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A review of the literature on sex differences in aggression reveals that in the majority of studies males are physically more aggressive than females (Buss, 1963; 1966; Taylor and Epstein, 1967). However, most experimenters have grouped male and female data with respect to sex differences rather than on specific characteristics of the individual. The present study addresses itself to the question whether there are some males who are equally or less aggressive than females and whether there are males who do not differentiate between the sex of the target of aggression, when sex role attitudes are taken into account.

Most of the studies on sex differences in aggression also have examined the overt expression of aggression in a simple shock exchange paradigm which involves just the subject and victim. It seems apparent that in society all aggressiveness is not that simple, but in fact involves the presence of others. Gaebelein (1973a) modified Taylor's (1967) paradigm such that third party instigation of aggression was investigated. This paradigm was used in the present study.

Briefly, 40 male subjects were preselected according to their score on the Attitude Toward Women Scale (Spence & Helmreich, 1972). The subject (advisor) and a confederate (responder) were told that they were to work together in a competitive task against two other people. On each trial the confederate (responder) was to attempt to attain a faster reaction time than his competitor, since the one with the slower reaction time would receive a shock. The subject's (advisor) job was to suggest

what shock the confederate (responder) should set for the opponent. The subject was then given a questionnaire on which he rated himself and the responder on 31 attributes; and answered a few general questions.

A second purpose of the present study was to examine the hypothesis that males help females more than they help males. Specifically, all subjects were given the opportunity to help the confederate immediately following the reaction time task.

The results were clear. Those subjects with traditional attitudes toward women instigated significantly more aggression than those with liberal attitudes. Subjects with traditional attitudes tended to suggest higher mean shock intensities to female responders than male responders; subjects with liberal attitudes suggested similar mean shock intensities to female and male responders. The questionnaire responses revealed that in general male responders were rated more as a leader, stronger, larger; more bloodthirsty, good humored, accepting, sociable, cruel cooperative, competitive, sympathetic; less attractive, adjusted and active than were female responders. Subjects with female responders also rated themselves as more deceitful, fair, sociable, friendly, and masculine than did subjects with male responders. When given the opportunity to help subjects male and female responders were helped equally as much. The subject's attitude toward women did not prove to be significant in respect to the helping task.

These results indicate that males do not act solely in terms of their gender. Males are individuals who have diversified attitudes which seem to dictate their behavior more than their particular sex.

INSTIGATIVE AGGRESSION: TRADITIONAL
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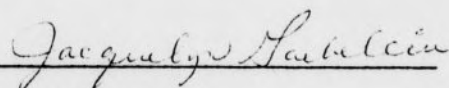
by

Theodore D. Nirenberg
" "

A Thesis Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Master of Arts

Greensboro
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Approved by



Thesis Advisor

APPROVAL PAGE

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TABLE OF CONTENTS

	Page
APPROVAL PAGE.....	ii
ACKNOWLEDGMENTS.....	iii
LIST OF FIGURES.....	v
CHAPTER	
I. INTRODUCTION.....	1
II. METHOD.....	8
Subjects.....	8
Apparatus.....	9
Procedure.....	10
III. RESULTS.....	15
Instigative Aggression.....	15
Subject's Verbal Behavior.....	21
Questionnaire Responses.....	23
Altruistic Behavior.....	27
IV. DISCUSSION.....	29
V. SUMMARY.....	36
BIBLIOGRAPHY.....	39
APPENDIX A.....	42
APPENDIX B.....	45
APPENDIX C.....	64
APPENDIX D.....	65
APPENDIX E.....	70
APPENDIX F.....	71
APPENDIX G.....	74

LIST OF FIGURES

	Page
1. Mean Shock Intensities Suggested by Subjects Across Trial Blocks.....	18
2. Mean Shock Intensities Suggested by Subjects with Traditional Attitudes Toward Women.....	19
3. Mean Shock Intensities Suggested by Subjects with Liberal Attitudes Toward Women.....	20

CHAPTER I
INTRODUCTION

A review of the literature on sex differences in aggression reveals that in the majority of studies males are physically more aggressive than females (Buss, 1963, 1966; Taylor and Epstein, 1967; Harris, 1973; Bandura, Ross and Ross, 1961) and that males are more frequent targets of aggression than females (Buss, 1966; Taylor and Epstein, 1967; Youseff, 1968). It seems that aggression is typically labeled as an "inappropriate female behavior" and thus is more likely to be negatively reinforced in girls than in boys (Bandura, 1973). Taylor and Epstein (1967) state that "it is evident that males share a general value system which makes aggression to females unacceptable" (p. 482), but to males acceptable. They go on to say that males are "taught through direct and indirect means to act aggressively when provoked by males and to inhibit overt displays of aggression when intimidated by females" (p. 482).

With the exception of a few studies (e.g., Leventhal and Shemberg, 1969; and Taylor and Smith, 1974) most experimenters have grouped male and female data with respect to sex differences rather than on specific characteristics (e.g., values and interests) of the individuals. It is also apparent that few studies report any individual differences found in these data. Though it appears that males are more aggressive than females and that females are less apt to be targets of aggression, the question arises as to whether there are some males that are equally

or less aggressive than females and whether there are males that do not differentiate between the sex of the target of aggression.

Leventhal, Shemberg and Van Schoelandt (1968) divided a group of college students into four groups according to their scores on the Guilford-Zimmerman Index of Masculine Interests. Using the standard Buss (1961) procedures they found that subjects who were well adjusted to their sex roles would express more aggression than subjects who were poorly adjusted to their sex role.

Leventhal and Shemberg (1969) extended this study to test whether the results would hold in a situation which did not clearly sanction aggressive responding as it did in the first study. They found that under nonsanctioned aggressive conditions the reverse relationship was obtained: subjects who were well adjusted to their sex roles would express less aggression than subjects who were poorly adjusted to their sex role. One exception was found: the well adjusted male group was more aggressive. The results were explained in terms of psychological maladjustment which "reduces one's ability to respond in clearly appropriate ways to situational demands" (p. 285). Assuming that sex role adjustment is one indicant of psychosocial adjustment the authors hypothesized that subjects who were well adjusted to their sex role were able to respond to the situational demands, while those who were poorly adjusted to their sex role may not. The reason given for the well adjusted male's failure to conform to the above model was that males in our society are "so highly imbued with aggression that masculine males will not inhibit aggressive responding under many conditions" (p. 286).

Taylor and Smith (1974), using Spence and Helmreich's Attitude Toward Women Scale (1972), preselected male subjects who expressed either traditional or liberal attitudes toward females. Subjects were instructed that they were competing in a reaction time task with another subject, either a male or a female. Whichever person had the slower reaction time on each trial was to receive a shock of an intensity determined by his opponent. It appeared that males who had expressed traditional sex-role values were more aggressive than males who had expressed liberal sex-role values. It was also found that more aggression was directed toward the male opponent than the female opponent. Surprisingly, the authors found that both groups of males, "inhibited their aggressiveness when competing with female opponent" (p. 1098).

Borden (1974), using Taylor's paradigm, studied the effect of the presence of an observer on aggressive responding. In one part of his experiment some male subjects were observed by a male while others were observed by a female. He found that those subjects observed by a male aggressed more than those observed by a female. The author explained that in this "... culture, aggression is deemed appropriate, indeed central, to the concept of manliness" (p. 12). It appears that when subjects were observed by a male they responded in a way they felt the male observer expected them to respond. On the other hand, when they were observed by a female observer "where aggression might be more likely to result in nonapproval" (p. 12), the subjects aggressed less. In a second experiment, male subjects were again observed by a male or a female, but the observers were disguised as a

member of an organization with explicit aggressive or pacifistic values. "In this case, significant differences in aggression were associated with the observer's values but not the observer's sex" (p. 1). This seems "... reasonable since the sex effect was presumably a function of values associated with the more generalized sex role of the observer. When the observer's aggressive values were made explicit and the appropriateness of aggressive responding more clearly defined the subjects responded accordingly" (p. 19).

Though most data seem consistent with the idea that males are more aggressive than females, studies which take sex role attitudes into account have demonstrated that the relationship between sex and aggression is not clear. Furthermore, most of the studies that have been discussed examined the overt expression of aggression in a simple shock exchange paradigm which involves just the subject and victim. It seems apparent that in society all aggressiveness is not that simple, but in fact involves the presence of others. Borden's research certainly demonstrates how both the mere presence and the actions of others can change an individual's expression of aggression.

A situation which represents some of the complexities of real life aggression, and which has implications for the study of sex differences, has been described by Milgram (1965) and operationalized by Gaebelin (1973a). Milgram has stated:

The situation in which one agent commands another to hurt a third turns up time and again as a significant theme in human relations.... War too moves forward on the triad of an authority which commands a person to destroy the enemy, and perhaps all organized hostility may be viewed as a theme and variation of the three elements of authority, executant and victim (p. 57).

Gaebelein (1973a) modified Taylor's (1967) paradigm such that third party instigation of aggression was investigated. Briefly, in this procedure the subject (advisor) and a confederate (responder) are told that they are to work together in a competitive task against two other people. On each trial the confederate (responder) is to attempt to attain a faster reaction time than the competitor, since the one with the slower reaction time would receive a shock. The subject's (advisor) job is to suggest what shock the confederate should set for the opponent. This paradigm gives an excellent opportunity to study the sex dyad in respect to instigative aggression. The sex of the responders, advisors and opponents can be systematically varied to reveal their influences.

Gaebelein (1973b) reviewing the results of two studies, has suggested that males and females do not differ in the aggressiveness of their instigations. However, in the first reported Gaebelein study (1973a) only male subjects and confederates were used. In the second study, Gaebelein (1973b), in a replication of the earlier study, used only female subjects and confederates. A contrast of these two studies show that the magnitude of shock of the male dyad (male responder and advisor) was quite similar to that of the female dyad (female responder and advisor). A later study by Gaebelein (1975) explored further the dynamics of the sex composition of the dyad on instigative aggression by comparing male and female subjects who instigated female confederates. In this latter study she demonstrated that males were generally more instigative than females, but that the behavior of the confederate, plus certain task parameters, affected

the extent of the difference. One issue not addressed in the study was that of sex role attitudes.

In this present study the effects of sex role attitudes on subsequent instigative aggression was examined. It was hypothesized that "traditional" males would instigate more aggression than "liberal" males; "traditionals" would instigate females to a higher degree than males, while "liberals" would instigate males and females equally. This was expected due to the sex-role stereotype supposedly held by "traditional" males that aggressing against a provocation is an appropriate response; it is the female's place to take orders; and that in the presence of a female one needs to show one's manliness (aggression, not cowardly retreat). Males with "liberal" attitudes toward women should not discriminate between the sexes (they profess "equality") and need not show their masculinity.

A second purpose of the present study is to examine the hypothesis that males help females more than they help males. Specifically, all subjects (advisors) were given the opportunity to help the confederate (responder) immediately following the experimental task. Confederates feigned an accident and subject's reactions to it were monitored. The literature on sex differences and altruism reveals that males are more altruistic toward female recipients than male recipients (Gruder and Cook, 1971; Latané, 1970; Simon, 1971). As is true in the aggression research, few studies on altruism seem to be interested in the attitudes or interests of the subjects and have consequently grouped subjects according to sex only. It is quite possible that males with traditional attitudes may regard the frail, petite female as being helpless and

very dependent, and hence profess the old "carry the women over the puddle" ideology. On the other hand, liberal males may adopt a more equalitarian stance, i.e., help those who need it. Thus, it is hypothesized that in the present study "traditionals" will act more altruistically to females than males while "liberals" will be equally helpful toward both sexes.

