

4
AN EXAMINATION OF ROKEACH'S BELIEF-RACE HYPOTHESIS
USING INTERPERSONAL PROXEMIC BEHAVIOR AND
A PAPER-AND-PENCIL MEASURE 4

By CONSTANCE E. OBUDHO ✓

A thesis submitted to
The Graduate School
of
Rutgers University
in partial fulfillment of the requirements
for the degree of
Master of Science

Written under the direction of
Assistant Professor Alvin Ramsey
of the Department of Psychology
and approved by

Alvin Ramsey
Samuel W. Haslam
C. Sarah Stiles

New Brunswick, New Jersey

June, 1975

UNIVERSITY OF NAIROBI LIBRARY



0101027 1

FOR USE IN THE LIBRARY ONLY

UNIVERSITY OF NAIROBI
LIBRARY

Bd 130

035327 | 94

AF.

BF

575

.Pg 028

C.2

ABSTRACT OF THE THESIS

An Examination of Rokeach's Belief-Race Hypothesis

Using Interpersonal Proxemic Behavior and

a Paper-and-Pencil Measure

by CONSTANCE E. OBUDHO, M.Sc.

Thesis director: Assistant Professor Alvin Ramsey

In the spirit of the belief-race studies which have used realistic procedures to determine an individual's level of attraction toward a stimulus person, the present experiment investigated attraction toward a same sex, same or other race confederate, after a condition of opinion similarity or dissimilarity had been manipulated. As one means of determining attraction, proxemic behaviors (interaction distance, head and body orientation, and movement) were observed during a dyadic conversation. In addition, attraction responses were determined by a paper-and-pencil measure--the Interpersonal Judgment Scale (Byrne, 1961).

Two male and two female undergraduates (one Black and one White within each sex) acted as conversation partners with the subjects.

The experimental procedure involved two sessions separated by approximately one week. During the first session, racial attitude and opinion questionnaires were completed. During the second session, students who had been placed into high- or low-prejudice groups according to their racial questionnaire responses met and talked with a

confederate who purportedly had similar or dissimilar beliefs. During the conversation, the proxemic judgments were made by observers who were seated at a table facing the interaction and who pretended to be busy writing. After the conversation, the subject gave his evaluations of the confederate on the Interpersonal Judgment Scale.

An analysis of variance and a correlational analysis were done on the data. The major results were that there was no significant difference between behavioral or paper-and-pencil attraction responses in the opinion similarity and dissimilarity conditions; and contrary to much of the past literature, the belief primacy theory was not supported in that race proved to be a more potent influence upon behavioral and questionnaire responses than was opinion. Results for the correlational analysis showed that there was no significant correspondence between proxemic behaviors and Interpersonal Judgment Scale responses.

Some interesting proxemic findings showed that Black and White subjects behaved differently on the distance and body orientation variables and that high- and low-prejudice subjects behaved significantly differently on the body and head orientation variables.

Possible procedural changes for the conversation interaction were discussed which could have an effect on paper-and-pencil and behavioral attraction responses.

TABLE OF CONTENTS

	Page
ABSTRACT OF THE THESIS	ii
LIST OF TABLES	viii
 Chapter	
I. LITERATURE REVIEW: BELIEF SIMILARITY	
LITERATURE	1
Introduction	1
Belief Similarity-Dissimilarity Studies	2
Belief Similarity-Dissimilarity Studies Related to Prejudice	6
Need for a More Realistic Stimulus and Measure of Attraction in Belief Studies	13
Proxemic-Like Measures of Attraction	18
II. PURPOSE OF THE PRESENT STUDY	27
III. PREDICTIONS	28
Belief Similarity-Dissimilarity	28
Prediction I	28
Part (a)	28
Part (b)	28
Part (c)	29
Belief Similarity and Prejudice	30
Prediction II	30
Part (a)	30
Part (b)	31

TABLE OF CONTENTS (continued)

Chapter	Page
Part (c)	32
IV. METHOD	33
Subject Variables	33
Subjects	33
Confederates	33
Training Session for Confederates	34
Proxemic Observers	34
Training Session for Proxemic Observers	35
Experimenter	35
Opinion Measures	35
Racial Attitude Questionnaire	35
Opinion Questionnaire	36
Interpersonal Judgment Scale	37
Behavior Measures	37
Distance and Axis Scales	37
Head Orientation, Movement, and Verbalization Measures	39
Procedure	39
Experimental Design	39
Experimental Procedure	40
V. RESULTS	
Belief Similarity-Dissimilarity	47
Attraction Measures	47
Distance Behavior	48
Axis and Head Orientation Behaviors	51

TABLE OF CONTENTS (continued)

Chapter	Page
Belief Similarity and Prejudice	52
Attraction Measures	52
Distance Behavior	54
Axis Behavior	56
Correlational Analysis Between Behavioral Indices and Paper-and-Pencil Measures	58
Other Findings	60
Sex and Race Differences	60
Prejudice Effects	62
Trial Effects	64
Sex Differences on the Interpersonal Judgment Scale	64
Significant Responses on the Interpersonal Judgment Scale	66
VI. DISCUSSION	70
Belief Similarity-Dissimilarity	71
Distance, Axis, and Head Orientation Behaviors	72
Belief Similarity and Prejudice	74
Attraction Measures	74
Distance Behavior	77
Correlational Analysis Between Behavioral Indices and Paper-and-Pencil Measures	77
Other Findings: Discussion	78
Sex and Race Differences	78
Prejudice Effects	81
Trial Effects	82

TABLE OF CONTENTS (continued)

Chapter	Page
VII. CONCLUSION	83
BIBLIOGRAPHY	84
APPENDIXES	
A. Axis Scoring System	88
B. Distance Categories and Scores	90
C. Hall's Four Standing Interaction Distance Zones	92
D. Some Body Parts, Distances, and Proxemic Scores for Males and Females	94
E. Racial Attitude Questionnaire	96
F. Opinion Questionnaire	100
G. Interpersonal Judgment Scale	103

LIST OF TABLES

Table	Page
1. Analysis of Variance Table for Mix, Prejudice, Opinions, and Sex for Proxemic Variables	41
2. Analysis of Variance Table for Race of Subject, Race of Confederate, Prejudice, Opinions, and Sex for Proxemic Variables	42
3. Mean Attraction Responses (on Feelings Scale) for Black and White Subjects in the Agree and Disagree Conditions	49
4. Mean Axis and Head Orientation Responses for Black and White Students in the Agree and Disagree Conditions	53
5. Mean Attraction Responses (on Feelings Scale) for High- and Low-Prejudice Subjects Toward Other-Race Confederates	53
6. Mean Attraction Responses (on Feelings Scale) for Black and White High- and Low-Prejudice Subjects Toward Other-Race Confederates	55
7. Mean Distance Responses for Black and White High- and Low-Prejudice Subjects Toward Other-Race Confederates	57
8. Mean Axis Responses for High- and Low-Prejudice Subjects Interacting with Other-Race Confederates	57
9. Mean Axis Responses for Black and White High- and Low-Prejudice Subjects Toward Same and Other-Race Confederates	59
10. Correlation Coefficients for Proxemic Variables and Three Attraction Scales	59
11. Mean Distance Responses for Black and White Males and Females in Same-Race Dyads	61
12. Mean Axis Responses for Black and White Males and Females in Same-Race Dyads	63

LIST OF TABLES (continued)

Table	Page
13. Mean Axis and Head Orientation Responses for High- and Low-Prejudice Subjects	63
14. Mean Head Orientation Responses for High- and Low-Prejudice Males and Females	65
15. Mean Distance, Axis, and Head Orientation Responses for Subjects Across Trials	65
16. Mean Attraction Responses on Combined (the Total Attraction Score) for Males and Females Toward Same and Other-Race Confederates	67
17. Mean Morality Responses on the Interpersonal Judgment Scales for High- and Low-Prejudice Subjects Toward Black and White Confederates	69

I. LITERATURE REVIEW: BELIEF
SIMILARITY LITERATURE

Introduction

In The Open and Closed Mind, Rokeach, Smith, and Evans (1960) theorized that prejudice is primarily the result of perceived dissimilarity of beliefs between an individual and a stimulus person or group, not perceived difference in race per se. A prejudiced person does not reject someone of a different race, nationality, or religion simply on the basis of ethnic membership, but rather because he feels that the other holds different beliefs and values.

In their book, Rokeach et al. reported two studies designed to validate this claim, with a paper-and-pencil task. Adults were asked to rate pairs of stimulus persons on a 9-point scale ranging from "I can't see myself being friends with such a person" to "I can very easily see myself being friends with such a person." In one of the studies, the stimulus people were White or Black; in the other, they were either Jewish or gentile. All possible combinations of race and belief were used, and some of the beliefs concerned communism, labor unions, God, and socialized medicine. It was found that expressed friendship

preferences were determined primarily by similar belief systems rather than by racial or religious categories.

The theory which was supported by these experiments has stimulated numerous studies, and the following section presents many of these investigations.

Belief Similarity-Dissimilarity Studies

Triandis (1961) criticized Rokeach et al. (1960) for generalizing the findings of these two studies beyond the realm of friendship to prejudice. He pointed out that the general notion under which these two concepts fell was social distance. Friendship, he asserted, concerned a small distance, while prejudice concerned a large one; hence, responses secured in relation to the former may not be applicable to the latter. To test his assertion, he varied the race, religion, occupational status, and philosophy of life of a stimulus person in a study with White undergraduates. He used responses to a questionnaire covering a wide range of social distances as the dependent measure and found that the Rokeach et al. (1960) findings were not substantiated.

Rokeach (1961), in turn, criticized Triandis' (1961) research methodology for the use of the philosophies of life as part of the description. He charged that these belief variables were presented in such a weak, vague, and abstract manner that they may not have actually produced the desired effect.

Stein, Hardyck, and Smith (1965) attempted to reconcile the contradictory findings between Rokeach et al. (1960) and Triandis (1961). Two stimulus teenagers were described as being unlike the high school subject in values and two were described as being like him. The race of the stimulus teenager was varied within each of the value conditions. On a pretest questionnaire, subjects had been asked to respond to a list of different individuals among which was a Black teenager.

When responses on the pretest were compared with responses to the four stimulus teenagers, an important difference was shown. When information about values was provided, the results were consistent with Rokeach's theory in that similarity of values accounted for more of the variance than race for responses on a social distance scale. However, when considerable details were not given, a strong race effect was found, presumably based upon assumptions about values and emotional or institutionalized factors (p. 289).

In another study, Stein (1966) attempted to validate Rokeach's theory of belief primacy by replicating his earlier research (Stein et al., 1965). This time Black and White subjects were given a questionnaire which included a series of items tapping their beliefs concerning personal values (p. 3). Stimulus persons were varied according to race, similarity of beliefs, and social status. It was found that, consistent with the results of the previous

study, when information was given about the stimulus person's beliefs concerning personal values and when the social contacts presented in the social distance scale consisted of relatively large or intermediate distances ("sit next to in class," or "eat lunch with" [p. 27]), perceived similarity or dissimilarity of beliefs was the primary determinant of attitudes for White gentiles toward Blacks and Jews. Likewise, knowledge about beliefs was the most important factor for Jewish and Black subjects' attitudes toward White gentiles. Race, religion, and status had only a secondary influence on responses toward others. But, for situations in which parents or other adults would see the contact or situations of culturally defined intimacy, race was the most influential factor in determining White subjects' willingness to interact with Blacks.

Hendrick and Hawkins (1969) investigated the effects of varying race, similarity of beliefs, and type of stimulus questionnaire on attraction using White male undergraduates. They discovered that for some responses on the social distance measure, Whites with similar beliefs were equally or more preferred than Blacks with similar beliefs, but Blacks with dissimilar beliefs were more preferred than Whites with dissimilar beliefs. It was suggested that a Black person was expected to have different beliefs, but that a person of one's own race who presented deviant attitudes was a threat and thus rejected.

Smith, Williams, and Willis (1967) also reported

what they called a "renegade" effect (p. 135) in their second experiment using only Black subjects. These subjects tended to penalize Black stimulus persons excessively who were presented with dissimilar attitudes as if the stimulus persons were deviants or renegades. The results of their first study which used a White Southern subsample were contradictory to the Rokeach et al. (1960) results. Smith et al. (1967) suggested that the difference in time between the two studies may have been a factor in the discrepancy. The civil rights movement may have caused race to be more salient for the later Southern group. Alternatively, location may have been a deciding factor. Rokeach's sample came from Houston, Texas, which was a heterogenous state, while the Smith et al. (1967) White subsample came from New Orleans, Louisiana (p. 135).

McWhirter and Jecker (1967) looked at attitude similarity and inferred attraction among undergraduates in their responses to a stimulus person who agreed with them on two, four, or six items of a seven-item scale. After being given the attitude information, the subjects were required to predict the stimulus person's behavior on a questionnaire. It was found that there was a linear relationship between proportion of similar attitudes between the subject and stimulus person and how much the subject believed he would be liked by the similar stimulus person.

