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By Sara Beth Kiesler, B.S., M.A.

The Ohio State University
1965

Approved by

[Signature]
Adviser
Department of Psychology
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VITA

September 20, 1940    Born - Washington, D. C.

1961 ............... B.S., Simmons College, Boston, Massachusetts

1959-1963 ........ Research Assistant, National Institute of Mental Health, Bethesda, Maryland; Massachusetts Mental Health Center, Boston, Massachusetts; Stanford University, Stanford, California

1961-1962 ........ Woodrow Wilson Fellow, Stanford University, Stanford, California

1962-1963 ........ Public Health Service Pre-doctoral Fellow, Stanford University, Stanford, California

1963 ............... Teaching Assistant, Stanford University, Stanford, California

1963 ............... M.A., Stanford University, Stanford, California

1963-1964 ........ Research Assistant, The Ohio State University, Columbus, Ohio

1964-1965 ........ Public Health Service Pre-doctoral Fellow, The Ohio State University, Columbus, Ohio

1965-1966 ........ Assistant Professor, Yale University, New Haven, Connecticut

PUBLICATIONS


FIELDS OF STUDY

Major Field: Psychology

Social Psychology
## CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td></td>
</tr>
<tr>
<td>APPENDIX A</td>
<td></td>
</tr>
<tr>
<td>APPENDIX B</td>
<td></td>
</tr>
<tr>
<td>APPENDIX C</td>
<td></td>
</tr>
<tr>
<td>APPENDIX D</td>
<td></td>
</tr>
<tr>
<td>APPENDIX E</td>
<td></td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td></td>
</tr>
</tbody>
</table>

**CHAPTER I**

- Introduction .......................... 1

**CHAPTER II**

- Method .................................. 6
  - Procedure .............................. 7
  - Dependent variable .................. 10
  - Subjects ............................... 11

**CHAPTER III**

- Results .............................. 12
  - Effectiveness of the manipulation .. 12
  - Changes in attraction .............. 12
  - Written communications between subjects 16
  - Other measures and alternative explanations 16

**CHAPTER IV**

- Discussion ............................ 18

**APPENDIX A**

- Definition and Measurement of Gratitude .. 22

**APPENDIX B**

- The Consensual Validation Approach ........ 26

**APPENDIX C**

- Pre- and Post-Questionnaires ............. 28

**APPENDIX D**

- Presentation of Data from the Experiment ... 33

**APPENDIX E**

- Experiment on the Effect of Predictability on Liking ......................... 38

**BIBLIOGRAPHY** .......................... 47
### TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>Description</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Mean changes in attraction as a function of cooperation-competition and sharing behavior of the partner.</td>
<td>13</td>
</tr>
<tr>
<td>2.</td>
<td>Pretest attraction scores</td>
<td>33</td>
</tr>
<tr>
<td>3.</td>
<td>Analysis of variance of pretest scores</td>
<td>33</td>
</tr>
<tr>
<td>4.</td>
<td>Mean scores on cooperation-competition manipulation check</td>
<td>34</td>
</tr>
<tr>
<td>5.</td>
<td>Analysis of variance of scores on cooperation-competition manipulation check</td>
<td>34</td>
</tr>
<tr>
<td>6.</td>
<td>Analysis of variance of changes in attraction to the partner - all conditions</td>
<td>35</td>
</tr>
<tr>
<td>7.</td>
<td>Analysis of variance of scores for Cooperation vs. Competition and Own Share vs. No Share</td>
<td>35</td>
</tr>
<tr>
<td>8.</td>
<td>Analysis of variance of scores for Cooperation vs. Competition and Induced Share vs. No Share</td>
<td>36</td>
</tr>
<tr>
<td>9.</td>
<td>Analysis of variance for Cooperation vs. Competition and Own Share vs. Induced Share</td>
<td>36</td>
</tr>
<tr>
<td>10.</td>
<td>Mean attraction scores for Own Share conditions</td>
<td>37</td>
</tr>
<tr>
<td>11.</td>
<td>Number of subjects voting for more predictable candidate</td>
<td>44</td>
</tr>
</tbody>
</table>
CHAPTER I
Introduction

When we do a favor for someone, we ordinarily expect reciprocation, or, at least, gratitude from the recipient. But often we encounter resentment instead, as, for example, the well-known reactions to U.S. foreign aid programs in some countries. In fact, there may be many situations in which a person will be liked better if he refrains from favor-doing, even though the favor is intrinsically pleasant or helpful.\(^1\) Negative reactions to a favor may occur whenever favor-doing defies convention or is not in accord with role requirements, since, for reasons to be discussed, persons like others who act consistently with their roles and with norms. Hence, whether or not the attractiveness of a potential favor-doer increases should depend not only on whether or not he does the favor, or on how pleasant the favor is, but also on whether doing a favor or not in that situation is appropriate or inappropriate.\(^2\)

---

\(^1\)In this study a favor is defined as an act which, if considered alone, is beneficial, pleasant or of assistance to another. The favorable aspects of the favor are culturally defined, i.e., would be considered by a majority of others to be good or helpful, providing other aspects of the situation were unknown. Hence, favor is not defined in terms of the effect on a recipient, or in terms of necessary consequences, for example, gratitude, since individual recipients of a favor may react to other aspects of the situation as well as the favor, itself, e.g., intentions of the actor, appropriateness of the act, obligations, etc.

\(^2\)See Appendix A for a fuller treatment of the definition of gratitude and its context in interpersonal attraction.
A more general formulation of the above reasoning is that acts elicit liking for the actor to the extent that the acts are in accord with perceived role requirements or norms. But it is of particular interest to consider the subclass of acts, favors, because a favor involves another source of elicited liking, namely, the intrinsic value or pleasure-giving properties of the favor itself. For example, what happens when a presumably valuable favor is not in accord with perceived role requirements? Several derivations are possible, for example, the more the situation "demands" not doing a favor, or conversely the greater the magnitude of an inappropriate favor, the less the attraction to the favor-doer. In the present study, the experimental design examined the effects on attraction of one magnitude of favor, committed or omitted, and in accord, or not, with perceived role requirements. It was hypothesized that when performing favors is in accord with role requirements and norms attraction will be greater than when it is not, and that when withholding favors is in accord with roles and norms, attraction will be greater than when it is not.

However, the hypothesized positive effect of an appropriate favor on attractiveness of the favor-doer (and negative effect of an inappropriate favor) cannot be rigorously derived from extant theories. For example, contrary to the hypothesis, Thibaut and Kelley's (1959) exchange theory predicts that the greater the "gain" one receives from another, the greater the attraction to him.\(^3\) Nevertheless, one can also marshall

---

\(^3\)Homans (1961) is another principle exponent of this approach. Both theories are similar but Thibaut and Kelley's is utilized here since it is presented in more detail and with more experimental support. Also, the "consensual validation" approach might be considered relevant by some. For a treatment of this approach and its possible relevance, see Appendix B.
supporting arguments for the present hypothesis from exchange theory. The theory assumes that incompatible behavior by another (as when A's laughing interrupts B's performance on a task) reduces gains and hence liking. Norms are presumably set up to prevent such "interference." Therefore, one could predict that A's favor-doing behavior which violates norms raises the probability that interference will occur, that gains will be reduced, and that attraction will be lower, even though the favor itself is intrinsically a source of gain.4

Goffman's (1959) notions suggest a different basis for the hypothesis. Goffman holds that persons create norms ("agreements") so that they can agree on the definition of the situation, enabling them to predict and control each other. Counter-normative behavior forces others to relinquish their definition of the situation whereupon they are less able to predict or control the offender. The result is hostility toward him. Hence, one could conclude that any favor (or withheld favor) which violated norms would force the recipient to give up his present definition of the situation and hence would decrease his attraction to the favor-doer.

