

CONSEQUENCES, RACIAL DISCRIMINATION AND
THE PRINCIPLE OF BELIEF CONGRUENCE

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ABSTRACT

CONSEQUENCES, RACIAL DISCRIMINATION, AND THE PRINCIPLE OF BELIEF CONGRUENCE

By Bernie I. Silverman

The aim of this study was to determine whether the principle of belief congruence accurately described consequential as well as inconsequential behavior. Subjects were chosen from a list of Caucasian male high school seniors who had been accepted for admission to Adrian College in the fall of 1970. The 150 persons selected from this list were equally divided by means of systematic sampling procedures between the experimental and control groups. Early in 1970 experimental group subjects were informed by the Dean of Men at Adrian College that they would be allowed to choose their roommate for their first year at college. Also they were sent and asked to fill out questionnaires that measured their attitudes and values. Simultaneously control group subjects received the same questionnaires from the psychology department at Michigan State and were told that they had been chosen to participate in a study of student attitudes before they reached college. About 57% of the subjects in each group returned these questionnaires.

Two months later those that returned their questionnaires received thorough descriptions of eight male teenagers that varied on three dimensions--racial similarity, attitude similarity, and value similarity. Experimental group subjects were led to believe that the persons described were to attend Adrian in the fall and that they were to select a roommate

from among them. Control group subjects were led to believe that the persons described were planning to attend Michigan State in the fall and were asked to respond as if they were selecting a roommate. To determine whether the consequences variable was adequately manipulated all subjects next received a questionnaire from Alpha Tau Omega Fraternity which asked if they knew who they would be living with at Adrian. Experimental group subjects responded that they did, indicating that they perceived their evaluations of the eight hypothetical persons as consequential while those in the control group responded that they did not, indicating that they viewed their roommate selections as inconsequential.

Three weeks after rating the eight hypothetical persons all subjects received a questionnaire either from the experimenter or the Dean of Men which asked for their perceptions of their parents and friends reactions should they share a room with a Negro. Experimental group subjects then received a complete account of the study while all subjects were given an opportunity to meet with the experimenter mid-way through their first term at Adrian College.

Control group subjects, who saw their responses as inconsequential, did not discriminate against Negroes when evaluating the hypothetical persons as roommates. Experimental group subjects, who saw their responses as determining their roommate, discriminated significantly against Negroes. Therefore it may be concluded that investing subjects' responses with consequences causes racial discrimination. However, in both the experimental and control groups, subjects discriminated significantly more on belief similarity than race similarity. Therefore the principle of belief congruence provides accurate descriptions of subjects' behavior whether or not responses are perceived to be consequential. A correlation of .77 was

found between experimental group subjects' racial discrimination and their perception of their parents and friends reactions should they share a room with a Negro. The same correlation in the control group was .30. These correlations may be interpreted as indicating that only when subjects view their responses as consequential is there a strong relationship between perceived social pressure for racial discrimination and racial discrimination itself. Finally it was found, contrary to what was expected on the basis of theory and previous research, that attitude similarity proved to be a significantly more important determinant of subjects' evaluations of the hypothetical persons than value similarity.

Two explanations were advanced for both the greater racial discrimination of those in the experimental group and the difference in the strength of the correlations between perceived social pressure and racial discrimination. The first held that when subjects perceived their responses to be consequential they were compelled to take account of the possible loss of rewards from significant others should they fail to discriminate against Negroes. According to this explanation, the locus of racial discrimination is in society. The second explanation held that when responses were seen as consequential, subjects were forced to take account of the reward value of the hypothetical persons. Experimental group subjects who held negative attitudes towards Negroes, but not their control group counterparts, would have to discriminate against Negroes if they intended to receive maximum rewards from their roommate. According to this explanation, the locus of racial discrimination is in the individual. It was pointed out that the two explanations are not mutually exclusive and therefore that consequences may act in both ways to increase racial discrimination.