And, lastly, Savell and Luttrell (1972) conducted two related experiments on the effects of race and belief

under different conditions of belief similarity using White female high school students. In the first experiment, the manipulated variables were race of the female stimulus person, similarity of beliefs, and extent of similarity. In the second experiment, the variables were race, belief, and amount of information concerning a female stimulus person. In both experiments, not only was the similar stimulus person favored more than the dissimilar one, but the Black similar stimulus person was responded to more favorably than the White person on most of the scales. Savell and Luttrell suggested that the subjects may have been trying to appear unprejudiced or may have been reacting with enthusiasm to the idea of associating with Blacks since this would have been a novel experience for them (p. 282). Additionally, the amount of information provided (or extent of similarity) did not affect responses.

Belief Similarity-Dissimilarity Studies Related to Prejudice

An important variable which was neglected in the previously discussed studies was the subject's level of prejudice and how this was related to his responses toward the stimulus person. In two related experiments, Byrne and Wong (1962) studied assumed attitude similarity as a function of racial prejudice and the interactive affects of race, racial prejudice, and attitude similarity as these determined interpersonal attraction. Groups of White undergraduates were categorized as either high or low prejudice

for both studies according to responses on the Desegregation Scale (p. 247). In the first experiment, after looking at pictures of Black or White strangers, the subjects were required to fill out an attitude survey as they believed the stranger might. It was found that high-prejudice subjects assumed greater attitude dissimilarity between themselves and Blacks than low-prejudice subjects. In the second experiment, the subjects were given false attitude and background information about a Black or White stimulus person and were then asked to rate him on two parts of the Interpersonal Judgment Scale (p. 248). The results were in agreement with the Rokeach et al. (1960) hypothesis and were that a person with similar attitudes was rated more positively than one with dissimilar attitudes, regardless of race.

Byrne and McGraw (1964) approached the belief-race phenomenon with the following question: Would the reward value of attitude similarity and the punishment value of attitude dissimilarity overcome the effects of prejudice on attraction toward Blacks? In the first study, White college students were asked to fill out opinion and racial attitude scales. Then they were divided into high- or low-prejudice groups according to their responses on the latter measure. During the experimental situation, they were given bogus opinion scales which included certain background information, including race, about a stimulus person. Additionally, a yearbook photograph of someone who

was supposed to be the stimulus person was attached to the scale. After examining the photo and information, the subjects were required to rate the person on the Interpersonal Judgment Scale. It was found that subjects high in prejudice tended to respond negatively to a Black person regardless of his opinions, but low-prejudice subjects rated Blacks more favorably than high-prejudice subjects. These findings contradicted the earlier ones by Byrne and Wong (1962) who reported that in their second experiment a person with similar attitudes was rated more positively, regardless of race, than one with dissimilar attitudes by both high- and low-prejudice subjects. These discrepant results were attributed by Byrne and McGraw (1964) to the fact that a photograph of the stimulus person had been used in their study while Byrne and Wong (1962) had simply written the name of the person's race on the bogus questionnaire. It was suggested that racial hostility might have been evoked by the picture of a Black person as opposed to only the racial label.

In order to explore the possibility of evoked hostility, Byrne and McGraw (1964) conducted a second study in which three levels of attitude similarity were used and a photograph of a Black stimulus person was attached to only half of the opinion questionnaires. Once again, White subjects were divided into high- and low-prejudice groups, and it was found that both groups were more positive toward a similar Black stimulus person than toward a dissimilar

one. However, those low in prejudice were more positive in their responses toward the stimulus person than those high in prejudice. In regard to the picture, it was found that a positive rather than a negative effect was noted in its presence. Thus, rather than more realistic cues evoking greater hostility from subjects high in prejudice, the reverse was true (p. 209). However, the question concerning the lack of relationship between similarity and attraction toward Blacks by high-prejudice subjects in the first experiment had not been answered. Therefore, data from comparable conditions in the first and second experiment (Black stimulus person, photograph) were combined along a series from greatest degree of similarity to greatest degree of dissimilarity. The results showed that only the extremes of the similarity continuum were effective in evoking expected responses from subjects high in prejudice. Twenty-six out of 26 similar responses on the opinion scale had to be associated with the Black person to evoke a positive response. The stimulus person who was presented with intermediately similar or dissimilar attitudes tended to be rated negatively.

Triandis and Davis (1965) studied White male subjects' responses on 12 semantic and 15 behavioral differential scales to stimulus persons presented in all possible combinations of race, sex, and pro or con civil rights legislation. They found that race and belief characteristics of stimulus people acquired different weights depending on

the nature of the social distance items to which the subjects responded and the type of subject (belief prejudice or race prejudice) making the response. For almost all of the subjects the more intimate the behavior, the more frequently they responded on the basis of race. For the least intimate behaviors most subjects responded in terms of beliefs. When behaviors were intermediate in intimacy, subjects previously characterized as racially prejudiced responded in terms of race, and those characterized as belief prejudiced responded in terms of beliefs.

Serum and Myers (1970) looked at belief similarity and prejudice among White high school students. Noting that Rokeach et al. (1960) had not determined whether or not prejudiced individuals actually assumed Blacks were less likely to agree with their own beliefs and values than other Whites, they attempted to replicate the original study using perceived belief dissimilarity (concerning Blacks) as a variable. The Rokeach et al. (1960) results were replicated, and it was also discovered that for prejudiced subjects greater belief differences were perceived to exist between themselves and Blacks.

Moss and Andrasik (1973) investigated the effects of two different types of belief similarity (racially related and racially unrelated) on interracial attraction using White undergraduates as subjects. They were also interested in finding out if personality similarity had the same effect on interracial attraction as that found

for attitude similarity. First, the subjects were divided into two groups--high prejudice and low prejudice--according to responses on an attitude measure. They were then randomly assigned to the three belief conditions and to one of two similarity conditions. Moss and Andrasik explained that only Black stimulus persons were described because previous research had shown that both high- and low-prejudice subjects reacted similarly to White stimulus persons (p. 197). And, in general, responses on the Interpersonal Judgment Scale showed that low-prejudice subjects tended to be more attracted to the similar Black stimulus person, in all belief conditions, than to the dissimilar person. Highly prejudiced subjects were affected most by the general attitude condition. The discrepant finding concerned a similarity by prejudice interaction for high-prejudice subjects in response to interracial beliefs. These subjects were significantly more attracted to the dissimilar stimulus person. The explanation was that when Blacks were portrayed as feeling positively about interracial interactions (dissimilar beliefs), they were in a sense evaluating the subjects in a positive, though general way. However, this positive evaluation may have led to the attraction responses (pp. 199-200).

Lastly, some interesting observations were provided by Hendrick, Stikes, Murray, and Puthoff (1973) from a preliminary analysis of some work with high- and low-prejudice White undergraduates who had watched a taped discussion

between two Black and two White actors taking pro and con positions on race. The analysis showed that high-prejudice subjects discriminated against Blacks in favor of Whites and that low-prejudice subjects discriminated against Whites in favor of Blacks. Hendrick et al. suggested that their results indicated that a prejudicial attitude

is elicited and directed toward a concept of race rather than toward persons. When the concept is not activated [as in previous studies incorporating discussions of issues other than race and merely displaying race in the form of a real or described stimulus person] even highly prejudiced individuals . . . may engage in a wide variety of interactions without group members without any overt signs of hostility or behavioral discrimination. . . [p. 46].

It appears that in most instances the Rokeach et al. (1960) theory of belief primacy seems to have been supported; however, there were certain qualifications. The results tended to depend upon specific aspects of the methodology used. For example, when direct information was not given about a stimulus person (Blacks in particular), White subjects tended to respond in terms of race, presumably with the assumption that the stimulus person's beliefs were different from their own (Byrne & McGraw, 1964; Byrne & Wong, 1962; Stein, 1966; Stein et al., 1965). When intimate social contact with societal sanctions was involved (generally as items on a social distance scale), White subjects tended to react in terms of race (Stein, 1966; Triandis & Davis, 1965). And the percentages as well as the types of similar beliefs seemed to be important in affecting attraction (Byrne & McGraw, 1964; Hendrick et al.,

1973; Moss & Andrasik, 1973). In addition, sex differences did not seem to affect attraction responses.

Need for a More Realistic Stimulus and Measure of Attraction in Belief Studies

The previous belief-race studies have approached the investigation of race versus belief effects on attraction through the use of paper-and-pencil measures which describe inanimate, fictitious people. Early in the course of the investigation of the race-belief phenomenon, Rokeach and Mezei (1966) recognized that generalizations from the findings of these paper-and-pencil studies were limited. To overcome this limitation, they attempted to test the theory in a real life setting using a live stimulus person and behavioral indicators of attraction in addition to pre-experimental ratings of degrees of prejudice.

In what they called "the campus experiments," White male subjects were divided into high- and low-prejudice groups according to responses on an Anti-Negro Scale (p. 168).

Two Black and two White male confederates met in a specified room with a subject for the purpose of discussing a controversial topic. The subject was always chosen as chairman of the discussion and was required to choose the topic from among those suggested. It was predetermined that one of each race of confederates would agree and the other two would disagree with the subject.

During the post-discussion interview, the

experimenter asked the subject to choose two of the other "discussants" to join him for a cup of coffee in a private room (for the private condition) or in a cafeteria in the school (for the public condition). In the "field experiment," subjects were Black and White males applying for jobs as janitor, laundry worker, recreation director, and attendant at two mental hospitals. Four male confederates --two White, two Black--posed as applicants who initiated discussions about certain topics concerning the problems of working with mental patients. One White and one Black confederate took a permissive position and the other two took a rule-oriented position. The subject was always drawn into the discussion, and the confederates (according to their predetermined assignments) tried to agree or disagree with him. Later, the subject was required to choose two of the people with whom he would prefer to work. Results of all three experiments showed that similarity of beliefs was the basis for choice more often than dissimilarity, and similarity of beliefs was more often a basis for choice than race. These results were also generalized to the high- and low-prejudice college groups and, despite statistically significant differences between the public and private conditions (in the campus studies), Rokeach and Mezei tentatively concluded that social pressures on the campus were not sufficiently great enough to produce differences in the responses in the two situations.

Another study employing a more realistic stimulus

was done by Hendrick, Bixenstine, and Hawkins (1971). In an effort to make race a more salient variable within their study, they showed White subjects one of two films of four male actors (two White and two Black) discussing pro and con views of the Vietnam War. One member of each race took one of the positions, and the positions taken by each actor were reversed in each film. Subjects were to rate the actors on a series of scales including perception, personality traits, and social distance. While filling out the scales, 8-inch by 1-inch pictures of the actors were on display for the subjects to make race more salient. The results supported the Rokeach et al. (1960) theory and showed that racial differences had few differential effects on evaluations despite the manifest manipulation of this variable. One area in which race had an effect, however, was on the social distance scales concerning dating one's sister and having the stimulus person as a speaking acquaintance. In these instances, Whites were more preferred than Blacks.

Hendrick et al. (1971) conducted a second realistic study in order to explore the previously discussed Stein et al. (1965) findings which showed that when no information was given about a Black stimulus person, high-prejudice subjects assumed belief dissimilarity. The film procedure was again used, but without sound. White undergraduates were divided into high- and low-prejudice groups according to responses on a racial attitude measure. The results

showed that high-prejudice students assumed greater dissimilarity of attitudes between themselves and Blacks. But, in terms of liking, the mean ratings for Black and White actors by high-prejudice subjects were almost identical and were very similar for low-prejudice subjects. These results were in contrast to the conclusions drawn by Stein et al. (1965). The Hendrick et al. high-prejudice subjects did assume greater belief dissimilarity between themselves and Blacks when no information was provided, but it did not necessarily follow that this led to less attraction. However, when Hendrick et al. looked at the relationship between the actor's expressive movements during the discussion and attraction, they found the former to be a powerful variable. The average liking rating for the most expressive Black and White actor combined was significantly higher than that for the least expressive Black and White actor combined. They concluded, then, that in human-to-human interactions many variables may be more important in determining attraction than race; in fact, race may not be very important at all. And, when discriminatory responses are given on the basis of race, they may be due to the pressures of social norms rather than affective reactions (p. 257). Also refer to Stein (1966), Triandis (1961), and Triandis and Davis (1965).

Hendrick, Stikes, and Murray (1972) contributed to the group of studies employing a more realistic setting in the investigation of the effects of race versus belief

similarity on attraction. In a procedure similar to that used by Hendrick, Bixenstine, and Hawkins (1971), White undergraduates who were either pro- or anti-ROTC watched four male actors (one White and one Black for each of the positions) engaging in a live discussion of the issue of ROTC on campus. After seeing the discussion, subjects rated the actors on several scales including a personality trait measure and a social distance scale. The results showed that on almost all measures actors similar in belief to the subject were rated more favorably than dissimilar actors. But significant race effects were found for some of the measures including two of the social distance items --dating one's sister and live next door to--for which Whites were more preferred than Blacks. This type of result was also found in the Hendrick et al. (1971) investigation and in the studies by Stein (1966) and Triandis and Davis (1965). However, despite the fact that the stimulus persons were physically present (as well as visually salient), this procedure did not elicit significantly more race effects (p. 166).

Finally, Hendrick et al. (1973) conducted three related experiments on the race versus belief theory in order to determine whether a high degree of ego involvement with an issue on the part of a subject and privacy in making ratings of the confederates would elicit racially prejudiced responses. White college undergraduates participated, with four confederates, in a group discussion of an

issue on which they had previously been categorized as either pro or con. During the discussion, one Black and one White confederate agreed with the student while the other two disagreed. The results showed a strong belief effect in all of the experiments and a particular rejection of dissimilar Whites. This latter "renegade" effect (p. 45) was also found by Hendrick and Hawkins (1969) and Smith et al. (1967).