Another possibly relevant framework is Carlsmith and Aronson's (1963) expectancy theory which predicts that when a person expects event X and event Y occurs, dissonance will occur, whereupon the person will judge Y as less pleasant than if he had expected Y. Generalizing from their data, when a person clearly expects no favor, and a favor is offered, it will be judged as less pleasant than if the favor were clearly expected. Further, one might predict that if the favor were difficult to devalue (as in the case of a needed gift of money), the favor-doer would

4In addition, we could predict that if the favor (reward) were less than what one expected, attraction would be lessened, since outcomes would be less than the comparison level. See the text for a discussion of expectancy theory.
be less liked (judged less pleasant) as an alternative expression of dissonance reduction. With regard to the present hypothesis, then, expectancy theory makes the same prediction assuming norms or roles create clear expectancies about whether or not favors will be performed. However, this is not always the case. For instance, there are many roles where favors are appropriate but not necessarily expected at any one point in time, as when giving a "surprise" birthday party for her child is in accord with a mother's role though the party is not a clearly expected event.

Although the above theories suggest that the present hypothesis has some validity, there are as yet no data to support it directly. In real life it is difficult to separate the pleasantness of favors from their appropriateness.

Furthermore, in the only other study of favor-doing (Brehm and Cole, In Press) the effect of violations of situational norms was not examined. The Brehm and Cole study was designed to show that when a favor reduces a person's freedom, it arouses "psychological reactance," motivation to restore the lost freedom. Subjects made first impression ratings of a confederate, the ratings being given high or low importance, and the confederate either doing a favor or not. The study is of interest here in that no changes in attraction were found in response to a favor. It was found, however, that returning a favor depended on whether it was important to be free from incidental influence when judging the favor-doer. Presumably, the favor reduced S's freedom to judge only according to relevant information, and not returning the favor was motivated by pressure to restore the lost freedom. In view of the theory, it is not only surprising that favor-doers were not liked more than those who did no favor, but also that favor-doers who "reduced freedom" when it was important
were not liked less than those doing favors when "freedom" was less important. At any rate, the Brehm and Cole study left undetermined the empirical realm within which the hypothesized effects of appropriate and inappropriate favors on attraction can be made to occur.

The present experiment examined the effect on a recipient of receiving or of not receiving a favor, when favors or non-favors were in accord or not with prior role prescriptions. According to the hypothesis, favors or non-favors in accord with role prescriptions should engender greater attraction. In addition, a previous study by Thibaut and Riecken (1955) suggested a third variation in the experiment. These authors found that compliance with a subject's requests resulted in greater attraction if S perceived that it was done out of "internal causality" (because the other really wanted to do it) rather than because of external pressure. Hence, in the present experiment the recipient's perception of the favor-doer's motivation, internal vs. external, was varied: the favor-doer did the favor on his own, or because he was induced to do so by E. It was expected that the effect of favor-doing on positive or negative changes in attraction would be greater in the former condition.
CHAPTER II

Method

The hypothesis was tested by having pairs of male high-school students participate in a "contest" in which they could win money by playing a word game. The experimental instructions were directed at intensifying widely shared norms pertaining to cooperation and competition. Half of the S's were induced to enact strongly cooperative roles and half were induced to enact strongly competition roles. Cross-cutting this manipulation was the favor-no favor variation: after $S$ failed to win much money in the game his partner either shared his winnings or indicated that he would not share his winnings. It was assumed that sharing of money in our culture is more in accord with cooperative role enactment than with competitive role enactment, whereas not sharing one's winnings is more in accord with competitive role enactment. It was predicted that attraction to a sharer would be greater when $S$s had been induced to cooperate rather than compete, and to a non-sharer when $S$s had been induced to compete rather than cooperate.

To vary the partner's ostensive motive for sharing, half of the partners ostensibly shared of their own accord and half because the experimenter requested that they do so.\(^1\) In all, the design included two role enactment conditions (Cooperation and Competition) and three favor conditions (Own Share, Induced Share, and No Share).

\(^1\)The same variation was not replicated within the No Share conditions because it would have been implausible.
Procedure

Previously unacquainted male Ss were brought in pairs to the experimental room and seated in separate cubicles. A short "conversation" was stimulated by the E to provide a basis for obtaining a pre-measure of attraction to the partner. Ss were then told that a study was being done on cooperation or competition, depending on their experimental condition, and instructed not to talk.\(^2\)

Cooperation-competition manipulation. The cooperation-competition manipulation was then introduced. Instead of delineating all the implications of the competition or cooperation roles to which Ss were assigned, the manipulations merely capitalized on what the students already knew about competing or cooperating by redundant stressing of the key words associated with the two roles and by arrangement of how money could be won. Cooperation condition Ss were told:

In order to get you to do your very best, and to make sure you really cooperate, we are going to give you a chance to win some money. You will have a chance to come here twice to try to win the money. [Ss actually came only once; the instruction was designed to create greater importance of the partner's behavior.] Both times you will be doing exactly the same thing. You two are now partners and you must try your best to cooperate as a team. Your team will pick up points as you play the game...Each point wins you money. The team that wins the most money during the two sessions here will win an extra prize of $20 which you can divide. The most money you can win in the two sessions here is $10, $5 today and $5 the next time. So you can see that of all the teams, the one that gets closest to $10 in the two sessions here will win an extra $20 to keep...Each of you will also be able to keep the money that you win for your team. So if one

\(^2\)Ss were seated side by side at a table with a wooden partition between and in front of them so that they could not see their partner or the experimenter, who sat opposite the Ss. An 18" by 6" opening at the bottom of each S's front partition enabled E to see what Ss were doing and allowed messages to pass.
person today wins 40¢ for the team he can keep the 40¢ and it will count towards the big prize of $20. To win this, you have to cooperate with your buddy here. The more you win the better off the team is towards the prize and the more he wins the better off you are.

Thus, although Ss were ostensibly competing with other teams they were cooperating with each other. All Ss understood this. Competition condition Ss were introduced to the experiment similarly, substituting the word "competing" for "cooperating." The experimenter continued as follows:

...You two are now competitors and you must try your best to beat each other in the game. Each of you will pick up points as you play the game I'm going to explain...Each point wins you money. The guy out of all the players who wins the most money during the two sessions here will win an extra prize of $10, which he can keep. The most money you can win in the two sessions here is $10, $5 today and $5 the next time...Each of you will be able to keep the money you win for yourself. So if one person today wins 40¢ by himself then he can keep the 40¢ and it will also count towards the big prize. Now remember that in order to win the money in the two sessions and to win the big prize you have to beat out your partner and really compete with him. There is only $5 that can be won today and $5 the next time so every time he gets a point you lose out. The more you win, the better off you are now and the closer you are to the big prize; the more your competitor wins the worse off you are.

Thus, despite different instructional sets, all Ss played the game under the same financial conditions. Aside from the stressing of role-associated words, the only difference between conditions was that in the Cooperation condition it would not be as bad for the partner to win money as in the Competition condition, since his gains could help S towards the "big prize."

