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ABSTRACT

The purpose of this study was to test two hypotheses derived from Rokeach's (1968) theory of values and value change. These were: (1) that interpersonal attraction toward a black person will be correlated with the importance of the value, "equality," and (2) that changes in the importance of the value, "equality," will be accompanied by changes in interpersonal attraction toward a black person. Seventy-six white male and female undergraduates, half of whom received a procedure designed to increase the importance of the value "equality" ranked Rokeach's terminal values twice. Following the second administration of the value scale, the subjects engaged in a ten-minute conversation with a black person. Seven measures of interpersonal attraction--general liking, perceived value similarity, perceived behavior similarity, eye contact, posture, head distance, and foot distance--were obtained from the interaction. Significant correlations were found between the ranking of "equality" and perceived value similarity, perceived behavior similarity, and eye contact. Also it was found that the group of subjects that received the value change procedure looked at the black person significantly more than did the group that did not receive this procedure.
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INTERPERSONAL ATTRACTION TOWARD A BLACK
PERSON AS A FUNCTION OF VALUE IMPORTANCE¹

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(1) that interpersonal attraction toward a black person will be correlated with the importance of the value Equality and (2) that changes in the importance of the value Equality will be accompanied by changes in interpersonal attraction toward a black person. Seventy-six white male and female undergraduates, half of whom received a procedure designed to increase the importance of the value Equality, ranked Rokeach's terminal values twice. Following the second administration of the value scale, the subjects engaged in a ten-minute conversation with a black person. Seven measures of interpersonal attraction--general liking, perceived value similarity, perceived behavior similarity, eye contact, posture, head distance and foot distance were obtained from the interaction. Significant correlations were found between the ranking of Equality and perceived value similarity, perceived behavior similarity and eye contact. Also it was found that the group of subjects that received the value change procedure looked at the black person significantly more than did the group that did not receive this procedure. The results of the two hypotheses were discussed in terms of Rokeach's theory of values and value change.

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INTRODUCTION

The purpose of this study was to examine the relationship between a verbal behavior (values) and a social behavior (interpersonal attraction) in an interracial interaction. More specifically, the focus of interest here was in attempting to answer two basic questions: (1) to what extent does the importance of the value Equality to a white person correlate with his behavior when he meets a black person and (2) are changes in the importance of the value Equality to a white person accompanied by changes in his behavior when he meets a black person?

Previous research on the relationship between verbal behavior and social behavior in interracial interactions (Katz and Benjamin, 1960, Kutner, Wilkins, and Yarrow, 1952; La Piere, 1934; Winard, 1952; and Saenger and Gilbert, 1950) has, for the most part, failed to find a significant relationship between the verbal behavior one displays and his subsequent behavior in an interaction with a member of an ethnic minority. In all of the studies just cited it has been found that the

great majority of the subjects expressed attitudes which were appreciably more "conservative" than their social behavior in an interracial interaction. That is, while the majority of the subjects indicated in their response to a questionnaire that they would act in a discriminatory manner toward a member of an ethnic minority; they failed to do so when they actually interacted with the minority group member. The one exception to these null results was the study done by De Fleur and Westie (1958) in which a significant relationship was found between a person's attitudes toward Negroes and his willingness to be photographed with a Negro. However, it should be noted that De Fleur and Westie's dependent measure did not actually involve an interaction with a Negro, but rather only the prospect of such an interaction.

In a recent article, Rokeach (1968) has proposed that perhaps a more valid and economical predictor of a person's behavior could be obtained by measuring a person's values rather than his attitudes. Rokeach (1968) drew a conceptual distinction between attitudes and values. He defined an attitude as "a relatively enduring organization of beliefs around an object or situation predisposing one to act in a preferential manner" (p. 112). He defined a value in the following manner: "to say that a person has a value is to say that a certain mode of conduct or end state of existence is personally and socially preferable to alternative modes of conduct or end states of existence" (p. 124).