The above studies have measured attraction in belief-race studies by using live stimulus persons and/or behavioral indicators of attraction. In the following section, the belief-race studies have contributed to that group, but they have also made a unique contribution by using proxemic measures of the attraction response.

Proxemic-Like Measures of Attraction

The concept of personal space, to use the term coined by Katz (1937), has been used to describe the patterns of behavior humans develop in terms of the space they use during social interactions. An extensive study of personal space was made by Hall (1955, 1966) who discovered sex and cultural differences in this phenomenon and who provided his own label, "proxemics," for the interaction variables he recorded.¹ One such variable--distance

¹See, also, E. T. Hall, "Environmental communication," in A. H. Esser, Behavior and environment: The use of space by animals and men (New York: Plenum Press, 1971, pp. 247-256); E. T. Hall, "Proxemics," Current anthropology, April-June, 1968, 9 (2-3), 83-108; E. T. Hall, The silent

behavior--was determined from interviews and observations of middle-class, mentally and physically healthy, adult Americans usually coming from the northeastern United States. He characterized four standing interaction distances: intimate, personal, social, and public. The descriptive terms he used provided an indication of the types of relationships associated with each distance.

Besides basic sex and cultural effects, distancing behavior or propinquity has been found to be a promising indicator of affect or attraction. For example, Hiatt (1971) and Little (1965) found that when members of a dyad were labeled as friends, they were seen by subjects as interacting closer than when they were labeled acquaintances or strangers, respectively. Friends received closer actual approach distances than strangers in another part of Hiatt's (1971) study, and Aiello and Cooper (1972) found that pairs of subjects whose members liked each other stood closer together than those with members who did not like each other.

Two other indicators of attraction are body orientation (axis) and head orientation. For instance, Aiello

language (Garden City, N. Y.: Doubleday, 1959); E. T. Hall, "The silent language in overseas business," Harvard Business Review, 1960, 38, 87-96; R. Sommer, Personal space: The behavioral basis for design (Englewood Cliffs, N. J.: Prentice-Hall, 1969); C. E. Obudho, The proxemic behavior of man and animals: An annotated bibliography (Monticello, Ill.: Council of Planning Librarians, September 1974), Exchange Bibliography, Nos. 646 and 647; and M. O. Watson, Proxemic behavior: A gross cultural study (Paris: Mouton, 1970), for further information about proxemic behavior.

and Cooper (1972) found that an inspection of trial means for their pairs of subjects showed that there was an increase in body angle between negatively disposed pairs over time. Mehrabian (1967) conducted several experiments in which he investigated the communication of affect intensity toward others via axis and head orientation as well as distance. The results of the study showed that when a subject made inferences about the degree of positive experimenter attitude toward herself, her judgments were influenced by a combination of head and body orientations, such that high immediacy or directness of the experimenter's body communicated a positive attitude corresponding to the immediate head orientation. On the other hand, when the subject made inferences about the degree of positive experimenter attitude toward another subject, her judgments were primarily influenced by head orientation so that high immediacy in head orientation communicated a positive attitude along with high or low immediacy in body orientation.

Byrne, Baskett, and Hodges (1971) conducted two experiments in which they manipulated White subjects' perceptions of attitude similarity-dissimilarity (concerning 24 topics [p. 140]) to two same-sex confederates (one similar, the other dissimilar) as well as observing their seated distance behavior in relation to these confederates. Responses on the Interpersonal Judgment Scale were obtained, and then the subject's choice of a seat in relation to the two confederates (while waiting for the experimenter to

explain the study) was observed. In Experiment I, in which a side-by-side seating arrangement was used, with six chairs in a semicircle and the confederates seated in the second chairs from each end, female subjects tended to sit closer to the similar confederate, while male subjects showed no preference. Byrne et al. offered a possible explanation for these sex differences. According to previous research, females generally chose to sit alongside a confederate, while males preferred to sit across from him. Side-by-side seating was generally considered to be the most intimate of all seating arrangements, and since in this society females were allowed more freedom of affective expression with other females than were males with males, the experimental setting may have inadvertently produced an atmosphere in which females could express their interpersonal attitudes, but males could not (p. 143).

Sommer (1959) conducted a study with normal and schizophrenic subjects concerning the use of personal space in small groups. When a female confederate was at a corner position on one side of a rectangular table, normal female subjects sat nearest her at the corner. Normal males sat opposite both sexes of confederates. And when the female confederate sat in the center chair along the long side of the table, normal female subjects sat closer and usually beside her. Only one normal male sat in this position, and none of them sat beside the male confederate. Because of the behavioral sex differences in the Byrne et al. (1971)

study, a second experiment was conducted in which face-to-face seating alternatives were offered. As in the first experiment, the subject was exposed to two same-sex confederates presenting divergent views. Once again, there were no sex differences between attraction responses on the Interpersonal Judgment Scale, and the confederate with similar attitudes was favored more than the one with dissimilar attitudes. In regard to proxemic behavior, it was found that females showed no systematic seating preferences, but the hypothesis that males would sit across from the preferred stimulus person was confirmed.

Allgeier and Byrne (1973) manipulated attraction to an opposite sex stranger by means of false attitude information in their investigation of White male and female undergraduates' preferences for seating distances during evaluations of a novelty type product. They also looked at expressed feelings of anxiety, hostility, and depression as these might affect interpersonal distance and responses on the Interpersonal Judgment Scale. Each subject met with an opposite sex confederate whose "attitude survey" they were given to read. After reading this information, the subject was required to rate his partner on the Interpersonal Judgment Scale and then to take one of four seats (arranged in a row) so as to be able to evaluate the product. Actually, the subject was free to choose from among three remaining seats because a particular one was always taken by the confederate. The remaining seats were at

differential distances (2 to 4 feet) from this one. After evaluating the product, each subject noted his general feelings on the Multiple Affect Adjective Check List (p. 216). The results showed the general similarity-attraction effects on the Interpersonal Judgment Scale, such that attraction toward an agreeing stranger was greater than toward a disagreeing one. In regard to seating choices, the subjects chose to sit closer to a confederate with similar attitudes than to one with dissimilar attitudes, and unlike the findings by Byrne et al. (1971) in their first experiment, there was no indication of sex differences. Furthermore, the subjects who sat at 2 feet from the confederate expressed less anxiety, less hostility, and less depression on the Multiple Affect Adjective Check List than those who sat at 4 feet. However, Byrne et al. noted that the "association between affective responses and seating distance cannot, of course, be interpreted unequivocally as evidence of affect as a mediator [p. 218]" and consequently determiner of attraction. But, the results, so they pointed out, were in conjunction with other studies which have indicated that attitudinal manipulation alone could elicit affective responses as measured by paper-and-pencil tests and physiological devices (p. 218).

Finally, Tesch, Huston, and Indenbaum (1973) proposed a methodological change for the belief-race paradigm when they noted that other research on the relationship between physical proximity and attraction had been limited

to semi-fixed feature spaces. They therefore tested the belief-race phenomenon in what they called a "dynamic space."

White female undergraduates were given an attitude survey and were randomly assigned to five attitude similarity conditions. After reading a bogus survey purportedly filled out by another student, the subject was required to complete the Interpersonal Judgment Scale and then to go into another room where she might or might not meet the person whose survey she had read.

In order to assess effects of having information about another individual in a novel situation, half of the subjects in each condition were told that the other person had also read their survey and had judged them and half had not.

Before entering the room, the subject was told that there were not enough chairs inside so she would have to take one in for herself. Placement of the chair and initiation of a conversation once in the room were the behaviors of interest.

The results were that, as expected, attraction was significantly affected by the degree of attitude similarity --the greater the percentage of similar attitudes, the greater the attraction. However, the behavioral variable was not significantly affected by the similarity manipulations (and Tesch et al. did not report the effects of the information manipulation). Most of the subjects used a

face-to-face arrangement (as males had done in the Byrne et al. [1971] study!) choosing locations about 45 degrees to the confederate's left regardless of attitude similarity. Additionally, personal and social zone distances (Hall, 1966) were used by similar numbers of subjects in all attitude conditions, and verbal behavior was generally initiated between 20 to 60 seconds after entering the experimental room. Thus, attitude similarity was not related to greater physical proximity between the interactants (p. 69). Tesch et al. suggested that the results were due to the fact that placement of a chair may have been too open-ended to be an effective means of communication. The social distances chosen by the subjects may have been those that were culturally normative for meeting strangers (p. 70). An alternative explanation was that feelings of conflict or discomfort may have been aroused in the subjects because they were required to meet with the person they had judged and, in half of the cases, who had also judged them. Thus, placing a chair too close or too far from the stranger may have been too revealing a communication about their feelings and may have prompted them to adjust the interaction to a normative social distance. Tesch et al. (1973) concluded that while physical proximity may be a sensitive index of attraction in a semi-fixed setting, its generalizability to a dynamic space was questionable.

The last conclusion was of particular importance to the present experiment because it attempted to test the

belief-race paradigm in an extension of the Tesch et al.
(1973) dynamic space.

II. PURPOSE OF THE PRESENT STUDY

In the spirit of those belief similarity-dissimilarity studies which have used realistic procedures to determine a subject's level of attraction toward a stimulus person (Allgeier & Byrne, 1973; Byrne et al., 1971; Hendrick et al., 1971, 1972, 1973; Rokeach & Mezei, 1966; Tesch, 1973), the present experiment investigated attraction toward a same-sex, same or other-race confederate, after opinion similarity-dissimilarity had been manipulated. To measure attraction, certain proxemic behaviors of White and Black high- and low-prejudice undergraduates were observed during a dyadic conversation. Additionally, a traditional written method--the Interpersonal Judgment Scale--was administered.

III. PREDICTIONS

The following predictions were developed from the belief similarity-dissimilarity studies with support from relevant proxemic investigations.

Belief Similarity-Dissimilarity

Prediction I

Part (a). It was predicted that subjects in the similar opinion conditions would have a more positive attitude toward the confederate and would consequently rate him more favorably on the three Interpersonal Judgment Scales which measured attraction--"Feelings," "Work With," and "Combined"--than subjects in the dissimilar opinion condition, regardless of the confederate's race.

This prediction was based upon the studies by Byrne and Wong (1962), McWhirter and Jecker (1967), Savell and Luttrell (1972), Stein (1966), and Stein et al. (1965) which showed that a stimulus person with similar opinions was rated more positively on a questionnaire by all subjects than one with dissimilar opinions.

Part (b). It was predicted that subjects would stand closer to partners with similar opinions than to those with dissimilar ones.

While none of the belief-race studies using

proxemic-like measures of attraction had specifically investigated standing interaction distances, their results could be used to support predictions concerning propinquity and attraction. For example, Allgeier and Byrne (1973) found that subjects chose to sit closer to a confederate with similar attitudes than to one with dissimilar attitudes. And certain proxemic studies have also reported results which could be used to support this hypothesis. For instance, various proxemic experiments have investigated the effects of the affective state between two interactants and the resultant distancing between them. The conditions of opinion similarity and dissimilarity in the present study may be viewed as conditions of positive and negative feeling. Thus, it might be said that I was examining whether the subject liked the confederate who was similar to him in terms of opinions and disliked the confederate who was dissimilar. Aiello and Cooper (1972) found that pairs of subjects whose members liked each other stood closer together than did those with members who did not like each other. In an article published in 1969, Mehrabian presented a review of the findings relating the posture of the communicator to his attitude toward his addressee. The findings for distance generally suggested that the space between a communicator and addressee was a decreasing linear function of the degree of liking toward the addressee.

Part (c). It was predicted that in the similar

opinion condition subjects would orient themselves more directly and would use a more direct head orientation toward confederates than subjects in the dissimilar opinion condition.

There was no belief-race literature referring to this prediction, thus I alluded to the proxemic literature. The assumption was made that a subject's liking for a confederate would follow upon his knowledge that the latter had similar opinions to his own and that this affective state would manifest itself through a more direct head and body orientation. Support for this came from findings by Mehrabian (1967, 1968, 1969) which showed that more immediate body and head orientation by the experimenter implied a positive attitude to the subject. Additionally, the prediction was based upon the study by Aiello and Cooper (1972) which showed that body orientation was more direct with positively disposed dyads.

Belief Similarity and Prejudice

Prediction II

Part (a). I predicted that high-prejudice subjects would respond more negatively on the Interpersonal Judgment Scale toward other-race confederates than low-prejudice subjects, regardless of the belief condition.

Byrne and McGraw (1964) found that although all of their White subjects responded more positively toward a similar Black stimulus person than toward a dissimilar one

on the Interpersonal Judgment Scale, high-prejudice subjects were less positive toward him than low-prejudice subjects. Because none of the belief similarity studies incorporating level of prejudice as a variable (Byrne & McGraw, 1964; Byrne & Wong, 1962; Hendrick et al., 1973, p. 46; Moss & Andrasik, 1973; Serum & Myers, 1970) had used Black subjects, there was no precedent for that part of the prediction referring to the questionnaire responses of high- and low-prejudice Black subjects toward a White stimulus person. Nevertheless, I predicted that, as with Whites whose less favorable responses presumably were based upon their prejudicial attitudes toward the Black stimulus person, Blacks would likewise manifest their attitudes toward a White stimulus person in a similar manner.