Subjects played the word game individually using Scribbage³ cubes

³The game of Scribbage is manufactured by the E. S. Lowe Company, Inc., New York 10, N. Y. and can be purchased at any toy store.
(on which letters are printed) to make as many words as possible in each of ten one-minute trails. The Ss were told that winning depended upon their being able to make long and unusual words with the letters that were spilled out of the cup each trial. This made their losing plausible since it was difficult to make anything but short, common words. As the game progressed, the E scored the lists of words turned in after each trial, gave back colored chips to represent Ss' winnings, and announced the total amount won on the previous trial.

Subjects were made aware that they were losing throughout the game. First when the E announced the total amount won for each trial, it was obvious that the partner had won a great deal more. In addition, S received only white (1¢) and blue (5¢) chips, instead of yellow (10¢) and red (25¢) chips. After the fifth trial, Ss exchanged chips for money, receiving 23¢.

**Sharing manipulation.** After the fifth trial the E said, "Now before we go on I'm going to pass you some envelopes. You may want to say something to your partner...if you have time and want to pass him a message, write it down on one of your sheets, put it in an envelope, and pass it to me. Then I will pass it to him." These instructions were given to prepare the Ss for a note from their partner. The Ss were involved immediately in continuation of the game so they would not have a chance to write a note at this point.

After the tenth trial the E told the Ss that they had together won $3.96, one person winning 51¢ and the other, $3.45. Then giving an excuse that she "had to get organized" the E loudly shuffled papers while

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4 There were thirteen dice in each cup. Ss were not allowed to use blanks. After each word was formed, Ss wrote it down on a sheet of paper. A new sheet of paper was used for each trial.
she passed envelopes, ostensibly from the partner, to Ss in the Own Share and No Share conditions.

Own Share Ss received an envelope containing a large number of red and yellow chips and a note reading, "We're in this together so I think that we should split. I think this is about right - it gives us each $1.98." The No Share envelopes contained only a note reading, "I thought about sharing my winnings but I don't think I should."

The subjects in the Induced Share condition were passed no envelope; instead the E said, "You know it's really unusual for one person to win so much more. Sometimes one person is just lucky and gets good letters. Now I know that giving your money away isn't pleasant, but I think you should share the winnings, so this time that's what we are going to do. If the winner is really against it he can send me a note...O.K., you'll split."

Dependent variable

Before the chips were finally exchanged for money Ss completed the post-questionnaire. On both pre- and post-questionnaires Ss were asked six questions measuring their attraction to the partner (c.f., Jones and deCharms, 1957, Thibaut and Riecken, 1955): (1) Is he good natured or irritable?, (2) Is he likeable or obnoxious?, (3) Is he considerate of others or inconsiderate?, (4) Is he modest or a braggart?, (5) Is he dependable or undependable?, (6) Is he easy to get along with or hard to get along with? The subjects answered by marking an appropriately labeled 32-point scale. For example, the first scale was labeled "very irritable," "fairly irritable," "fairly good-natured," and "very good natured." The subjects were also asked to rate their best friend
on the same scales, in order to provide an anchor. The dependent variable was the pre-post change in attraction to the partner.

Several other questions were included in the post-questionnaire to check on the effectiveness of the manipulations and to generate further information about the experiment. Filler items served to reduce suspiciousness and Ss' memory of how they had filled out the pre-questionnaire.

After completing the post-questionnaire, all Ss were paid $2, the experiment was explained thoroughly, and Ss were sworn to secrecy. There was no evidence that secrecy was not maintained.

**Subjects**

Subjects were 170 male students enrolled at the Guilford High School in Connecticut, randomly chosen from the 9th through 12th grades. The high school counselor attempted to pair Ss from adjacent grades who were not friends, but E routinely checked for friendship and as a result, 19 Ss were discarded from the experiment. In addition, 2 Ss were discarded for failing to complete the questionnaires, 2 for not reading the share note, 2 for not understanding the experiment (retarded), and 8 for suspiciousness. Seventeen Ss refused to accept the favor from their partners. Their data, presented later, were not included in the main analyses because they failed to meet the requirements of the Share conditions. This left 120 Ss, 20 in each condition.

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5Forcing the subjects to compare the relatively unknown partner to their best friend had two main purposes: (1) initial ratings of the partner would be lower (pilot work on a previous study indicated that Ss tend to rate even strangers on the more favorable end of the scale) so that there would be more room for change in a positive direction, and (2) ratings would become more reliable since Ss would be forced to think about the partner in the context of more long-term relationships instead of just in the context of momentary feelings about one person.

6See Appendix C.
CHAPTER III
Results

Effectiveness of the manipulations

An analysis of variance was performed on scores from an item on which Ss checked one of the following statements: we competed a lot (scored 1), we competed a little, we cooperated a little, we cooperated a lot (scored 4). The analysis showed that the cooperation-competition manipulation was successful. The Ss in the Cooperation conditions perceived that they worked with greater cooperation than did the Ss in the Competition conditions ($F=10.13$, $df=1,109$, $p=.001$).

Changes in attraction

Before-after change scores from the six items measuring attraction to the partner were combined. An analysis of variance on the pretest scores showed no significant effects; also, an $F_{\text{max}}$ test on the change scores proved the assumption of homogeneity of variance to be warranted. The change score data are presented in Table 1.\(^1\)

\[^1\]For other tabular data, see Appendix D.
Table 1

Mean changes in attraction as a function of cooperation-competition and sharing behavior of the partner.a

<table>
<thead>
<tr>
<th>Role Enactment</th>
<th>Partner's Behavior</th>
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</tr>
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<tbody>
<tr>
<td></td>
<td>Own Share</td>
<td>Induced Share</td>
<td>No Share</td>
</tr>
<tr>
<td>Cooperation</td>
<td>17.70</td>
<td>17.05</td>
<td>1.65</td>
</tr>
<tr>
<td></td>
<td>s=18.77</td>
<td>s=18.71</td>
<td>s=16.02</td>
</tr>
<tr>
<td>Competition</td>
<td>14.80</td>
<td>9.40</td>
<td>17.75</td>
</tr>
<tr>
<td></td>
<td>s=20.44</td>
<td>s=18.53</td>
<td>s=21.38</td>
</tr>
</tbody>
</table>

aN=20 in each condition. The higher the mean, the greater the increase in attraction to the partner.

The hypothesis -that there would be a greater increase in attraction for a partner doing a favor under cooperation than under competition and a greater increase in attraction for a partner not doing a favor under competition than cooperation- was evaluated by examining the interaction between the Cooperation-Competition variable and the Share (both Own and Induced)-No Share variable. When Own Share was paired with No Share the obtained interaction, $F = 4.87$, yielded a $p < .05$ with 1 and 76 degrees of freedom; pairing Induced Share with No Share yielded an interaction, $F=8.01$, that was significant beyond the .01 level (df=1,76). These outcomes supported the hypothesis.

An individual comparison of the No Share data showed that there was a greater increase in attraction under competition than cooperation ($t=2.68$, df=38, $p < .02$, two-tailed), further supporting the hypothesis.

Analyses of the Share data yielded no differential effect of Own Share vs. Induced Share. Further, although the means were in the pre-
dicted direction, the difference between cooperation and competition under either share condition did not reach an acceptable level of significance ($F=1.52$ for main effect).

