "other woman", "dyke". The extent of woman's exposure in the advertising media indicate that she is valued, but for qualities that are unreal, inappropriate or irrelevant to most women. For the women in the ads are almost always beautiful, young, fashionably dressed and flawlessly groomed, often unbelievably happy over some product or event as momentous as a gleaming floor or an intimate smoke with a handsome man. This is the public everyday experience of women in this culture. One well documented concept of psychology is that in order to characterize the behavior of any group one must understand social expectations about them (Bem, 1970).

The female person who is shaped by these societal inequities and inconsistencies may be fairly described as disadvantaged but she differs from other disadvantaged groups in one crucial way. She lives dispersed among the advantaged others, men, and so is emotionally dependent upon them rather than her own sex group. In this position of
emotional as well as economic and social dependency and legal inferiority she is more likely to be intropunitive because it is safer and easier.

There is empirical evidence to support this deduction that women will tend to be intropunitive and often characterized by the attitudes and behaviors Allport has predicted as consequent to disadvantaged status. Bennett and Cohen (1959) found that women showed less overt aggression although they felt more covert hostility. Rothaus and Worcel (1964) found women showing higher anxiety over aggression. Wyer et al. (1965) found no differences between the sexes in feelings of aggression but males were higher in direct expression of aggression and females higher in guilt about aggressive feelings. Among the traits ascribed to women by the Gough Femininity Scale validation sample (Gough, 1952) are timidity, niceness and acquiescence, compassion and sympathy, pettiness and irritability. Strong (1943) and Terman and Miles (1936) both found women liked to deal with unfortunates. The latter also found that women confessed to psychic abnormalities. Other studies have found women to feel more anxious and nervous (Birm, et al., 1962) less confident, less self-sufficient, greater personal inadequacy and vulnerability (Birm, also Bennett and Cohen). McKee and Sherriffs (1957) found that women as well as men rated men as more worthwhile. Horner (1968) found college girls high on the motive to avoid success, showing strong fear of social rejection or guilt and doubts about their femininity or normality if they should succeed. The same subjects, many of whom had high intellectual ability and a history
of academic success, performed better on a series of achievement tests while working alone, then they did on a similar set of tests in a large competitive group situation.

Again, plenty of evidence has been found to support Allport's predictions about in-group attitudes. This study is specifically concerned with the attitude of trust, or with the lack of it taking the form of in-group competition among women and mediated by low self-esteem.

The image and self-image of woman that emerges from all of the evidence is negative and self-defeating. It appears that the average woman in this culture generally devalues herself as less important, less intelligent, less competent, less independent and self-reliant than men. She is extremely conflicted about hostility and aggression, finding in her frustrations plenty of occasions for such feelings but also fearing loss of love -- the one reward she is consistently encouraged to hope for -- when she acts out her aggression directly. Woman also finds herself in a double bind about competence and competing. She needs to be competent and to compete if she aspires to anything but she feels a vague and pervasive anxiety about these behaviors and a specific fear that she is less feminine and will be rejected by men, and women too. Other women are devalued as like oneself. They are perceived as less stable, reliable and trustworthy, possibly on the basis of one's own felt internal conflict which may produce erratic behavior but more probably on the basis that they also are characterized by incompetence, passivity, conformity and indirection.
Given this evaluation of other women, one woman is unlikely to trust another or to rely on another woman to cooperate in the attainment of a mutual goal. Also, competing with another woman, i.e., someone of lesser value or power is not such a serious or dangerous breach of the prohibition against being competitive.

But if a woman has escaped the acquisition of stereotyped attitudes or has examined and resolved them as invalid generalizations, she is apt to have a healthy sense of self, therefore she is less likely to be bound by irrational but prevalent cultural expectations regarding her sex. She is more likely to feel competent and trustworthy and more able to expect or recognize the quality of trustworthiness in others, regardless of sex. A positive association between trust and trustworthiness has been found by several investigators (Deutsch, 1960; Rotter, 1970; Wrightsman, 1966).

**Trust and Cooperation**

Trust and trustworthiness as conditions for cooperation have been intensively studied in the last decade by persons engaged in peace research. The search for an analogue to international power politics led to the development of a variety of N-person and two-person bargaining games, threat games and particularly the mixed motive game described as a two-person non-zero sum game and popularly labelled the Prisoner's Dilemma. Conflicting motivations for and against cooperation are built into the game. It presents a dilemma in this way: The two players will both gain a moderate reward if they both play cooperatively. However each faces a temptation in the form of a larger pay-
off for competitive play if the other alone plays cooperatively, and both recognize that they will be punished by a moderate loss if both play competitively. To further complicate the dilemma, the loss for a unilaterally cooperative (sucker) play is greater than the loss for a double competitive play. The players make their choices simultaneously, without communicating with each other. Although the contingencies are clearly stated on the game matrix, the optimal play is ambiguous. Each player must ask himself whether the other can be trusted to play cooperatively for the mutual gain of both. A cooperative play is rational only in the presence of such trust. This analysis of the stimulus and reinforcement characteristics of the game offers the promise of an exceptionally useful method for investigating interpersonal trusting behavior.

Rapoport has done the most thorough exploration of game behavior. He has summarized (Rapoport, 1963) more than 200 experimental sessions, comprising nearly 100,000 individual plays. He reports these stable findings: the level of C (cooperative play) starts at about 50%, quickly drops and after about 50 plays begins a steady rise to asymptote at about 65%. This is the average of a strongly bimodal distribution. The responses of both members of a pair are interdependent, showing a correlation of between .5 and .6 and most pairs lock in on either a mutually cooperative or a mutually competitive mode.

What accounts for the bimodality of the distribution? If it is individual differences, sharpened by the effects of interaction, then differences in what? Wilson (1969) asked subjects who played against a
stooge under different preprogrammed levels of C to record their perception of the motive of the other player. There was a significant association between the type of strategy experienced and the motive attributed to the other.

Another suggestive finding (Rekosh and Feigenbaum, 1966) is a much higher level of cooperative play against a perceived peer as compared with play against the experimenter. Solomon (1960) using male subjects, also manipulated the power of the other, but via alternations in the game matrix rather than the person and also found that trusting behavior increased as relative power was more nearly equal.

Vinacke (1969) in a comprehensive review of studies of experimental games, states with regard to triadic bargaining games: "Obviously players act more on the basis of their perceptions of the power relations than on a rational analysis of their significance." He goes on to say that "females represent a number of puzzling kinds of behavior which reveal the importance of special attitudes." He concludes that "females appear to treat the game as a social interaction situation, where equitable outcomes are sought." The first part of this conclusion seems to be justified by the results reported by Bond and Vinacke (1961) and by several other investigators (Orwant, 1970; Tedeschi, et al. 1970). However, the second part of that conclusion, i.e., "where equitable outcomes are sought," seems unjustified. Tedeschi's data indicate that females are "more concerned with the presentation of self." He also found that the level of cooperation by females was higher when the (simulated) other was in a more powerful position.
The effects of power seem to differ for females and males.