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CONSEQUENCES, RACIAL DISCRIMINATION AND
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INTRODUCTION

It may be inferred from the principle of belief congruence (Rokeach and Rothman, 1965) that individuals tend to like others whom they perceive as having beliefs similar to their own, and tend to dislike those whom they perceive as holding beliefs and attitudes different from their own. The same inference can be drawn from the balance theories of Heider (1946) and Newcomb (1963). However, one unique implication of the principle of belief congruence is that belief similarity or dissimilarity is a more potent determinant of interpersonal attraction than is racial similarity.^{1/}

Evidence for the principle of belief congruence was first supplied by Rokeach, Smith, and Evans (1960). They found that college students discriminated more on belief similarity than racial similarity when evaluating hypothetical persons as friends. Each hypothetical person

^{1/} The principle of belief congruence has had two distinct meanings or referents in psychological literature. The term was first used to describe people's propensity for discriminating more on belief similarity than racial similarity in interracial situations (Rokeach, 1961). Later the same term was applied to a model of impression formation devised by Rokeach and Rothman (1965). According to this model, the evaluation of a characterized subject (A Negro who believes in God) is influenced more by the characterization (believes in God) than the subject (A Negro). When the race variable occupies the position of subject and the belief variable serves as a characterization, beliefs should prove to be a more important contributor to impression formation than race. Thus the original principle of belief congruence can be inferred from the later formulation of the same principle. When the principle of belief congruence is discussed in this paper, the original referent is intended.

was described as either a Negro or a Caucasian who held a single attitude either similar or dissimilar to the subject's own. Triandis (1961) confronted his subjects, who were college students, with hypothetical persons that varied on four attributes: race, status, philosophy of life, and religion. Subjects were required to rate the hypothetical persons on a social distance scale which placed the hypothetical persons in roles such as friend, neighbor and marriage partner. The results revealed that while all the variables significantly affected social distance scores, racial similarity accounted for approximately four times as much of the variance as any of the others.

Rokeach (1961) attempted to explain the disparity between his own and Triandis' results by claiming that the belief component of Triandis' hypothetical persons (philosophy of life) was relatively weak compared to the belief component of the hypothetical persons used in his own study. Triandis felt the inconsistency in results was due to a different factor. He wrote, "Had Rokeach considered something more than friendship, he would not have obtained his results (Triandis, 1961, p. 186)." In other words the social context in which the hypothetical persons were imagined influenced subjects' manifestations of racial discrimination.

Subsequent investigations explored this proposition. Anderson and Cote (1966) and Smith, Williams and Willis (1967) found that subjects discriminated more on belief similarity than ethnic or racial similarity when evaluating hypothetical persons as friends. Byrne and Wong (1962) and Byrne and McGrew (1964) obtained similar results when college students rated both the likeableness and desirability as a work partner of the hypothetical persons. The latter consisted of attitudinal checklists purportedly filled out by the subjects' peers. Rokeach and Mezei (1966), after observing subjects' responses to actual persons,

concluded that college students discriminated more on attitude similarity than racial similarity when choosing someone to have coffee with. They also found that adults, applying for jobs at state mental institutions, acted in a similar manner when selecting other job applicants as possible work partners.

But when subjects were asked to evaluate hypothetical persons in roles other than friend or work partner, a large racial discrimination effect occurred. Triandis and Davis (1965) found that college students discriminated more on race than belief when rating hypothetical persons as marriage partners and neighbors. Insko and Robinson (1967) showed that southern high school students also discriminated mainly on race when the hypothetical persons were placed in the same situations. Stein (1966), whose subjects were northern high school students, found that the race effect was greatest for "have a close relative marry," "invite home to dinner," and "neighbor on the street," but only in the first instance was it stronger than the effect of belief similarity. Although responding in accord with the principle of belief congruence, Caucasian homeowners were found to manifest appreciable racial discrimination when evaluating hypothetical persons as home purchasers and sons-in-law (Silverman and Cochrane, 1972).