Values, according to Rokeach, are single beliefs located within one's total belief system. These values are organized into two separate yet related systems: terminal values (beliefs about end states of existence) and instrumental values (beliefs about modes of conduct). Values in

each of these systems are organized along a continuum of importance. The relative importance of the terminal values and the instrumental values to an individual can be ascertained by simply having the subjects rank order the terminal and then the instrumental values.²

Rokeach has hypothesized that a person's attitudes and behavior may be in service of his values. A good deal of empirical support has been provided for this hypothesis. First, it has been found that there is a significant relationship between the importance of certain values and related attitudes and behavior (e.g. a person who ranked Equality high was more likely to favor social welfare legislation and to join the American Civil Liberties Union Rokeach, 1970). Secondly, it has been found after values have changed, attitudes (Rokeach, 1968) and behavior (Rokeach, 1970) have changed in accordance with the changed values. In the latter study it was found that significantly more members of the experimental group (people who had received a manipulation designed to raise Equality in Importance) joined the N. A. A. C. P., than did members of the control group (people who did not receive the manipulation).

The results of these two studies lent considerable credence to Rokeach's supposition that attitudes and behavior are in the service of values. Further, the latter study demonstrated the possible advantages of using values to study the changes in social behavior that accompanies changes in verbal behavior. One can contrast the results of this study with the evidence presented by Festinger (1964). In his review of those investigations which have measured behavioral change as the result of attempts to change opinions (sic). Festinger found only three studies which used behavior change as the dependent measure. None of these studies

showed any changes in behavior as the result of the attempt to change opinions (sic).

What is being suggested then is that the usage of values rather than attitudes as the measure of verbal behavior might provide a more economical and valid predictor of social behavior especially in an interracial interaction. Having discussed an alternative manner of measuring verbal behavior, it is now necessary to discuss an alternative way of measuring social behavior in an interracial interaction.

It was the position taken by this author that the "reactivity" of the usual measure of social behavior may in many cases, produce a nonsignificant relationship between verbal and social behavior. To be more specific, it seems reasonable to argue that when a person interacts with a Negro (especially on a college campus) there are certain normative social pressures for the person to act in a nondiscriminatory manner. Thus the behavior one observes on the part of a white person in an interaction with a black person may reflect compliance to social norms, rather than a white person's "true" feelings toward blacks. Therefore, it would appear that it is necessary to devise a more "subtle" measure of the white person's feelings during an interaction with a black person. One possible way to accomplish this would be to obtain measures (both verbal and nonverbal) of interpersonal attraction toward a Negro in an interaction.

Interpersonal attraction has been measured in two ways: (1) paper and pencil tests and (2) nonverbal behavior. The paper and pencil tests have either been general measures of how much one person likes another person (e.g., Byrne's (1961) Interpersonal Judgment Scale) or one person's estimate of how similar another person was to him with respect to attitudes (e.g., Byrne and Wong, 1962), values (e.g., Precker, 1953), and behavior (e.g., Fiedler, Warrington, and Blaisdele, 1952).

The second method for assessing interpersonal attraction, nonverbal behavior, is a fairly recent development. Bateson (1962) has succinctly stated the reason for studying the nonverbal behavior in an interaction:

(experimental group) both the experimental and control subjects received a membership solicitation from the N. A. A. C. P. It was found that significantly more members of the experimental group joined the N. A. A. C. P. than the control group. These results suggest that changes in values do lead to changes in behavior. (For a more complete report on these findings, Cf. Rokeach, 1970).

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"...this mode of expression (nonverbal behavior) is especially sensitive to the nuances and intricacies of how two people are getting along, despite the possibility that they, and we as observers customarily pay little attention to this channel." (Ekman, 1965, p. 391).

Three types of nonverbal behavior seem to be correlated with interpersonal attraction in an interaction. These nonverbal behaviors are: a) eye contact --- the greater the amount of interpersonal attraction, the greater the amount of eye contact (Argyle and Dean, 1965; Efran, 1966; 1968; Exline and Winters, 1965; and Mehrabian, 1968 b); b) posture -- an extreme forward lean indicates liking; extreme backward lean represents disliking (Mehrabian, 1969); c) distance --- people who like one another position themselves closer to each other than people who do not like one another (Argyle and Dean, 1965; Hall, 1963; and Mehrabian 1968 b).

METHOD

Overview. There were two phases to this study. In the first phase half the subjects received the procedure developed by Rokeach to increase the importance of the value Equality; the other half did not receive the procedure. In the second phase of this study, subjects from both groups engaged in a conversation with a black person for about ten minutes. For purposes of clarity these two phases will be discussed separately.