A number of experimenters have found that females show a lower level of cooperation (C) than males in Prisoner's Dilemma; whereas several studies have not revealed sex differences in C. The most definitive investigation to date (Rapoport and Chammah, 1965) studied 70 male pairs, 70 female pairs and 70 male-female pairs, each pair playing 300 trials of the game. Their results show a markedly lower level of cooperative play between females than between males, with male-female pairs about midway between the others. The large N, the large number of trials, the straightforward design and the number of indices besides C level in this study altogether constitute powerful evidence for the lesser cooperativeness, hence trust, of females in their own sex. It might only be improved in one way and that is by testing the same females against males as well as other females. The present study proposes to do that.

A careful reading of all the studies comparing male and female performance on a variety of experimental games suggests that whenever the experimental conditions include communication or instructions emphasizing the game as a form of competition in combination with a format that publicly reveals the mode (and motive) of each play, females do indeed show a higher level of cooperation than males on a number of indices, but they also show some noticeable lapses when their opponents are also female. For example Bond and Vinacke (1961) in a triadic game where there were various combinations of sex imbalance (two males and one female, two females and one male) and different
power conditions, found that a female alone with two males tended to ally with one of them even in the power condition in which she could win without a coalition but when one of a female majority was in the same power condition she did not ally with the other female.

All this suggests that what Vinake sees as "puzzling behavior" on the part of females represents their efforts to avoid the appearance of being competitive, particularly with males. This is of critical importance to the female whose self esteem rests on her identification with the culturally prescribed feminine role and who subscribes to the complementary role stereotype of the male as powerful and aggressive. Those young women who are to a significant degree independent of stereotyped sex role expectations would not find it so tempting to play more competitively against their own sex, or conversely, find it threatening to play competitively against males.

**Sex Role Stereotypy**

Broverman and a number of her colleagues (Broverman, et al., 1972), convinced "that existing sex-role standards exert real pressure upon individuals to behave in prescribed ways" commenced in the mid 1960s to explore the content, development and consequences of these sex-role standards. They defined sex-roles as "the degree to which men and women are perceived to possess any particular trait" and set out to construct an instrument to measure this conceptualization of sex-role stereotypy. The raw material of their questionnaire consisted of listings by approximately 100 men and women undergraduates of all the characteristics, attributes and behaviors on which men and women dif-
ferred. The measure has been through a number of refinements, including cross-validation on other populations of men and women. In its present form (Appendix F) it consists of 82 items, each a 60 point bipolar scale (as in the example following), which show a difference between the average masculinity response and the average femininity response significant beyond the .05 level of confidence in each sample.

Very aggressive not at all aggressive

1........2........3........4........5........6........7

The instructions are to indicate the extent to which each item characterized an adult man, an adult woman, and themselves. The order of presentation of masculinity and femininity instructions is reversed (Appendix G) for half of any given sample, with the self instructions always given last. The social desirability of each item was determined in separate analyses using different samples and two different methods. The scale presents about half of the items with the social desirability pole at the lower end but for scoring purposes these items are reflected so that a higher rating on any item always means that the object of the rating (adult male, adult female, or self) is perceived by the rater as having more of a socially valued quality. A subset of items (n = 39) which differentiate between the average masculinity response and the average femininity response to a much more extreme degree (p < .001) are classed as stereotypic items. Factor analyses performed separately on the masculinity and femininity responses produced two large factors which divided the stereotypic items into those on which
the male pole is more socially desirable and those on which the female pole is more socially desirable. Inspection indicates the male-valued items (n = 28) represent a "competency cluster of traits" such as being independent, objective, intelligent, competitive, self-confident, direct (vs. sneaky), etc. The stereotype of women is characterized by a relative absence of these qualities. The female valued stereotypic items (n = 11) seem to constitute a "warmth and expressiveness cluster" of attributes such as gentle, sensitive to the feelings of others, neat, quiet, able to express tender feelings, etc.

A number of studies over a period of six years have found high consensus across groups which differ in sex, age, religion, marital status and education regarding the differing characteristics of men and women and positively valued characteristics are more often ascribed to men than women. The cultural sex-role definitions tend to be incorporated into the self-concepts of both men and women and these sex-role differences are considered desirable, healthy and even ideal by both men and women.

The finding that the self-concepts of men and women are very similar to their respective stereotypes implies, in the case of women, that they negatively value their own worth relative to that of men. This thinking is congruent with the logic of this entire study which may be restated in the very general premise that persons overconcerned with, or uncritically accepting of cultural stereotypes which are derogatory to their group will tend toward low self-esteem and often feel pressed to behave in ways that are at variance with their own interest. Self-confidence is an important aspect of self-esteem, a
belief that one's self not only has worthwhile qualities, but also that these qualities have instrumental value. It is a fairly concrete aspect of self esteem, accessible for self report. Self-confidence is rated by one item of the sex-role stereotypy measure used in this study.

The population from which the sample for this study is drawn is midwestern predominantly middle class college women. Generalization of the results beyond this population will neither be assumed nor tested by this study.

**Hypotheses**

Stated in terms specific to the method of this study, the hypotheses to be tested, each with a brief recapitulation of its rationale, are as follows:

**H1** Females as a group will cooperate less with each other than with males in repeated plays of the Prisoner's Dilemma Game.

The evidence reviewed in this chapter suggests that the average college woman conforms sufficiently to sex role expectations as to distrust or refuse to cooperate with other women in general and to hesitate to compete with men.

**H2** High stereotype females will cooperate less with their female partners and more with their male partners than do low stereotype females.

The tendency described above will be much stronger among women who report themselves to believe that men are much more competent and reliable than women.

**H3** Low stereotype females will not show significant differences in level of cooperation associated with sex of partner.

Women who report themselves as seeing men and women more nearly equal in these characteristics will be equally ready to trust and cooperate with women and men.
H4 Low stereotype females will play more realistically, i.e., their strategy will match their partner's strategy more than does the strategy of high stereotype females.

Women who do not subscribe to these sex-role stereotypes, while able to cooperate more freely, are also freer to complete when it is appropriate. In the case of the Prisoner's Dilemma it is senseless to cooperate with a partner who tends to be strongly competitive. The optimum strategy has been demonstrated to be one of contingent cooperation.

H5 Low self-confidence will tend to be associated with high sex-role stereotypy.

Low or vulnerable self esteem (as measured by self-rating of self-confidence) is to be expected in women who accept as valid a sex-role stereotype that specifically classifies women as less objective, logical, independent, direct (vs. sneaky), etc., at the same time that it asserts these qualities are socially desirable.
III. Method

The subjects of the study were 62 female and 62 male students from introductory psychology courses at The Ohio State University. 10 upper-class psychology majors, 5 females and 5 males, served as the experimenters without knowledge of the hypotheses of the study. They were paired in different combinations (always 1 female and 1 male), as their schedules permitted. The first 40 subjects went through the entire experimental procedure in two-hour sessions. The remaining subjects were tested in two separate one-hour sessions. This change was made because it was difficult to find enough subjects with a two-hour block of time free. All of the latter subjects appeared for both sessions.

The game matrices were identical with those used by Rapoport and Chammah (1965). The instructions and procedure were similar to Rapoport and Chammah's whenever possible in order to facilitate comparison to

3In order to test each subject in both same sex and opposite sex conditions, and to assure that the sex of the partner was known, a slightly different seating arrangement was used. Instead of seating the subjects side by side in separate enclosed booths facing the experimenter (as Rapoport and Chammah had done), the present study seated the subjects on opposite sides of a table, separated by corkboard screens which were in place in the center of the table before the subjects arrived. They could see each other before sitting down but after they were seated, nothing more than the top of the partner's head was visible to each. The experimenter was seated at right angles to each subject at one end of the table. A larger screen on the other end of the table blocked from view the other pair of subjects and their experimenter who were at an adjoining table.