Part (b). This prediction stated that high-prejudice subjects would stand farther from other-race confederates than low-prejudice subjects, regardless of belief similarity.

Support for the prediction was not directly available from the literature. Previous belief-race studies using proxemic measures of attraction had not used level of prejudice as a variable (Allgeier & Byrne, 1973; Byrne et al., 1971; Tesch et al., 1973). However, there was related evidence available from the proxemic literature. For example, as reported earlier, Mehrabian (1967, 1968, 1969) noted that close interaction distances were used to convey and also implied a positive attitude to an addressee

by a communicator. Aiello and Cooper (1972), Hiat (1971), and Little (1965) discovered that closer distances were used by individuals who liked each other than by those who did not. To accommodate these findings, high- and low-prejudice conditions in the present study were assumed to be conditions of negative and positive feeling so that the high-prejudice subject was assumed not to like the other-race confederate, and the low-prejudice subject was assumed to like him, with distance behavior differentiating between these two groups.

Part (c). It was predicted that high-prejudice White subjects would orient themselves less directly toward other-race confederates than low-prejudice subjects, regardless of belief similarity.

As with the hypothesis for prejudice and distance behavior, this prediction could not be directly supported by the belief-race literature. However, again there was some suggestion of support in the proxemic literature in that more direct body orientation was found to imply a positive attitude (Mehrabian, 1967, 1968, 1969), and pairs of subjects who liked each other interacted more directly than those who did not like each other (Aiello & Cooper, 1972). The assumption, as made with distance, was that low- and high-prejudice subjects would manifest their positive or negative racial attitudes toward an other-race confederate through body orientation.

IV. METHOD

Subject Variables

Subjects

The subjects were 40 Black and 40 White undergraduates from an introductory psychology course at Livingston College, Rutgers University, in New Brunswick, New Jersey. There were 20 males and 20 females within each race. Initially, 200 students were sought to participate in the study for experimental credit. The sample of 80 was determined by responses on a racial attitude questionnaire designed to distinguish between high- and low-prejudiced individuals.

Confederates

Two male and two female undergraduates (one Black and one White within each sex) from Rutgers acted as conversation partners with the subjects. The confederates were chosen to be similar to each other (by sex) in general appearance, height, weight, and speech patterns so as to control, as much as possible, for differential responses by the subjects.² The subjects were told that the confederates

²The male confederates were 5 feet, 8 inches (White male) and 5 feet, 7 inches (Black male). Both females were approximately 5 feet, 5 inches tall. Both males weighed about 185 pounds, and both females weighed about 115 pounds.

were other students from Rutgers who were also taking part in the study for credit.

Training Session for Confederates

Training sessions had been conducted for the confederates prior to the experiment. At that time each confederate was observed for exaggerated types of behavior including hand movements, body movements, eye-contact behavior, and idiosyncratic patterns of speech which might characterize him during the conversations and influence subjects' reactions. When such behavior was observed, the confederate was asked to attempt to control it during the experimental interactions. For visual behavior, each confederate was instructed to gaze in a natural manner when interacting. No specific eye-contact patterns were used so that each confederate used the behavior which was natural for him while maintaining a natural to positive demeanor. This demeanor was also maintained in terms of the tone of the conversation in that the confederate was instructed only to appear agreeable toward the subject and his ideas, not to disagree with them.

Proxemic Observers

Three of the confederates (the White male and female and the Black female) took turns observing proxemic behaviors. No attempt was made to have observers judge only same-sex or same-race pairs since in the various training sessions for the observational technique no

differential judgments had been found based upon race or sex of the observer.

Training Session for Proxemic Observers

The proxemic observers had gone through four 2½ hour sessions during which they learned the scoring system for the distance and axis scales (see Appendixes A and B) and how to make judgments on pairs of interactants. Fifteen-second interval judgments were made on pairs who were instructed to engage in the normal activity of a standing conversation. At the end of the sessions, inter-observer reliability was approximately .90.

Experimenter

The experimenter was a Black female graduate student who gave all instructions to the subjects, administered the various questionnaires, and brought the subjects to the experimental room.

Opinion Measures

Racial Attitude Questionnaire

To determine the level of prejudice for each subject prior to his interaction with the confederate, a shortened form of a social distance measure containing items factor analyzed by Triandis (1964) was given during class periods.³ Those students either high or low on this

³There were four laboratory sections of the main psychology lecture, and they met four days during the week. Each student was enrolled in one of these sections, and

variable were contacted to take part in the rest of the study. The 45 statements used in the questionnaire were set up in inventory form according to a suggestion made by Oppenheim (1966). The headings used for the scales were "I would never," "Maybe I would," and "I would" concerning interactions with members of three races. Three of Triandis' (1964) five factors served as sources for the scales: Factor I--Formal Social Acceptance with Subordination versus Rejection with Superordination; Factor II--Marital Acceptance versus Rejection; and Factor III--Friendship Acceptance versus Rejection. Five statements were chosen from each of these factors whose loadings were at least .56 and above according to Centroid factor analysis. Three subcultures were included in the scale--Blacks, Whites, and Puerto Ricans--in order to mask the fact that attitudes were being sought about Blacks and Whites. Each group was in turn referred to by the same 15 statements from the three factors.

Opinion Questionnaire

The opinion questionnaire was modeled after one used by Byrne (1961) and consisted of six items chosen from among those checked as important by a sample of undergraduates at Rutgers University.⁴ Each issue was rated on a

participated in the study during that day and period. Additionally, some students signed up to participate in the study at other times because it was more convenient for them.

⁴Initially, the following issues were to be used: abortion, the fuel shortage, taking drugs, impeachment of a

6-point scale (see Appendix F). The issues used were: abortion, the existence of God, money as the most important goal, taking drugs, freedom of speech, and price inflation.

Interpersonal Judgment Scale

The Interpersonal Judgment Scale was used to obtain a paper-and-pencil measure of each subject's attraction toward the confederate. In its original form (Byrne, 1961) it consisted of six 7-point rating scales; however, only five were used in the present study.⁵ The last two scales pertained to attraction responses. The others were included to disguise these. The five items used in the present study were: intelligence, morality, adjustment, personal feeling ("Feelings"), and working together in an experiment ("Work With"). A total attraction score was obtained by totaling the scores given on "Feelings" and "Work With." This total score was referred to as "Combined" in the analysis and served as a general measure of attraction.

Behavior Measures

Distance and Axis Scales

The distance scale, discussed in a previous section, allowed for the comparison of different sized persons by

president, freedom of speech, and women's rights because these had been checked most frequently. However, with the passing of time and because of changing events, some were discarded while others were not used because they were too specific to one group. In addition, the basic format of the scale had been validated by Byrne (1961) and others; only the issues were changed to keep abreast of current events.

⁵The scale concerning "Knowledge of Current Events" was omitted because the conversation topic was monitored

the use of a 14-point scale based on body parts. Scoring was done by equating observed distances with various parts of the arm so that, for instance, a distance equaling the length of a forearm, minus the hand, was scored 30; the forearm including the hand was scored 40; and the extended arm, from shoulder to fingertips, was scored 50. The axis scale, also discussed earlier, was the 25-point system suggested in the study by Aiello and Jones (1971) (see Appendix A). However, some changes were incorporated. First, because of the conceptual difficulty encountered during training sessions in terms of assigning the appropriate score to one unorthodox posture, a modification in the scoring system had to be made. The problem arose because one individual positioned himself so that he was facing the back of his conversation partner. The axis scale had been devised to accommodate positions that involved gradations of a face-to-face, side-to-side, and back-to-back posture. Thus, in order to handle this unorthodox angle and others similar to it, it was decided that a score of "14" be assigned in such cases. All other judgments would follow the original system. Second, the average of the scores assigned to positions of the shoulders and hips was used as the final axis score. In previous studies, only the position of the shoulders had been used as the basis for body orientation judgments, but by definition this was an inappropriate means.

and such information would not be made available to each subject about his partner.

Head Orientation, Movement, and Verbalization Measures

Mutual head orientation, movement (by the subject), and verbalization (occurring with at least one member of the dyad during the observation period) were measured by simply scoring "1" (for each) if the behavior occurred and "0" if it did not. Additionally, as had not been done previously in studies using head orientation, this variable was operationally defined. It was said to exist only if an imaginary beam of light could be drawn directly out from the face of one member (at ear level) and intersected an imaginary beam extending from the same point on the face of the other member.

Procedure

Experimental Design

The study was a 2 x 2 x 2 x 2 factorial with all variables crossed. The four variables were each presented at two levels: Mix: same race pairs, mixed race pairs; Prejudice: high, low; Opinions: agree, disagree; and Sex: male, female. The data were also analyzed in order to make comparisons between the two races. Three of the original four variables were presented as they had been previously, but Mix was further defined with reference to the racial composition of the pair. The resulting variables were each presented at two levels and were: Race of Subject: Black, White; Race of Confederate: Black, White; Prejudice: high, low; Opinions: agree, disagree; and Sex: male, female. A

repeated measures analysis of variance was done on both designs as well as a correlation analysis between three proxemic variables and the three attraction scores, "Feelings," "Work With," and "Combined." Tables 1 and 2 show the analysis tables for each of the factorial designs.

Experimental Procedure

The experimental procedure involved two sessions separated in time by approximately one week.⁶ During the first session, the attitude and opinion questionnaires were administered. In order to avoid questions which might arise later concerning the connection between the racial attitude questionnaire and the students' interactions with the confederates, the students were told that two studies were being run simultaneously by the same experimenter: one concerning attitudes and the other involving opinions and the formation of impressions about others. In order to receive two experimental credits (part of the course requirement), a student had to participate in both studies. One could not receive partial credit for participating in only one study.

When filling out the questionnaires, the students

⁶During the course of the study, it became necessary, in order to meet subject number requirements, to secure subjects from classes other than the introductory psychology course. Consequently, 12 subjects were given the attitude and opinion questionnaires minutes before interacting with a confederate. However, there were no differential behavioral or Interpersonal Judgment Scale responses between these subjects and the others because of this slight procedural variation.

TABLE 1

ANALYSIS OF VARIANCE TABLE FOR MIX, PREJUDICE,
OPINIONS, AND SEX FOR PROXEMIC VARIABLES

Source	df
Sex	1
Prejudice	1
Opinions	1
Mix	1
Sex x Prejudice	1
Sex x Opinions	1
Prejudice x Opinions	1
Sex x Mix	1
Prejudice x Mix	1
Opinions x Mix	1
Sex x Prejudice x Opinions	1
Sex x Prejudice x Mix	1
Sex x Opinions x Mix	1
Prejudice x Opinions x Mix	1
Sex x Prejudice x Opinions x Mix	1
Error	64
Trials	2
Sex x Trials	2
Prejudice x Trials	2
Opinions x Trials	2
Mix x Trials	2
Sex x Prejudice x Trials	2
Sex x Opinions x Trials	2
Prejudice x Opinions x Trials	2
Sex x Mix x Trials	2
Prejudice x Mix x Trials	2
Opinions x Mix x Trials	2
Sex x Prejudice x Opinions x Trials	2
Sex x Prejudice x Mix x Trials	2
Sex x Opinions x Mix x Trials	2
Prejudice x Opinions x Mix x Trials	2
Sex x Prejudice x Opinions x Mix x Trials	2
Trials x Error	<u>128</u>
Total	239

TABLE 2

ANALYSIS OF VARIANCE TABLE FOR RACE OF SUBJECT,
RACE OF CONFEDERATE PREJUDICE, OPINIONS,
AND SEX FOR PROXEMIC VARIABLES

Source	df
Race of Subject (Race <u>S</u>)	1
Race of Confederate (Race <u>C</u>)	1
Sex	1
Prejudice	1
Opinions	1
Race <u>S</u> x Race <u>C</u>	1
Race <u>S</u> x Sex	1
Race <u>C</u> x Sex	1
Race <u>S</u> x Prejudice	1
Race <u>C</u> x Prejudice	1
Sex x Prejudice	1
Race <u>S</u> x Opinions	1
Race <u>C</u> x Opinions	1
Sex x Opinions	1
Prejudice x Opinions	1
Race <u>S</u> x Race <u>C</u> x Sex	1
Race <u>S</u> x Race <u>C</u> x Prejudice	1
Race <u>S</u> x Sex x Prejudice	1
Race <u>C</u> x Sex x Prejudice	1
Race <u>S</u> x Race <u>C</u> x Opinions	1
Race <u>S</u> x Sex x Opinions	1
Race <u>C</u> x Sex x Opinions	1
Race <u>S</u> x Prejudice x Opinions	1
Race <u>C</u> x Prejudice x Opinions	1
Sex x Prejudice x Opinions	1
Race <u>S</u> x Race <u>C</u> x Sex x Prejudice	1
Race <u>S</u> x Race <u>C</u> x Sex x Opinions	1
Race <u>S</u> x Race <u>C</u> x Prejudice x Opinions	1
Race <u>S</u> x Sex x Prejudice x Opinions	1
Race <u>C</u> x Sex x Prejudice x Opinions	1
Race <u>S</u> x Race <u>C</u> x Sex x Prejudice x Opinions	1
Error	48
Trials	2
Race <u>S</u> x Trials	2
Race <u>C</u> x Trials	2
Sex x Trials	2
Prejudice x Trials	2
Opinions x Trials	2
Race <u>S</u> x Race <u>C</u> x Trials	2
Race <u>S</u> x Sex x Trials	2
Race <u>C</u> x Sex x Trials	2