These paper and pencil manifestations of racial discrimination, as well as overt racial discrimination in housing (Grodins, 1957; Farley and Taeuber, 1968) and other areas, appear to challenge the validity of the principle of belief congruence. Rather than discard the principle as inaccurate, Rokeach and Mezei (1966, p. 171) asked for a dispensation. They wrote "the focus of racial and ethnic discrimination is to be sought in society, not in the individual's psyche. If a society's constraints

were altogether removed, men would not discriminate in terms of race or ethnic grouping...but in terms of the principle of belief congruence." This suggests racial discrimination is a function of perceived social pressure. The full implications of this statement will be explored later. At this point it suffices to note that Rokeach has qualified the principle of belief congruence so that it applies only in situations in which social sanctions supporting racial discrimination are absent or innocuous. With this qualification, the principle describes the findings of the previously reviewed studies reasonably well.

Consequences, Social Desirability and Belief Congruence

There are several reasons why the findings of the studies reviewed cannot be accepted at face value. First it is clear that the sampling procedures were inadequate. Although the principle of belief congruence is spoken of as though it pertains to everyone, it has been tested almost exclusively on students. As a result, the generality of the principle to non-student populations is open to question. As inferential statistics are based on the assumption of probability sampling, investigators may not even be justified in generalizing their findings to the student population, for in all the studies reviewed non-probability samples were employed (Hays, 1966, p. 217).

Yet there remains a more serious methodological problem that may invalidate most of the findings upon which the principle of belief congruence rests. In all the studies but one (Rokeach and Mezei, 1966) subjects were required to imagine themselves in situations other than the one they were actually in, and to respond as if they were in the imagined situations. Data obtained in this fashion typically are interpreted as though they genuinely reflect the subjects' actual

behavior. Freedman (1969), however, points out that this interpretation is based on the untenable assumption that there is a close correspondence between subjects' opinions as to what they would do in a particular situation and their subsequent behavior in that situation. Though some have found a significant relationship between subjects' verbal expressions of behavioral intention and actual behavior (Silverman and Cochrane, 1971), for the most part there seems to be little relationship between what subjects say they will do in an imagined situation, and what they in fact do (LaPiere, 1934; Kutner, Wilkins, and Yarrow, 1952; Linn, 1964; McGrew, 1967). Consideration of these results may have prompted Bem (1968, p. 273) to write, "No 'as if' methodology...is an adequate substitute for intensive study of the actual situation being modeled."

One reason for the discrepancy between verbal expressions of behavioral intentions and actual behavior may be that the former are inordinately influenced by the tendency of subjects to make themselves look good in the eyes of the experimenter (Edwards, 1957; Crowne and Marlowe, 1964; Rosenberg, 1965). Subjects can ignore their true feelings toward the hypothetical persons encountered in the situations conjured up by the experimenter because it is apparent their responses have no real-life consequences other than to influence the experimenter's opinion of them. In contrast, subjects who believe they are actually in a situation may have their desire to respond in a socially desirable manner tempered by the knowledge that their responses may effect their future relationship with whatever stimuli are encountered. Cook and Selltiz (1964, p. 46) emphasize this point as they write, "when responses are expected to have real-life consequences, the anticipation of such consequences may counter-balance the wish to make a good impression."

Unfortunately most studies in which the principle of belief congru-

ence was tested elicited inconsequential responses. ^{2/} Therefore these responses may reflect not only subjects' feelings towards the hypothetical persons but their conception of what is socially desirable as well. And in academic settings socially desirable responses are clearly those that portray the subject as "...unprejudiced, rational, open-minded, and democratic (Cook and Selltiz, 1964, p. 39)." By inhibiting racial discrimination the experimental situation provides built-in support for the principle of belief congruence. Viewed in this light, evidence for the principle is far less impressive than it might have first appeared.