The instructions read to the subjects repeated almost word for word those used by Rapoport and Chammah. After a trial runthrough in which the experimenters practiced on one another, additional instructions as to which subject was a row player and which a column player, and how the intersection of choices determined the payoff, were added to facilitate understanding.
their data as a baseline. The essential elements of both were preserved.

A male and female experimenter worked with two female and two male subjects during each game session. Each subject was immediately seated upon arrival at the experimental room, and asked to wait without conversation until all four were present and the session began (Appendix A).

The experimenters took turns in starting the session by reading the game instructions and pointing at the appropriate times to a sample game matrix. The instructions (Appendix B) informed the subjects that they would play a large number of times, that the outcome of each game would depend upon their partner's choice as well as their own, that there was not to be any kind of communication with the partner, that they would be paid for participation and that the points won or lost during the game would be converted to money and added or subtracted from this base pay. After the instructions had been read, a larger screen was set up, separating the two pairs of players and their respective experimenters. Each experimenter answered any questions the subjects had, until they clearly understood the manner of play, the payoff contingencies, and the method of recording their gains and losses. Both experimenter and subject kept a tally.

Then the game began. The experimenter displayed a game matrix to both subjects simultaneously. Each subject's play was signalled to the experimenter by pushing forward a red or blue poker chip, so that the experimenter could see it and the partner could not. When both subjects had chosen, the experimenter recorded the choice and the number of points won or lost by each subject, and announced these to both
subjects. After the subjects had marked their tally a new matrix was displayed and another trial was played. After 25 trials there was a brief pause during which the subjects totalled their gains and losses. Then the game resumed for 24 more trials, at which point subjects and experimenters again totalled their tallies.

Each of the seven matrices (Appendix C) came up seven times, in the same order for each subject, during this block of 49 trials. The matrices had been randomly ordered.

At that point two subjects, one from each pair, exchanged places. If the session had begun with same-sex partners (Order 2), the subjects were now in opposite-sex pairs. If they had begun as opposite-sex pairs (Order 1), they now were matched in same-sex pairs. The game was played for 49 more trials, again with a pause for totaling tallies after the 25th trial, and with the same order of matrices. Each subject's gains and losses were tallied and they were paid.

During the second part of the experimental session,\textsuperscript{4} three paper-pencil measures were administered (Appendices D, E, and F). The first two measures were intended solely as a buffer to put distance between the game and the measure of sex-role stereotypy when they were presented during the same session.

\textsuperscript{4}For the first 20 pairs of subjects this followed immediately after the game. The paper-pencil measures were administered to the remaining subjects in a separate session which took place any time from 1 day to 2 weeks after the game session.
Analysis of the Data

Before analysis could proceed it was necessary to make some decisions about keeping or eliminating the data from certain trials. The experiment had been designed to exactly counterbalance Orders, i.e., the order of sex matching of partners and the sex of experimenters, but four sessions did not proceed under the Order intended. Of these four mistrials, one resulted in a cross-sex pairing during both halves of the game, so it was discarded. It seemed valid to include the other three sessions under question because in every other way the session had proceeded normally. The result was that there were unequal numbers under the different orders.

The first step in analysis of the data was to examine whether administering the paper-pencil measures in a separate session had any discernable effect on the scores of those measures. A t-test between the means of the one-session groups and the two-session groups on the sex-role stereotypy measure resulted in $t = .8136$, df 60, which is not significant. It was concluded that the change in procedure had not affected the outcome of the experiment.

Since all the hypotheses were concerned with comparisons among female subjects, the data for the male subjects did not enter into the analyses. The cooperative choice in the Prisoner's Dilemma Game was always the red play. Cooperative choices are referred to as C in the analyses.

All the female subjects were ranked according to the magnitude of the absolute mean difference between their rating of females and males
on the male valued stereotypic items of Scale III, the Sex-Role Stereotype Questionnaire. The group of male valued stereotypic items was selected as those by which to classify females as low or high in stereotypy for three reasons.

1. Their content validity as a cluster of competency traits, supported by a factor analysis (Broverman, et al., 1972) makes this group of items most germane to the thesis of the study.

2. This group of items was the sources of the greatest differentiation between males and females, the mean difference being \(-7.657\).

3. It was the only group of items on which all female subjects rated the difference between men and women in the same direction, i.e., with women lower, with the exception of one subject who maintained there were no differences on any items.

The ranked subjects were divided at the median, forming the low stereotype and high stereotype groups for the analysis of variance.
Hypotheses 1, 2 and 3 were tested by a three-way analysis of variance for repeated measures (Poor, 1971). Table 1 shows the means of C associated with sex of partner and order of sex pairing for the low stereotype group (Lo St) and the high stereotype group (Hi St), and the number of subjects in each condition.

### Table 1

#### Mean C According to Stereotypy, Sex of Partner and Order

<table>
<thead>
<tr>
<th>Order</th>
<th>Stereotypy</th>
<th>FF</th>
<th>FM</th>
</tr>
</thead>
<tbody>
<tr>
<td>FF 1st FM 2nd</td>
<td>Lo St</td>
<td>17.25</td>
<td>11.56</td>
</tr>
<tr>
<td></td>
<td>Hi St</td>
<td>12.44</td>
<td>12.44</td>
</tr>
<tr>
<td>FM 1st FF 2nd</td>
<td>Lo St</td>
<td>16.20</td>
<td>18.73</td>
</tr>
<tr>
<td></td>
<td>Hi St</td>
<td>9.92</td>
<td>19.38</td>
</tr>
</tbody>
</table>

Table 2 shows the analysis of variance.
Table 2

ANOVA

<table>
<thead>
<tr>
<th>Sources</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Cells</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Order</td>
<td>119.787</td>
<td>1</td>
<td>119.787</td>
<td>1.666</td>
<td>.27</td>
</tr>
<tr>
<td>Stereotypy</td>
<td>84.934</td>
<td>1</td>
<td>84.934</td>
<td>1.181</td>
<td>.32</td>
</tr>
<tr>
<td>O x St</td>
<td>2.768</td>
<td>1</td>
<td>2.768</td>
<td>.039</td>
<td></td>
</tr>
<tr>
<td>Within Cells</td>
<td>4169.480</td>
<td>58</td>
<td>71.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within Subjects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex of Partner</td>
<td>39.516</td>
<td>1</td>
<td>39.516</td>
<td>.939</td>
<td></td>
</tr>
<tr>
<td>Sex x 0</td>
<td>545.136</td>
<td>1</td>
<td>545.136</td>
<td>12.947</td>
<td>.001</td>
</tr>
<tr>
<td>Sex x St</td>
<td>301.202</td>
<td>1</td>
<td>301.202</td>
<td>7.153</td>
<td>.01</td>
</tr>
<tr>
<td>Sex x St x 0</td>
<td>2.942</td>
<td>1</td>
<td>2.942</td>
<td>.070</td>
<td></td>
</tr>
<tr>
<td>Within Cells (error)</td>
<td>2442.198</td>
<td>58</td>
<td>42.107</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 1 illustrates the differing levels of cooperation presented in Table 1.