Although there are a number of possible explanations for the insignificance of the difference between cooperation and competition under sharing, the most plausible explanations are based on the original hypothesis and can be supported with data from the experiment.

It will be remembered that while it was predicted that under Own Share, there would be a greater increase in attraction under Cooperation than Competition, it was expected that under Induced Share the difference between Cooperation and Competition would be minimal (following from Thibaut and Riecken's causality hypothesis). Hence, the small difference between Cooperation and Competition in the Induced Share condition was predicted and presents no problem, while the small difference between Cooperation and Competition in the Own Share condition was unexpected, and does need explanation.

The problem of the Own Share condition might be stated as follows: what caused the relatively great increase in attraction to the partner in the Competition-Own Share condition? There are at least two plausible reasons for the high mean of the Competition-Own Share condition. Both of these assume that Ss in the Competition-Own Share condition were in a relatively more confusing situation than were Ss in the other two conditions where the partner acted inappropriately (Competition-Induced Share and Cooperation-No Share) because Competition-Own Share Ss could have refused the favor (in the Competition-Induced Share condition, it is assumed that subjects perceived that E would have prevented refusal
of the favor). The Competition-Own Share condition was the only one in which Ss could easily have forced the partner to act consistently with his role, by merely returning the envelope with the money to the partner. When faced with the alternative of returning the shared winnings, Ss might have done two things which would result in less resentment for the partner. First, pressure to justify keeping the money might have resulted in reevaluations of the whole situation. If Ss could convince himself that the relationship between him and the partner was really cooperative, then accepting the favor would be justified and the partner would be judged as more attractive. To investigate this possibility Own Share Ss were divided, by their answers on the manipulation check, into those who perceived (or convinced themselves) that they were cooperating or competing in the game. Analysis of these adjusted means indicated a stronger difference between Cooperation and Competition under Own Share (p=.05, 1-tailed) when Ss are regrouped into those who perceived the game as cooperative and those who perceived it as competitive.

Secondly, Competition-Own Share Ss, realizing they could return the money, might have thought the partner had this in mind, too, and that his sharing might be an "offer" rather than a fait accompli. Thus, they would not have been so sure that the partner was in the wrong, and attraction to him would have been relatively high. If this were true, one should find that (a) more Competition-Own Share Ss actually returned the money than did Cooperation-Own Share Ss, and (b) that for those returning the money, attraction was lower than for those keeping it (since those returning it were presumably more certain the favor was not just an offer and was inappropriate). Both expectations have slight support.
Of 17 Ss who returned the money, twice as many were in the Competition-Own Share as the Cooperation-Own Share condition. In addition, the mean change in attraction for those refusing the favor was 10.82, whereas the mean for those accepting it was 16.25; the difference however, is not statistically significant.

**Written communication between subjects**

Written communications between subjects in response to the sharing note further supports the above argument that Competition-Own Share Ss were relatively ambivalent about the partner because they might have easily refused the favor.

The sixty written notes were subjected to ratings by two independent judges \( r = .76 \) on two scales: (a) a 5-point appropriateness scale on which judges were instructed to rate "how much the note reflects a feeling on the part of S that his partner acted out of step with his role" and (b) an ambivalence scale on which the note was rated either 0 or 1 according to whether it reflected confusion or ambivalence.

Twice as many notes were sent by those refusing the favor than by those accepting it, with all 11 Ss who refused in the Competition-Own Share condition sending notes. Within the Competition-Own Share condition, notes from Ss refusing the favor indicated significantly less appropriateness. There were no other significant differences in the ratings. Hence, data from the notes, while incidental to the main hypothesis, indicated that, within the Competition-Own Share condition, those who refused the favor felt the favor was more inappropriate than did those who accepted the favor.

**Other measures and alternative explanations**

One of the questions on the post-questionnaire asked how predictable the partner was. It was felt that predictability might have played
a mediating role in the effect of favors on attraction, since a person who acts appropriately might seem more predictable than one who acts inappropriately and might be liked better because he is more predictable (Gergen and Jones, 1963). However, an analysis indicated no significant differences on the question, indicating that predictability did not mediate the effect of favor doing.

Items asking how much the S would like to change partners, how important winning the game was, how skilled the partner was, how much luck was needed to win the game, and whether the partner was a good winner showed no differences, indicating that changes in attraction were not due to differences in perceptions of the game or of the partner's skill. An item asking whether S, himself, was a "good loser" showed a significant main effect of sharing (p < .001), almost entirely due to the Induced Share conditions. This is reasonably explained by the fact that S had in effect told these Ss that losing wasn't their fault and that sharing was the proper thing to do.

---

1See Appendix D.
CHAPTER IV
Discussion

The data supported the hypothesis that favor-doing behavior which is in accord with role prescriptions results in greater attraction than favor-doing behavior which is not.

Essentially the same effect of favor-doing on attraction was found when the favor-doing was induced by the experimenter as when it was the partner's own idea, i.e., there was a tendency (but insignificant) for those in the Cooperation condition to increase their attraction for the sharing partner more than in the Competition condition. Since the small obtained difference between Cooperation and Competition under sharing was predicted for the Induced Share condition from the Thibaut and Riecken causality hypothesis, no further explanation was considered necessary. However, there remained to be explained the lack of a significant effect of sharing under Own Share conditions.

Two plausible and related reasons for the relatively small difference between the Cooperation and Competition conditions under Own Share have already been discussed. While there were plausible explanations for why there was no obtained difference between Own Share and Induced Share conditions - both showing only a tendency for a greater increase in attraction under Cooperation than under Competition - the data do not justify a conclusion concerning the Thibaut and Riecken causality hypothesis. However, one might tentatively state that the causality notion was given some support, if one could for the moment disregard the
Own Share data (since unexpected variables were presumably affecting the behavior of subjects). In the Induced Share condition, where the partner was acting out of external causality (the experimenter made him share his winnings), there was only a minimal effect on attraction of "good" sharing (sharing under cooperation) vs. "bad" sharing (sharing under competition). In the No Share condition, where the partner was acting out of internal causality (his not sharing was done on his own), there was a very strong and significant effect on attraction of "good" not-sharing (not sharing under competition) vs. "bad" not-sharing (not sharing under cooperation). Taken alone, these data support the Thibaut and Riecken hypothesis that another's behavior will have a greater effect on attraction if it is done out of internal causality rather than external causality.

The present specification of conditions under which a favor-doing behavior will incur increased or decreased attraction adds clarity to the literature since the only other available study (Brehm and Cole) was ambiguous. The present data show that the same favor will be perceived differently depending on the situation, and that in some situations attraction is greater when money, usually considered pleasurable, is not given than when it is. The implication for exchange theory (Thibaut and Kelley, 1959) is that "gains" must be considered in relation to normative requirements of specific situations in order to derive precise predictions concerning changes in interpersonal attractiveness.

Further, the data suggest an extension of expectancy theory (Carlsmith and Aronson, 1963) in that disconfirmations of general expectations about what is appropriate may have effects similar to dis-
confirmations of specific, definite expectations. An event Y, then, should be judged as less pleasant, not only when event X was expected, but also when Ys usually do not occur (since the role requires non-Ys). The person performing the unexpected Y should also be less attractive.

The results also indicate, contrary to previous findings, (c.f., Deutsch, 1949), that members of cooperative groups will not generally be more accepting and attracted to each other than members of competitive groups, but that acceptance and attraction depend somewhat on adherance to normative requirements.