(continued)

TABLE 2 (continued)

Source	df
Race <u>S</u> x Prejudice x Trials	2
Race <u>C</u> x Prejudice x Trials	2
Sex x Prejudice x Trials	2
Race <u>S</u> x Opinions x Trials	2
Race <u>C</u> x Opinions x Trials	2
Sex x Opinions x Trials	2
Prejudice x Opinions x Trials	2
Race <u>S</u> x Race <u>C</u> x Sex x Trials	2
Race <u>S</u> x Race <u>C</u> x Prejudice x Trials	2
Race <u>S</u> x Sex x Prejudice x Trials	2
Race <u>C</u> x Sex x Prejudice x Trials	2
Race <u>S</u> x Race <u>C</u> x Opinions x Trials	2
Race <u>S</u> x Sex x Opinions x Trials	2
Race <u>C</u> x Sex x Opinions x Trials	2
Race <u>S</u> x Prejudice x Opinions x Trials	2
Race <u>C</u> x Prejudice x Opinions x Trials	2
Sex x Prejudice x Opinions x Trials	2
Race <u>S</u> x Race <u>C</u> x Sex x Prejudice x Trials	2
Race <u>S</u> x Race <u>C</u> x Sex x Opinions x Trials	2
Race <u>S</u> x Race <u>C</u> x Prejudice x Opinions x Trials	2
Race <u>S</u> x Sex x Prejudice x Opinions x Trials	2
Race <u>C</u> x Sex x Prejudice x Opinions x Trials	2
Race <u>S</u> x Race <u>C</u> x Sex x Prejudice x Opinions x Trials	2
Trials x Errors	<u>96</u>
Total	239

were asked to include their year in school, sex, and age. If they asked why some had been chosen later to participate in the conversation portion of the "Impression Formation Study" and why others had not, the fact that they were required to give this information provided a convenient cover story. To answer their question I informed them that equal numbers of individuals from both sexes, certain class levels, and certain age categories were being sought for that investigation. They could not be told at that time that in reality I was interested in students who were either high or low prejudiced according to their racial attitude responses.

Approximately one week later and after subjects had been assigned to high- or low-prejudice groups, they were brought individually by me to a room designated for the experiment to meet, talk with, and give their evaluations on the Interpersonal Judgment Scale of a confederate. The experimental area was 9 feet by 17 feet, 3 inches. It contained a long rectangular wooden table along one wall. A proxemics observer sat at the center of the table and faced the area in which the interaction was to take place. He or she pretended to be busy writing something. Another individual, also a confederate, sat on the same side of the table and to the left of the observer. He sat there in order to make the activity of the observer less obtrusive. The confederate who was to take part in the interaction with the subject sat along the short side of the table to

the left of the other two and waited for a signal from me indicating that he should stand and begin the conversation. An empty chair (to be used by the subject) was at the corner of a smaller rectangular table which was immediately to the right of the entrance to the room.

Upon arriving at the experimental area, the subject was asked to enter the room. He was told that the individuals inside were waiting to take part in the study. After entering the room, I asked the subject to sit in the empty chair at the table and to read an opinion questionnaire (which I had previously filled out) either agreeing entirely or disagreeing entirely with the opinions he had given earlier. The subject was told that this questionnaire had been filled out by the person with whom he was to talk. The specific instructions concerning why he was to read the responses were written on a sheet of paper attached to the front of the bogus questionnaire and were as follows:

As you remember, about a week ago we asked you to answer some questions concerning your opinions about certain issues. We are interested in how people form first impressions of others when they know very little about them. In fact, we would like to know how you feel about another undergraduate who also responded to the questionnaire. You will have an opportunity to meet someone shortly and talk for a few minutes after which you will make your evaluations. However, before you talk, as a means of helping you know a bit about this person, we would like you to look at the responses he (or she) gave on the questionnaire. Please read this information carefully, and let me know when you are finished.

As the subject looked over the questionnaire, I quietly motioned to the confederate to position himself in the

designated spot (about 4 feet) in front of the table at which the observer was seated. I waited for the subject to finish reading the bogus questionnaire and, when he indicated that he was done, I asked him to "come and meet the student who had filled out the questionnaire." At this time I gave both the subject and the confederate the following instructions:

As a means of getting better acquainted with each other, I would like you to talk about a topic that will be important to you some time in the future--the chances of getting a job after graduation. I will tell you when the conversation should end.

I then left the room and returned 3 minutes after the proxemics observations had been completed. At this time I asked the pair to fill out the Interpersonal Judgment Scale. After doing this, they were both thanked for their time and were told that they would be receiving a complete explanation of the experiment and their part in it after the completion of the study. The subject was not informed at that time of the confederate's role because the study was ongoing.

V. RESULTS

The Results section has been divided into two parts. The first contains data pertaining to the specific predictions, and the second reports "Other Findings" relating to proxemic behavior.

Belief Similarity-Dissimilarity

Attraction Measures

A number of investigators have replicated the Rokeach belief primacy hypothesis with White subjects and have shown that a stimulus person with similar opinions is rated more positively on a questionnaire than is one with dissimilar opinions, regardless of his race (Byrne & Wong, 1962; Hendrick et al., 1972, 1973; McWhirter & Jecker, 1967; Rokeach et al., 1960; Savell & Luttrell, 1972; Stein et al., 1966). However, this finding was not replicated in the present study in that there was no significant difference between the subjects' responses to agreeing and disagreeing confederates on the two attraction scales "Feelings" and "Work With" or on the total attraction measure "Combined." In fact, the means were in a direction opposite to the belief similarity prediction. The subjects tended to respond more positively toward disagreeing confederates than to agreeing ones.

An investigation of the responses made by Blacks and Whites separately showed that there was a significant Race of Subject x Opinion interaction ($F = 4.36$, $df = 1/48$, $p < .05$) on the "Feelings" attraction scale. White subjects' responses were in the general direction of the belief similarity prediction, while those for Black subjects were in the reverse. The means for this interaction are shown in Table 3.

In order to interpret the significant interaction better, I performed a multiple comparisons test (Scheffé, 1959) to determine whether there was a significant difference between the mean responses for Blacks and Whites in the agree condition and between Blacks in the agree and disagree conditions. The test showed that the responses were significantly different for the groups involved ($S = .33$, $p < .05$). Blacks in the agree condition rated the confederates more favorably than Whites in that condition. Blacks in the agree condition rated the confederates more favorably than Black students in the disagree condition.

Distance Behavior

Because of the study by Allgeier and Byrne (1973) which showed that subjects chose to sit closer to an agreeing confederate than to a disagreeing one, and because of the proxemic literature which reported that the distance used between two interactants was an inverse linear function of the affective state between them (Aiello & Cooper,

TABLE 3

MEAN ATTRACTION RESPONSES (ON FEELINGS SCALE) FOR
 BLACK AND WHITE SUBJECTS IN THE AGREE
 AND DISAGREE CONDITIONS
 (N = 20)

Race of subject	Opinions	
	Agree	Disagree
Black	2.88	2.27*
White	2.08	2.31

Note. Attraction scores ranged from 1 to 7. For "Feelings" scale 1 = "like very much"; 7 = "dislike very much."

* $p < .05$.

1972; Mehrabian, 1969), I expected that subjects in the agree condition would demonstrate attraction toward the confederate by standing closer to him than subjects in the disagree condition. This hypothesis was not confirmed since there was no significant difference between the distances used by subjects in the two opinion conditions. But an inspection of the means suggested that they tended to be in the predicted direction--55.40 for the agree condition and 59.24 for the disagree condition. However, the Mann-Whitney sign test showed that these groups were not significantly different ($Z = 1.31$, $p > .05$).

Furthermore, there was no significant difference between responses made by Blacks and Whites according to the two-way interaction, Race of Subject x Opinion.

Because the belief similarity hypothesis was not supported, I considered the possibility that the 3-minute interaction may have counteracted the effects of the opinion manipulation. That is, since the confederates were instructed to be pleasant toward the subjects and to agree with them concerning their plans for the future, the confederates' demeanor may have modified the subject's distancing behavior.

In order to test this, I performed a simple analysis of variance on the data using only those scores given on the first observation of Trial one. This allowed me to examine the approach behavior for distance, axis, and head orientation before the interaction began. At this point

the subjects had nothing to influence them about the confederates but their race and beliefs.

Again, the five variables were each presented at two levels: Race of Subject: Black, White; Race of Confederate: Black, White; Sex: male, female; Prejudice: high, low; and Opinions: agree, disagree. A 2 x 2 x 2 x 2 x 2 factorial design was incorporated with all variables crossed.

The results showed a marginally significant effect for Opinions on distance ($F = 3.090$, $df = 1/48$, $p < .10$), indicating that, in support of the belief similarity theory, subjects in the agree condition approached the confederate closer than subjects in the disagree condition.

Axis and Head Orientation Behaviors

Aiello and Cooper (1972) and Mehrabian (1967, 1968, 1969) reported that they found that angle of body orientation or axis was influenced by affect (for White subjects) in that it was smaller with positive regard. However, my prediction, which pertained to belief similarity and axis, was not supported in that there was no significant difference between subjects on this variable in the two opinion conditions. There was also no significant subcultural difference between Blacks and Whites.

Mehrabian (1967, 1968, 1969) demonstrated that more immediate head orientation was used to imply and to convey a positive attitude. The present results showed no

significant difference between opinion conditions for head orientation behavior. And the difference between Blacks and Whites on this variable was also nonsignificant. Table 4 shows the means for axis and head orientation for the two conditions (agree and disagree) by race.

Belief Similarity and Prejudice

Attraction Measures

Byrne and McGraw (1964) found that high-prejudice White subjects were less positive on the Interpersonal Judgment Scale than low-prejudice White subjects, regardless of the belief condition. None of the belief-race studies using prejudice as a variable had used Black subjects (Byrne & McGraw, 1964; Byrne & Wong, 1962; Hendrick et al., 1973, p. 46; Moss & Andrasik, 1972; Serum & Myers, 1970); consequently there was no precedent for predicting their behavior toward a White stimulus person. The present results showed no significant differences between high- and low-prejudice subjects of either race toward other-race confederates on the attraction scale "Work With" or on the total score "Combined." However, a significant difference supporting the prediction that high-prejudice subjects would respond more negatively on the Interpersonal Judgment Scale toward other-race confederates was found for the two-way interaction Prejudice x Mix on the "Feelings" scale ($p < .05$). Means for this interaction are shown in Table 5.

Scheffé's (1959) multiple comparisons test showed

TABLE 4

MEAN AXIS AND HEAD ORIENTATION RESPONSES FOR BLACK AND
WHITE STUDENTS IN THE AGREE AND DISAGREE CONDITIONS
(N = 20)

Proxemic behavior	Race of subject			
	Black		White	
	Opinions			
	Agree	Disagree	Agree	Disagree
Axis	2.48	2.43	2.37	2.24
Head orientation	.70	.75	.73	.77

TABLE 5

MEAN ATTRACTION RESPONSES (ON FEELINGS SCALE) FOR
HIGH- AND LOW-PREJUDICE SUBJECTS TOWARD
OTHER-RACE CONFEDERATES
(N = 20)

Prejudice	Mixed-race pairs	Same-race pairs
Low	2.02	2.36*
High	2.85	2.30

* $p < .05$.

that there was a significant difference between mean responses for high- and low-prejudice mixed-race pairs, between mixed-race and same-race high-prejudice pairs, and between mixed-race and same-race low-prejudice pairs ($\underline{S} = .34$, $\underline{p} < .05$). High-prejudice subjects were significantly less attracted to other-race confederates than were low-prejudice subjects, and they were also less attracted to other-race confederates than to same-race confederates. Low-prejudice subjects were significantly more attracted to other-race than to same-race confederates.

After noting these means, I looked at those for high- and low-prejudice Black and White subjects separately on the "Feelings" scale. A significant ($\underline{p} < .05$) and interesting difference between the races was found. While low-prejudice Black and White subjects felt they would like the other-race confederate more than high-prejudice Blacks and Whites did, high-prejudice Blacks were less attracted to the other-race confederate than high-prejudice Whites. A similar trend was found between low-prejudice Blacks and Whites. Table 6 shows these results.

Scheffé's (1959) multiple comparison test confirmed that there was a significant difference between the mean responses for these groups ($\underline{S} = .33$, $\underline{p} < .05$).