CHAPTER II

METHOD

Subjects

Subjects were 40 male undergraduates enrolled in the introductory psychology classes at the University of North Carolina at Greensboro. Participation was in partial fulfillment of their course requirements.

The subjects were preselected from 65 males according to their scores on the short version of the Spence & Helmreich's (1972) Attitude Toward Women Scale (Appendix A) which was given to all introductory students during mass testing. To disguise the true purpose of the scale another attitude scale was also given. The final selection of subjects consisted of 20 males with the highest scores and 20 males with the lowest scores. The mean and standard deviation of scores for all subjects tested, and for those finally selected are presented in Table 1 (Appendix B).

Each item of Spence & Helmreich's scale consists of a statement for which there are four response alternatives: agree strongly; agree mildly; disagree mildly; and disagree strongly. The scale consists of categories of statements about: vocational, educational, and intellectual roles; freedom and independence; dating; courtship; and etiquette; drinking, swearing, and dirty jokes; sexual behavior; and marital relationships on obligations. Spence & Helmreich (1972) have reported a test-retest reliability of over .95. Details of the actual scoring techniques are present in Spence & Helmreich's (1972) article.

Apparatus

The apparatus used was developed by Taylor (1967) as modified by Gaebelin (1973a). The apparatus consisted of a task board (Appendix C) and an experimenter's programming-monitoring board. A shock electrode, an intercom system, a tape recorder, a slide rack and 50 slides were also used. The task board contained a reaction time (telegraph) button, two red lights (one labeled "set" and the other labeled "press") and an amber light labeled "release." On the base of the task board there were five shock-setting buttons numbered consecutively from one to five. On the top of the task board there were five feedback lights numbered from one to five. To the right of the feedback lights there was a white light labeled "lose." The experimenter's programming-monitoring board consisted of a paper tape reader and solid state components which allowed programming of the lights on the task board. A set of lights was also set up in order to monitor which shock buttons were pressed by the subject. The inactive shock electrode was a concentric electrode which was attached to the inside of the confederate's wrist (Tursky and O'Connell, 1965). Two intercom speakers were used. The one placed in the experimental room transmitted all that was said by the subject and the confederate to the speaker placed in the experimenter monitoring room. A questionnaire (Appendix D) was also used in an attempt to determine the subject's perceived feelings about the responder (confederate) and himself. The questionnaire included many variables (e.g., friendliness, leadership, intelligence, masculinity, and aggressiveness). Subjects rated these variables on a six point scale.

Procedure

After being categorized as having either traditional or liberal attitudes toward women, according to Spence & Helmreich's Attitude Toward Women Scale, subjects were randomly assigned to all other conditions. During the day prior to the experiment, subjects were called and scheduled to be in an experiment, disguised as the "Effects of Motivation on Competition."

When the male subject and a confederate (male or female depending upon the condition) arrived at the laboratory they were brought into a room containing the task board. They were told that they would be competing in a task with two other people in the next room. It was explained that one person in each group would be an advisor and one would be a responder. To determine who would have what role the subject and the confederate drew slips of paper. Both slips said "advisor", but the confederate reported that his/hers said "responder." It was then explained that in the experiment the responder (confederate) would receive shock, and that although the shocks were safe and harmless they were quite unpleasant at times. At this time both the subject and confederate were given the opportunity to withdraw from the study. The shock electrode was then attached to the left wrist of the responder (confederate). While the experimenter was attaching the electrode he told the subject and confederate what sex the opposition responder and advisor were. They were told that they could speak to the experimenter anytime throughout the experiment by pushing a lever on the intercom speaker located on the task board. They were told that

first, the responder (confederate) would be given a shock threshold test which would be explained via taped instructions. At this point the experimenter left the room.

The experimenter then played the shock threshold instructions (Appendix E) to the responder (confederate). The shock threshold procedure was then simulated by the confederate and the experimenter. After a brief pause, while the experimenter was supposedly determining the other responder's threshold, the task instructions (Appendix F) were given via a tape recording.

Briefly, the responder (confederate) was told that he/she was to compete in a reaction time task with an opponent in another room. The responder who had the slower reaction time on each trial would receive the shock intensity set by the other responder at the beginning of the trial. The advisor was told that previous research had suggested that the responder was distracted from his/her goal of having the fastest reaction time possible if he/she had to also concentrate on setting shocks; thus it was the job of the advisor to suggest to the responder which shock intensities to set. Each trial had four events : 1) "Set" light: advisor suggested which shock intensity to set; 2) "Press" light: responder depressed the reaction time button; 3) "Release" light: responder removed his/her finger from the reaction time button as fast as possible; 4) "Feedback" lights: one of five feedback lights flashed indicating the intensity of shock the opponents had supposedly set on the trial. If the trial was determined a lose trial, the "lose" light flashed simultaneously with the feedback lights. When the lose

light flashed the responder (confederate) feigned shock receipt.

At this point the subject was asked if he had any questions regarding the task. If not, the task was then begun. All subjects received 29 trials. On the first four trials the "opponent" (experimenter's programming-monitoring board) set only No. 1 shocks (minimal provocation). This was followed by four blocks of increasing attack from the "opponent" (increasing provocation). During the first block of increasing provocation the opponent set No. 1 on three trials and No. 2 on three trials giving an average of 1.5; during the next three blocks of six trials each, the mean settings were 2.5, 3.5, and 4.5, respectively. Within each block of trials the responder won 50% of the time. The particular order of winning and losing within a block was random. The number 5 shock corresponded to the shock intensity the responder (confederate) had supposedly judged most unpleasant at the time the threshold was determined. The other shocks were percentages of the number 5 shock.

After the task was completed the experimenter gave the subject and the confederate a questionnaire to complete (Appendix D). To keep the answers to the questionnaire anonymous the responder (confederate) was asked to fill his/hers out in the hallway while the subject remained in the experimental room. When the subject finished his questionnaire he informed the experimenter via the intercom. At this point the experimenter and the responder (confederate) returned to the room. While entering, the experimenter examined the responder's (confederate) questionnaire. He noticed that it was incomplete and consequently asked the responder (confederate) to again leave the room and complete

the questionnaire. The responder (confederate) asked if he/she could bring his/her "things" with him/her while he/she finished the questionnaire. The experimenter said that it was all right. As the experimenter was examining the subject's questionnaire the responder (confederate), while seemingly having a hard time picking up his/her possessions (stacked on the floor), dropped all the slides in the slide rack. He/she immediately started picking them up and explained that the slides were all in order and that he/she needed to present them to a class in a few minutes. The experimenter asked him/her if he/she would mind finishing the questionnaire first before attending to the slides because it was important that all questions were answered. The experimenter then gave a credit slip to the subject, thanked him for being in the experiment and informed him that he was free to leave. The experimenter left the room with the responder (confederate), and closed the door behind them. The time the subject spent in the experimental room was recorded along with any helping behavior (rearranging the slides). The subject was left in the room for a maximum of six minutes. At this point or at any point the subject began to leave, the experimenter asked the subject and the confederate to stay for a debriefing.

The design of this study was defined by two between subject variables: attitudes toward women and sex of the confederate; and two within subject variables: trial blocks and winning. There were ten subjects per condition.

Attitude Toward Women Variable: All subjects were preselected according to their score on the Spence and Helmreich's Attitude Toward

Women Scale. A median split was performed with the higher scores being classified as liberal and the lower scores as traditional. The experimenter and confederates were blind to the classification of the subjects to avoid any experimenter bias.

Sex of Responder (Confederate): The responders (confederates) were varied according to their sex. One half of the subjects instigated a male responder (confederate) while the other half instigated a female responder (confederate). The confederates always cooperated with the subject by setting the shock intensities requested.

The subjects were told that the "responder" (whom they supposedly competed with) was the same sex as the responder (confederate) he was instigating. The "advisor" who was supposedly competing against them was always a male.

Trials: The task consisted of 4 blocks of 6 trials each (increasing provocation from a mean of 1.5 for the first block, 2.5 for the second block, 3.5 for the third block to 4.5 for the fourth block) and 4 trials of minimal provocation (4 #1 shocks). Particular sequences of shocks which were given are listed in Appendix G.

Win-Lose: The responder (confederate) won 50% of the trials in all trial blocks. The particular "win" trial was randomly determined (Appendix G).

CHAPTER III

RESULTS

Instigative Aggression

Instigative aggression was defined as the shock intensity that the subject instructed the responder (confederate) to set on each trial. Separate analyses of variance were performed on trial one responses, on the next four trials during which the opponent set only the lowest intensity of shock, and on the last four trial blocks during which the opponent set increasing levels of shock.

The 2x2 analysis of trial one responses (Table 2, Appendix B) revealed a significant effect of one's attitude toward women. The mean shock intensity suggested by subjects with traditional attitudes toward women was 2.35 while the mean shock intensity suggested by subjects with liberal attitudes toward women was 1.65. This main effect was significant at the .05 level ($F(1,36)=4.82$). The sex of the responder did not prove to be a significant variable.

The 2x2x2 analysis of the next four trials during which the opponent set only the lowest intensity of shock (Table 3, Appendix B) again revealed a significant effect of one's attitude toward women ($F(1,36)=3.06$; $p < .10$). Subjects with traditional attitudes toward women suggested a mean shock intensity of 2.413 while subjects with liberal attitudes toward women suggested a mean shock intensity of 1.900. Although the attitude by sex interaction was not significant, specific planned comparisons revealed that while subjects with traditional attitudes toward

women and subjects with liberal attitudes toward women did not differ significantly in the mean shock intensity suggested to female responders (confederates) (mean shock intensities of 2.275 and 2.025, respectively) they did in regard to male responders. Subjects with traditional attitudes toward women suggested a mean shock intensity of 2.55 to males while subjects with liberal attitudes toward women suggested a mean shock intensity of 1.78 to males ($p < .07$).

The $2 \times 2 \times 2 \times 4$ analysis of variance of the shock intensities suggested during the four blocks of increasing provocation (Table 4, Appendix B) revealed significant main effects for the subject's attitude toward women variable, win-lose trials and for the blocks of increasing provocation. The mean shock intensity suggested by subjects with traditional attitudes toward women was 3.08, while subjects with liberal attitudes toward women suggested a mean shock intensity of 2.42 ($F(1,36)=6.64$, $p < .025$). The attitude by sex interaction was examined via planned comparisons; it was observed that the liberal and traditional subjects did not differ significantly in the mean shock intensity suggested to male responders (mean shock intensities of 2.41 and 2.80, respectively) but did in regard to the mean shock intensity suggested to female responders. Subjects with traditional attitudes toward women suggested a mean shock intensity of 3.38 to female responders (confederates) while subjects with liberal attitudes toward women suggested a mean shock intensity of 2.43 ($p < .025$). It was also apparent that subjects with traditional attitudes toward women tended ($p < .10$) to suggest higher shocks to female responders ($M=3.38$) than male responders ($M=2.80$).

Subjects with liberal attitudes toward women suggested comparable shock intensities to female (2.43) and male responders (2.41).

The average aggressiveness of subjects increased across blocks of trials ($F(3,108)=36.65$, $p < .01$). The mean shock intensities across the four blocks of increasing provocation were 2.24, 2.41, 2.91, and 3.50, respectively. With the exception of the comparison between the first and second blocks of increasing provocation Scheffé means comparison revealed that all blocks were significantly different from each other (Figure 1). Further means comparisons revealed that the mean shock intensity suggested by subjects with traditional attitudes toward women during the last three trial blocks of increasing provocation differed significantly from the mean shock intensity suggested by subjects with liberal attitudes toward women. Subjects with traditional attitudes toward women suggested mean shock intensities of 2.74, 3.28, and 3.81, respectively; while subjects with liberal attitudes toward women suggested 2.07, 2.55, and 3.09, respectively ($p < .05$).