Furthermore, the present results have implications for future research. For instance, one might predict that the greater the deviation from role requirements, the less the attraction. Thus, if the amount of money shared by a partner in the Competition-Own Share condition were varied, one would predict that the more the money given away, the less the attraction (providing persona perceive varying amounts of inappropriateness, rather than judging behavior on an all-or-none, right or wrong, basis).

Doing a favor implies differential resources, and perhaps even a "better than thou" attitude. This is usually regarded as appropriate for high status persons, but not for low status persons. Therefore, in a 2 x 2 experiment varying the favor-doer's status and whether or not S can do the favor for himself if necessary (has the resources), should show that under high status, independence has little effect, but that a low status favor-doer will be liked better if the S could have done the favor for himself, and that over-all, a high status favor-doer will be liked better than a low status favor-doer (c.f., Thibaut and Riecken, 1955). Further, males should respond more to the independence manipulation
because of cultural requirements, as would persons who expect to
have more internal control over events (c.f., Rotter, Seeman, and

A far greater implication of the present study is that in society
at large, favors usually create resentment rather than gratitude (Brock,
1965). If one could assume, with such thinkers as Freud, Ayn Rand, or
Nietzsche, that society is mainly competitive, then it follows that
favors are basically inappropriate and will be resented. Secondly,
it is commonly assumed that persons fail to accurately perceive one
another's role expectations. Thus, even if cooperation in society were
common, persons, being without undistorted mutual understanding of
situational norms, would often give or withhold favors inappropriately,
and would be resented.

However, for reasons not to be explored here, persons tend to share
property, help one another, and give gifts. Institutionalized contexts
for favor-doing might then be seen as attempts to minimize resentment.
For instance, in the United States, birthdays, Christmas, etc., justify
and officially sanction gift giving. On these days there is no unclarity
or lack of consensus concerning situational norms, and gratitude should
result.
APPENDIX A

Definition and Measurement of Gratitude

In order to apply more general principles of attraction, it must first be demonstrated that gratitude (and other reactions to favor-doing or not doing) is indeed a specialized case of interpersonal attraction. In the first place, there is no one term which all have used to describe the evaluative feeling of one person for another. The three terms which have been most used in research are interpersonal attraction, liking, and cohesiveness, although there are many others.¹ Interpersonal attraction has been used mainly in studies growing out of work in person perception and in sociometric choice. Usually one person is asked to rate another on an evaluative scale (e.g., Jones & DeCharms, 1957) or is asked to list those with whom he wishes to associate (Jennings, 1950). These operations are assumed to define interpersonal attraction, which in turn is used as if it reflected or was simply synonymous with liking.

When research has centered around groups larger than two, the term cohesiveness has been used. Although cohesiveness, too, is often assumed to be equated with liking (of members toward other members of the group), the term has otherwise been defined by Festinger (1950) as

¹These others are arbitrarily discarded because their use reflects a theoretical bias, e.g., Homans' "approval", or Moreno's "choice."
the resultant of all the forces acting on members to remain in a group, and this definition seems to be generally accepted by the scientific community (c.f., Secord & Backman, 1964). (Similarly, Cartwright and Zander, 1960, define cohesiveness as attraction to the group, and then discuss how liking for individual members is only one source of this attraction.) Pressures to remain in the group may result from factors other than simply attraction to other members. For example, members may be attracted to the group, i.e., feel pressure to remain, because the activities of the group are rewarding or because they can achieve other ends through membership, or because the alternatives to membership are even less attractive.

Hence, it would seem that the term attraction is more precise than cohesiveness when describing the feelings of persons for each other. To be even more precise, we might reserve the term liking only for the operation of asking a person how much he likes or dislikes another. Since in much research investigators ask a number of questions related to liking in addition to the direct question, the term attraction might be defined more broadly as the sum of all operations which directly or indirectly measure liking.

The use of many different measuring devices, all presumably reflecting attraction, implies that attraction is a single-factor variable which varies quantitatively. But it is apparent from everyday life that attraction or liking also varies qualitatively as it is applied to different persons and in different contexts. The "liking" that people feel for a high-positioned government official who initiates a new protective law may be qualitatively, as well as
quantitatively different from the liking they feel when a beloved spouse gives them a long-hoped-for gift, and perhaps should be denoted differently. If we were to define the two feelings in terms of the context in which they are felt, one might be called "respect" and the other, "gratitude.". Hence the various kinds of attraction can be defined operationally in terms of the environment in which they occur, with clearly different operations being denoted differently.

For example, if we were to give a subject a group of evaluative scales on which he gave higher ratings than previously of another person, and the other person had just done the subject a favor, the changes on the scale could be called "gratitude." We are still measuring attraction, of course, but since we want to differentiate the context in which the change in attraction is felt, we name the whole procedure gratitude. This is merely the familiar reduction sentence: when a specific change in the environment occurs (a person gives another a gift or does him a favor) and changes in attraction occur (measured as usual) which do not occur when there is no change in the environment, then gratitude is defined. Although it is not so used in everyday life, we might also extend our definition to the situation in which a kind of "negative gratitude" is felt, that is, when another withholds a potential gift or favor. In this case the change in the environment is the reverse of that given above, and changes in attraction occur (which would not occur had the environment not changed). Since the person in both cases is responding to a situation in which favor-doing or gift-giving is salient, we would expect similar principles
to hold, though the specific changes in attraction might be different
or even opposite.

By defining gratitude in terms of a particular situation, I
have indicated the focus of interest of this study, changes in
attraction which occur when one person does something for another or
withholds something possible from another. This process is called
gratitude.
APPENDIX B

The Consensual Validation Approach

Newcomb's (1961) theory of interpersonal attraction exemplifies the consensual validation approach. Its impetus came from Heider (1958) and Sullivan (1947). The theory assumes that persons are dependent upon others for information and for support from others for their beliefs and values. When others have contrary beliefs, especially if they are well-liked, the person becomes uncomfortable and attempts to reduce the "unbalance." One result of this tendency to seek balance is that persons are attracted toward others with similar attitudes (Newcomb, 1961).

Now if we extend this analysis to gratitude, and in particular a situation in which one person (A) does another (B) a favor (X), a balance situation would occur when B liked A and liked X. If A and B were strangers but B liked X, we would predict an increase in gratitude, i.e., B would like A more. However, let us suppose that A did B a favor like defending him against a bully, but B really wished to hold his own (he didn't like X). If A and B liked each other initially, unbalance has occurred. Two serious problems arise with this unbalanced situation: (1) Returning the system to a state of balance could take a number of forms, for example, misperception of what actually happened, changes in attitude toward X, or changes in liking toward A. Thus, no unequivocal predictions can be made.
concerning changes in gratitude. (2) One cannot predict when B will view X negatively in the first place. Since the theory is essentially a personality theory, it does not deal effectively with the immediate situation. Thus, it cannot cope with the problem of how changing environments with concomitant changing attitudes and feelings affect attraction. For this reason, it is felt that the theory cannot predict gratitude very precisely.
APPENDIX C

Pre-Questionnaire

Contest Questionnaire

1. Do you prefer cooperative or competitive games? Please check one.
   Cooperative ________
   Competitive _______

2. Do you like spectator sports? Check one.
   Yes____    No____

3. Write your favorite sport or game in the following space.________

4. How important is a "sense of fair play" in playing games and sports?
   Place an arrow like this on the scale below to show how important you
   think it is. ______
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   It doesn't matter Very
   at all important