After all the subjects had been run in white-black interactions, an additional group of people (20) were run in white-white interactions. These people did not receive the value change procedure, but merely ranked Rokeach's terminal values twice and then engaged in a conversation with a white person for ten minutes. The procedure used and the measures taken

were exactly the same as for the subjects in the white-black interaction. Therefore this group will not be covered in the method section.

Value Change Procedure

Subjects. The subjects were 196 male and female undergraduates enrolled in introductory psychology at Michigan State University. These 196 people were enrolled in eight different sections of introductory psychology; there were about 25 people in each section.

Procedure. Members of four introductory sections ranked Rokeach's 18 terminal values in order of importance and then received the experimental treatment designed to raise the value Equality in importance. This procedure was developed by Rokeach and involves pointing possible inconsistent relationships between two terminal values (Freedom and Equality) and a terminal value (Equality) and an attitude (attitude toward civil rights demonstrations). The subjects rank ordered their terminal values in order of importance to themselves and indicated their attitude toward civil rights demonstrations. Then they were shown two tables; the first table was intended to arouse feelings of inconsistency between two terminal values. This table showed that a group of the subjects' peers ranked Freedom much higher than Equality. The experimenter suggested that this might mean that these people were more interested in their own freedom than freedom for others.

The second table was intended to arouse feelings of inconsistency between a value and an attitude. This table showed that people unsympathetic to civil rights demonstrations ranked Freedom very high and Equality very

low. The experimenter suggested that these people might care about their own freedom, but are indifferent to the freedom of others. After each of the tables were shown, the subjects were invited to compare their own response with the data shown in the two tables. (For a complete copy of this procedure, Cf. Rokeach, 1968). Members of the four other sections, the control group, ranked Rokeach's 18 terminal values, but did not receive the experimental treatment. About eight weeks later both groups were retested; that is, they again ranked the terminal values in order of importance to themselves.

Conversation with a Black Person

Subjects. Subjects were recruited for participation in the second phase of the study in the following manner. About three months after the experimental treatment, subjects in both the experimental and control groups were sent letters which asked them to participate in an experiment. In return for their participation in the experiment the subjects were offered two dollars. Fifty-one percent of the 100 control subjects and 56% of the 96 experimental subjects agreed to take part in the study.

Thirty-six males, and 40 females actually took part in a conversation with a black person. Half the males and half the females were from the experimental group; the remainder were from the control group.

Materials

Experimental room. The room in which the experiment took place was about eight feet wide and sixteen feet long. It had one-way mirrors on three walls. There were two chairs in the room; one on the right side of the room, the other directly opposite it on the left side of the room.

On the floor of the room, at nine inch intervals were pieces of adhesive tape. These pieces of tape were used as a guide in estimating the distance between the subject and black confederate.

Equipment An Esterline-Angus multipen event recorder was used to record eye contact. The exact manner in which the event recorder was used will be covered later.

A tape recorder enclosed in an attache case was used to unobtrusively record the conversation which took place. This was placed on the right side of the room near the door.

Questionnaires. Three different types of questionnaires were used in order to provide paper and pencil measures of interpersonal attraction. The first questionnaire was a modified version of Byrne's (1961) Interpersonal Judgment Scale. It was designed to provide a general measure of how much the subject liked the confederate. It contained eight multiple choice items, each dealt with a different aspect of general liking for the confederate. The second questionnaire was designed to measure perceived similarity of values. In this questionnaire, the subjects first ranked Rokeach's 18 instrumental values in order of importance to themselves; then they estimated how the confederate would rank these same values. The third questionnaire was designed to measure perceived similarity of interpersonal behavior. Leary's (1956) Interpersonal Checklist was used to provide a measure of how similar the subject perceived the confederate's interpersonal behavior to his own. This checklist contained 128 phrases which described interpersonal

behavior (e.g. well-behaved). The subject was to indicate if each phrase did or did not apply to himself. Then the subject was then to indicate if each phrase did or did not apply to the confederate.³

Confederates. The two confederates were black--one male and one female undergraduate. The male was 19 years old, quite dark skinned, wore glasses, and wore his hair in what is called the "natural" fashion. The female was 21 years old, quite dark skinned, and wore her hair in a "natural" hairdo. In view of the finding (Rokeach and Mezei, 1966) that belief may be a more important determinant of interpersonal attraction than race, the confederates were instructed to avoid discussing important beliefs (e.g., Vietnam, civil rights). Other than this instruction no effort was made to standardize the conversation. Neither of the confederates (nor the experimenter) knew how any given subject had ranked the value Equality; or whether any given subject was a member of the experimental or control group.