The present study focused on the relationship between consequences and racial discrimination as manifested in verbal expressions of behavioral intention. One group of subjects was led to believe that their evaluations of prospective roommates would actually determine who they would be living with for the next academic year. Presumably this group of subjects viewed their responses as consequential. A second group of subjects performed the identical task but presumably realized their responses were inconsequential as they were aware that they were participating in a psychological experiment. The first hypothesis tested was

^{2/} The single exception is the study by Rokeach and Mezei (1966). They emphasize that in contrast to previous studies in which subjects gave "paper-and-pencil" responses to "paper-and-pencil" stimuli, their subjects discriminated on race and beliefs in real-life situations. Simply because a behavior is emitted in a real-life situation does not guarantee that it is consequential. For example, job applicants told to choose a work partner were in a real-life situation but were assured that their selections had nothing to do with their employment interview. Considering that these men were uncertain of subsequent employment, it is difficult to imagine that they viewed their responses as consequential in the sense that they might determine with whom they might be working. In contrast, Rokeach and Mezei's student subjects no doubt believed their choices would determine whom they later joined for coffee and thus it may be assumed that they saw their responses as having consequences. Therefore, in at least one of their tests of the principle of belief congruence, Rokeach and Mezei used consequential behavior.

that consequences and racial discrimination are positively related. In other words, as responses are invested with consequences, discrimination against Negroes increases. Since previous research indicates the principle of belief congruence describes inconsequential behavior well, the second hypothesis tested was that subjects would discriminate significantly more on belief similarity than racial similarity when they perceive their responses to be of no consequence. Because it was expected that investing responses with consequences would enhance racial discrimination while not influencing belief discrimination, the third hypothesis tested was that belief discrimination would be no greater than racial discrimination when subjects believe they are actually choosing a roommate.

Perceived Social Pressure and Belief Congruence

Up to now the methodological shortcomings of previous studies have been emphasized. But there is a logical problem as well. In qualifying the principle of belief congruence Rokeach explained that belief similarity would be less important than racial similarity in determining interpersonal attraction only when social sanctions compelled individuals to discriminate on race. Other investigators (Triandis and Davis, 1965; Stein, Hardyk, and Smith, 1965; Insko and Robinson, 1967) have generally accepted Rokeach's qualification. However, in doing so, they have rendered the principle of belief congruence immune from falsification and therefore meaningless. In studies in which a large race effect was obtained it was attributed to social pressure towards racial discrimination. Yet the presence of these sanctions was inferred from subjects' discrimination on race. The reasoning is circular. Whenever results were in accord with it, social sanctions were not thought to be operating

and the principle was supported. But when much of the variance in subjects' responses was due to the race of the hypothetical persons, social sanctions were invoked and the principle remained unscathed. If the principle of belief congruence is to be returned to the ranks of meaningful propositions, an independent measure of perceived social pressure to act in a racially discriminatory manner is required. For this would make it possible to obtain a situation in which there was racial discrimination but no detectable perceived social pressure.

Recent studies have employed such a measure making it possible to determine whether perceived social pressure for racial discrimination is related to racial discrimination and, thus, to the failure of the principle of belief congruence to accurately describe subjects' responses. Silverman and Cochrane (1972) found a positive relationship between a group's tendency to discriminate on race and its perceived social pressure to do so. As Rokeach suggested, the principle of belief congruence described the group's responses best when there was little perceived social pressure to discriminate on race. Robinson (1950) has warned however that correlations between variables based on group data invariably give inflated estimates of the strength of the relationship between the variables in individuals. ^{3/} A more convincing demonstration of the relationship between perceived social pressure for racial discrimination and discrimination itself would involve correlating indices of the two variables taken from individuals. One component of a study by Mezei (1970) involved the calculation of such correlations.

^{3/} An example may clarify this point. Robinson shows that the correlation between percent Negro and percent illiterate in nine geographical divisions of the United States is .94. The correlation between the same percentages is reduced to .76 when forty-eight states become the unit of analysis. When the unit of analysis is the individual, the correlation between illiteracy and race shrinks to .20.

Mezei (1970) had subjects judge how much they would like to be with hypothetical persons in ten situations and indicate to what extent their friends and parents would approve of these imaginary interactions. In the few situations where racial discrimination exceeded belief discrimination, significant positive correlations were obtained between racial discrimination and corresponding perceived social pressure. By means of regression analysis the effects of perceived social pressure to discriminate on both beliefs and race were removed from their respective discrimination scores. A comparison of residual discrimination scores, independent of perceived social pressure, showed that belief similarity influenced subjects more than racial similarity in all but one of the imagined interactions. These findings make more tenable Rokeach's assertion that belief congruence fails to describe interpersonal attraction only when societal sanctions compel persons to discriminate on race.