H1 Females as a group will cooperate less with each other than with males in repeated plays of the Prisoner's Dilemma Game.

The analysis of variance shows no significant main effect for sex of partner in the repeated measures design. However a highly significant (p < .001) interaction of order of play and sex of partner is shown. In view of the facts that a) there was a tendency for subjects to play more cooperatively on the first block of trials and that b) there were 34 female-female pairs but only 28 female-male pairs playing first, it was decided to compare mean C according to sex of partner on the first trial block only. This is a comparison across different subjects but under an equivalent order -- a comparison of the same type as that done
Figure 1
C According to Stereotypy, Sex of Partner
and Order of Sex of Partner

Lo St

Hi St
by Rapoport and Chammah (1965). A t-test was performed on the difference between the mean C of females playing males first and the mean C of females playing females first, without separating subjects according to stereotypy. The results of this test are shown in Table 3.

### Table 3

<table>
<thead>
<tr>
<th></th>
<th>FF</th>
<th>FM</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>34</td>
<td>28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>14.7</td>
<td>19.0</td>
<td>2.06, df 60</td>
<td>&lt;.025</td>
</tr>
<tr>
<td>Proportion</td>
<td>30.0%</td>
<td>38.7%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 shows that the level of cooperation between female-female pairs was significantly lower than that between female-male pairs on the first block of 49 trials. H1 is supported.

H2 High stereotype females will cooperate less with their female partners and more with their male partners than do low stereotype females.

H3 Low stereotype females will show no significant differences in level of cooperation associated with sex of partner.

It is the interaction of stereotypy and sex of partner that is of interest in the test of these hypotheses. The analysis of variance (Table 2) shows that the interaction of sex of partner and stereotypy is significant at p < .01. An inspection of the mean Cs shown in Table 1 indicates that 1) high stereotype females cooperate to a much greater
degree with males when they play males first than they cooperate with females when they play females first, 2) that in either order of play, high stereotype females show a higher level of cooperation with males than with females, and 3) high stereotype females playing females first appear to cooperate equally with females and males but when it is seen that this is the only group that does not cooperate to a much greater degree on the first block of trials, what appears to be cooperation becomes suspect as an effect of order. The results of this analysis support H2.

This analysis of variance has indicated that the highly significant interaction of stereotypy and sex of partner is due in part to low stereotype female's tendency to play more cooperatively with females when they play females first. In addition, their greater cooperation with males when they play males first is not negligible. H3 must be rejected on both counts. Low stereotype females are influenced by sex of partner as well as order, but in an opposite direction than high stereotype females.

The possibility that the strong effect of order is to some degree a function of the change of experimenter or of sex of the experimenter requires examination. The design called for one member of each pair playing the first block of trials to stay with the same experimenter while the other member moved to a new experimenter of the opposite sex. Table 4 shows the number of subjects in each of the four possible combinations who a) played less cooperatively with the second partner (signified by +), b) played more cooperatively with the second partner
(signified by +), or c) played equally cooperatively with the second partner (signified by =).

Table 4

Increase or Decrease in C Associated with

Sex of Experimenter

<table>
<thead>
<tr>
<th>Sex of Experimenter</th>
<th>F E both Blocks</th>
<th>M E both Blocks</th>
<th>F E 1st M E 2nd</th>
<th>M E 1st F E 2nd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lo St</td>
<td>7+ 1+ 0=</td>
<td>5+ 1+ 0=</td>
<td>6+ 1+ 0=</td>
<td>5+ 3+ 2=</td>
</tr>
<tr>
<td>Hi St</td>
<td>6+ 3+ 1=</td>
<td>6+ 1+ 0=</td>
<td>5+ 2+ 0=</td>
<td>6+ 0+ 1=</td>
</tr>
</tbody>
</table>

It appears from these comparisons that sex of experimenter or change of experimenter had little to do with the strong trend toward lower C on the second block of trials, with two possible exceptions. When high stereotype females had a female experimenter for both blocks the minority of subjects who equalled or increased their C on the second block was not so extreme. In the case of low stereotype females who changed from a male experimenter to a female experimenter for the second block of trials, half of these subjects equalled or increased their previous C. None of these comparisons consider sex of partner.

Inspection of the mean Cs with female and male partners for those subjects who played both blocks under the same experimenter shows that mean C for comparable groups was always higher when the experimenter was female. These results are shown in Table 5 which does not separate subjects by order of sex of partner.
Table 5
Mean C Associated with Sex of Experimenter

Without Change of Experimenter

<table>
<thead>
<tr>
<th></th>
<th>FF</th>
<th>n</th>
<th>FM</th>
<th></th>
<th>FF</th>
<th>n</th>
<th>FM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lo St</td>
<td>17.93</td>
<td>8</td>
<td>16.11</td>
<td>17.70</td>
<td>6</td>
<td>13.70</td>
<td></td>
</tr>
<tr>
<td>Hi St</td>
<td>11.71</td>
<td>10</td>
<td>19.46</td>
<td>7.91</td>
<td>7</td>
<td>12.33</td>
<td></td>
</tr>
</tbody>
</table>

Table 6 shows the mean Cs with female and male partners for those subjects who changed experimenters (this always meant a change in the sex of the experimenter also) for the second block of trials.

Table 6
Mean C Associated with Change of Sex of Experimenter

<table>
<thead>
<tr>
<th></th>
<th>FF 1st</th>
<th>n</th>
<th>FM 2nd</th>
<th></th>
<th>FF 1st</th>
<th>n</th>
<th>FM 2nd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lo St</td>
<td>16.60</td>
<td>5</td>
<td>8.2</td>
<td>14.33</td>
<td>3</td>
<td>16.33</td>
<td></td>
</tr>
<tr>
<td>Hi St</td>
<td>16.00</td>
<td>4</td>
<td>17.25</td>
<td>13.60</td>
<td>5</td>
<td>8.20</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>FM 1st</th>
<th>n</th>
<th>FF 2nd</th>
<th></th>
<th>FM 1st</th>
<th>n</th>
<th>FF 2nd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lo St</td>
<td>13.00</td>
<td>2</td>
<td>10.50</td>
<td>18.00</td>
<td>7</td>
<td>19.14</td>
<td></td>
</tr>
<tr>
<td>Hi St</td>
<td>17.67</td>
<td>3</td>
<td>7.33</td>
<td>22.00</td>
<td>2</td>
<td>16.00</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2 illustrates the mean Cs presented in Tables 5 and 6 which show that in five of the six possible combinations of conditions sex
Figure 2
MEAN C ASSOCIATED WITH SEX OF EXPERIMENTER

**F E both Blocks** (without order)

**M E both Blocks**

Mean C Associated with Change of Sex of Experimenter

**F E 1st M E 2nd**

**M E 1st F E 2nd**
of experimenter affects low and high stereotype females in opposite directions.

H4  Low stereotype females will play more realistically, i.e., their strategy will match their partner's strategy more than does the strategy of high stereotype females.