Across the four blocks of increasing provocation subjects with traditional attitudes toward women tended to suggest higher mean shock intensities to female responders (2.76, 2.90, 3.56, and 4.30, respectively) than male responders (2.28, 2.58, 3.00, and 3.33, respectively). The mean shock intensity suggested during the last block of increasing provocation was significant at the .05 level (Figure 2). The other blocks did not reach a sufficient significance level. Subjects with liberal attitudes toward women did not tend to suggest higher shock intensities to either the male or female responder (Figure 3).

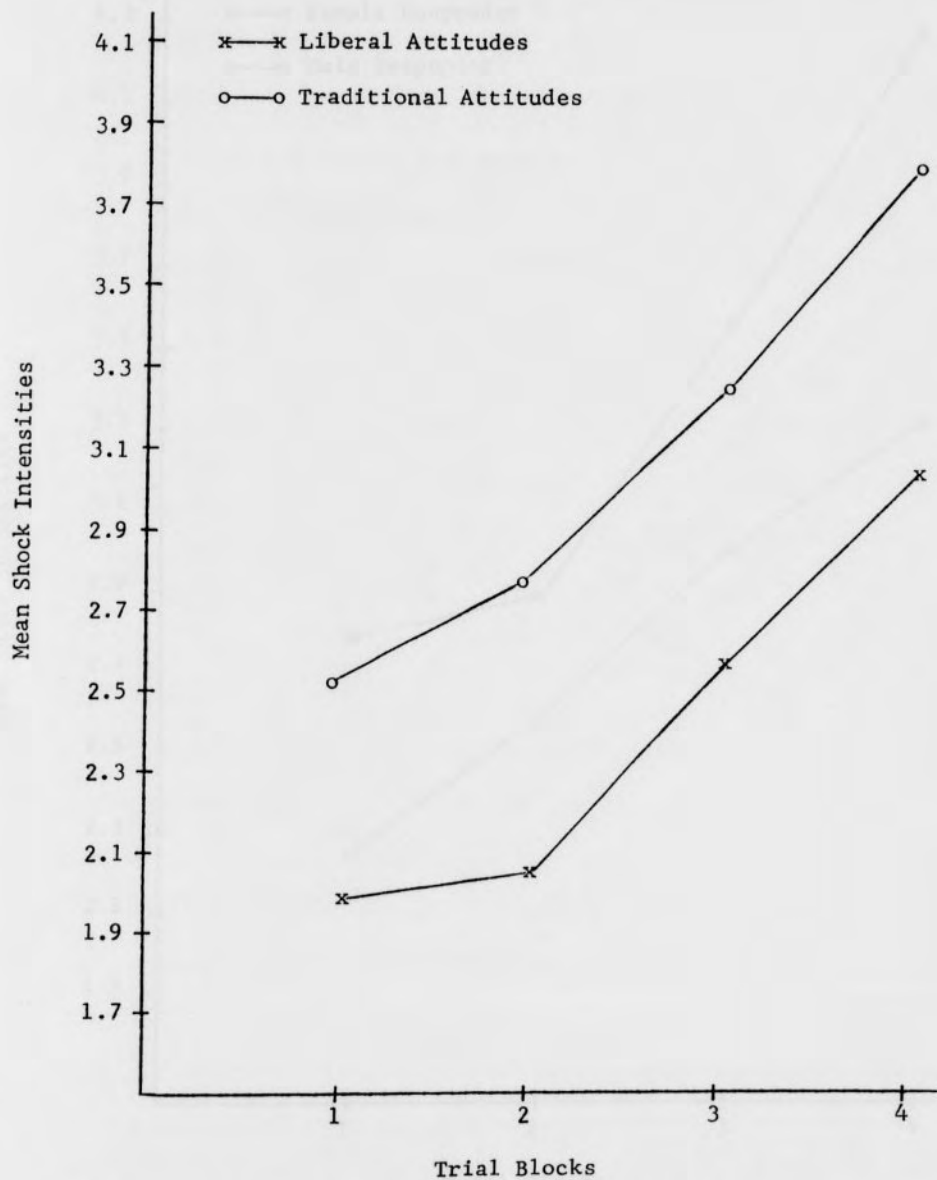


Figure 1. Mean shock intensities suggested by subjects across trial blocks.

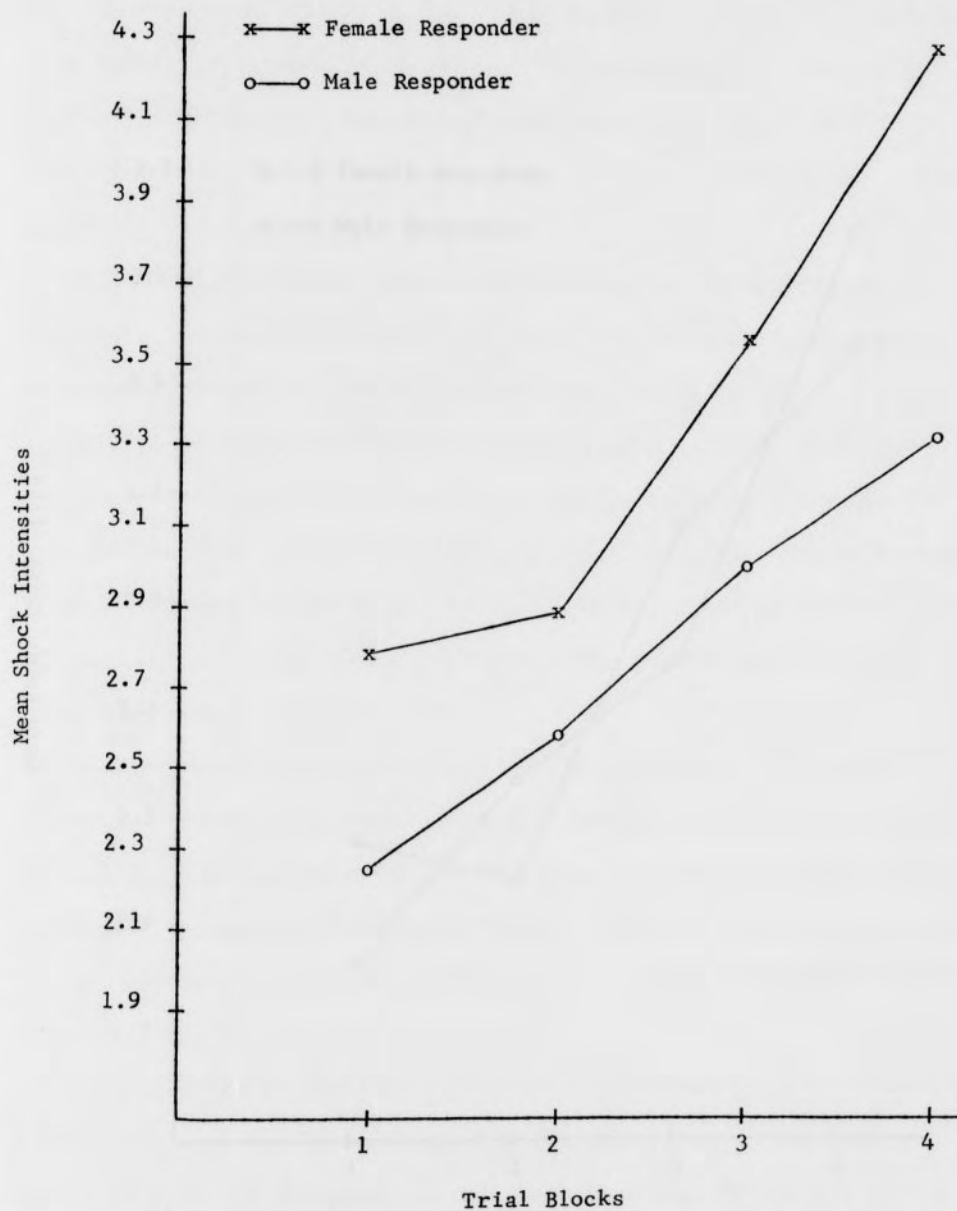


Figure 2. Mean shock intensities suggested by subjects with traditional attitudes toward women.

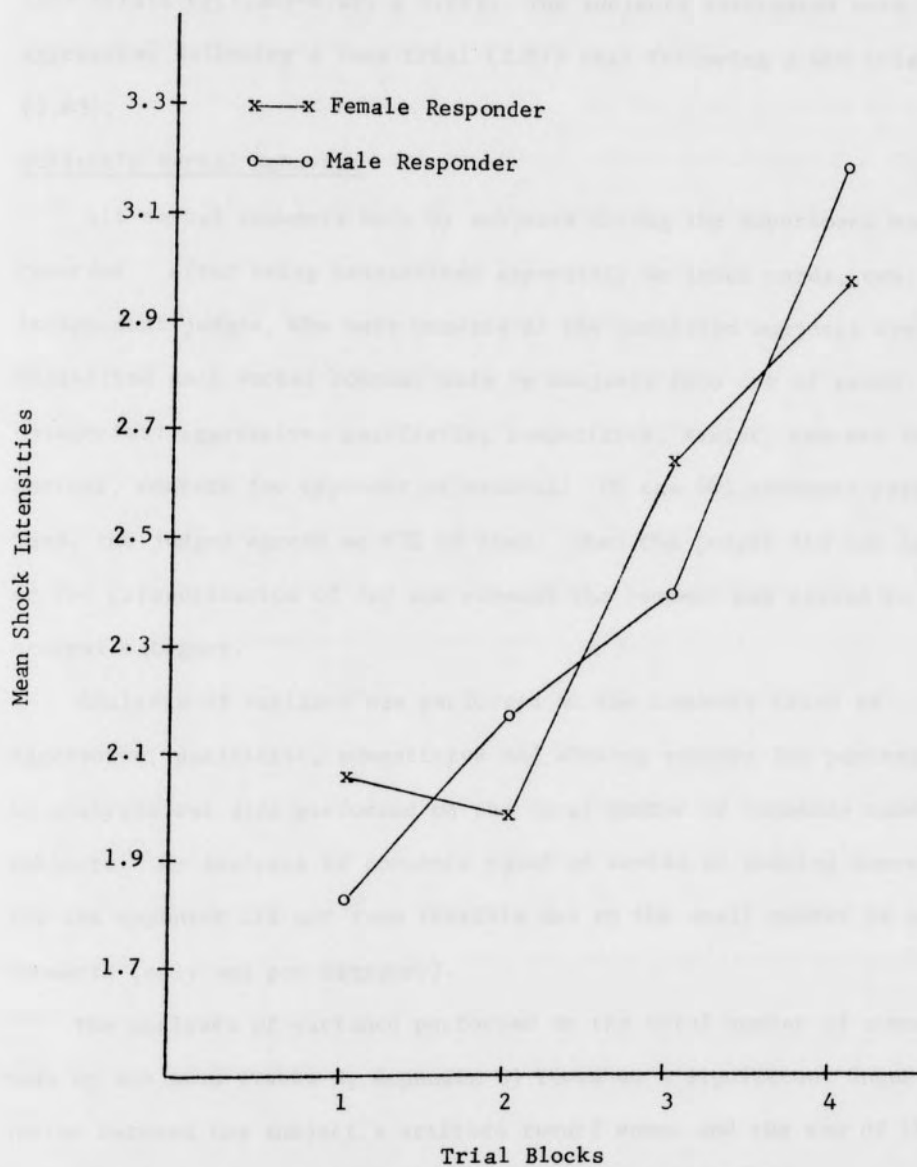


Figure 3. Mean shock intensities suggested by subjects with liberal attitudes toward women.