While acknowledging Mezei's sophisticated use of statistics to explore a difficult problem, it might prove worthwhile to examine the study's weaknesses as well. Because of the strong positive correlations between the original racial discrimination scores and the index of perceived social pressure to discriminate on race, the residual belief discrimination scores were greater than the residual racial discrimination scores. Campbell and Fiske (1959) have shown, however, that the correlation between variables might be due not only to their content but to similarities in the way the variables were measured. And Mezei (1970, p. 24) notes "The rejection scale and the perceived social pressure scale were constructed in a similar way in order to make it easy for subjects to express their rejection judgments and perceptions of social pressure by using only one frame of reference." Thus it is possible that a similarity in questionnaires contributed common methods

variance to the measures of racial discrimination and perceived social pressure for racial discrimination that accounted in part for their high positive correlations. The interpretation of these correlations is further complicated by the fact that measures of perceived social pressure were obtained directly after subjects made the ratings from which their own racial discrimination was inferred. This close temporal relationship increases the probability that variance due to demand characteristics (Orne, 1962) was common to both scales and thus contributed to the resulting correlations. Also filling the forms out so close together heightens "...the possibility that the social pressure judgments may have been contaminated by rationalization of the rejection score judgments." This too would result in artificially high correlations between the indices of racial discrimination and perceived social pressure.

Ignoring for a moment the several extraneous sources of common variance in the two indices, another problem remains, making interpretation of the correlations difficult. Clearly the relationship described is between racial discrimination inferred from inconsequential expressions of preference and perceived social pressure for racial discrimination. For reasons given earlier, it is probable that the former does not correspond to discrimination outside the laboratory, and to the extent that it fails to, relationships based upon it cannot be spoken of as though they describe real-life, consequential behavior.

A measure of perceived social pressure was employed in the present study for two reasons. First so that a fair test of the principle of belief congruence might be conducted and second so that the relationship between societal sanctions and racial discrimination tested by Mezei might be further explored. Subjects were asked to indicate how they

thought their friends, parents and future college classmates would react to them if they shared a room with a Negro during their first year at college. To reduce extraneous sources of common variance in the measures of racial discrimination and corresponding social pressure, the questionnaires tapping these variables were designed with different formats and were administered a month apart. With some of the extraneous sources of common variance attenuated, it was hypothesized that there would be no significant relationship between racial discrimination, as inferred from inconsequential choices of roommates, and perceived social pressure for racial discrimination. Given that actual behavior is usually infused with consequences, a more realistic test of the relationship between discrimination and social pressure would involve correlations between racial discrimination inferred from consequential roommate selections and the measure of perceived social pressure for racial discrimination. And assuming that manifestations of racial discrimination vary depending on whether they are inferred from consequential or inconsequential behavior, it follows that relationships based on these manifestations may also differ. ^{4/} Therefore the fifth hypothesis tested was that relationships between perceived social pressure to discriminate on race and racial discrimination would significantly differ when racial discrimination was inferred from consequential as compared to inconsequential roommate choices.

^{4/} Though unlikely, it is possible for racial discrimination scores based on consequential behavior to differ significantly from their inconsequential counterparts without a concomitant change in the relationships between these measures and the measure of perceived social pressure for racial discrimination. If the effect of consequences on racial discrimination scores can be described by a linear transformation, relationships based on such scores and measured by a Pearson product-moment correlation coefficient will not be affected.

Values Compared to Attitudes as Determinants of Attraction

The remainder of this study dealt with the relative importance of value similarity as compared to attitude similarity in determining interpersonal attraction. Several characteristics distinguish values from attitudes (Rokeach, 1968). Theoretically a value consists of a single, deep seated belief whereas the several beliefs making up an attitude are thought to be less central to a belief system. Because of this difference in centrality, values are thought to determine attitudes although the reverse is not true. Finally, the influence of a value on behavior transcends specific situations while the influence of an attitude is confined to a particular situation or object.