Coders. Six undergraduates were used to record nonverbal measures of interpersonal attraction. These people were seated around the room behind the one-way mirrors. These coders had no information about how the subjects whom they watched had ranked the value Equality or whether the subjects were members of the experimental group or the control group.

The two coders who were directly behind the confederate recorded eye contact. Eye contact was operationalized as the act of looking at the eyes or facial region of the confederate (Exline and

Winters, 1965). These coders were positioned so that they could see when the subject was looking at the eyes or facial region on the confederate and when he was not. When the subject looked away from the confederate, the coders depressed a button which was in front of them and held it down until the subject started looking at the confederate again.

The button being depressed activated a pen on the Esterline-Angus event recorder causing the pen to deflect slightly to the right. The pen would remain in this position until the coders released the button. This produced a permanent record of how often and how long the subject looked away from the confederate.

Four coders were seated so that they viewed the subject and the confederate from the side. Two of these coders recorded posture. In front of these coders was a sheet with 9 stick figures drawn on it. Every 15 seconds these coders noted how far forward or how far backward the subject was leaning. They used the sheet in front of them as a guide in estimating this angle of inclination of the back. This was essentially the same method that was used by Mehrabian (1968b).

The other two coders recorded the distance between the subject's and the confederate's head and the distance between the subject's and the confederate's feet. Distance was measured once a minute by counting the pieces of tape on the floor between the feet of the subject and the feet of the confederate. The same procedure was used to record distance from head to head.

Procedure. The naive subject and the confederate were greeted by the experimenter in front of the experimental room.

The experimenter was not the same person who had administered the value change procedure.

The experimenter showed the black confederate and the subject into the experimental room. The two people were seated facing one another, about four feet apart. The confederate was on the left side of the room; the subject was on the right.

The experimenter introduced the subject and confederate to one another and then gave them some information about the experiment. He explained that the purpose of the study was to find out something about how people get to know one another. He pointed out that they would be observed through one-way mirrors, but assured them that their privacy would in no way be violated since he was the only person who would hear what they said.

The pair were told that they could discuss whatever they wanted to; that all they had to do was to talk for ten minutes. In order to get the conversation started, he suggested that they talk about what they planned to do when they graduated. After answering any questions that arose, the experimenter left the room. The session started as soon as he closed the door.

At the conclusion of the ten minutes, the experimenter re-entered the room. He asked the confederate to wait a minute and took the subject into another room and had him fill out the three

questionnaires. When the subject was finished, the experimenter thanked him for participation in the experiment and asked him not to discuss the experiment with anyone else.

It should be noted that while most of the subjects were dismissed immediately following the completion of the questionnaires, there was time available at the end of some experimental sessions to debrief some of the subjects. Twenty subjects were debriefed. In the debriefing sessions the experimenter tried to ascertain what the subject thought the purpose of the interaction was and if the subject connected the interaction with the value change procedure or his ranking of the values.

RESULTS

The two basic hypotheses that were tested in this study were (1) that people who rank Equality high will be more positively attracted to a black person in an interpersonal situation than will people who rank Equality low; and (2) if the value Equality becomes significantly more important to a group of people, then interpersonal attraction toward a black person will also increase.

Before proceeding to the data relevant to the first hypothesis, it is necessary to report the interjudge reliability for the nonverbal measures. The interjudge reliability was +.980 for eye contact; +.968 for posture; +.973 for head distance; and +.978 for foot distance.

Table one presents the correlations between the posttest ranking of Equality and the dependent measures for 1) the control group which

engaged in a white - black interaction and 2) the control group which engaged in a white - white interaction. As can be seen from Table 1 for the white - black interactions, the correlations between Equality and perceived value similarity and eye contact were significant and in the predicted direction. None of the correlations for the white - white interactions were significant.

Insert Table I about here

In order to test the second hypothesis it was necessary to first determine if there was value change in the experimental group, but not the control group that took part in the black - white interaction. As can be seen from part A of Table 2, this was the case. However, it can also be seen that the experimental group was one full rank lower in their pretest

Insert Table 2 about here

ranking of Equality. Thus, even though there was significant value change for this group, there was no significant difference in the posttest means. This lack of a difference precluded an adequate test of the second hypothesis. That is, given that there was no difference in the posttest rank of Equality, one would hardly expect differences in the dependent measures of interpersonal attraction toward a black person. Therefore, it was decided to equate (or match) the two groups on their pretest rank of Equality.