The analysis also revealed a significant main effect of the win-lose trials ($F(1,36)=8.29$, $p < .01$). The subjects instigated more aggression following a lose trial (2.87) than following a win trial (2.63).

Subject's Verbal Behavior

All verbal comments made by subjects during the experiment were recorded. After being transcribed separately on index cards, two independent judges, who were unaware of the condition subjects were in, classified each verbal comment made by subjects into one of seven categories: aggressive, pacifistic, competitive, sexist, concern for partner, concern for opponent or neutral. Of the 601 comments categorized, the judges agreed on 83% of them. When the judges did not agree on the categorization of any one comment the comment was placed in the neutral category.

Analysis of variance was performed on the comments rated as aggressive, pacifistic, competitive and showing concern for partner. An analysis was also performed on the total number of comments made by subjects. An analysis of comments rated as sexist or showing concern for the opponent did not seem feasible due to the small number of such comments (only one per category).

The analysis of variance performed on the total number of comments made by subjects (Table 5, Appendix B) revealed a significant interaction between the subject's attitude toward women and the sex of the responder (confederate) ($F(1,36)=3.79$, $p < .07$). A Scheffé means comparison revealed that subjects with liberal attitudes toward women

made significantly ($p < .025$) more comments to male responders ($M=20.80$) than to female responders ($M=7.40$). Subjects with traditional attitudes toward women made similar number of comments to female responders ($M=16.50$) and male responders ($M=15.30$). It was also apparent that those subjects with traditional attitudes toward women made significantly ($p < .05$) more comments to female responders ($M=16.60$) than did those with liberal attitudes toward women ($M=7.40$).

An analysis of variance on the aggressive comments (e.g. "Let's blast them!"; "Shock the hell out of them!") revealed a significant main effect for the subject's attitude toward women (Table 6, Appendix B). Those subjects with traditional attitudes toward women gave an average of 4.50 aggressive comments to the responder (confederate) while subjects with liberal attitudes toward women gave an average of 1.70 aggressive comments to the responder ($F(1,36)=4.11$, $p < .05$).

The analysis of variance performed on the total number of pacifistic comments (e.g. "I don't like to hurt people."; "Let's not shock too high.") revealed a significant main effect for the subject's attitudes toward women (Table 7, Appendix B). Those subjects with liberal attitudes toward women gave an average of 2.75 pacifistic comments to the responder (confederate) while subjects with traditional attitudes toward women gave an average of 1.05 ($F(1,36)=4.68$, $p < .05$). A Scheffé means comparison revealed that subjects with liberal attitudes toward women gave significantly ($p < .05$) more pacifistic comments to male responders ($M=4.10$) than to female responders ($M=1.40$).

The analysis of variance performed on the total number of competitive comments (e.g. "We got to beat those people!"; "We gotta win this one!") and comments which show concern for the responder (e.g. "Did that hurt you?"; "I hope they don't give you a high shock.") revealed no significant results (Tables 8 & 9, Appendix B). Subjects with traditional attitudes toward women gave an average of 3.5 competitive comments and 2.25 comments showing concern for the responder while subjects with liberal attitudes gave an average of 3.15 competitive comments and 1.6 comments showing concern for the responder.

Questionnaire Responses

The questionnaire consisted of three parts: the subjects rated the responder (confederate) and themselves on 31 attributes; and answered seven additional questions (Appendix D).

A multivariate analysis of variance of all 31 variables revealed that self-ratings were significantly influenced by the sex of the responder (approximate $F(31,6)=3.27$, $p < .07$) (Table 10, Appendix B). In order to identify the variables contributing the most to this significance, multivariate standardized discriminant function coefficients were examined (Wilkinson, 1975). A multivariate analysis of the 6 variables corresponding to the largest discriminant scores (Table 11, Appendix B) proved to be significant (approximate $F(6,31)=44.81$, $p < .001$). This revealed that the most important variables were friendly, fair, reasonable, masculine, honest and sociable. In general, subjects with female responders (confederates) rated themselves as more deceitful, fair, sociable, friendly, masculine and equally as reasonable

than did subjects with male responders (confederates). The multivariate analysis of variance of self-ratings proved to be nonsignificant in respect to the subject's attitudes toward women (approximate $F(31,6) = .98$, $p < .57$) (Table 12, Appendix B) and the interaction of attitudes of subjects and sex of the responder (approximate $F(31,6) = 1.55$, $p < .31$) (Table 13, Appendix B).

A multivariate analysis of variance was also performed on the subject's responder ratings (consisting of 31 variables). Sex of the responder was significant (approximate $F(31,6) = 8.69$, $p < .006$) (Table 14, Appendix B), as was the interaction of the subject's attitudes toward women and the sex of the responder (approximate $F(31,6) = 3.88$, $p < .05$) (Table 15, Appendix B). Standardized discriminant function coefficients were then used to identify the variables contributing the most to the significant sex effect (Table 16, Appendix B). A multivariate analysis of the 15 variables corresponding to the largest discriminant scores proved to be significant (approximate $F(15,21) = 1.98$, $p < .07$). This revealed that the most important variables were reasonable, strong, leader, well-adjusted, sympathetic, cooperative, attractive, large, bloodthirsty, competitive, good-humored, accepting, sociable, kind and active. In general male responders were rated as more a leader, stronger, larger, more bloodthirsty, more good-humored, more accepting, more sociable, more cruel, more cooperative, more competitive, more sympathetic, less attractive, less adjusted, less active, and equally as reasonable than were female responders. Standardized discriminant function coefficients were again used to identify

the variables contributing the most to sex of the responder by the attitudes of the subject interaction. A multivariate analysis of the 15 variables corresponding to the largest discriminant scores (Table 17, Appendix B) proved to be nonsignificant (approximate $F(15,22)=1.22$, $p < .33$). It was therefore concluded that there exists no simple subset of variables that can help explain the total relationship of all the variables. There was a general tendency for subjects who held traditional attitudes toward women to rate female responders as less active, less as a leader, weaker, smaller, more passive, unsociable, unreasonable, and more attractive than they rated male responders.

Finally subjects responded to seven questions: 1) How effective an advisor do you think you were? 2) Did the shocks seem to bother the responder? 3) Did it bother you to watch the responder receive a shock? 4) How well do you think you and your responder got along? 5) Would you like to be with the responder in this experiment again? 6) Would you like to get to know the responder better? and 7) Did you enjoy this experiment? The responses to these questions were given on a 6 point scale with 1 meaning "very effective" on the first question; "yes, a great deal" on questions two and three; "very well" on question four; and "very much" on questions five, six, and seven; and 6 meaning "very ineffective" on question one and "no, not at all" on questions two through seven.

Subjects with liberal attitudes toward women rated themselves slightly ($F(1,36)=2.49$, $p < .12$) more effective as advisors ($M=2.45$) than did subjects with traditional attitudes toward women ($M=3.00$).

Those subjects with female responders rated themselves just as effective ($\underline{M}=2.55$) as did subjects with male responders ($\underline{M}=2.90$).

On the second question subjects with traditional attitudes toward women responded that the shocks seemed to bother the responder more ($\underline{M}=3.3$) than did subjects with liberal attitudes toward women ($\underline{M}=4.32$; $F(1,36)=5.76$, $p < .02$). Those subjects with liberal attitudes toward women with female responders rated that the shocks seemed to bother the responder ($\underline{M}=3.8$) more than did those with male responders ($\underline{M}=4.8$); while subjects with traditional attitudes toward women rated the shock equally as bothersome to female responders ($\underline{M}=3.5$) and male responders ($\underline{M}=3.1$; $F(1,36)=5.76$, $p < .02$).

When asked if it bothered them to watch the responder (confederate) receive a shock those subjects with traditional attitudes toward women responded that it bothered them slightly less ($\underline{M}=3.5$) than did those with liberal attitudes toward women ($\underline{M}=2.9$; $F(1,36)=1.51$, $p < .22$). Subjects with female responders responded similarly ($\underline{M}=3.15$) as did subjects with male responders ($\underline{M}=3.25$).

An analysis of the fourth question revealed that neither the subject's attitudes toward women (traditional: $\underline{M}=2.05$; liberal: $\underline{M}=2.10$) nor the sex of the responder (male: $\underline{M}=1.95$; female: $\underline{M}=2.20$) had any significant effect on how well they thought they got along with the responder (confederate).

When asked if they would like to be with the responder in the experiment again subjects with traditional attitudes toward women tended to answer more negatively ($\underline{M}=3.2$) than did those with liberal attitudes

toward women ($\underline{M}=2.4$; $\underline{F}(1,36)=2.755$, $\underline{p} < .10$). The sex of the responder did not seem to have any effect on these ratings (males: $\underline{M}=2.7$; females: $\underline{M}=2.9$).

On the sixth question when asked if they would like to get to know the responder better, subjects with traditional attitudes toward women responded about the same ($\underline{M}=3.0$) as did those with liberal attitudes toward women ($\underline{M}=2.7$). Those subjects interacting with female responders tended to answer somewhat more negatively ($\underline{M}=3.1$) (would not like to get to know the responder better) than did those subjects interacting with male responders ($\underline{M}=2.6$).

On the last question when asked if they enjoyed the experiment there was a significant interaction between the attitude of the subject and the sex of the responder ($\underline{F}(1,36)=3.30$, $\underline{p} < .08$). Subjects with traditional attitudes toward women who interacted with male responders enjoyed the experiment less ($\underline{M}=3.2$) than those who interacted with a female responder ($\underline{M}=2.5$). Conversely, subjects with liberal attitudes toward women who interacted with a male responder enjoyed the experiment more ($\underline{M}=2.5$) than those who interacted with a female responder ($\underline{M}=3.3$).

Altruistic Behavior

Altruism was defined as the amount of assistance given by the subject to the responder (confederate) during the six minute interval beginning after the responder (confederate) drops the slide rack. The actual behavior of the subject during this interval was recorded along with the total amount of time that the subject stayed in the experimental room, after he was told that he was free to leave. Two independent judges, who were unaware of the condition subjects were in,

were presented with a complete description of the subject's behavior during the helping manipulation. They were asked to rate these behaviors on a five point scale as to the amount of helping they felt they represented (1= no helping... 5= maximum helping). For example, a subject who "put all the slides on the table and left the slide rack on the floor" were rated as a two (minimum helping). Of the 40 helping descriptions rated, judges agreed on 85% of them. The descriptions that were not rated alike by the judges were averaged to give one rating per description.

An analysis of variance on the helping behavior revealed no significant results (Table 18, Appendix B). Subjects with traditional attitudes toward women helped an average of 2.45 (based on a 5 point scale) while subjects with liberal attitudes toward women helped an average of 2.10. Female responders (confederates) were helped an average of 2.20 while male responders (confederates) were helped an average of 2.35. Subjects with traditional attitudes toward women and subjects with liberal attitudes toward women helped female responders (mean average of 2.40 and 2.00, respectively) and male responders (mean average of 2.50 and 2.20, respectively) similarly.

CHAPTER IV

DISCUSSION

Male subjects have frequently been grouped together in aggression research solely in terms of their gender. It is a general finding in research and an accepted belief in our own culture that physical aggression is primarily a masculine activity. As Buss (1971) notes, "our masculine role (is) tough, competitive, hardhitting, dominant, and in a word aggressive. Status as a male is to be achieved by being aggressive and masculinity is perhaps the most basic aspect of man's identity" (p. 17).