   As part of this study we want to know how much "social sensitivity"
   you have. First, we would like you to rate your best friend (only
   one) on the scales below. Put an arrow on each and every scale
   line to show how you evaluate him for each pair of descriptions. The
   arrow can go any place on the scale. After you make each arrow, label
   the arrow by writing, Best Friend, or just BF above the arrow.
   Example: ________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________

5. Is he good-natured or is he irritable?
   ________________________ ________________________ ________________________ ________________________
   Very Fairly Fairly Very
   irritable irritable good-natured good-natured
6. Is he likeable or obnoxious?

| Very obnoxious | Fairly obnoxious | Fairly likeable | Very likeable |

7. Is he considerate of others or inconsiderate?

| Very inconsiderate | Fairly considerate | Very considerate |

8. Is he modest or a braggart?

| Brags a lot | Brags a little | Fairly modest | Very modest |

9. Is he dependable or undependable?

| Very undependable | Fairly undependable | Fairly dependable | Very dependable |

10. Is he easy to get along with or hard to get along with?

| Very hard to get along with | Fairly hard to get along with | Fairly easy to get along with | Very easy to get along with |

Now please rate your partner for the contest on the same scales. Go back to question 5, and work through all the scales again. This time put your arrow on the scale in a different place. Put it in the place that best describes your partner. When you have made each arrow, label it by writing "Partner" or just "P" above the arrow.

Example: P BF
Post-Questionnaire

Session I. Contest Questionnaire

For all the following questions, please write an arrow on the scale line. Put it in the place that best describes your feelings. Only label the arrow if the question says to.

1. How much fun is this game?

[Scale]
Very dull -- Very much fun

2. Did your partner like the game?

[Scale]
I think he hated it -- I think he liked it a lot

3. How much do you want to win the contest?

[Scale]
Not at all -- Very much

4. How much luck or "chance" do you need to win the game?

[Scale]
Luck has nothing to do with winning -- You need only a little luck to win
You need quite a bit of luck to win -- You can't win without a lot of luck

On the following questions, first rate yourself. Place an arrow on each scale line and then label each arrow, "Me".

5. He is a "good winner."

[Scale]
Very bad winner -- Fairly bad winner
Fairly good winner -- Very good winner

6. He is a "good loser."

[Scale]
Very bad loser -- Fairly bad loser
Fairly good loser -- Very good loser
7. His playing ability in games of skill.

<table>
<thead>
<tr>
<th>Bad</th>
<th>Poor</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
</table>

Now go back to Question 5, and on questions 5, 6, and 7, rate your partner. Above each arrow, put a "P".

Sometimes people change their "social sensitivity" as time passes and they know a little more (and sometimes they don't change), so please fill out the social sensitivity questions again.

First, rate your best friend on the scales below. Put an arrow on each line and label it B F.

8. Is he good natured or irritable?

<table>
<thead>
<tr>
<th>Very irritable</th>
<th>Fairly irritable</th>
<th>Fairly good-natured</th>
<th>Very good-natured</th>
</tr>
</thead>
</table>

9. Is he likeable or obnoxious?

<table>
<thead>
<tr>
<th>Very obnoxious</th>
<th>Fairly obnoxious</th>
<th>Fairly likeable</th>
<th>Very likeable</th>
</tr>
</thead>
</table>

10. Is he considerate of others or inconsiderate?

<table>
<thead>
<tr>
<th>Very inconsiderate</th>
<th>Fairly inconsiderate</th>
<th>Fairly considerate</th>
<th>Very considerate</th>
</tr>
</thead>
</table>

11. Is he modest or a braggart?

<table>
<thead>
<tr>
<th>Brags a lot</th>
<th>Brags a little</th>
<th>Fairly modest</th>
<th>Very modest</th>
</tr>
</thead>
</table>

12. Is he dependable or undependable?

<table>
<thead>
<tr>
<th>Very undependable</th>
<th>Fairly undependable</th>
<th>Fairly dependable</th>
<th>Very dependable</th>
</tr>
</thead>
</table>

13. Is he easy to get along with or hard to get along with?

<table>
<thead>
<tr>
<th>Very hard to get along with</th>
<th>Fairly hard to get along with</th>
<th>Fairly easy to get along with</th>
<th>Very easy to get along with</th>
</tr>
</thead>
</table>
Now go back to Question 8. and for questions 8., 9., 10., 11., 12., and 13., rate your partner on the same scales. Make another arrow on each line and put it in a different place as you put the B F arrow. Mark the new arrow "p", for partner.

14. Sometimes people want to change their partners in the contest before the second session. We can arrange it so that you won't lose any credit. Since we can only do this for a few people, please rate below how much you would like to change partners, if at all.

<table>
<thead>
<tr>
<th>I don't want to change</th>
<th>I want to change a little</th>
<th>I want to change pretty much</th>
<th>I want to change very much</th>
<th>I want to change or else I'll quit</th>
</tr>
</thead>
</table>

15. How "predictable" is your partner?

<table>
<thead>
<tr>
<th>Very unpredictable</th>
<th>Very predictable</th>
</tr>
</thead>
</table>

16. How much do you like the person running this study?

<table>
<thead>
<tr>
<th>Dislike</th>
<th>Like</th>
</tr>
</thead>
</table>

17. How did your partner and you work together? Check one.

- We competed a lot ______
- We competed a little ______
- We cooperated a little ______
- We cooperated a lot ______
APPENDIX D

Presentation of Data from the Experiment

Table 2
Pretest attraction scores.
\( (n = 20 \text{ in each condition}) \)

<table>
<thead>
<tr>
<th>Role Requirement</th>
<th>Partner's Behavior</th>
<th>Pretest Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Own Share</td>
<td>( \bar{X} = 143.5 )</td>
</tr>
<tr>
<td>Cooperation</td>
<td>Induced Share</td>
<td>( \bar{X} = 141.15 )</td>
</tr>
<tr>
<td>Competition</td>
<td>No Share</td>
<td></td>
</tr>
</tbody>
</table>

Table 3
Analysis of variance of pretest scores.

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation-competition (A)</td>
<td>1</td>
<td>238.03</td>
<td>.354</td>
<td></td>
</tr>
<tr>
<td>Sharing (B)</td>
<td>2</td>
<td>1759.67</td>
<td>2.62</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>A X B</td>
<td>2</td>
<td>456.26</td>
<td>.67</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>114</td>
<td>672.68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

33
Table 4
Mean scores on cooperation-competition manipulation check.  
(n = 19 in each condition)

<table>
<thead>
<tr>
<th>Role Requirement</th>
<th>Partner's Behavior</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Own Share</td>
<td>Induced Share</td>
<td>No Share</td>
</tr>
<tr>
<td>Cooperation</td>
<td>3.1</td>
<td>2.5</td>
<td>2.3</td>
</tr>
<tr>
<td>Competition</td>
<td>2.5</td>
<td>1.8</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Table 5
Analysis of variance of scores on cooperation-competition manipulation check.