The mean correlations of both high and low stereotype females with their partner's immediately preceding play \( r_1 \), was so low as to be negligible. The actual figures are:

\[
\begin{align*}
\text{Lo St} & \quad r_1 = .0643 \\
\text{Hi St} & \quad r_1 = .0405
\end{align*}
\]

Testing for the difference between these correlations yields a \( z \) of .00008 which is utterly insignificant. H4 is rejected.

H5  Low self-confidence will tend to be associated with high sex-role stereotypy.

All subjects had been rank ordered according to degree of stereotypy, from lowest to highest. They were also ranked according to their self rating of self-confidence (item 55 of Scale III). Their self ratings on self-confidence were ordered from highest to lowest.

A Spearman rank correlation coefficient, \( r_s \), between self-confidence and sex-role stereotypy was calculated. This \( r_s \) is .7630. It is associated with \( t = 9.14 \), df60, which is highly significant, with \( p < .001 \). H5 is supported.
V. Discussion

It is first necessary to ask whether this experiment constitutes an adequate and valid examination of the thesis stated in the opening paragraph, despite the flaws in its conception and execution. The strength of the order effect and the imbalance in orders certainly obscured the effects of the variables of chief interest. An order effect was anticipated on the basis of the typical curve of cooperation described by Rapoport which begins at about 50% and goes rapidly downward for about fifty trials, then starts a steady climb to asymptote at about 65%. There was no precedent upon which to predict the effect of breaking into this sequence at the low point with a change of partners. However the advantage of using each subject as her own control seemed worth the risk. The order effect is a feature of the structure of the game and as such should be separable from the interpersonal perceptions and behaviors that are of primary interest to this experimenter if perfectly counterbalanced.

Not so for the effects of sex of experimenter. The results of this study strongly indicate that wherever the effect of sex variables is under investigation, the sex of the experimenter is an important factor which must be controlled or accounted for better than this study did.

Nevertheless several findings pertinent to its thesis result from
this study. The tendency of females in general to cooperate with males more than other females is again demonstrated. It is shown that differential cooperation with females and males is closely related to sex role stereotypy, although not always in the predicted direction. And it is shown that self-esteem in women is inversely related to degree of sex role stereotypy.

* * * * * *

How shall these findings, the ambiguous and unpredicted ones as well as the clear and expected ones be interpreted? A comparison of the proportion of cooperative plays on the first block of trials (those unsullied by order effects) with the same index found by Rapoport and Chammah (1965) shows a slightly higher level of cooperation for the female-female pairs and a slightly lower level of cooperation for the female-male pairs than was found by the earlier investigators, with approximately the same Ns and procedure. The first effect might be expected, as a sign of the changing times, if the central thesis of this study, that the cultural status and role of women affects their trust in one another, is true. The last half-decade has seen relatively great changes in awareness of women's status and some material improvements in it. The second effect, a decreased level of female-male cooperation was clearly not expected by this experimenter (see H3). Post hoc reasoning, using as a point of reference the increased out-group aggression of all disadvantaged groups during the struggle for equal status, predicts exactly the effect that is found here. The
experimenter's prediction that a reduced level of sex-role stereotypy would eliminate differences in cooperation based on sex is evidently prematurely optimistic and possibly influenced by her relatively secure status (relative to many women, that is). Just how premature is indicated by the sex-role stereotypy measure as well as the game results. The group called low stereotype was not at all non-stereotyped. With the exception of one woman, all of these subjects rated females lower than males on the cluster of competency traits which are the key to status in our society.

The fact that under comparable conditions (same experimenter for both blocks of trials) the level of cooperation was always higher under a female experimenter leads to some post hoc speculation about the nature and priority of the relationships among the subjects and experimenter. Although it is a two-person game, the presence of the experimenter makes it in effect a triadic situation. Communication with the partner is two way, in each play of the game, but entirely non-verbal. Communication of subject with experimenter is at first glance one way and all verbal. But if presentation of a particular image of self is an important factor in the way the game is played, and this is part of the thesis, the possibility arises that it is the experimenter who is the primary target for impression making, since it is the experimenter who is most visible and directly responsive. This was suggested by the post game comment of one male subject to the effect that he couldn't allow a girl to beat him, "especially in front of another girl," the experimenter. A consideration of saliency of the effects of unequal
power, both in the game (Solomon, 1960; Rekosh and Feigenbaum, 1966), and inherent in status differentiation entered into the original thesis and design of the study. The design attempted to control it by using students, i.e., virtual peers, as experimenters. But this thinking did not go far enough into the implicit attribution of greater power to the male and lesser to the female associated with stereotypy. High stereotype females respond with greater extremes of cooperation and in different directions according to sex of partner and sex of experimenter than do low stereotype females.

It appears that high stereotype females respond to the triadic situation as if it were a sexual triangle. With a female experimenter and a male partner there C is quite high (18.20) as if they were competing with the female by cooperating with the male. With a male experimenter and a female partner their C is markedly low (7.57). In this position they are in something of a double bind. If they cooperate they may be bested by the other woman. Since competition is not labeled as such, it may be easy to choose. The bind, if greater when they play a male partner under a male experimenter, may also be more exhilarating; if they please (cooperate with) the partner they may displease the experimenter, or vice versa, but either way they have for a few minutes curried the favor of one male. This analysis assumes that the motive for cooperation in high stereotype females is more often an effort to gain approval than trust. There seems to be evidence for this in the significant relationship between high stereotypy and low self-confidence. One other bit of evidence for this interpretation of
the motive for cooperation in high stereotype females is the trend 
(although not statistically significant) toward lower mean C (13.37) for 
high stereotype females in all conditions.

On the other hand, low stereotype females show higher self-esteem 
as evidenced by their significantly higher self ratings on self-confi­
dence. If the reasoning that helped to formulate the general thesis of 
this study is essentially correct, that is that trusting behavior is 
associated with trustworthiness, as Deutsch (1960) found, and with one's 
own felt competence, then the higher overall C (16.03) of low stereotype 
females may in large measure be assumed to be reflection of trust.

* * * * * * *

It is concluded that trust among women as manifested by coopera­
tion, is inversely related to the cultural status and role of women 
as perceived by the individual woman, with women who subscribe to the 
prevalent stereotype of their sex as incompetent showing less trust 
of other women. Self confidence is inversely related to high sex-role 
stereotype and may be fairly assumed to be a mediator between percep­
tions of the other and cooperative or non-cooperative behavior directed 
toward the other. It appears that women in transition towards equal 
status and valuation of their role, i.e., low stereotype women, are more 
cooperative with and trusting of other women and less cooperative with 
and trusting of men. Although the disadvantaged status of women is a 
countrywide phenomenon, these conclusions should not be generalized 
beyond the population sampled by this study, that is, midwestern middle 
class college women.
Appendix A

Instructions to Experimenters
One of the experimenters will start the session. This should be varied so that each E is in this capacity for half of the sessions he or she works.

Small screens, record sheets, chips, pencils and matrices should be in place before the Ss arrive. As Ss arrive ask each one to leave coat, books, etc, near the door, to be seated and not talk to each other at all. Tell each S where to sit according to whichever of the following designs is assigned for this session:

Order 1  Ask the first arrival to take the farthest seat, i.e., on the other side of the far table. Seat the next S of the same sex on the same side of the other table. Seat the first arrival of the opposite sex across the table from the first arrival, and the last S in the remaining place.