It has been suggested that these basic beliefs influence the way many parents have brought up their children (Maccoby & Jacklin, 1974). Sears, Maccoby, and Levin (1957) for example reported that mothers of boys allowed their children to show more aggression toward other children than did mothers of girls. When discipline for such behavior is given it is a general finding that boys receive more physical punishment than girls do (e.g., Tasch, 1952; Baimrind and Black, 1967). The authors feel that this differential socialization may lead to more aggressive behavior in boys than in girls.

Maccoby and Jacklin (1974) suggest that the tendency for males to be more aggressive than females may have biological roots. To support this notion they note that males are more aggressive than females in most human societies that have been tested; the differences are found early in life when differential shaping of aggression did not seem to

take place; these sex differences are found in man and subhuman primates; and finally aggression is related to levels of sex hormones.

Whatever the cause for a male's tendency to be more aggressive than a female, biological or environmental, this present study offers support for the limiting of such general statements. It may be true that on the whole males are more aggressive than females, however this study suggests that there are some males that are not highly aggressive. The results indicated that the subjects' attitudes toward women significantly influenced instigative behavior. Consistent with the findings of the present study Taylor and Smith (1974), examining the effect of sex-role attitudes on direct aggression (aggressor→victim), found that males with traditional attitudes toward women were generally more aggressive than males with liberal attitudes toward women. Contrary to the present study they found that males with liberal attitudes and males with traditional attitudes both inhibited their aggression when competing with female opponents. This result was explained in terms of early socialization of males when they were trained to "inhibit specifically their aggressiveness when provoked by a female" (Taylor and Smith, p. 1096). It was apparent in the present study examining instigative aggression (instigator→aggressor→victim) that males with traditional attitudes toward women not only did not inhibit their instigative aggressiveness to females but they escalated their aggressive suggestions.

A comparison of the results of the present study with those of Nirenberg (1975) revealed that the magnitude of the intensities of

shock suggested by men ($\bar{M}=2.65$) in the present study was only slightly higher than by women ($\bar{M}=2.57$) in Nirenberg (1975), but when the attitude toward women variable is taken into account the picture changes. The mean shock intensity suggested by male subjects with traditional attitudes toward women was higher ($\bar{M}=2.97$) than those suggested by women with traditional ($\bar{M}=2.50$) or liberal attitudes toward women ($\bar{M}=2.64$). However, male subjects with liberal attitudes toward women suggested a mean shock intensity of 2.33, less than either female group. With the use of a simple "paper and pencil test" examining subjects' attitudes toward women we were able to separate two groups of males which showed significantly different amounts of instigative aggression.

It has been suggested that the sex of a partner, opponent, or even an observer may influence a subject's aggressive behavior (Borden, 1975; Gaebelin, 1975). Borden (1975) presented data that in the absence of other information sex of an observer may serve as a cue for appropriate behavior. He suggests that for male subjects females become a stimulus to inhibit aggressive expression. However, in the present study subjects with liberal attitudes toward women suggested equal magnitudes of shock to male and female responders, while subjects with traditional attitudes toward women suggested higher shocks to females than males. This interaction indicates that Borden's suggestion is not suitable to explain the present results. This phenomenon may be explained in terms of the sex-role stereotype supposedly held by traditional and liberal males. When a behavior is deemed socially appropriate (aggressing against provocation is acceptable and is reinforced) and when a male is put into a dominant position over a female

the opportunity for a traditional male to show his manliness (aggressive tendencies) is present. In the presence of another male there is less of a "need" to exhibit his masculinity, thus the traditional male exhibits less aggressive behavior. Liberal males profess equality between the sexes and thus did not show any differential aggression between the male or female responder.

This explanation may be suitable to account for the actual instigative behavior displayed by the subjects, but what about the subjects' verbal behavior? From our previous interpretation we would assume that verbal behavior would follow with the trend of instigative behavior-- subjects with traditional attitudes toward women would verbalize more aggressive behavior than subjects with liberal attitudes toward women; subjects with traditional attitudes toward women would verbalize more aggression in the presence of female responders than male responders; and finally that subjects with liberal attitudes toward women would verbalize equal amounts of aggression in the presence of male or female responders. Subjects with traditional attitudes did verbalize more aggression than did subjects with liberal attitudes toward women but contrary to our prediction both "traditional" and "liberal" subjects verbalized equal numbers of aggressive comments to male and female responders.

Considering the analysis of the total amount of verbalization of subjects one would expect that liberals who supposedly profess equality between males and females would verbalize equal amounts to both sexes. This was not the case. Although subjects with liberal attitudes did not suggest different intensities of shock to male and female responders

they did make significantly more verbal comments to male responders than female responders. Unexpectedly subjects with traditional attitudes made similar number of comments to male and female responders. The tendency for subjects with traditional attitudes to be more talkative to female responders than were subjects with liberal attitudes, along with the indication (from the questionnaire ratings) that they enjoyed the experiment more when they performed the task with a female responder suggests that the subjects with traditional attitudes toward women were more comfortable in their advisory capacity (dominant position). The tendency for subjects with liberal attitudes to be less talkative to female responders and the indications that they enjoyed the experimental task less when performing with a female suggests the opposite- they were less comfortable in their dominant position. It was also clear that subjects with traditional attitudes toward women were neither more competitive nor sexist than subjects with liberal attitudes toward women. If one looks at the results of this study in terms of only instigative aggression the original explanation, e.g. liberals profess equality between sexes while traditionalists in-equality, was indeed supported. Taking into account the verbal behavior, the explanation is not as clear.

The questionnaire data was a third index of behavior, giving us information on how our subjects felt about themselves and the female or male responder (confederate). In general all subjects rated themselves more favorably (e.g. sociable, fair, friendly) when participating with a female responder than with a male responder. Subjects with traditional attitudes toward women rated females as would be expected from the

stereotype. For example they rated females less as a leader, less active, and weaker than they rated males. Subjects with liberal attitudes toward women did not tend to make these distinctions.

It was hypothesized earlier that subjects with traditional attitudes toward women would help female responders (confederates) more than male responders when given the opportunity, but subjects with liberal attitudes toward women would help both male and female responders (confederates) equally. This was not the case. Both groups of subjects helped male and female responders (confederates) equally. The lack of significant results of the helping task seemed to be due to the nature of the task itself. It seemed that after performing the reaction time task with someone (confederate) for over forty minutes that a certain relationship is established between the participants. When the helping task is introduced the sex variable may have been secondary and therefore was covered up by the relationship which was already formed by the participants. It therefore seems that the interaction of the sex of the recipient of the helping behavior and the benefactor's attitude toward women will be the most significant when the benefactor has minimal knowledge of the recipient (knowing only the sex of the recipient). As soon as more pertinent information is introduced to the situation the relationship becomes more complex and thus predictions become unclear.

The fact that our group of subjects were dissimilar on three of the indices of behavior tested- instigative aggression, verbal interactions, and questionnaire responses- suggests that the attitude toward

women scale did assess a variety of variables. In general, the direction of our results seem to fit common stereotypes (e.g. "traditional" differentially responding to males and females while "liberals" do not) and thus gives support for the validation of Spence and Helmreich's Attitudes Toward Women Scale.

The results of this study give support for our original hypothesis that all males do not act alike solely in terms of their gender. We found that males with differing attitudes toward women behave differently when given the opportunity to aggress against provocation and react differently when interacting with a male or a female responder.

CHAPTER V

SUMMARY

A review of the literature on sex differences in aggression reveals that in the majority of studies males are physically more aggressive than females (Buss, 1963; 1966; Taylor and Epstein, 1967). Taylor and Epstein (1967) state that "...it is evident that males share a general value system which makes aggression to females unacceptable" (p.482) but to males acceptable. With the exception of a few studies (e.g. Leventhal and Shemberg, 1969; and Taylor and Smith, 1974) most experimenters have grouped male and female data with respect to sex differences rather than on specific characteristics of the individual. Though it appears that males are more aggressive than females and that females are less apt to be targets of aggression, the present study addresses itself to the question whether there are some males who are equally or less aggressive than females and whether there are males who do not differentiate between the sex of the target of aggression.

Most of the studies on sex differences in aggression also have examined the overt expression of aggression in a simple shock exchange paradigm which involves just the subject and victim. It seems apparent that in society all aggressiveness is not that simple, but in fact involves the presence of others. Gaebelin (1973a) modified Taylor's (1967) paradigm such that third party instigation of aggression was investigated. This paradigm was used in the present study.

Briefly, 40 male subjects were preselected according to their score on the Attitude Toward Women Scale (Spence & Helmreich, 1972). The subject (advisor) and a confederate (responder) were told that they were to work together in a competitive task against two other people. On each trial the confederate (responder) was to attempt to attain a faster reaction time than his competitor, since the one with the slower reaction time received a shock. The subject's (advisor) job was to suggest what shock the confederate (responder) should set for the opponent. The subject was given a questionnaire on which he rated himself and the responder on 31 attributes; and answered a few general questions.

A second purpose of the present study was to examine the hypothesis that males help females more than they help males. Specifically, all subjects were given the opportunity to help the confederate immediately following the reaction time task.

The results were clear. Those subjects with traditional attitudes toward women instigated significantly more aggression than those with liberal attitudes. It was also apparent that subjects with traditional attitudes tended to suggest higher mean shock intensities to female responders than male responders; subjects with liberal attitudes suggested similar mean shock intensities to female and male responders. The questionnaire responses revealed that in general male responders were rated more as a leader, stronger, larger; more bloodthirsty, good-humored, accepting, sociable, cruel, cooperative, competitive, sympathetic; less attractive, adjusted and active than were female responders.

Subjects with female responders also rated themselves as more deceitful, fair, sociable, friendly, and masculine than did subjects with male responders. When given the opportunity to help subjects male and female responders helped equally as much. The subject's attitude toward women did not prove to be significant in respect to the helping task.

These results indicate that males do not act solely in terms of their gender. Males are individuals who have diversified attitudes which seem to dictate their behavior more than their particular sex.

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APPENDIX A

Attitudes Toward Women Scale

The statements listed below describe attitudes toward oneself and others in society that different people have. There are no right or wrong answers only opinions. You are asked to express your feeling about each statement by using the following coding system:

A = Agree Strongly D = Agree Mildly
 C = Disagree Mildly B = Disagree Strongly

Please circle the letter which corresponds to how you feel.

1. It makes no sense to run a lonely stranger to a group. A B C D
2. People make too much of the feelings and sensitivity of
 ministry. A B C D
3. Swearing and obscenity are more repulsive in the speech
 of a woman than a man. A B C D
4. Women should take increasing responsibility for leadership
 in solving the intellectual and social problems of
 the day. A B C D
5. I attach little public displays of affection involving
 both husband and wife should be allowed the same grounds
 for divorce. A B C D
6. Talking dirty jokes should be mostly a masculine
 prerogative. A B C D
7. I am annoyed by unhappy people who are just sorry for
 themselves. A B C D
8. Intoxication among women is worse than intoxication among
 men. A B C D
9. I become nervous if others around me seem to be nervous. A B C D
10. I find it silly for people to cry out of happiness. A B C D
11. Under modern economic conditions with women being active
 outside the home, men should share in household tasks
 such as washing dishes and doing the laundry. A B C D
12. It is insulting to women to have the "baby" clause remain
 in the marriage service. A B C D
13. I tend to get emotionally involved with a friend's problem. A B C D
14. There should be a strict merit system in job appointment
 and promotion without regard to sex. A B C D
15. Sometimes the words of a love song can move me deeply. A B C D
16. I tend to lose control when I am bringing bad news to
 people. A B C D
17. A woman should be as free as a man to propose marriage. A B C D
18. The people around me have a great influence on my mood. A B C D
19. Women should care less about their rights and more about
 becoming good wives and mothers. A B C D

APPENDIX A

Attitude Toward Women Scale

The statements listed below describe attitudes toward oneself and others in society that different people have. There are no right or wrong answers only opinions. You are asked to express your feeling about each statement by using the following scoring system:

A= Agree Strongly

B= Agree Mildly

C= Disagree Mildly

D= Disagree Strongly

Please circle the letter which corresponds to how you feel.