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation-competition (A)</td>
<td>1</td>
<td>10.74</td>
<td>10.13</td>
<td>.001</td>
</tr>
<tr>
<td>Sharing (B)</td>
<td>2</td>
<td>6.04</td>
<td>5.69</td>
<td>.01a</td>
</tr>
<tr>
<td>A X B</td>
<td>2</td>
<td>0.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>109</td>
<td>1.06</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\)Evidently the act of sharing by the partner tended to contribute to an "aura" of cooperation. However, the direction of means on this check could not have been responsible for the attraction data.
Table 6

Analysis of variance of changes in attraction to the partner - all conditions.

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation-competition (A)</td>
<td>1</td>
<td>102.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharing (B)</td>
<td>2</td>
<td>429.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A X B</td>
<td>2</td>
<td>1579.38</td>
<td>4.35</td>
<td>.05</td>
</tr>
<tr>
<td>Error</td>
<td>114</td>
<td>362.82</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7

Analysis of variance of scores for Cooperation vs. Competition and Own Share vs. No Share.

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation-Competitlon (A)</td>
<td>1</td>
<td>871.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Own Share-No Share (B)</td>
<td>1</td>
<td>858.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A X B</td>
<td>1</td>
<td>1805.0</td>
<td>4.87</td>
<td>.05</td>
</tr>
<tr>
<td>Error</td>
<td>76</td>
<td>370.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 8
Analysis of variance of scores for Cooperation vs. Competition and Induced Share vs. No Share

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation-Competition (A)</td>
<td>1</td>
<td>357.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Induced Share-No Share (B)</td>
<td>1</td>
<td>248.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A X B</td>
<td>1</td>
<td>2820.32</td>
<td>8.01</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Error</td>
<td>76</td>
<td>351.79</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 9
Analysis of variance of scores for Cooperation vs. Competition and Own Share vs. Induced Share

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation-Competition (A)</td>
<td>1</td>
<td>183.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Own Share-Induced Share (B)</td>
<td>1</td>
<td>556.50</td>
<td>1.52</td>
<td></td>
</tr>
<tr>
<td>A X B</td>
<td>1</td>
<td>112.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>76</td>
<td>365.75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 10

Mean attraction scores for Own Share Conditions

<table>
<thead>
<tr>
<th>Own Share Condition</th>
<th>N</th>
<th>Mean</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accepted favor</td>
<td>20</td>
<td>17.70</td>
<td>18.77</td>
</tr>
<tr>
<td>Refused favor</td>
<td>6</td>
<td>8.30</td>
<td>33.32</td>
</tr>
<tr>
<td>Competition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accepted favor</td>
<td>20</td>
<td>14.80</td>
<td>20.44</td>
</tr>
<tr>
<td>Refused favor</td>
<td>11</td>
<td>12.18</td>
<td>17.10</td>
</tr>
<tr>
<td>Cooperation-Competition Combined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accepted favor</td>
<td>40</td>
<td>16.25</td>
<td>19.40</td>
</tr>
<tr>
<td>Refused favor</td>
<td>17</td>
<td>10.82</td>
<td>17.7</td>
</tr>
<tr>
<td>Perceived cooperation on manipulation check</td>
<td>24</td>
<td>19.88</td>
<td>18.84</td>
</tr>
<tr>
<td>Perceived competition on manipulation check</td>
<td>14</td>
<td>9.57</td>
<td>20.38</td>
</tr>
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</table>
APPENDIX E

Experiment on The Effect of Predictability on Liking

It was posited that the greater the predictability of another, the greater the attraction to him. As noted there is a study in the literature, reported by Gergen and Jones (1963), which supports this notion. In this experiment, subjects who judged the choice behavior of another subject rated him more attractive, the better they were able to predict his choice behavior. Predictability, in this situation, was under the control of the experimenter. Subjects (Ss) were asked to predict the behavior of the stimulus person (SP) in the next room. Specifically, they were presented with a series of choices and were asked to predict which of two consumer items (e.g., a razor and a camera) the SP would prefer. They were led to believe that the SP would indicate his actual preference after each choice. Half the Ss were allowed to guess correctly on 16 of the 20 trials; the other half found they were incorrect on 16 of the 20 trials. Regardless of other variations in the experiment, Ss who could predict the SP's behavior liked him more than those who could not predict his behavior.

Although this experiment would seem to provide definitive support for the proposition, there is a possibly serious flaw in the arrangement of the experiment. Subjects who were able to predict the SP, were also rewarded for their behavior, whereas subjects not allowed to predict had
primarily a failure experience. It is conceivable that being told one is correct may increase positive affect which generalizes to the SP, whereas being told one is incorrect decreases positive affect and increases hostility or other types of negative affect which are then generalized to SP. Thus, the operations used to vary predictability might have had a similar effect regardless of the actual predictability of the SP, merely because of the success or failure experience of S.

The following experiment was done in an attempt to confirm the same hypothesis as in the Gergen and Jones experiment, while avoiding the drawback of varying failure experience along with predictability.

**Method**

64 subjects from Southern Connecticut State College were tested while in classes at a summer session. The general task of the Ss was to predict how two political candidates stood on a number of political and non-political issues and then to vote for the candidate of their choice. Ss made their predictions on the basis of biographies of the candidates. After predicting a candidate's stand on each issue Ss were exposed to the "true" position of the candidate. Predictability was varied by making one candidate predictable on the political issues and the other unpredictable. The candidate who was made predictable was reversed for half of the subjects. In order to mitigate the effects of failure, the candidate who was predictable on political issues, was made unpredictable on presumably irrelevant non-political issues, and the candidate who was unpredictable on political issues, was made predictable for non-political issues.

The experiment also included a variation in importance of predictability, but the manipulation of importance failed and had no differential
effect on attraction. Therefore, this particular aspect of the experiment will not be discussed further.

The booklet. The entire experiment was presented in the form of a booklet which Ss read and filled out. Ss were first given the following instructions:

A group of investigators from the Departments of Psychology and Political Science at Yale University have a contract with the Republican State Committee to conduct a study in political behavior which we would like your help in completing. All we want you to do is to carefully follow the directions in this booklet. You will be asked to evaluate two candidates for an important state political position.

The Republican State Committee has submitted the credentials of two men who will be considered for nomination to this political position in 1966. Since political conditions change, the Committee has asked that the specific political office which these men are being considered for not be revealed. However, you can assume that the office is either Lieutenant Governor or a comparable office. The names of the candidates have also been changed to protect their privacy, but all other information about them is accurate and real. Since the Committee will be looking very closely at your votes, please consider the candidates very carefully...

One of the areas of interest in this study is whether people can remember information about the candidates and whether this information (as provided in newspaper articles, television interviews, etc.) is actually used when people vote for a candidate. Thus, we have provided you with biographical information about the candidates and have included excerpts from interviews with them on various issues. When you vote for your candidate you should consider this information carefully. You will consider each of the two candidates in turn and answer questions about them. At the end of the booklet you will record your vote. This vote will be completely confidential...

Many previous studies have found that voters in large part do not even bother to find out how candidates stand on various issues...In addition...we found that very often the mass media (newspapers, etc.) do not furnish the information people need in order to know how candidates stand on the issues. Consequently, voters have to guess how the candidates stand on the issues.

We have found that their best source for making these
guesses is from knowing the candidate's background and his political party. In this study we are going to ask you to make some guesses about how the candidates stand on issues (before you actually find out how they stand) to see if people can do this well... 