Order 2  Seat the first arrival as in Condition 1. Seat the next arrival of the same sex across the table from the first arrival. Seat the first S of the opposite sex on the same side as the first arrival but at the other table. The last arrival gets the remaining place. As each S is assigned a seat, repeat the instructions not to talk to one another.

When all the Ss are seated the two experimenters take their places at opposite ends of the tables. They choose their places as follows:
Order L (like)
Experimenters seat themselves so that a S of same sex as experimenter is at E's right.

Order U (unlike)
Experimenters seat themselves so that a S of opposite sex of experimenter is at E's right.

One of the experimenters reads the following instructions to all four Ss, slowly and carefully. At the appropriate times he points to the cells of numbers he is mentioning on the sample matrix. The other experimenter also points these out to his two Ss at the same time. Any questions are deferred until the game instructions are finished, then they are answered carefully until it is clear that all Ss understand the task. Player A is always to the experimenter's left and B is on the experimenter's right.
When all Ss understand the task, the folding screen is set up between the two pairs of Ss. They are asked to fill in the information at the top of their record form and each experimenter begins the game by showing the first matrix card. After both Ss have signalled their choice the experimenter records R or B on each S's record sheet, announces the payoff and records them. Each S records his own gain or loss on his record. The experimenter sets aside the matrix and shows the next one, and so on. After 25 trials there is a pause for the points to be totaled, then the game proceeds for 24 more trials.

At this time the two A Ss will be asked to exchange places. It will always be 1 male S from one pair and 1 female S from the other pair who will trade places. At this time all Ss will be given a new record form. The Es will exchange the appropriate record forms so that all E records for the same S will be on the same form.

The Ss then play another 49 trials of the game, going through the matrices in the same order as before, also stopping after 25 trials to total their points.

After completing the game, the points for all 98 trials are summed and the Ss are paid their $1.50 plus or minus total points gained or lost as the case may be.

Before they leave repeat the instructions about secrecy: Please do not talk about this experiment to anyone else.
Appendix B

Instructions to subjects
You will be playing a game which has certain payoffs. You cannot by yourself control the specific payoff for a given game. Rather the outcome will depend on what your partner does, as well as on what you do. The payoffs will be shown on the cards which the experimenter presents to you.

The game is played as follows: You are players A and B respectively. A is the row player, that is: A chooses one row or the other, each time. B is the column player; B always chooses one or the other of the two columns. On any given game you will play by choosing either red or blue and pushing the chip of that color toward the experimenter, but not so far that your partner can see your choice. Any decision is final, i.e., you cannot change your mind once you have moved your chip. The payoffs from each move are shown on the card the experimenter presents you. The cell which will show your payoffs is the one where your individual choices meet. The first number in each cell is the points that may be won or lost by A. The second number shows the points to be won or lost by B. For example, in this game if you both choose blue, each loses 4 points. If A chooses red and B chooses blue, A loses 10 points and B wins 10 points. If A chooses blue and B chooses red, A wins 10 points and B loses 10 points. If you both choose red you each win 6 points.

Each point is worth 1/10 of a cent. During the course of the experiment you will play this type of game a large number of times. Each player's total gains and losses will be added up at the end of the experiment and converted into money. You will each be paid $1.50 for
participating. At the end of the experiment the gains and losses accumulated by each of you will be added to or subtracted from your $1.50 base pay.

After each of you has chosen, the experimenter will read off the number of points gained or lost by each. You will record your gain or loss on the record sheet in front of you. At intervals you will be asked to total your gains and losses.

It is essential that you do not communicate with each other in any form whatsoever. This includes sighing, laughing or any other form of communication which might indicate how you feel about given outcomes or how you would like your partner to behave. The experiment becomes useless for our purposes if any communication between partners occurs. In view of this it is a condition of the experiment that the session will be disbanded without compensation if there is any communication between partners.

Please do not talk about this experiment to anyone else. They might be influenced to sign up for it or play differently if they know anything about it.
Appendix C

Prisoner's Dilemma Matrices
These 7 matrices are presented the same number of times during each block of 49 trials, their order of presentation to be randomly determined. The first number in each cell represents the payoff to the row player, the second number is the payoff to the column player. The outcome or actual payoff of each game (trial) is the cell selected by the combined simultaneous choice of both players.

1

\[
\begin{array}{cc}
C & D \\
C & 9, 9 -10, 10 \\
D & 10, -10 -1, -1 \\
\end{array}
\]

2

\[
\begin{array}{cc}
C & D \\
C & 1, 1 -10, 10 \\
D & 10, -10 -9, -9 \\
\end{array}
\]

3

\[
\begin{array}{cc}
C & D \\
C & 1, 1 -10, 10 \\
D & 10, -10 -1, -1 \\
\end{array}
\]

4

\[
\begin{array}{cc}
C & D \\
C & 1, 1 -2, 2 \\
D & 2, -2 -1, -1 \\
\end{array}
\]

5

\[
\begin{array}{cc}
C & D \\
C & 1, 1 -50, 50 \\
D & 50, -50 -1, -1 \\
\end{array}
\]

6

\[
\begin{array}{cc}
C & D \\
C & 5, 5 -10, 10 \\
D & 10, -10 -1, -1 \\
\end{array}
\]

7

\[
\begin{array}{cc}
C & D \\
C & 1, 1 -10, 10 \\
D & 10, -10 -5, -5 \\
\end{array}
\]
Appendix D

Scale I
This questionnaire is designed to measure attitudes towards some aspect of our society. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case. Be sure to select the one you actually believe to be more true, rather than the one you would like to be true. On some items you may find that you tend to believe both statements, or neither; in such cases select the one with which you are in closest agreement. Please answer every item. This is a measure of personal belief; obviously there are no right or wrong answers. Indicate your choice by marking an X over the letter preceding the statement with which you agree.

1. a. Children get into trouble because their parents punish them too much.
   b. The trouble with most children nowadays is that their parents are too easy with them.

2. a. Many of the unhappy things in people's lives are partly due to bad luck.
   b. People's misfortunes result from the mistakes they make.

3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.
   b. There will always be wars, no matter how hard people try to prevent them.

4. a. In the long run people get the respect they deserve in this world.
   b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. a. The idea that teachers are unfair to students is nonsense.
   b. Most students don't realize the extent to which their grades are influenced by accidental happenings.

6. a. Without the right breaks one cannot be an effective leader.
   b. Capable people who fail to become leaders have not taken advantage of their opportunities.
7. a. No matter how hard you try some people just don't like you.
   b. People who can't get others to like them don't understand how to get along with others.

8. a. Heredity plays the major role in determining one's personality.
   b. It is one's experiences in life which determine what they're like.

9. a. I have often found that what is going to happen will happen.
   b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10. a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
    b. Many times exam questions tend to be so unrelated to course work that studying is really useless.

11. a. Becoming a success is a matter of hard work; luck has little or nothing to do with it.
    b. Getting a good job depends mainly on being in the right place at the right time.

12. a. The average citizen can have an influence in government decisions.
    b. This world is run by the few people in power; and there is not much the little guy can do about it.

13. a. When I make plans, I am almost certain that I can make them work.
    b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. a. There are certain people who are just no good.
    b. There is some good in everybody.