- | | |
|--|---------|
| 1. It makes me sad to see a lonely stranger in a group. | A B C D |
| 2. People make too much of the feelings and sensitivity of animals. | A B C D |
| 3. Swearing and obscenity are more repulsive in the speech of a woman than a man. | A B C D |
| 4. Women should take increasing responsibility for leadership in solving the intellectual and social problems of the day. | A B C D |
| 5. I often find public displays of affection annoying. | A B C D |
| 6. Both husband and wife should be allowed the same grounds for divorce. | A B C D |
| 7. Telling dirty jokes should be mostly a masculine prerogative. | A B C D |
| 8. I am annoyed by unhappy people who are just sorry for themselves. | A B C D |
| 9. Intoxication among women is worse than intoxication among men. | A B C D |
| 10. I become nervous if others around me seem to be nervous. | A B C D |
| 11. I find it silly for people to cry out of happiness. | A B C D |
| 12. Under modern economic conditions with women being active outside the home, men should share in household tasks such as washing dishes and doing the laundry. | A B C D |
| 13. It is insulting to women to have the "obey" clause remain in the marriage service. | A B C D |
| 14. I tend to get emotionally involved with a friend's problem. | A B C D |
| 15. There should be a strict merit system in job appointment and promotion without regard to sex. | A B C D |
| 16. Sometimes the words of a love song can move me deeply. | A B C D |
| 17. I tend to lose control when I am bringing bad news to people. | A B C D |
| 18. A woman should be as free as a man to propose marriage. | A B C D |
| 19. The people around me have a great influence on my moods. | A B C D |
| 20. Women should worry less about their rights and more about becoming good wives and mothers. | A B C D |

21. Women earning as much as their dates should bear equally the expense when they go out together. A B C D
22. Most foreigners I have met seemed cool and unemotional. A B C D
23. Women should assume their rightful place in business and all the professions along with men. A B C D
24. I would rather be a social worker than work in a job training center. A B C D
25. I don't get upset just because a friend is acting upset. A B C D
26. A woman should not expect to go to exactly the same places or to have quite the same freedom of action as a man. A B C D
27. I like to watch people open presents. A B C D
28. Sons in a family should be given more encouragement to go to college than daughters. A B C D
29. It is ridiculous for a woman to run a locomotive and for a man to darn socks. A B C D
30. Lonely people are probably unfriendly. A B C D
31. In general, the father should have greater authority than the mother in the bringing up of children. A B C D
32. Seeing people cry upsets me. A B C D
33. Some songs make me happy. A B C D
34. Women should be encouraged not to become sexually intimate with anyone before marriage, even their fiances. A B C D
35. I really get involved with the feelings of the characters in a novel. A B C D
36. The husband should not be favored by law over the wife in the disposal of family property or income. A B C D
37. Women should be concerned with their duties of childbearing and house tending, rather than with desires for professional and business careers. A B C D
38. I get very angry when I see someone being ill-treated. A B C D
39. I am able to remain calm even though those around me worry. A B C D
40. The intellectual leadership of a community should be largely in the hands of men. A B C D
41. When a friend starts to talk about his problems, I try to steer the conversation to something else. A B C D
42. Another's laughter is not catching for me. A B C D
43. Economic and social freedom is worth far more to women than acceptance of the ideal of femininity which has been set up by men. A B C D
44. On the average, women should be regarded as less capable of contributing to economic production than are men. A B C D
45. Sometimes at the movies I am amused by the amount of crying and sniffing around me. A B C D
46. There are many jobs in which men should be given preference over women in being hired or promoted. A B C D
47. I am able to make decisions without being influenced by people's feelings. A B C D
48. I cannot continue to feel o.k. if people around me are depressed. A B C D

49. Women should be given equal opportunity with men for apprenticeship in the various trades. A B C D
50. The modern girl is entitled to the same freedom from regulation and control that is given to the modern boy. A B C D
51. It is hard for me to see how some things upset people so much. A B C D
52. I am very upset when I see an animal in pain. A B C D
53. Becoming involved in books or movies is a little silly. A B C D
54. It upsets me to see helpless old people. A B C D
55. I become more irritated than sympathetic when I see someone's tears. A B C D
56. I become very involved when I watch a movie. A B C D
57. I often find that I can remain cool in spite of the excitement around me. A B C D
58. Little children sometimes cry for no apparent reason. A B C D

TABLE I

Attitudes Toward Mean Scale Scores of the Total Sample
 and of High and Low Scorers Used as
 Subjects in the Study

	N	Median	Mean	SD
Total Sample	65	37.00	37.85	10.33
High Sc	40	62.50	62.65	5.59
Low Sc	40	41.00	41.05	4.34

APPENDIX B

TABLE 1

Attitude Toward Women Scale Scores of the Total Sample
 And of High and Low Scorers Used as
 Subjects in the Study

	<u>N</u>	<u>Median</u>	<u>Mean</u>	<u>SD</u>
Total Sample	65	52.00	51.66	10.84
High Ss	40	62.50	62.65	5.59
Low Ss	40	42.00	41.05	4.54

TABLE 2
 Analysis of Variance for Instigative Aggression of the
 First Trial as a Function of ATW and Sex

Source of Variance	<u>df</u>	<u>MS</u>	<u>F</u>
ATW	1	4.9000	4.8197*
Sex	1	0.0999	0.0984
ATWxSex	1	0.4000	0.3934
ERROR	36	1.0167	
TOTAL	39		

* $p < .05$

ATW Attitude Toward Women
 Sex Responder's Sex

TABLE 3

Analysis of Variance for Instigative Aggression of the
 First Through the Fifth Trials as a Function of
 ATW, Sex and Win-Lose Trials

Source of Variance	<u>df</u>	<u>MS</u>	<u>F</u>
Between Subjects	39		
ATW	1	5.2531	3.0607
Sex	1	.0031	.0018
ATWxSex	1	1.3781	.8030
ERROR	36	1.7163	
Within Subjects	40		
Win-Lose	1	.0031	.0077
ATWxWin-Lose	1	.7031	1.7294
Win-LosexSex	1	.3781	.9300
ATWxWin-LosexSex	1	.1531	.3766
ERROR	36	.4066	
TOTAL	79		

ATW Attitude Toward Women
 Sex Responder's Sex
 Win-Lose Win-Lose Trials

TABLE 4
 Analysis of Variance for Instigative Aggression of the
 Trial Blocks of Increasing Provocation as a
 Function of ATW, Sex and Win-Lose Trials

Source of Variance	df	MS	F
Between Subjects	39		
ATW	1	35.9841	6.6415*
Sex	1	7.3648	1.3593
ATWxSex	1	6.2380	1.1513
ERROR	36	5.4181	
Within Subjects	280		
Blocks	3	23.8623	36.6485**
ATWxBlocks	3	.1334	.2049
SexxBlocks	3	.5064	.7778
ATWxSexxBlocks	3	.8296	1.2741
ERROR	108	.6511	
Win-Lose	1	4.5099	8.2918*
ATWxWin-Lose	1	.0030	.0056
SexxWin-Lose	1	.1700	.3126
ATWxSexxWin-Lose	1	.8660	.3126
ERROR	36	.5439	
BlockxWin-Lose	3	.5954	1.1158
ATWxBlocksxWin-Lose	3	.4826	.9044
SexxBlocksxWin-Lose	3	.6748	1.2646
ATWxSexxBlocksxWin-Lose	3	.3317	.6218
ERROR	108	.5336	
TOTAL	319		

* $p < .05$

** $p < .001$

ATW Attitude Toward Women
 Sex Responder's Sex
 Blocks Trial Blocks
 Win-Lose Win-Lose Trials

TABLE 5
 Analysis of Variance for Total Number of Verbal Comments
 As a Function of ATW and Sex

Source of Variance	<u>df</u>	<u>MS</u>	<u>F</u>
ATW	1	34.2350	.2403
Sex	1	366.0249	2.5704
ATWxSex	1	540.2249	3.7937*
ERROR	36	142.4011	
TOTAL	39		

* $p < .07$

ATW Attitude Toward Women
 Sex Responder's Sex

TABLE 6
 Analysis of Variance for Aggressive Comments
 As a Function of ATW and Sex

Source of Variance	<u>df</u>	<u>MS</u>	<u>F</u>
ATW	1	78.4000	4.1143*
Sex	1	3.6000	.1889
ATWxSex	1	19.6000	1.0286
ERROR	36	19.0553	
TOTAL	39		

* $p < .05$

ATW Attitude Toward Women
 Sex Responder's Sex

TABLE 7
 Analysis of Variance for Pacifistic Comments
 As a Function of ATW and Sex

Source of Variance	<u>df</u>	<u>MS</u>	<u>F</u>
ATW	1	28.9000	4.6823*
Sex	1	16.9000	2.7381
ATWxSex	1	19.6000	3.1755
ERROR	36	6.1722	
TOTAL	39		

* $p < .05$

ATW Attitude Toward Women
 Sex Responder's Sex

TABLE 8

Analysis of Variance for Competitive Comments

As a Function of ATW and Sex

Source of Variance	<u>df</u>	<u>MS</u>	<u>F</u>
ATW	1	1.2250	.0655
Sex	1	7.2250	.3861
ATWxSex	1	50.6250	2.7052
ERROR	36	18.7137	
TOTAL	39		

ATW Attitude Toward Women
Sex Responder's Sex

TABLE 9

Analysis of Variance for "Concern for Responder"

Comments as a Function of ATW and Sex

Source of Variance	df	MS	F
ATW	1	4.2250	1.5015
Sex	1	.0250	.0089
ATWxSex	1	1.2250	.4353
ERROR	36	2.8139	
TOTAL	39		

ATW Attitude Toward Women
Sex Responder's Sex

Adjusted Standard Deviations

Tests of Significance Using F-Test Criterion and Bonferroni Correction

F	df	MS	F-Test	Bonferroni
1.5015	1	4.2250	0.071	0.071

TABLE 10
 Multivariate and Univariate Analysis of Self Ratings
 As a Function of Sex

Variable	<u>MS</u>	<u>P Less Than</u>	<u>SDFC</u>
Weak	0.225	0.528	1.194
Friendly	0.100	0.717	4.796
Fair	0.225	0.652	-6.184
Destructive	0.225	0.710	-2.330
Predictable	0.000	1.000	-1.155
Brave	0.000	1.000	-0.128
Leader	0.900	0.431	-0.406
Reasonable	0.000	1.000	3.505
Assaultive	4.900	0.155	2.454
Well-Adjusted	0.100	0.709	-2.052
Tense	0.025	0.923	-0.784
Intelligent	0.400	0.303	0.706
Dominant	0.100	0.781	1.882
Sympathetic	0.000	1.000	-1.282
Cooperative	0.900	0.126	-2.191
Attractive	0.900	0.209	1.052
Good	0.400	0.519	-2.947
Small	3.600	0.065	-1.837
Bloodthirsty	3.600	0.139	2.279
Masculine	0.025	0.825	-3.140
Competitive	0.400	0.642	1.354
Good-Humored	0.000	1.000	2.411
Happy	0.225	0.626	0.893
Honest	2.500	0.132	3.693
Aggressive	0.625	0.585	-2.920
Accepting	0.100	0.740	-0.723
Revengeful	0.225	0.794	2.264
Dependent	0.400	0.440	2.569
Sociable	3.025	0.058	-3.563
Kind	0.400	0.542	0.893
Passive	0.225	0.681	2.181