Distance Behavior

The prediction was made that high-prejudice subjects would stand farther from other-race confederates than

TABLE 6

MEAN ATTRACTION RESPONSES (ON FEELINGS SCALE) FOR
 BLACK AND WHITE HIGH- AND LOW-PREJUDICE SUBJECTS
 TOWARD OTHER-RACE CONFEDERATES
 (N = 20)

Prejudice	Race of subject	
	Black	White
Low	2.13	1.92*
High	3.25	2.54

* $p < .05$.

low-prejudice subjects, regardless of opinion similarity. However, the Prejudice x Mix interaction was not significant. Upon further examining the results in terms of Race of Subject x Race of Confederate x Prejudice to determine whether there were subcultural differences, I found no significant interaction. In fact, the mean distances for both races were in a direction opposite to the prediction, such that high-prejudice students tended to stand closer to an other-race partner than low-prejudice students. These means are presented in Table 7.

Axis Behavior

High-prejudice subjects were expected to orient themselves less directly in regard to other-race confederates than low-prejudice subjects. A marginally significant interaction was found for Prejudice x Mix on axis ($p < .06$) in support of the prediction. As seen in Table 8, in mixed-race pairs low-prejudice subjects oriented themselves more directly than high-prejudice subjects, and high-prejudice subjects in same-race pairs oriented themselves more directly than they did in mixed-race pairs. Scheffé's multiple comparison test showed that there were significant differences between these mean responses ($S = .14$, $p < .05$).

The three-way interaction for Race of Subject x Race of Confederate x Prejudice was investigated in order to analyze the results further. A marginally significant and supportive interaction ($p < .06$) was found which

TABLE 7

MEAN DISTANCE RESPONSES FOR BLACK AND WHITE HIGH- AND
LOW-PREJUDICE SUBJECTS TOWARD OTHER-RACE CONFEDERATES
($N = 20$)

Prejudice	Race of subject	
	Black	White
Low	59.07	57.92
High	52.04	50.83

TABLE 8

MEAN AXIS RESPONSES FOR HIGH- AND LOW-PREJUDICE SUBJECTS
INTERACTING WITH OTHER-RACE CONFEDERATES

Prejudice	Mix	
	Mixed-race pairs	Same-race pairs
Low	2.11	2.13
High	3.00	2.16

indicated that low-prejudice Black subjects oriented themselves more directly toward other-race confederates than high prejudice Black subjects. Similar behavior was found for low- and high-prejudice White subjects. However, high-prejudice Blacks (in mixed-race pairs) used wider angles of orientation than high-prejudice Whites. These means are shown in Table 9.

The test for interaction effects (Scheffé, 1959) showed that the mixed-race mean responses for high-prejudice and low-prejudice Blacks, high- and low-prejudice Whites, and high-prejudice Blacks and Whites were significantly different ($\underline{S} = .66, \underline{p} < .05$).

Correlational Analysis Between Behavioral Indices and Paper-and-Pencil Measures

Contradictory findings have been reported in the literature concerning the correlation between paper-and-pencil measures of attraction and behavioral indicators. Byrne et al. (1971) found significant correlations for their male subjects only, Allgeier and Byrne (1973) found correlations for all subjects, and Tesch et al. (1973) found no correlations. The present results showed no significant relationships between the three proxemic variables and the three attraction scales--"Feelings," "Work With," and "Combined." Table 10 shows the correlation coefficients for the proxemic and attraction responses.

TABLE 9

MEAN AXIS RESPONSES FOR BLACK AND WHITE HIGH- AND
LOW-PREJUDICE SUBJECTS TOWARD SAME AND
OTHER-RACE CONFEDERATES
(N = 10)

Race of subject	Prejudice			
	Low		High	
	Race of confederate			
	Black	White	Black	White
Black	1.91	2.34	2.16	3.41*
White	1.92	2.46	2.63	2.19

* $p < .06$.

TABLE 10

CORRELATION COEFFICIENTS FOR PROXEMIC VARIABLES
AND THREE ATTRACTION SCALES

Proxemic behaviors	Attraction scales		
	"Feelings"	"Work With"	"Combined"
Distance	-.166	.029	-.061
Axis	.049	.050	-.008
Head orientation	.075	.143	.090

Other Findings

Sex and Race Differences

Although according to the results for distance behavior there was no significant main effect for sex, I felt it would be informative to present the means for sex on distance because they indicated a trend which was contrary to past proxemic literature. In the present study, males used smaller interaction distances than females, and when the results were further analyzed with respect to the race of the pair (for same-race pairs) and sex, the trend remained. Table 11 shows the means for distance in same-race dyads by sex.

Past research showed contradictory findings concerning differences in subcultural use of distance in same-race interactions. In the present study, Black and White dyads were not found to behave significantly different from each other according to the two-way interaction Race of Subject x Race of Confederate, but means for the two groups indicated that they may have been approaching a difference with Blacks using slightly greater distances than Whites. The mean distance for Blacks was 62.18 and that for Whites was 57.78. Referring to Table 11, it seems that it is the responses of Black females which inflate the mean for Black subjects in general. Because of this trend, I did the Mann-Whitney sign test and found that the mean responses for Black females were significantly different from those for Black males ($Z = 2.03$, $p < .05$).

TABLE 11
MEAN DISTANCE RESPONSES FOR BLACK AND WHITE MALES
AND FEMALES IN SAME-RACE DYADS

Race of dyad	Sex	
	Males	Females
Black	55.79	68.57
White	56.81	58.75

For axis behavior, I found a marginally significant effect ($p < .06$) for sex which contradicted some of the previous literature. It had previously been found that males stood less directly than females (Jones, 1971; Jones & Aiello, 1973). The present results showed that males stood more directly than females. These means were 2.13 and 2.58, respectively. The race effect for Blacks and Whites on axis was nonsignificant (means for Blacks = 2.46 and for Whites = 2.30).

When axis behavior was examined with regard to race and sex (for same-race and same-sex pairs), results showed a trend (though nonsignificant) which indicated that while Black males were standing more directly than Black females, White males were standing less directly than White females. These means are presented in Table 12.

Prejudice Effects

When the proxemic behavior of high- and low-prejudice subjects was examined to determine whether there were different patterns of responses, significant effects were found for axis and head orientation behaviors. High-prejudice subjects used a wider angle of orientation than low-prejudice subjects ($p < .05$). In contrast, high-prejudice subjects used significantly more direct head orientation behavior than low-prejudice subjects ($p < .05$). Table 13 shows the mean responses for axis and head orientation for these subjects.

TABLE 12
 MEAN AXIS RESPONSES FOR BLACK AND WHITE MALES
 AND FEMALES IN SAME-RACE DYADS

Race of dyad	Sex	
	Males	Females
Black	1.63	2.45
White	2.54	2.11

Note. Axis scores ranged from 1 to 24 with "1" indicating a direct face-to-face orientation.

TABLE 13
 MEAN AXIS AND HEAD ORIENTATION RESPONSES FOR
 HIGH- AND LOW-PREJUDICE SUBJECTS

Proxemic behaviors	Prejudice	
	Low	High
Axis	2.12	2.60*
Head orientation	.69	.80

Note. Axis scores ranged from 1 to 24 with "1" indicating a direct face-to-face orientation. Head orientation scores were "1" if there was direct mutual orientation and "0" if there was not.

* $p < .05$.

Finally, a significant interaction ($p < .05$) was found for Prejudice x Sex on head orientation, indicating that high-prejudice males used more direct head orientation than high-prejudice females or low-prejudice males. Low- and high-prejudice females behaved similarly. However, the test for interaction effects (Scheffé, 1959) showed that the mean responses between high-prejudice males and females and between high- and low-prejudice males were not significantly different. Table 14 presents the means.

Trial Effects

The one effect which was significant for all of the proxemic variables was Trials. Distance increased ($p < .05$), axis increased ($p < .05$), and head orientation decreased ($p < .05$). Table 15 shows the mean responses for subjects on the three variables across trials.

Sex Differences on the Interpersonal Judgment Scale

Another interesting result was that contrary to past attraction research findings using the Interpersonal Judgment Scale, sex differences were found in the present study. A significant effect ($F = 11.57$, $df = 1/64$, $p < .01$) was discovered on "Combined," the total attraction score, showing that females were generally more attracted to their partners than males. The mean for males was 5.82 and that for females was 4.33.

In addition, a significant two-way interaction was

TABLE 14

MEAN HEAD ORIENTATION RESPONSES FOR HIGH- AND
LOW-PREJUDICE MALES AND FEMALES

Sex	Prejudice	
	Low	High
Males	.63	.86
Females	.74	.73

TABLE 15

MEAN DISTANCE, AXIS, AND HEAD ORIENTATION
RESPONSES FOR SUBJECTS ACROSS TRIALS

Proxemic behaviors	Trials		
	I	II	III
Distance	56.84	57.47	57.65
Axis	2.25	2.41	2.40
Head orientation	.80	.72	.70

found for Race of Confederate x Sex ($F = 12.63$, $df = 1/48$, $p < .001$). Beside the fact that female subjects were generally more positive in their responses toward the confederates than males, females rated the White female confederate less positively than the Black female confederate, and males rated the Black male less positively than the White male. These mean attraction responses are shown in Table 16.

Scheffé's multiple comparisons test showed that the mean responses for these groups were significantly different ($S = .40$, $p < .05$). However, because of the small number of confederates used, these results may be an artifact of the present study.

Significant Responses on the Interpersonal Judgment Scale

Although the present study was primarily interested in the attraction responses toward the confederates as determined by the scales "Feelings," "Work With," and "Combined," some interesting results were found in regard to the two scales "Intelligence" and "Morality" on the Interpersonal Judgment Scale (see Appendix F).

A significant effect was found for Race of Subject ($F = 6.084$, $df = 1/48$, $p < .05$) showing that Black subjects felt the confederates were more intelligent than White subjects. The means for each race were 3.33 and 2.78, respectively.

Lastly, the two-way interaction for Race of

TABLE 16

MEAN ATTRACTION RESPONSES ON COMBINED (THE TOTAL
ATTRACTION SCORE) FOR MALES AND FEMALES TOWARD
SAME AND OTHER-RACE CONFEDERATES

Sex of pair	Race of confederates	
	Black	White
Males	6.31	5.35
Females	3.50	5.27

Confederate x Prejudice was significant for "Morality," indicating that high-prejudice subjects thought Black confederates were less moral than low-prejudice subjects, and high-prejudice subjects thought the Black confederates were less moral than the White confederates ($F = 5.061$, $df = 1/48$, $p < .05$). However, a multiple comparisons test (Scheffé, 1959, $S = 1.27$, $p < .05$) did not show that there were significant differences between the mean responses for these groups. The means for the two-way interaction are in Table 17.

TABLE 17

MEAN MORALITY RESPONSES ON THE INTERPERSONAL JUDGMENT
SCALE FOR HIGH- AND LOW-PREJUDICE SUBJECTS
TOWARD BLACK AND WHITE CONFEDERATES
(N = 20)

Race of confederate	Prejudice	
	Low	High
Black	2.63	3.19*
White	2.90	2.35

* $p < .05$.

VI. DISCUSSION

The thrust of the hypothesis by Rokeach et al. (1960) was that prejudiced individuals did not reject someone of a different race, nationality, or religion because of his ethnic membership per se, but rather because he held different beliefs and values. This notion has been replicated often (Allgeier & Byrne, 1973; Byrne & McGraw, 1964, Experiment II; Byrne et al., 1971; Byrne & Wong, 1962; Hendrick et al., 1971; Rokeach & Mezei, 1966; Serum & Myers, 1970; Stein, 1966; Stein et al., 1965; Tesch et al., 1973) using high- and low-prejudice White subjects, real and described stimulus persons, and paper-and-pencil measures. The present study, which used high- and low-prejudice Black and White students, live stimulus persons, and paper-and-pencil and behavioral measures of attraction, did not produce these results. There was no difference between responses on the Interpersonal Judgment Scales or on the behavioral measures for the two opinion conditions, and race was a major factor for highly prejudiced students on one of the attraction scales. It was also a factor in subjects' responses in general on the total attraction measure. It seems important to attempt to determine what might have accounted for these differing findings.

Belief Similarity-Dissimilarity

In the present experiment, students were shown bogus opinion questionnaires, either agreeing or disagreeing entirely with their own opinions on six issues. Then, before filling out the Interpersonal Judgment Scale, they were required to talk to the individual who had purportedly made the responses. Although the topic of conversation was standard across interactions, this intervening event may have counteracted the effects of the opinion manipulation. When filling out the Interpersonal Judgment Scale, students may have been responding to the content of the 3-minute discussion itself or to a combination of it and the opinion manipulation. In addition, the demeanor that the confederates were instructed to display (neutral to positive) may have influenced the responses. As reported in the Results "Other Findings" section, all of the confederates received relatively positive ratings.

For future research using the proxemic-conversation procedure to test the belief primacy hypothesis, it might be more appropriate to have the subject and confederate discuss their opinions (with the confederate either agreeing or disagreeing with the subject) rather than having the additional factors--conversation topic and confederate's demeanor--affect the previous opinion manipulations. Rokeach and Mezei (1966) used an agreeing-confederate, disagreeing confederate technique in their study of belief primacy in a realistic setting.

An additional effect upon attraction responses may have been the subjects' belief that their Interpersonal Judgment Scale responses would be revealed to the confederates. The students were not told that this would occur, but they may have assumed as much. Perhaps in light of this belief they were reluctant to express any extreme types of responses.

Distance, Axis, and Head Orientation Behaviors

As noted in the Results section, neither distance, axis, nor head orientation were significantly different for the two opinion conditions, and race was a more important variable than beliefs as demonstrated through axis behavior.