All subjects were then introduced to the two candidates and were presented with pictures of them. They then read a biography of the first candidate. On the following pages they read ten alternating political and non-political issues. After each issue Ss guessed how the candidate stood on the issue by marking an X in the appropriate "yes" or "no" box, read the candidate's "real" stand on the issue, and then filled in a blank to indicate whether they had been correct or incorrect in their prediction. In order to increase awareness of their ability to predict, they were asked to initial the latter response. The candidate's actual stand on the issue was presented by quoting his own (fictional) statement from a public source, such as a recent newspaper or television interview. The date of the statement and the source of it were present with the quoted statement.

After attempting to predict the positions of the first candidate, all Ss carried out the same procedure with the second candidate.

The predictability manipulation. Because of the nature of the experiment, predictability was not directly under the control of the experimenter. The procedure for putting predictability under the greatest possible control was to have candidates make statements either consistent or inconsistent with their personality and socio-economic status as given in the biographies. Presumably, when the candidate took a stand inconsistent with the information in the biography, Ss would guess incorrectly when trying to predict, and when the candidate took a posi-
tion consistent with the biography Ss would predict correctly.

The biographies of the candidates were somewhat similar. This was done in order to reduce initial preferences for one candidate. It also allowed one candidate to be politically predictable for half of the Ss and the other candidate to be politically predictable for the other half by merely switching the statements attributed to candidates for half of the Ss. The biographies were taken from actual biographies of nominees for the Yale Alumni Board. Accordingly, both candidates were presented as upper-class, high status, conservative Republican, very successful businessmen who had attended prep schools and Ivy League colleges. Hence, it was expected that when predicting their stands on issues, Ss would use this information (further filled in by their own stereotypes) to guess that the candidates would take "conservative," pro-business, stands on the issues. When a candidate was to be predictable, then, his statements were consistent with the image of him presented, and when he was supposed to be unpredictable his statements were quite inconsistent with this image.

Thus, all Ss were presented with a politically predictable (and non-politically unpredictable) candidate, and a politically unpredictable (and non-politically predictable) candidate. At the end of the booklet they voted for the candidate of their choice, and also answered some questions concerning it to check on the manipulations. It was hypothesized that Ss would vote for the politically predictable candidate.

Results

Contrary to expectations, the manipulations failed to control predictability precisely. In fact, there were only 14 of the 64 cases in
which Ss predicted equally overall for both candidates and of these 14, there were only 5 cases in which the political-non-political balance for each candidate was as hoped for (with one candidate politically but not nonpolitically predictable and the other nonpolitically but not politically predictable, and with even splits for each on number of issues correct and incorrect). Therefore, the results were analysed by computing a total predictability score for each subject and then seeing if they voted for the more predictable candidate regardless of type of issue. The score was computed by counting the number of stands guessed correctly for one candidate (10 possible) and subtracting from this the number of stands guessed correctly for the second candidate. It was predicted that the subjects would choose the candidate with higher predictability, and that the greater the difference between the more predictable and less predictable candidate (the greater the predictability score), the greater the likelihood that Ss would choose the more predictable candidate. Table 1 presents these data. The Ss are first divided into those who voted for the more predictable or less predictable candidate. They are further divided into those whose predictability score was high or low. A high score was one in which the more predictable candidate was predicted correctly on at least 3 more issues than the less predictable candidate; a low score was one in which the more predictable candidate was predicted correctly on only 1 or 2 more issues than the less predictable candidate. In order to assess preferences for one of the candidates, regardless of predictability, the Ss voting for candidate Humphrey or candidate Jenks are presented separately.
### Table 11

<table>
<thead>
<tr>
<th></th>
<th>High Predictability Score</th>
<th>Low Predictability Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Humphrey</td>
<td>Jenks</td>
</tr>
<tr>
<td>Voted for more predictable candidate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YES</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>NO</td>
<td>0</td>
<td>1</td>
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</tbody>
</table>

^aFourteen Ss not included because both candidates were equally predictable.

^bThe predictability score was computed by subtracting the number of correctly predicted stands for the less predictable candidate from the number of correctly predicted stands for the more predictable candidate (see text).

First, there was a significant preference for the candidate Humphrey ($z=2.33$, $p=.018$). Despite this preference, there is no evidence that the effect of predictability on voting behavior was greater for Humphrey than for Jenks ($z<1$).

There was a highly significant effect of predictability on voting. Of 50 Ss, 43 voted for the more predictable candidate ($z=7.34$, $p<.00006$). However, when a $X^2$ was performed to assess the relationship between more or less predictability and voting, there was no evidence that increasing predictability resulted in greater voting for the more predictable candidate ($X^2<1$). This result, apparently, is due to the overwhelming preference for the more predictable candidate even if he is only slightly more predictable than the less predictable candidate.

These data, then, replicate the Gergin and Jones data. However, they are also subject to the same alternative explanation, i.e., that...
Ss rejected the less predictable candidate because they associated a failure experience with him. In order to investigate this possibility, the data for the 14 Ss who predicted both candidates equally often were analysed. According to original notions about the experiment, when candidates were equally predictable overall, the candidate who was politically more predictable should have been chosen. This was because predictability on political issues was thought to be more important to Ss voting for a political candidate than predictability on nonpolitical issues. However, when the analysis was performed, there was no evidence that political issues were considered more important, for of 12 Ss on whom this analysis could be performed (the other 2 predicting equally for both types of issues for both candidates), exactly half voted for the more politically predictable candidate and half voted for the more nonpolitically predictable candidate. There was also an equal split for Humphrey vs. Jenks. Hence, this apparently equal perceived importance of both kinds of issues prevented a firm rejection of the alternative explanation.

However, there are some other sources of data to indicate that the initial hypothesis is correct. First, predictable were, in a sense, "wrong" candidates. The experiment was arranged, it will be remembered, so that a more predictable candidate would have taken stands on issues which were consistent with the biography, i.e., conservative Republican. Therefore, when a subject correctly predicted a candidate's stand, the candidate had taken a very conservative position on the issue. However, the subjects came from a very Democratic population. Therefore, when they voted for the more predictable candidate, they were voting for a candidate taking positions more unlike those they would take. Ss, then,
were voting for someone they ordinarily would view negatively, and would associate with failure. This observation, though not conclusive, seems to indicate that predictability, rather than "correctness" was the crucial variable.

In addition, there are data from the questionnaire given after the voting that indicate the importance of predictability. After voting, Ss indicated on a scale how predictable they thought each candidate was. Most Ss thought the candidate they had chosen was more predictable ($X=3.16$, $z=2.98$, $p=.003$). Hence, Ss seemed to think that predictability was a positive trait since they attributed it to the candidate they had chosen and did not seem to want to deny its influence on their vote.

Also, of 50 Ss who answered a question on which candidate they would choose as a friend, 40 chose the candidate they had voted for ($z=5.45$, $p < .00006$). This seems to indicate that predictability had an effect on liking as well as voting behavior, although the effect may have been influenced by Ss' wish to be consistent to some extent.

In sum, when Ss had to vote between two candidates, they voted for the more predictable candidate. The data provide substantial support for the hypothesis; however, there is some unclarity as to whether the effect would be as strong if failure experience were controlled. In that sense, the experiment does not support the hypothesis more than does the Gergin and Jones study, except in the sense that the effect of predictability is replicated in an entirely different setting.
BIBLIOGRAPHY


Brock, T. Personal communication, 1965.


Heider, F. The psychology of interpersonal relations. N. Y.: John Wiley & Sons, Inc., 1958.


47