SDFC=Standardized Discriminant Function Coefficient

Tests of Significance Using Wilks Lamda Criterion and Canonical Correlations

<u>F</u>	<u>DFHYP</u>	<u>DFERR</u>	<u>P Less Than</u>	<u>R</u>
3.266	31.000	6.000	0.071	0.972

TABLE 11
 Multivariate and Univariate Analysis of Self Ratings
 As a Function of Sex

Variable	<u>MS</u>	<u>P Less Than</u>	<u>SDFC</u>
Friendly	3.600	0.091	0.303
Fair	0.100	0.675	0.068
Reasonable	0.000	1.000	0.042
Masculine	122.500	0.001	1.008
Honest	0.900	0.243	-0.228
Sociable	0.225	0.708	0.016

SDFC=Standardized Discriminant Function Coefficient

Tests of Significance Using Wilks Lamda Criterion and Canonical Correlations

<u>F</u>	<u>DFHYP</u>	<u>DFERR</u>	<u>P Less Than</u>	<u>R</u>
44.812	6.000	31.000	0.001	0.947

TABLE 12
 Multivariate and Univariate Analysis of Self Ratings
 As a Function of Attitudes

Variable	<u>MS</u>	<u>P Less Than</u>	<u>SDFC</u>
Weak	0.025	0.833	-0.116
Friendly	0.900	0.281	0.732
Fair	0.025	0.880	-0.746
Destructive	11.025	0.013	1.397
Predictable	0.100	0.830	-0.457
Brave	0.000	1.000	1.554
Leader	0.000	1.000	0.542
Reasonable	0.100	0.743	-0.392
Assaultive	6.400	0.106	-0.593
Well-Adjusted	1.600	0.141	2.081
Tense	0.225	0.771	1.050
Intelligent	0.000	1.000	0.925
Dominant	3.600	0.101	0.058
Sympathetic	0.100	0.816	0.879
Cooperative	0.100	0.605	-0.156
Attractive	0.400	0.399	-0.835
Good	1.600	0.201	2.244
Small	1.600	0.213	0.688
Bloodthirsty	8.100	0.029	-1.239
Masculine	0.625	0.272	1.666
Competitive	3.600	0.168	0.430
Good-Humored	0.100	0.723	-0.737
Happy	0.025	0.871	0.095
Honest	0.400	0.541	0.771
Aggressive	4.225	0.160	1.288
Accepting	0.000	1.000	1.892
Revengeful	2.025	0.435	-0.967
Dependent	0.400	0.440	-0.565
Sociable	0.025	0.859	-1.792
Kind	3.600	0.073	0.413
Passive	0.025	0.891	-0.650

SDFC= Standardized Discriminant Function Coefficient

Tests of Significance Using Wilks Lamda Criterion and Canonical Correlations

<u>F</u>	<u>DFHYP</u>	<u>DFERR</u>	<u>P Less Than</u>	<u>R</u>
0.981	31.000	6.000	0.569	0.914

TABLE 13
 Multivariate and Univariate Analysis of Self Ratings
 As a Function of Attitudes and Sex

Variable	<u>MS</u>	<u>P Less Than</u>	<u>SDFC</u>
Weak	0.625	0.295	-0.103
Friendly	1.600	0.153	-3.525
Fair	3.025	0.104	4.350
Destructive	9.025	0.023	1.429
Predictable	8.100	0.060	1.727
Brave	0.400	0.478	-0.978
Leader	2.500	0.192	0.726
Reasonable	0.900	0.328	-2.615
Assaultive	4.900	0.155	-1.681
Well-Adjusted	0.900	0.266	0.478
Tense	1.225	0.499	0.929
Intelligent	0.000	1.000	-0.433
Dominant	0.400	0.578	-1.440
Sympathetic	1.600	0.354	1.900
Cooperative	0.900	0.126	2.063
Attractive	2.500	0.040	-0.552
Good	0.400	0.519	1.504
Small	2.500	0.122	1.517
Bloodthirsty	3.600	0.139	-1.049
Masculine	0.225	0.508	2.751
Competitive	2.500	0.248	-1.858
Good-Humored	0.100	0.723	-1.886
Happy	0.025	0.871	-0.275
Honest	0.900	0.361	-3.245
Aggressive	0.225	0.743	3.034
Accepting	8.100	0.005	1.494
Revengeful	0.625	0.663	-0.955
Dependent	0.000	1.000	-2.004
Sociable	0.625	0.379	1.788
Kind	6.400	0.019	-0.736
Passive	1.225	0.341	-2.075

SDFC= Standardized Discriminant Function Coefficient

Tests of Significance Using Wilks Lamda Criterion and Canonical Correlations

<u>F</u>	<u>DFHYP</u>	<u>DFERR</u>	<u>P Less Than</u>	<u>R</u>
1.553	31.000	6.000	0.306	0.943

TABLE 14
 Multivariate and Univariate Analysis of Responder Ratings
 As a Function of Sex

Variable	<u>MS</u>	<u>P Less Than</u>	<u>SDFC</u>
Weak	2.500	0.074	3.546
Friendly	3.600	0.091	-0.937
Fair	0.100	0.675	0.628
Destructive	0.900	0.403	0.037
Predictable	2.500	0.118	1.036
Brave	0.100	0.783	0.564
Leader	0.225	0.737	3.774
Reasonable	0.000	1.000	-3.507
Assaultive	1.600	0.353	-1.156
Well-Adjusted	0.900	0.337	-2.276
Tense	1.600	0.458	-0.828
Intelligent	0.625	0.370	1.321
Dominant	0.225	0.685	-0.606
Sympathetic	0.225	0.628	-2.144
Cooperative	0.100	0.758	2.330
Attractive	2.025	0.223	2.233
Good	1.600	0.157	-1.745
Small	12.100	0.001	-2.119
Bloodthirsty	1.225	0.231	-2.541
Masculine	122.500	0.001	-1.226
Competitive	7.225	0.045	-2.551
Good-Humored	0.400	0.553	3.139
Happy	0.025	0.889	1.589
Honest	0.900	0.243	1.311
Aggressive	2.500	0.180	-0.689
Accepting	1.600	0.237	-3.025
Revengeful	1.225	0.395	1.589
Dependent	1.225	0.397	-1.408
Sociable	0.225	0.708	4.244
Kind	1.225	0.222	-2.784
Passive	0.025	0.889	-3.177

SDFC= Standardized Discriminant Function Coefficient

Tests of Significance Using Wilks Lamda Criterion and Canonical Correlations

<u>F</u>	<u>DFHYP</u>	<u>DFERR</u>	<u>P Less Than</u>	<u>R</u>
8.693	31.000	6.000	0.006	0.989

TABLE 15
 Multivariate and Univariate Analysis of Responder Ratings
 As a Function of Attitudes and Sex

Variable	<u>MS</u>	<u>P Less Than</u>	<u>SDFC</u>
Weak	0.900	0.277	5.071
Friendly	0.400	0.566	-1.325
Fair	0.100	0.675	2.336
Destructive	0.900	0.403	-1.240
Predictable	0.400	0.525	2.800
Brave	0.000	1.000	-0.871
Leader	3.025	0.223	5.473
Reasonable	2.500	0.074	-5.876
Assaultive	4.900	0.108	-3.666
Well-Adjusted	1.600	0.203	-1.394
Tense	0.400	0.710	-2.463
Intelligent	2.025	0.111	1.235
Dominant	0.025	0.892	-1.165
Sympathetic	4.225	0.041	-3.247
Cooperative	0.097	0.100	2.802
Attractive	0.625	0.496	4.416
Good	0.000	1.000	-2.332
Small	0.400	0.503	-4.088
Bloodthirsty	0.625	0.390	-4.092
Masculine	0.000	1.000	-0.248
Competitive	0.025	0.904	-3.776
Good-Humored	0.900	0.375	3.827
Happy	0.025	0.889	3.138
Honest	0.000	1.000	0.573
Aggressive	0.900	0.418	-1.551
Accepting	2.500	0.141	-3.394
Revengeful	1.225	0.395	1.698
Dependent	2.025	0.278	-2.591
Sociable	0.225	0.708	6.579
Kind	0.225	0.597	-3.302
Passive	1.225	0.331	-5.107

SDFC= Standardized Discriminant Function Coefficient

Tests of Significance Using Wilks Lamda Criterion and Canonical Correlations

<u>F</u>	<u>DFHYP</u>	<u>DFERR</u>	<u>P Less Than</u>	<u>R</u>
3.875	31.000	6.000	0.048	0.976

TABLE 16
 Multivariate and Univariate Analysis of Responder Ratings
 As a Function of Sex

Variable	<u>MS</u>	<u>P Less Than</u>	<u>SDFC</u>
Weak	3.018	0.050	1.142
Leader	0.282	0.711	0.523
Reasonable	0.021	0.869	-0.181
Well-Adjusted	0.615	0.429	-0.799
Sympathetic	0.291	0.587	-0.567
Cooperative	0.125	0.733	0.728
Attractive	1.821	0.254	0.166
Small	12.368	0.001	0.127
Bloodthirsty	0.876	0.311	-0.319
Competitive	7.374	0.046	-0.874
Good-Humored	0.642	0.455	0.364
Accepting	1.665	0.234	-0.759
Sociable	0.359	0.639	0.601
Kind	0.990	0.275	-0.441
Passive	0.002	0.971	-0.336

SDFC= Standardized Discriminant Function Coefficient

Tests of Significance Using Wilks Lamda Criterion and Canonical Correlations

<u>F</u>	<u>DFHYP</u>	<u>DFERR</u>	<u>P Less Than</u>	<u>R</u>
1.980	15.000	21.000	0.074	0.765

TABLE 17
 Multivariate and Univariate Analysis of Responder Ratings
 As a Function of Attitudes and Sex

Variable	<u>MS</u>	<u>P Less Than</u>	<u>SDFC</u>
Weak	0.900	0.277	0.755
Leader	3.025	0.223	0.231
Reasonable	2.500	0.074	-0.763
Assaultive	4.900	0.108	-1.320
Sympathetic	4.225	0.041	-0.772
Attractive	0.625	0.496	0.444
Small	0.400	0.503	-0.663
Bloodthirsty	0.625	0.390	-1.120
Competitive	0.025	0.904	-0.540
Good-Humored	0.900	0.375	0.870
Happy	0.025	0.889	0.525
Accepting	2.500	0.141	-0.562
Sociable	0.225	0.708	1.360
Kind	0.225	0.597	-0.566
Passive	1.225	0.331	-0.778

SDFC= Standardized Discriminant Function Coefficient

Tests of Significance Using Wilks Lamda Criterion and Canonical Correlations

<u>F</u>	<u>DFHYP</u>	<u>DFERR</u>	<u>P Less Than</u>	<u>R</u>
1.218	15.000	22.000	0.329	0.674

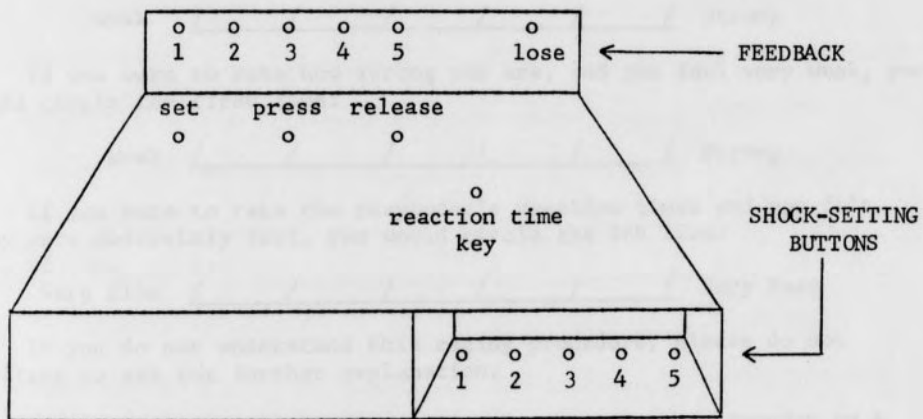
APPENDIX D
 TABLE 18
 Analysis of Variance for Altruistic Behavior
 As a Function of ATW and Sex

Source of Variance	<u>df</u>	<u>MS</u>	<u>F</u>
ATW	1	1.2250	.5219
Sex	1	.2250	.0959
ATWxSex	1	.0250	.0107
ERROR	36	2.3472	
TOTAL	39		

ATW Attitude Toward Women
 Sex Responder's Sex

APPENDIX C
INSTIGATION PARADIGM

ADVISOR → RESPONDER → RT ← RESPONDER ← ADVISOR
(subject) (confederate) TASK (E-programmed opponents)



TASK BOARD

APPENDIX D

Advisor's Reaction Time Questionnaire

On a number of questions, you will be asked to indicate on a 6-point scale the extent to which you feel something is true. The scale will look like this.