One explanation for this failure to achieve significant differences, especially for distance and axis behavior, may concern the effects of the degree of acquaintanceship between the interactants.

When no significant differences were found between opinion conditions for distance behavior, I looked at the distances used by all subjects in all conditions. I found that the interaction distances used represented Hall's personal zone. The far phase of this zone is generally used for interactions with strangers (Hall, 1966; Hiat, 1971; Little, 1965; Tesch et al., 1973), as the confederates were to the subjects.

An alternative explanation is that, as Tesch et al. (1973) suggested, the subjects may have been displaying a

modified similarity-proximity relationship within the personal zone sphere. While the difference between the means was not significant, and the sign test failed to show a significant difference between the two groups, the responses were in the expected direction: 55.40 for the agree condition and 59.24 for the disagree condition. Thus, within the personal zone, subjects may have been using the close phase for the agree condition and the far phase for the disagree condition.

I reported in the Results section that because the belief similarity theory had not been supported, I considered the possibility that the 3-minute interaction may have interfered with the effects of the opinion manipulation. Instructions to the confederates to appear pleasant toward the subject and to agree with his comments concerning his plans for the future may have produced a situation in which the subject felt positively toward the confederate, despite his similarity position.

In order to test this assumption, I performed an analysis of variance on the data using only those scores given on the first observation of Trial one for distance, axis, and head orientation. This allowed me to look at the differences in approach behavior before the interaction began. At this point all that the subjects had to influence their behavior toward the confederates were the bogus opinion questionnaire and the confederate's race.

The results showed a marginally significant effect

for Opinions on distance indicating that, in support of the belief similarity hypothesis, subjects in the agree condition approached the confederates closer than those in the disagree condition. There was no significant effect on axis or head orientation. Nevertheless, the finding for distance suggests that when the proxemic-conversation procedure is used, the confederates should maintain the opinion position they are purported to have according to the bogus questionnaire responses.

Belief Similarity and Prejudice

Attraction Measures

The findings concerning prejudice and belief similarity on one of the attraction scales ("Feelings") contradicted the Rokeach et al. (1960) belief primacy notion, and supported the results of the study by Byrne and McGraw (1964) which found that high-prejudice subjects responded more negatively toward other-race stimulus persons than low-prejudice subjects, regardless of the belief similarity condition. However, certain comments must be made in regard to this contradiction.

The scale on which high-prejudice subjects responded more negatively than low-prejudice subjects in the present study concerned the degree to which they felt they would like the stimulus person ("Feelings"). In a sense, this scale was measuring a social distance response, that is, whether or not the students would accept the stimulus

person as a friend. In the study by Triandis and Davis (1965), it was found that race and belief characteristics of a stimulus person acquired different weights, depending upon the nature of the social distance items to which the subjects responded. The more intimate the behavior, the more frequently they responded on the basis of race. Perhaps the present high-prejudice subjects responded similarly to those in Triandis and Davis' study.

One additional remark should be made about high-prejudice subjects' Interpersonal Judgment Scale responses toward other-race confederates and the belief primacy theory. Although I was primarily concerned with subjects' responses on the attraction scales, "Feelings" and "Work With," and the total score on "Combined," I found that there was a significant two-way interaction for Race of Confederate x Prejudice on one of the scales which was merely supposed to disguise the attraction measures-- "Morality" (see Results, "Other Findings" section). The means indicated that high-prejudice subjects felt that Black confederates were less moral than White confederates, and that high-prejudice subjects believed this more than low-prejudice subjects.

This type of response (on the part of high-prejudice subjects) also serves to contradict the belief primacy theory. As discussed in the Method section, the topic of conversation between the subject and confederate was monitored and concerned the chances of getting a job after

graduation; consequently, no moral issues were discussed. Therefore, it appears that high-prejudice subjects were responding toward the confederate as they believed him to be. When specific information about morality was not supplied, high-prejudice subjects responded in terms of race. The studies by Byrne and Wong (1962), Experiment I; Hendrick et al. (1971); and Serum and Myers (1970), in which information was not provided about a stimulus person, showed similar types of behavior by high-prejudice subjects toward other-race individuals.

Another interesting result noted in relation to attraction responses on the Interpersonal Judgment Scale for high- and low-prejudice subjects was that Black subjects were significantly more negative toward White confederates than White subjects toward Black confederates. It could be that Blacks felt they could express their negative responses more freely than Whites. Because of contemporary ideology and the condemnation of discrimination and prejudice against minorities, high-prejudice Whites may not have felt that it would be appropriate to exhibit their feelings in a situation in which there was direct contact with a member of the other race. Black subjects, on the other hand, may have felt less restricted.

Since past research had not used high- and low-prejudice Black subjects, there was no literature from which to draw an explanation for this finding. It would seem to be important in future research of the Rokeach et

al. (1960) belief-race hypothesis to determine if high- and low-prejudice Blacks have a different mode of responding within that paradigm than Whites or if this was simply an artifact of the present experiment.

Distance Behavior

It was reported in the Results section that, contrary to the prediction, high-prejudice subjects stood significantly closer to other-race confederates than low-prejudice subjects. I had expected that the negative other-race attitudes held by high-prejudice students would produce a larger interaction distance between them and their partners. However, their behavior suggests that rather than expressing negative affect through a larger distance, they used a smaller distance and confronted the confederate.

Correlational Analysis Between Behavioral Indices and Paper-and-Pencil Measures

A possible reason for the nonsignificant correlation between proxemic and Interpersonal Judgment Scale responses is that the subjects may have been responding differentially to what they perceived to be two different types of situations. While I had assumed that the entire experimental procedure existed along a continuum from opinion manipulation to subsequent measures of attraction on the Interpersonal Judgment Scale, the subjects may not have perceived this to be the case. They seemed to be

responding according to the relationship they had with the confederate during the proxemic observations and perhaps on the basis of the impressions they gained during the 3-minute conversation.

The question seems to be, how long do the effects of the opinion manipulation remain with the subject in situations in which intervening interactions with a live stimulus person occur before attraction responses are obtained? A precaution which should be taken in future research is to insure that the experimental manipulation is kept salient for the subject at all times.

Other Findings: Discussion

Sex and Race Differences

As noted in the Other Findings section, the means for race and sex effects on distance were each nonsignificant, but the means for sex indicated behavior which was contradictory to the literature. Much of the previous literature had shown that males stood farther apart than females (Aiello & Aiello, 1974; Aiello & Jones, 1971; Baxter, 1970; Bloom, 1973; Klukken, 1972; Pelligrini & Empey, 1970; Willis, 1966). The present results indicated that females tended to stand farther apart than males. The interaction for Race of Subject x Sex (for same-race pairs) showed that this behavior was particularly true for Black subjects. The trend analysis supported the significant difference between mean distance responses for Black males

and females.

In addition, the marginally significant effect for sex on axis behavior indicated that males stood more directly than females--a finding which was contrary to past results which reported that males stood less directly than females (Jones, 1971; Jones & Aiello, 1973). Again, the means for Black males and females (though not significantly different) suggested that, for same-race dyads, Black females used a wider angle of regard than Black males.

One explanation for the behavior of Black students is that each sex was expressing a different affective state toward the experimental situation. Perhaps, because of the current emphasis on racial identification and Black unity, Black males may have positioned themselves (in relation to the Black male confederate) in a way that expressed this "closeness."

Black females, on the other hand, may have been expressing a negative attitude toward their circumstances through their larger interaction distance and wider angle of orientation. Casual conversations with some of the Black females before or after the experimental situation revealed that they seemed to be somewhat apprehensive and ill-at-ease about their experience. This feeling of discomfort may have displayed itself through their proxemic behaviors.

An alternative explanation for the behavior of Black males is that they too may have felt apprehension and

distrust toward the experimental situation, but expressed this feeling differently than the female students.

In an article reporting some of the nonverbal communication patterns displayed in the Black culture, Johnson (1971) discussed some behavioral postures which are specifically used by males, among which was the posture of turning one's back toward another individual during a conversation as a means of communicating trust and friendliness (p. 188).⁷ Presumably, if one male feels free to turn his back on another, this indicates that he trusts that he will not be attacked and that the other person is his friend. Perhaps the present Black males stood closer and more directly toward their partners because they did not trust them or the experimental situation.

If, indeed, both sexes of Black students felt negatively about the experiment, a possible reason for the difference in their proxemic behaviors could be social norms concerning the expression of overt aggression. In this society, males are permitted to express aggressive behavior much more openly than females. For males, standing closer and more directly toward the confederates may have been a way of confronting what they interpreted as a threatening situation. Females, on the other hand, not being allowed

⁷ See also B. G. Cooke, Nonverbal communication among Afro-Americans: An initial classification, in Thomas Kockman (Ed.), Rappin' and stylin' out: Communication in urban Black America (1972), pp. 32-64, for a discussion of communication patterns in urban Black Americans.

the same type of display, may have attempted to adjust to their circumstances by putting a greater distance and wider axis between themselves and their partner.

Prejudice Effects

When I examined the axis and head orientation behaviors of high- and low-prejudice subjects, I noted an interesting pattern. While high-prejudice subjects used a wider angle of regard, they also used more direct head orientation. On the other hand, low-prejudice subjects stood more directly toward the confederates, but used less direct head orientation. Additionally, differences in head orientation behavior were found for these students with regard to sex. High- and low-prejudice females behaved almost identically, but high-prejudice males used more direct head orientation than low-prejudice males or high- and low-prejudice females.

One interpretation of the behavior of high-prejudice subjects in general and of high-prejudice males in particular is that they may be more dominant than low-prejudice subjects or females. This dominance may therefore have been expressed through more direct head orientation (behavior which may also have been accompanied by eye contact). Low-prejudice subjects and females may have expressed less dominance through a less direct head orientation (and perhaps less eye contact).

An alternative interpretation of the behavior of

low-prejudice subjects is that their level of prejudice may have accompanied an attitude which required that they face the confederate more squarely. However, by doing so, they may have produced a discomfoting situation for themselves which was then brought into equilibrium by the use of a less direct head orientation.

Trial Effects

As mentioned in the Results section, the trial effect was significant for all three proxemic variables. Perhaps the subjects were indicating that they wished to terminate the interaction by moving away, opening up their angle of orientation, and using less direct head orientation. This type of phenomenon was also observed in a study by Aiello and Cooper (1972) which used the proxemic-conversation procedure. In their study, axis behavior increased over time for negatively disposed dyads. I do not know that all of the present subjects felt negatively toward the experimental situation; rather, their behavior suggests that they were signaling a close to the interaction.

VII. CONCLUSION

According to the belief-race prediction, one is asked to believe that once an individual learns that a stimulus person disagrees with him on certain factors, that knowledge has more impact on his feelings toward the stimulus person than the person's race. However, this idea does not take into account the influence of social norms, social desirability, various other attributes of the stimulus person other than race and beliefs, or the circumstances under which the subject and the stimulus person meet.

For the present Black and White subjects, belief similarity or dissimilarity were less influential on behavioral and paper-and-pencil responses than race, the relationship between the stimulus person and subject, the experimental setting, and social desirability. Thus, it seems that the belief primacy theory is not an open and shut case. In future research it will be necessary to investigate it with regard to these intervening variables.

BIBLIOGRAPHY

- Aiello, J. R., & Cooper, R. E. Use of personal space as a function of social effect. Reprinted from the Proceedings, 80th Annual Convention, American Psychological Association, 1972. Pp. 207-208.
- Allgeier, A. R., & Byrne, D. Attraction toward the opposite sex as a determinant of physical proximity. Journal of Social Psychology, 1973, 90, 213-219.
- Baxter, J. C. Interpersonal spacing in natural settings. Sociometry, 1970, 33, 444-456.
- Bloom, R., Harvey, H., & Howells, G. The development of interpersonal distance in children and adolescents. Paper presented at a session on Spatial and Nonverbal Behavior at the 53rd Annual Convention of the Western Psychological Association, Anaheim, California, April 11-14, 1973.
- Byrne, D. Interpersonal attraction and attitude similarity. Journal of Abnormal and Social Psychology, 1961, 62, 713-715.
- _____, & McGraw, C. Interpersonal attraction toward Negroes. Human Relations, 1964, 17(3), 201-213.
- _____, & Wong, T. J. Racial prejudice, interpersonal attraction, and assumed dissimilarity of attitudes. Journal of Abnormal and Social Psychology, 1962, 65(4), 246-253.
- _____, Baskett, G. D., & Hodges, L. Behavioral indicators of interpersonal attraction. Journal of Applied Social Psychology, 1971, 1(2), 137-149.
- Cooke, B. G. Nonverbal communication among Afro-Americans: An initial classification. In Thomas Kockman (Ed.), Rappin' and stylin' out: Communication in urban black America, 1972. Pp. 32-64.
- Hall, E. T. The anthropology of manners. Scientific American, 1955, 192, 85-89.
- _____. The silent language. Garden City, N. Y.: Doubleday, 1959.