15. a. In my case getting what I want has little or nothing to do with luck.
    b. Many times we might just as well decide what to do by flipping a coin.

16. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
    b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
    b. By taking an active part in political and social affairs the people can control world events.
18. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
   b. There really is no such thing as "luck".

19. a. One should always be willing to admit mistakes.
   b. It is usually best to cover up one's mistakes.

20. a. It is hard to know whether or not a person really likes you.
   b. How many friends you have depends upon how nice a person you are.

21. a. In the long run the bad things that happen to us are balanced by the good ones.
   b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22. a. With enough effort we can wipe out political corruption.
   b. It is difficult for people to have much control over the things politicians do in office.

23. a. Sometimes I can't understand how teachers arrive at the grades they give.
   b. There is a direct connection between how hard I study and the grades I get.

24. a. A good leader expects people to decide for themselves what they should do.
   b. A good leader makes it clear to everybody what their jobs are.

25. a. Many times I feel that I have little influence over the things that happen to me.
   b. It is impossible for me to believe that chance or luck plays an important role in my life.

26. a. People are lonely because they don't try to be friendly.
   b. There's not much use in trying too hard to please people, if they like you, they like you.

27. a. There is too much emphasis on athletics in high school.
   b. Team sports are an excellent way to build character.

28. a. What happens to me is my own doing.
   b. Sometimes I feel that I don't have enough control over the direction my life is taking.

29. a. Most of the time I can't understand why politicians behave the way they do.
   b. In the long run the people are responsible for bad government on a national as well as on a local level.
Appendix E

Scale II
Listed below are a number of statements concerning personal attitudes and beliefs. Read each item and decide whether the statement is true of false as it pertains to you personally. Indicate your decision by marking an X through T if the statement is true, or putting the X through F if the statement is false applied to you. Remember to answer each item as it pertains to you personally.

T F 1. Before voting I thoroughly investigate the qualifications of all the candidates.

T F 2. I never hesitate to go out of my way to help someone in trouble.

T F 3. It is sometimes hard for me to go on with my work if I am not encouraged.

T F 4. I have never intensely disliked anyone.

T F 5. On occasion I have had doubts about my ability to succeed in life.

T F 6. I sometimes feel resentful when I don't get my way.

T F 7. I am always careful about my manner of dress.

T F 8. My table manners at home are as good as when I eat out in a restaurant.

T F 9. If I could get into a movie without paying and be sure I was not seen I would probably do it.

T F 10. On a few occasions, I have given up doing something because I thought too little of my ability.

T F 11. I like to gossip at times.

T F 12. There have been times when I felt like rebelling against people in authority even though I knew they were right.

T F 13. No matter who I'm talking to, I'm always a good listener.
T F 14. I can remember "playing sick" to get out of something.
T F 15. There have been occasions when I took advantage of someone.
T F 16. I'm always willing to admit it when I make a mistake.
T F 17. I always try to practice what I preach.
T F 18. I don't find it particularly difficult to get along with loudmouthed, obnoxious people.
T F 19. I sometimes try to get even rather than forgive and forget.
T F 20. When I don't know something I don't at all mind admitting it.
T F 21. I am always courteous, even to people who are disagreeable.
T F 22. At times I have really insisted on having things my own way.
T F 23. There have been occasions when I felt like smashing things.
T F 24. I would never think of letting someone else be punished for my wrongdoings.
T F 25. I never resent being asked to return a favor.
T F 26. I have never been irked when people expressed ideas very different from my own.
T F 27. I never make a long trip without checking the safety of my car.
T F 28. There have been times when I was quite jealous of the good fortune of others.
T F 29. I have almost never felt the urge to tell someone off.
T F 30. I am sometimes irritated by people who ask favors of me.
T F 31. I have never felt that I was punished without cause.
T F 32. I sometimes think when people have a misfortune they only get what they deserved.
T F 33. I have never deliberately said something that hurt someone's feelings.
Appendix F

Scale III

The Sex-Role Stereotypy Questionnaire
III

We would like to know something about what people expect other people to be like. Imagine that you are going to meet someone for the first time, and the only thing that you know in advance is that she is an adult female. What sort of things would you expect? For example, what would you expect about her liking or disliking of the color red? On each scale, please put a \( / \) and the letter "F" above the slash according to what you think an adult female is like.

For example:

Strong dislike for the color red  Strong liking for the color red

\[\begin{array}{ccccccccc}
1 & \ldots & 2 & \ldots & 3 & \ldots & 4 & \ldots & 5 & \ldots & / & \ldots & 6 & \ldots & 7 \\
\end{array}\]

On the following pages are a number of scales like the one above. Please place a slash and the letter "F" above the slash according to what you expect an adult female to be like. You may put your slash anywhere on the scale, not just at the numbers. PLEASE BE SURE TO MARK EVERY ITEM. Start with the example below.

Very interested in athletics  Not at all interested in athletics

\[\begin{array}{ccccccccc}
1 & \ldots & 2 & \ldots & 3 & \ldots & 4 & \ldots & 5 & \ldots & 6 & \ldots & 7 \\
\end{array}\]
**Questionnaire**

1. **Not at all aggressive**
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - **Very aggressive**

2. **Very irrational**
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - **Very rational**

3. **Very practical**
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - **Very impractical**

4. **Not at all independent**
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - **Very independent**

5. **Not at all consistent**
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - **Very consistent**

6. **Very emotional**
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - **Not at all emotional**

7. **Very realistic**
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - **Not at all realistic**

8. **Not at all idealistic**
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - **Very idealistic**

9. **Does not hide. emotions at all**
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - **Almost always hides emotions**

10. **Very subjective**
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - **Very objective**

11. **Mainly interested in details**
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - **Mainly interested in generalities**

12. **Always thinks before acting**
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - **Never thinks before acting**

13. **Not at all easily influenced**
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - **Very easily influenced**
14. Not at all talkative
   1......2.......3.......4.......5.......6.......7 Very talkative

15. Very grateful
   1......2.......3.......4.......5.......6.......7 Very ungrateful

16. Doesn't mind at all when things are not clear
   1......2.......3.......4.......5.......6.......7 Minds very much when things are not clear

17. Very dominant
   1......2.......3.......4.......5.......6.......7 Very submissive

18. Dislikes math and science very much
   1......2.......3.......4.......5.......6.......7 Likes math and science very much

19. Not at all reckless
   1......2.......3.......4.......5.......6.......7 Very reckless

20. Not at all excitable in a major crisis
   1......2.......3.......4.......5.......6.......7 Very excitable in a major crisis

21. Not at all excitable in a minor crisis
   1......2.......3.......4.......5.......6.......7 Very excitable in a minor crisis