_____ / _____ / _____ / _____ / _____ / _____

You are to circle the line which most represents how you feel.

For example, if you are asked to rate how strong you think the responder is, and you felt he was very strong, you would circle the 6th line.

Weak _____ / _____ / _____ / _____ / _____ / _____ Strong

If you were to rate how strong you are, and you feel very weak, you would circle the first line:

Weak _____ / _____ / _____ / _____ / _____ / _____ Strong

If you were to rate the responder's reaction times and you felt they were moderately fast, you would circle the 5th line:

Very Slow _____ / _____ / _____ / _____ / _____ / _____ Very Fast

If you do not understand this rating procedure, please do not hesitate to ask for further explanation.

In terms of this brief encounter, please rate the responder on a 6-point scale on the following characteristics:

Weak _____ / _____ / _____ / _____ / _____ / _____ Strong

Friendly _____ / _____ / _____ / _____ / _____ / _____ Unfriendly

Fair _____ / _____ / _____ / _____ / _____ / _____ Unfair

Destructive _____ / _____ / _____ / _____ / _____ / _____ Nondestructive

Brave _____ / _____ / _____ / _____ / _____ / _____ Cowardly

A Leader _____ / _____ / _____ / _____ / _____ / _____ A Follower

Reasonable _____ / _____ / _____ / _____ / _____ / _____ Unreasonable

Nonassaultive _____ / _____ / _____ / _____ / _____ / _____ Assaultive

Maladjusted	/ / / / / / /	Well-Adjusted
Tense	/ / / / / / /	Relaxed
Ignorant	/ / / / / / /	Intelligent
Dominant	/ / / / / / /	Submissive
Sympathetic	/ / / / / / /	Unsympathetic
Cooperative	/ / / / / / /	Uncooperative
Attractive	/ / / / / / /	Ugly
Bad	/ / / / / / /	Good
Small	/ / / / / / /	Large
Bloodthirsty	/ / / / / / /	Nonbloodthirsty
Masculine	/ / / / / / /	Feminine
Competitive	/ / / / / / /	Noncompetitive
Ill-Humored	/ / / / / / /	Good-Humored
Happy	/ / / / / / /	Sad
Honest	/ / / / / / /	Deceitful
Aggressive	/ / / / / / /	Nonaggressive
Accepting	/ / / / / / /	Rejecting
Revengeful	/ / / / / / /	Nonrevengeful
Independent	/ / / / / / /	Dependent
Sociable	/ / / / / / /	Unsociable
Cruel	/ / / / / / /	Kind
Active	/ / / / / / /	Passive

Please rate yourself as you felt at the end of the experiment on a 6-point scale on the following characteristics:

Weak	/ / / / / / /	Strong
Friendly	/ / / / / / /	Unfriendly

Sociable / / / / / / / Unsociable
 Cruel / / / / / / / Kind
 Active / / / / / / / Passive

Please describe what type of opponent your responder was competing with.

Do you believe your responder would have had slower reaction times if you had not been present? Please check one. ___Yes ___No

Rate to what extent you think the following factors influenced the responder's reaction times, i.e., made his reaction time faster or slower:

Winning: Slower / / / / / / / Faster

Losing: Slower / / / / / / / Faster

Receiving a high shock:

Slower / / / / / / / Faster

How effective an advisor do you think you were?

Very Effective / / / / / / / Very Ineffective

What do you think was most responsible for this degree of effectiveness?

What do you think would contribute most to making someone a good advisor in this experiment?

If you were to be in this experiment again, which would you prefer to be?

___ Responder ___ Advisor

Did the shocks seem to bother the responder?

Yes, a great deal / / / / / / / No, not at all

Did it bother you to watch the responder receive a shock?

Yes, a great deal / / / / / / / No, not at all

How well do you think you and your responder got along?

Very well / / / / / / / / Not at all well

Would you like to be with the responder in this experiment again?

Very much / / / / / / / / Not at all

Would you like to get to know the responder better?

Very much / / / / / / / / Not at all

Did you enjoy this experiment?

Yes, a great deal / / / / / / / / No, not at all

Briefly describe the strategy you used in suggesting which shock intensities ought to be set.

Did you know or hear anything about this experiment? Please explain.

THANK YOU FOR YOUR COOPERATION

APPENDIX E

Shock Threshold Instructions

"The following instructions are for the responder:

'I am going to give you a series of shocks, beginning with an extremely weak one and working up in gradual steps to a point where you feel that it is quite unpleasant. When the first shock is presented to you, it will be so weak that you probably will not feel it. When you do first feel it, it will be like a tingling, similar to the sensation you have when your arm falls asleep. Next it will be a sort of vibration, and your hand may involuntarily move or close a little bit. This is a normal reaction. The next stage feels like a deep jab under the skin, and is what we call pain. I want you to tell me when the intensity of the shock reaches a point where it feels definitely unpleasant, but not yet painful. I will be able to hear you, and you will be able to hear me through this intercom.'"

APPENDIX F

Task Instructions

"The following instructions are for the Responder:

'The purpose of this experiment is to determine the effects of competition on the speed with which a finger can be pulled off a reaction time key. Two responders, situated in separate rooms, are participating in this experiment. Both of you have the same apparatus in front of you and the same task to perform.

'You are to depress the reaction time key and hold it down when you see the press light go on. At some interval after this light goes on, the amber light behind the reaction time key will go on. You are both to remove your fingers from the reaction time key as fast as you can when the amber signal light goes on. Of course you will both receive the amber signal at the same time. The object of each trial is to get your finger off as fast as possible in order to beat your competitor. The person who does not get his finger off in the shortest time, that is, the person with the slower reaction time, will receive a shock.

'There are five different intensities of shock one can get if one has the slower reaction time. The degree of shock one actually gets depends on the degree of shock the competitor chose to store in the apparatus before the trial began.

'Before each trial, when you see the set light go on, you will immediately set the amount of shock you wish your opponent to get if you should be faster on the coming trial. You will do this by pressing

one of five buttons. These buttons are situated to your right. The one button, corresponds to the least intense shock, the five button, to the most intense shock. After you set the amount of shock you wish your opponent to receive on the coming trial, the actual trial will begin. You will see the press light and are to depress the reaction time key. At some interval after the actual response, you will find out whether you were faster or slower than your competitor on that particular trial. The slower person will get a shock of the intensity that was chosen by his competitor. The faster person will not receive the shock which was set for him by the other person.

'You will be able to tell how much shock the other person had set for you in two ways. First by the intensity of the shock which you actually feel, and second by which of the five red lights on your panel flashes. As you can see, there are five red lights, one for each level of shock. The light on the left indicates the least intense shock, the lights to the right indicate increasing levels of shock, and the light on the right indicates the most intense shock. The white light on the extreme right will flash each time you lose.

'The slower person on a particular trial will receive the shock and see the light corresponding to the intensity set by the other person before the trial. The faster person will not receive a shock, but will still be able to tell what the other person had set for him, by observing which red light flashes. The maximum shock you can receive, that is the number five, will correspond to the shock level you judged most unpleasant in the preliminary trials. The others will be percentages of this.'

"The following instructions are for the Advisor:

'Each responder in this experiment has an advisor. The responder is to concentrate only on having the fastest reaction time possible. We do not want him to be distracted by other aspects of the experiment. Therefore, your task will be to suggest to the responder which shock button to set. That is, when the set light comes on, you are to advise the responder of what button you think he should press. It is important that you make a suggestion on each trial immediately after the set light comes on. The sound of your voice will trigger a mechanism which permits the trial to continue.'

"To summarize for all subjects:

'When the set light comes on the advisor is to suggest to the responder the level of shock to set. The responder is then to set one of the shock buttons. When the press light goes on the responder is to depress the reaction time key and hold it down until the amber release light flashes, at which time he is to remove his finger from the reaction key as fast as possible. The slower responder on that trial will receive the shock and see the light corresponding to the level of shock set by the competitors. The faster responder will not receive the shock, but will see the light corresponding to the level his competitors had set for him. It is important that both advisors advise the responders as soon as the set light goes on, and that the responders set a level of shock immediately after being advised and respond to the amber light as fast as possible.'"

APPENDIX G

Shock Sequences (Increasing Provocation)

Trial	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
1	1	+1	+1	1	+1	1	+1	1	+1	1
2	+1	1	1	1	1	+1	+1	+1	+1	+1
3	+1	+1	1	+1	1	1	1	1	1	+1
4	1	1	+1	+1	+1	+1	1	+1	1	1
5	+1	+1	+2	2	+1	+1	+2	2	1	2
6	+2	2	1	+1	+2	1	+2	+1	+2	1
7	1	1	+2	+2	1	2	1	1	2	+2
8	+2	+2	+1	1	+2	+2	1	+2	1	+1
9	1	+2	1	+2	1	1	2	+2	+2	1
10	2	1	2	1	2	+2	+1	1	+1	+2
11	+3	+2	3	2	+3	+3	+3	+2	+3	+2
12	2	3	+3	3	2	3	2	3	2	2
13	+3	2	2	+3	2	+2	+2	+3	+3	+3
14	+2	+3	+2	2	+3	+3	3	2	3	2
15	2	2	+3	+2	3	2	+3	2	+2	+2
16	3	+3	2	+3	+2	2	2	+3	2	+3
17	3	+3	+4	3	+3	+3	4	+4	4	4
18	+4	4	+4	+4	+4	3	+3	4	3	+3
19	+3	3	3	4	3	+4	3	3	+3	+4
20	4	+4	4	+3	3	4	+4	3	+4	3
21	+4	+4	+3	+4	4	3	+4	+4	3	3
22	3	3	3	3	+4	+4	3	+3	+4	+4
23	+4	+4	+4	+5	+5	4	+5	+5	4	+5
24	5	4	4	4	4	+5	4	+5	+5	+5
25	4	+5	+5	+4	+4	4	5	4	4	+4
26	+5	+5	4	+5	5	+4	+4	+4	+5	4
27	+5	4	+5	4	+5	+5	+5	5	+4	+5
28	4	5	4	5	4	5	4	4	5	4
29	4	4	4	4	4	5	5	5	5	5

+ = Lose Trial