- Hall, E. T. The silent language in overseas business. Harvard Business Review, 1960, 38, 87-96.
- _____. A system for the notation of proxemic behavior. American Anthropologist, 1963, 65, 1003-1026.
- _____. The hidden dimension. Garden City, N. Y.: Doubleday, 1966.
- _____. Proxemics. Current Anthropology, April-June 1968, 9(2-3), 83-108.
- _____. Environmental communication. In A. H. Esser (Ed.), Behavior and environment: The use of space by animals and men. New York: Plenum Press, 1971. Pp. 247-256.
- Hendrick, C., & Hawkins, G. Race and belief similarity as determinants of attraction. Perceptual and Motor Skills, 1969, 29, 710.
- _____, Bixenstine, V. E., & Hawkins, G. Race versus belief similarity as determinants of attraction: A search for a fair test. Journal of Personality and Social Psychology, 1971, 17, 250-258.
- _____, Stikes, S. C., & Murray, E. J. Race versus belief similarity as determinants of attraction in a live interaction setting. Journal of Experimental Research in Personality, 1972, 6, 162-168.
- _____, Stikes, S. C., Murray, E. J., & Puthoff, C. Race vs belief as determinants of attraction in a group interaction context. Memory and Cognition, 1973, 1, 41-46.
- Hiat, A. B. Explorations in personal space. Dissertation Abstracts International, June 1971, 31(12-B), 7572.
- Johnson, K. R. Black kinesics: Some non-verbal communication patterns in the black culture. Florida II Reporter, Spring/Fall 1971, 9(n.p.).
- Jones, S. E. A comparative proxemics analysis of interaction in selected subcultures of New York City. Journal of Social Psychology, 1971, 84, 35-44.
- _____, & Aiello, J. R. Proxemic behavior of black and white first, third, and fifth-grade children. Journal of Personality and Social Psychology, 1973, 25(1), 21-27.
- Katz, D. Animals and men. New York: Longmans, Green, 1937.

- Klukken, P. G. Personality and interpersonal distance. Dissertation Abstracts International, 1972, 32(10-B), 6033.
- _____, & Aiello, T. D. The development of personal space proxemic behavior of children 6 through 16. Human Ecology, 1974, 2(3), 177-189.
- _____, & Jones, S. E. Field study of the proxemic behavior of young school children in three subcultural groups. Journal of Personality and Social Psychology, 1971, 19(3), 351-356.
- Little, K. B. Personal space. Journal of Experimental Social Psychology, 1965, 1, 237-247.
- McWhirter, R. M., & Jecker, J. D. Attitude similarity and inferred attraction. Psychonomic Science, 1967, 7, 225-226.
- Mehrabian, A. Orientation behaviors and nonverbal attitude communication. Journal of Communication, 1967, 17, 324-331.
- _____. Relationship of attitude to seated posture, orientation, and distance. Journal of Personality and Social Psychology, 1968, 10, 26-30.
- _____. Significance of posture and position in the communication of attitude and status relationships. Psychological Bulletin, 1969, 71, 350-372.
- Moss, M. K., & Andrasik, F. Belief similarity and interracial attraction. Journal of Personality, 1973, 4, 192-205.
- Oppenheim, A. N. Questionnaire design and attitude measurement. New York: Basic Books, 1966.
- Obudho, C. E. The proxemic behavior of man and animals: An annotated bibliography. Monticello, Ill.: Council of Planning Librarians, Exchange Bibliography, Nos. 646 and 647, September 1974.
- Pellegrini, R. J., & Empey, J. Interpersonal spatial orientation in dyads. Journal of Psychology, 1970, 76, 67-70.
- Rokeach, M. Belief versus race as determinants of social distance: Comment on Triandis' paper. Journal of Abnormal and Social Psychology, 1961, 62(1), 187-188.
- _____, & Mezei, L. Race and shared belief as factors in social choice. Science, 1966, 151(37), 167-172.

- Rokeach, M., Smith, P. W., & Evans, R. I. The open and closed mind. In M. Rokeach (Ed.), Two kinds of prejudice or one? New York: Basic Books, 1960. Pp. 132-168.
- Savell, J. M., & Luttrell, J. M. Some effects of race and belief under different conditions of belief similarity-dissimilarity. Proceedings, 80th Annual Convention, American Psychological Association, 1972. Pp. 281-282.
- Scheffé, H. The analysis of variance. New York: Wiley, 1959. Pp. 46-48, 49.
- Serum, C. S., & Myers, D. G. Prejudice and perceived belief similarity. Perceptual and Motor Skills, 1970, 30, 947-950.
- Sommer, R. Studies in personal space. Sociometry, 1959, 22, 247-260.
- _____. Personal space: The behavioral basis for design. Englewood Cliffs, N. J.: Prentice-Hall, 1969.
- Stein, D. The influence of belief systems on interpersonal preference: A validation study of Rokeach's theory of prejudice. Psychological Monographs: General and Applied, 1966, 80(8, Whole No. 616), 1-27.
- _____, Hardyck, J. A., & Smith, B. "Race and belief: An open and shut case?" Journal of Personality and Social Psychology, 1965, 1(4), 281-289.
- Tesch, F. E., Huston, T. L., & Indenbaum, E. A. Attitude similarity, attraction, and physical proximity in a dynamic space. Journal of Applied Social Psychology, 1973, 3(1), 63-72.
- Triandis, H. A note on Rokeach's theory of prejudice. Journal of Abnormal and Social Psychology, 1961, 62(1), 184-186.
- _____. Exploratory factor analysis of the behavioral component of social attitudes. Journal of Abnormal and Social Psychology, 1964, 68(4), 420-430.
- _____, & Davis, E. E. Race and belief as determinants of behavioral intentions. Journal of Personality and Social Psychology, 1965, 2(5), 715-725.
- Watson, M. O. Proxemic behavior: A cross cultural study. Paris: Mouton, 1970.
- Willis, F. H., Jr. Initial speaking distance as a function of the speaker's relationship. Psychonomic Science, 1966, 5, 221-222.

APPENDIX A

AXIS SCORING SYSTEM

AXIS SCORING SYSTEM

The scores for body orientation or axis ranged from "1" to "25" as if taking hour and half-hour positions around a clock. Judgments were made from an average of the shoulders and hips of one interactant in relation to the other.

The following shows some representative body orientation descriptions and their scores.

<u>Descriptions</u>	<u>Scores</u>
Bodies facing, parallel	1
Bodies facing at 45 degrees	3
Bodies facing at 90 degrees	6
Bodies side by side (facing the same direction) at 180 degrees	12
Bodies back to back	25

APPENDIX B

DISTANCE CATEGORIES AND SCORES

DISTANCE CATEGORIES AND SCORES

<u>Description</u>	<u>Score</u>
Bodies (torsos) touching	10
One hand's length	20
Two hands' length	30
One forearm (with hand open)	40
One arm's length	50
Two forearms (with hands open)	60
Two forearms and a hand	70
One arm's length and a forearm (= one reach)	80
One arm's length and a forearm and a hand	90
Two arms' length	100
Two arms' length and a hand	110
One reach, an arm's length, and a hand	120
Two reaches (= two arms' length and two forearms)	130
Greater than two reaches	140

APPENDIX C

HALL'S FOUR STANDING INTERACTION
DISTANCE ZONES

HALL'S FOUR STANDING INTERACTION DISTANCE ZONES*

<u>Distances</u>	<u>Close Phase</u>	<u>Far Phase</u>
Intimate	0-6 inches	6-18 inches
Personal	1½-2½ feet	2½-4 feet
Social	4-7 feet	7-12 feet
Public	12-25 feet	25+ feet

*Source: E. T. Hall, The hidden dimension (Garden City, N. Y.: Doubleday and Co., 1966).

APPENDIX D

SOME BODY PARTS, DISTANCES, AND PROXEMIC
SCORES FOR MALES AND FEMALES

SOME BODY PARTS, DISTANCES,* AND PROXEMIC SCORES FOR MALES AND FEMALES

Body part	Adult males			Adult females		
	Average forearm	Average arm length	Two forearms	Average forearm	Average arm length	Two forearms
Measure of body part in inches	18.65	29.65	37.30	17.34	27.39	34.68
Distance scores (from Appendix B)	40	50	60	40	50	60
Hall's Interaction Distance Zones (from Appendix C)	Personal (close)	Personal (close)	Personal (far)	Intimate (far)	Personal (close)	Personal (far)

*Note. The part of the table labeled "Interaction Distances" is in relation to the part of the table labeled "Measure of body part in inches." Thus, a distance score of "40" would mean different interaction zones for males and females. Additionally, the midpoint between a score and the one immediately following marks the cutoff point for the close and far phases of the interaction zones.

APPENDIX E

RACIAL ATTITUDE QUESTIONNAIRE

	I would never	Maybe I would	I would
14. Praise the suggestions of a Puerto Rican.			
15. Be partners with a White person in an athletic game.			
16. Go out on a date with a Puerto Rican.			
17. Gossip with a Black person.			
18. Be commanded by a White person.			
19. Marry a Puerto Rican.			
20. Eat with a Black person.			
21. Fall in love with a White person.			
22. Be on a first name basis with a Puerto Rican.			
23. Be commanded by a Black person.			
24. Praise the suggestions of a White person.			
25. Fall in love with a Black person.			
26. Gossip with a Puerto Rican.			
27. Eat with a White person.			
28. Praise the suggestions of a Black person.			
29. Admire the ideas of a Puerto Rican.			
30. Marry a Black person.			
31. Love a White person even after his (her) death.			

APPENDIX F

OPINION QUESTIONNAIRE

OPINION QUESTIONNAIRE

People generally have opinions about the topics listed below. We would like to know your opinions about them. Please check the response which is right for you for each topic.

Student Number _____ Sex _____ Class Level: F ___ S ___ J ___ S ___

1. Abortion

- I am very much in favor _____
- I am in favor _____
- I am mildly in favor _____
- I am mildly against _____
- I am against _____
- I am very much against _____

2. The existence of God

- I strongly believe in _____
- I believe in _____
- I feel that perhaps there is _____
- I feel that perhaps there is not _____
- I believe there is not _____
- I strongly believe there is not _____

3. Money as the most important goal

- I strongly believe it is _____
- I believe it is _____
- I feel that perhaps it is _____
- I feel that perhaps it is not _____
- I believe it is not _____
- I strongly believe it is not _____

4. Taking drugs

- I am very much in favor _____
- I am in favor _____
- I am mildly in favor _____
- I am mildly against _____
- I am against _____
- I am very much against _____

5. Freedom of speech

- I am very much in favor _____
- I am in favor _____
- I am mildly in favor _____
- I am mildly against _____
- I am against _____
- I am very much against _____

6. Price Inflation

- I am very much concerned _____
I am concerned _____
I am mildly concerned _____
I am mildly unconcerned _____
I am unconcerned _____
I am not at all concerned _____

APPENDIX G

INTERPERSONAL JUDGMENT SCALE

INTERPERSONAL JUDGMENT SCALE

We would like to know your impressions of the person you have just spoken with. Would you please read the following statements carefully, and check the answers which you feel apply to your conversation partner.

Student Number _____ Sex _____ Class Level: F ___ S ___ J ___ S ___

1. Intelligence (check one)

I believe that this person is very much above average in intelligence.

I believe that this person is above average in intelligence.

I believe that this person is slightly above average in intelligence.

I believe that this person is average in intelligence.

I believe that this person is slightly below average in intelligence.

I believe that this person is below average in intelligence.

I believe that this person is very much below average in intelligence.

2. Morality (check one)

This person impresses me as being extremely moral.

This person impresses me as being moral.

This person impresses me as being moral to a slight degree.

This person impresses me as being neither particularly moral nor particularly immoral.

This person impresses me as being immoral to a slight degree.

This person impresses me as being immoral.

This person impresses me as being extremely immoral.

3. Adjustment (check one)

I believe that this person is extremely maladjusted.

I believe that this person is maladjusted.

- I believe that this person is maladjusted to a slight degree.
- I believe that this person is neither particularly maladjusted nor particularly well adjusted.
- I believe that this person is well adjusted to a slight degree.
- I believe that this person is well adjusted.
- I believe that this person is extremely well adjusted.

Personal Feelings (check one)

- I feel that I would probably like this person very much.
- I feel that I would probably like this person.
- I feel that I would probably like this person to a slight degree.
- I feel that I would probably neither particularly like nor particularly dislike this person.
- I feel that I would probably dislike this person to a slight degree.
- I feel that I would probably dislike this person.
- I feel that I would probably dislike this person very much.

Working Together in an Experiment (check one)

- I believe that I would very much dislike working with this person in an experiment.
- I believe that I would dislike working with this person in an experiment.
- I believe that I would dislike working with this person in an experiment to a slight degree.
- I believe that I would neither particularly dislike nor particularly enjoy working with this person in an experiment.
- I believe that I would enjoy working with this person in an experiment to a slight degree.
- I believe that I would enjoy working with this person in an experiment.

- I believe that I would very much enjoy working with this person in an experiment.
6. Combined (used as a general indicator of attraction)*
- The student is very much attracted to the confederate.
- The student is attracted to the confederate.
- The student is attracted to a slight degree.
- The student is neither particularly attracted nor unattracted.
- The student is unattracted to a slight degree.
- The student is unattracted.
- The student is very unattracted.

*This scale was not included on the questionnaire administered to the students. It was added here as a means of providing an indication of the scoring system for attraction. The scores on this scale ranged from "2" to "14" with "2" = very much attracted and "14" = very unattracted.