22. Not at all strict
   1......2.......3.......4.......5.......6.......7 Very strict

23. Very weak personality
   1......2.......3.......4.......5.......6.......7 Very strong personality

24. Very active
   1......2.......3.......4.......5.......6.......7 Very passive

25. Not at all able to devote self completely to others
   1......2.......3.......4.......5.......6.......7 Able to devote self completely to others
26. Very blunt
1........2........3........4........5........6........7 Very tactful
27. Very gentle
1........2........3........4........5........6........7 Very rough
28. Very helpful to others
1........2........3........4........5........6........7 Not at all helpful to others
29. Not at all competitive
1........2........3........4........5........6........7 Very competitive
30. Very logical
1........2........3........4........5........6........7 Very illogical
31. Not at all competent
1........2........3........4........5........6........7 Very competent
32. Very worldly
1........2........3........4........5........6........7 Very home oriented
33. Not at all skilled in business
1........2........3........4........5........6........7 Very skilled in business
34. Very direct
1........2........3........4........5........6........7 Very sneaky
35. Knows the way of the world
1........2........3........4........5........6........7 Does not know the way of the world
36. Not at all kind
1........2........3........4........5........6........7 Very kind
37. Not at all willing to accept change
1........2........3........4........5........6........7 Very willing to accept change
38. Feelings not easily hurt
1........2........3........4........5........6........7 Feelings easily hurt
39. Not at all adventurous
1........2........3........4........5........6........7 Very adventurous
<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>40.</td>
<td>Very aware of the feelings of others</td>
<td>Not at all aware of the feelings of others</td>
<td></td>
</tr>
<tr>
<td>41.</td>
<td>Not at all religious</td>
<td>Very religious</td>
<td></td>
</tr>
<tr>
<td>42.</td>
<td>Not at all intelligent</td>
<td>Very intelligent</td>
<td></td>
</tr>
<tr>
<td>43.</td>
<td>Not at all interested in own appearance</td>
<td>Very interested in own appearance</td>
<td></td>
</tr>
<tr>
<td>44.</td>
<td>Can make decisions easily</td>
<td>Had difficulty making decisions</td>
<td></td>
</tr>
<tr>
<td>45.</td>
<td>Gives up very easily</td>
<td>Never gives up easily</td>
<td></td>
</tr>
<tr>
<td>46.</td>
<td>Very shy</td>
<td>Very outgoing</td>
<td></td>
</tr>
<tr>
<td>47.</td>
<td>Always does things without being told</td>
<td>Never does things without being told</td>
<td></td>
</tr>
<tr>
<td>48.</td>
<td>Never cries</td>
<td>Cries very easily</td>
<td></td>
</tr>
<tr>
<td>49.</td>
<td>Almost never acts as a leader</td>
<td>Almost always acts as a leader</td>
<td></td>
</tr>
<tr>
<td>50.</td>
<td>Never worried</td>
<td>Always worried</td>
<td></td>
</tr>
<tr>
<td>51.</td>
<td>Very neat in habits</td>
<td>Very sloppy in habits</td>
<td></td>
</tr>
<tr>
<td>52.</td>
<td>Very quiet</td>
<td>Very loud</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>53. Not at all intellectual</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>54. Very careful</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>55. Not at all self-confident</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>56. Feels very superior</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>57. Always sees self as running the show</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>58. Not at all uncomfortable about being aggressive</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>59. Very good sense of humor</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>60. Not at all understanding of others</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>61. Very warm in relations with others</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>62. Doesn't care about being in a group</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>63. Very little need for security</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(64) Not at all ambitious</td>
<td>1..................2..................3..................4..................5..................6..................7 Very ambitious</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>----------------------------</td>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(65) Very rarely takes extreme positions</td>
<td>1..................2..................3..................4..................5..................6..................7 Very frequently takes extreme positions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(66) Able to separate feelings from ideas</td>
<td>1..................2..................3..................4..................5..................6..................7 Unable to separate feelings from ideas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(67) Not at all dependent</td>
<td>1..................2..................3..................4..................5..................6..................7 Very dependent</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(68) Does not enjoy art and literature at all</td>
<td>1..................2..................3..................4..................5..................6..................7 Enjoys art and literature very much</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(69) Seeks out new experiences</td>
<td>1..................2..................3..................4..................5..................6..................7 Avoids new experiences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(70) Not at all restless</td>
<td>1..................2..................3..................4..................5..................6..................7 Very restless</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(71) Very uncomfortable when people express emotions</td>
<td>1..................2..................3..................4..................5..................6..................7 Not at all uncomfortable when people express emotions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(72) Easily expresses tender feelings</td>
<td>1..................2..................3..................4..................5..................6..................7 Does not express tender feelings easily</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(73) Very conceited about appearance</td>
<td>1..................2..................3..................4..................5..................6..................7 Never conceited about appearance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(74) Retiring</td>
<td>1..................2..................3..................4..................5..................6..................7 Forward</td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>Statement</td>
<td>Scale</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-----------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>75.</td>
<td>Thinks men are superior to women</td>
<td>1........2........3........4........5........6........7</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Does not think men are superior to women</td>
</tr>
<tr>
<td>76.</td>
<td>Very sociable</td>
<td>1........2........3........4........5........6........7</td>
<td>Not at all sociable</td>
</tr>
<tr>
<td>77.</td>
<td>Very affectionate</td>
<td>1........2........3........4........5........6........7</td>
<td>Not at all affectionate</td>
</tr>
<tr>
<td>78.</td>
<td>Very conventional</td>
<td>1........2........3........4........5........6........7</td>
<td>Not at all conventional</td>
</tr>
<tr>
<td>79.</td>
<td>Very masculine</td>
<td>1........2........3........4........5........6........7</td>
<td>Not at all masculine</td>
</tr>
<tr>
<td>80.</td>
<td>Very feminine</td>
<td>1........2........3........4........5........6........7</td>
<td>Not at all feminine</td>
</tr>
<tr>
<td>81.</td>
<td>Very assertive</td>
<td>1........2........3........4........5........6........7</td>
<td>Not at all assertive</td>
</tr>
<tr>
<td>82.</td>
<td>Very impulsive</td>
<td>1........2........3........4........5........6........7</td>
<td>Not at all impulsive</td>
</tr>
</tbody>
</table>
Instructions

Now we would like you to go through these same scales for a second time. Again imagine that you are meeting a person for the first time, and the only information you have that he is an adult male. This time, please put a slash on each scale according to what you would expect an adult male to be like. Put the letter "M" above your second slash on each scale.
PLEASE BE SURE TO MARK EVERY ITEM.

Finally, please go through these same scales for a third and last time, placing a slash on each scale according to what you are like. Put an "S" above the third slash on each scale.
Appendix G

Alternative Instructions for Scale III
We would like to know something about what people expect other people to be like. Imagine that you are going to meet someone for the first time, and the only thing that you know in advance is that he is an adult male. What sort of things would you expect? For example, what would you expect about his liking or disliking of the color red? On each scale, please put a slash (/) and the letter "M" above the slash according to what you think an adult male is like.

For example:

Strong dislike for the color red 1........2........3........4........5........6........7 color red

On the following pages are a number of scales like the one above. Please place a slash and the letter "M" above the slash according to what you expect an adult male to be like. You may put your slash anywhere on the scale, not just at the numbers. PLEASE BE SURE TO MARK EVERY ITEM. Start with the example below.

Very interested in athletics 1........2........3........4........5........6........7 in athletics
Instructions

Now we would like you to go through these same scales for a second time. Again imagine that you are meeting a person for the first time, and the only information you have that she is an adult female. This time, please put a slash on each scale according to what you would expect an adult female to be like. Put the letter "F" above your second slash on each scale. PLEASE BE SURE TO MARK EVERY ITEM.

Finally, please go through these same scales for a third and last time, placing a slash on each scale according to what you are like. Put an "S" above the third slash on each scale.
References