It was determined that in order for the groups to be matched on their mean pretest rank of Equality it was necessary to drop two people who had ranked Equality 16 from the experimental group and four people who had ranked Equality three from the control group. After all those people who fit this criterion had been identified (there were nine such people), they were assigned a number and elimination was determined by a table of random numbers. It should be emphasized that this

was done without regard as to how these subjects had scored on the dependent measures of interpersonal attraction.

Part B of Table 2 presents the value change data for equated groups. As can be seen from this table, the experimental and control groups now have exactly the same mean pretest ranking of Equality. Table 2 also shows that Equality became significantly more important to the experimental group, but not to the control group. (It should be noted that matching the groups had little effect on the amount of value change for each of the groups.) The posttest difference in the means for the two groups now approaches significance ($t = 1.35$, $df = 69$, $p < .07$). Thus, now a more adequate test of the second hypothesis can be made.

It should be noted that given the finding from the test of the first hypothesis that there was not a significant relationship between Equality and scores on the liking scale, posture, foot distance, and head distance, experimental-control differences on these measures should not be expected. Therefore, the true test of the second hypothesis is whether or not there were experimental-control differences on the measures that did correlate with Equality (perceived value similarity, perceived behavior similarity, and eye contact).

Insert table 3 about here

Table 3 presents the comparison between the experimental and control groups for perceived value similarity, perceived behavior similarity and eye contact. As can be seen from this table all three differences are in

the predicted direction and the experimental-control difference for eye contact was significant. That is, the experimental group spent significantly more time looking at the black confederate, than did the control group. Thus, the second hypothesis was at least partially confirmed.

Discussion

The results of the test of the first hypothesis (that the importance of the value Equality is correlated with interpersonal attraction toward a black person) are subject to two equally plausible explanations. The first is that the significant relationship between the importance of the value Equality and the three measures of interpersonal attraction toward a Negro is due to a third variable (e.g., familiarity with Negroes). That is, it is possible to interpret the findings from the first hypothesis as showing that the ranking of Equality and interpersonal attraction toward a Negro are two correlated measures of the same thing.

The second explanation of the results of the first hypothesis is that interpersonal attraction toward a Negro is in the service of the value Equality. This latter explanation is based on Rokeach's (1968) hypothesis that attitudes and behavior are in the service of values.

The results of the second hypothesis allows one to determine which explanation is more tenable. If the former of the two explanations is correct, then one would not expect any changes in interpersonal attraction toward a Negro as the result of changes in the importance of the value Equality. For example, if both Equality and interpersonal attraction were correlated measures of familiarity with blacks, then one wouldn't expect

changes in the importance of Equality to change interpersonal attraction toward blacks, since changes in equality could hardly effect how familiar the subjects were with blacks.

The results of hypothesis two for perceived value and behavior similarity provided rather weak support for the second explanation (that interpersonal attraction toward a Negro is in the service of the value Equality). The differences, while in the predicted direction, were not significant. The results for eye contact provided much stronger support for the second explanation. The group for which Equality became more important looked at the black person significantly more than the group for which Equality did not change in importance. Thus, it seems that the importance of the value Equality and interpersonal attraction toward a Negro are not simply correlated dependent measures of some third variable; rather the results of the second hypothesis suggest that interpersonal attraction toward a Negro is in the service of the value Equality.

There are, however, two alternative explanations of the results of the second hypothesis. The first alternative explanation is that demand characteristics (Orne, 1962) were operative for the experimental group. For demand characteristics to explain the experimental-control differences it was necessary that 1) the subjects realized that the purpose of the conversation was to determine how much they liked blacks; 2) that the subjects realized that eye contact is correlated with interpersonal attraction; and 3) that the subjects connected the value change procedure three months earlier with their conversation with the black person.

As noted in the method section, 20 of the subjects were debriefed. Seven of the 20 admitted quite freely that they realized the purpose of the interaction was to determine if they were prejudiced against blacks. Five other subjects admitted, after some probing, that they suspected that this was the purpose of the interaction. However, none of the subjects connected the interaction with either the ranking of the values or the value change procedure. This was not surprising since the value change procedure and the ranking of the values was given months earlier by someone other than the experimenter who ran the interaction. Further, the research of Exline and Winters (1965) suggests that people are not aware of the amount of eye contact they display in an interaction.

The second alternative explanation of the results is that changes in the importance of the value Equality do not lead to changes in the amount of eye contact displayed toward a black person. With the methodology used, it is possible that the two changed concomitantly. However, given Rokeach's (1968) finding that attitude change follows value change, it seems at least reasonable to suppose that behavior change follows value change.

Besides providing some empirical support for Rokeach's theory value and value change, the results of this study suggest that more subtle measures, such as eye contact, can be validly used to assess feelings in an interracial interaction. The usage of such measures reduces the probability of evaluation apprehension affecting the results in a study of an interracial interaction.

There are a number of avenues of research which one would follow based on the results of this study. For example, what other kinds of nonverbal behaviors are related to the importance of the value Equality? How does a black person interpret these nonverbal behaviors and is there any difference in sensitivity to these behaviors between blacks and whites. If one wishes to investigate the rather subtle manifestations of what black leaders have called inherent white racism, it would seem that nonverbal behavior will be of considerable value.

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Footnotes

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²In order to measure the relative importance of these values to individuals, Rokeach selected 18 terminal and 18 instrumental values for use in two separate rank order preference scales. The 18 terminal values were: a comfortable life, an exciting life, a sense of accomplishment, a world at peace, a world of beauty, equality, family security, freedom, happiness, inner harmony, mature love, national security, pleasure, salvation, self-respect, social recognition, true friendship, and wisdom. The 18 instrumental values were: ambitious, broadminded, capable, cheerful, clean, courageous, forgiving, helpful, honest, imaginative, independent, intellectual, logical, loving, obedient, polite, responsible, and self-controlled.

³A complete copy of these questionnaires is available upon request from the author.

Table 1
Correlations Between Posttest Ranking of Equality and
Dependent Measures of Interpersonal Attraction

	White-White Interaction (N=20)	White-Black Interaction (N=38)
Liking Scale	.087	.235
Perceived Value Similarity ¹	-.025	.300*
Perceived Behavior Similarity ²	.015	.279*
Eye Contact ³	.051	.351**
Posture ⁴	-.086	.143
Head Distance ⁵	.106	-.011
Foot Distance ⁶	-.065	.194

*p .05

**p .025

¹Perceived value similarity was the r_{ho} correlation between the subject's own ranking of the 18 instrumental values and his estimate of the confederate's ranking of the same 18 values.

²Perceived behavior similarity was the number of times the subject indicated that he had the same interpersonal behavior trait as the confederate.

³Eye contact was the amount of time the subject spent looking at the eyes or facial region of the confederate.

⁴Posture was mean directional deviation from the 90° posture position.

⁵Head distance was the mean distance the subject's head was from the confederate's head.

⁶Foot distance was the mean distance the subject's feet were from the confederate's feet.

Table 2
Value Change for Experimental and Control Groups

A. Not Equated on Pretest

	<u>Pretest Mean</u>	<u>Posttest Mean</u>	<u>Correlated t Value</u>
Experimental (N=38)	9.03	7.67	1.93*
Control (N=38)	7.92	8.18	-.56
T value for difference between groups	.81	-.42	

B. Equated on Pretest

	<u>Pretest Mean</u>	<u>Posttest Mean</u>	<u>Correlated t Value</u>
Experimental (N=36)	8.53	7.10	1.94*
Control (N=34)	8.53	8.81	-.58
T value for difference between groups	.00	-1.35	

*p < .05

Table 3
Experimental-Control Differences on Three Measures
of Interpersonal Attraction that Correlated
Significantly with Posttest Ranking of Equality

Measure	Group		Significance Test
	Experimental (N=36)	Control (N=34)	
Perceived Value Similarity	mdn = .47	mdn = .40	$\chi^2 = .829$
Perceived Behavior Similarity	$\bar{X} = 97.20$ $S^2 = 164.15$	$\bar{X} = 96.25$ $S^2 = 126.55$	$t = .330$
Eye Contact	$\bar{X} = 470.15$ sec $S^2 = 9,244.08$	$\bar{X} = 425.78$ sec $S^2 = 15,119.80$	$t = 1.57^*$

* $p < .05$