Those seen as having a belief system most similar to ones own should be most favorably evaluated if belief congruence contributes to interpersonal attraction. From the distinctions just drawn, it would seem that knowing something about an individual's values provides more insight into his belief system than knowing something about his attitudes. The perception of similar values in an individual should therefore result in the assumption of a more similar belief system than the perception of similar attitudes. Consequently value similarity should prove to be a more important determinant of attraction than attitude similarity. Nelson (1965) in fact found that this was the case. Value similarity accounted for 54% of the variance while attitude similarity accounted for 39% of the variance in subjects' choices of friends. Accordingly the sixth and final hypothesis tested was that value similarity would account for more of the variance than attitude similarity in subjects' roommate selections.

METHOD

Fifteen universities and colleges were sent letters asking for their participation in the present study. Of these schools only Adrian College agreed to provide complete cooperation and thus it became the sole source of subjects. The college, with an enrollment of about 2,000, is located in southeastern Michigan and is affiliated with the Methodist Church. Its students are drawn mainly from small towns in the mid-west.

The sampling frame consisted of all males who were accepted for admission to Adrian College as of April 10, 1970, for the academic year beginning September, 1970. A systematic sample (Yamane, 1967) of 150 persons was chosen from this sampling frame, using a $\frac{1}{2}$ sampling fraction. The same procedure was repeated with these persons, thereby selecting 75 persons to make up the experimental or consequences group while leaving an equal number to form the control or nonconsequences group.

Those assigned to the experimental group first received a letter from the Dean of Men at Adrian College (Appendix A) in which it was explained that the college was initiating a program designed to give new students a greater voice in selecting their roommates. It was made clear that the students would receive descriptions of eight other new students from which they might choose their roommate for their first year at college. The Rokeach Value Survey (Penner, Homant, and Rokeach, 1968; Rokeach, 1969; Rokeach, 1970; Cochrane and Rokeach, 1970) and the Student Attitude Survey (Appendix B) were also included in the first mailing. The Value Survey (Appendix C) required students to rank in order of importance, as guiding principles in their lives, two sets of

eighteen values while the Attitude Survey gave students an opportunity to express their views toward five controversial issues. Those in the experimental group were led to believe that the eight personality descriptions, from which they would choose a roommate, would be based on the responses of others to these same questionnaires.

Those assigned to the control group first received a letter from the experimenter who identified himself as a member of the psychology department at Michigan State University (Appendix D). It was explained that the psychology department was conducting a survey designed to measure the attitudes and values of high school students before they enter college. This provided the rationale for returning the Rokeach Value Survey and the Student Attitude Survey which were enclosed along with the first letter. Further, those in the control group were informed that they would receive two more sets of questionnaires in the months to come so that more information about their attitudes might be gathered.

Of the 75 students in the experimental group 43 (57%) filled out and returned the Rokeach Value Survey and the Student Attitude Survey. The corresponding figure for the 75 students in the control group was 44 (59%). Having determined the attitudes and values of the subjects, the next task was to construct hypothetical persons for them to evaluate.

Each of eight hypothetical persons was designed to vary on three variables.^{5/} The first variable was racial similarity. As all of the subjects were Caucasians, those hypothetical persons described as

^{5/} The eight hypothetical persons with which each subject was confronted were: Negro-Similar Attitudes-Similar Values, Negro-Similar Attitudes-Dissimilar Values, Negro-Dissimilar Attitudes-Similar Values, Negro-Dissimilar Attitudes-Dissimilar Values, Caucasian-Similar Attitudes-Similar Values, Caucasian-Similar Attitudes-Dissimilar Values, Caucasian-Dissimilar Attitudes-Similar Values, and Caucasian-Dissimilar Attitudes-Dissimilar Values.

Caucasians manifested racial similarity while those described as Negroes manifested racial dissimilarity. The second variable manipulated was that of attitude similarity. Each hypothetical person held attitudes towards four issues. These were (a) special college admissions programs for blacks, (b) student protest demonstrations, (c) determination of course content by students, and (d) abolishing the draft. Hypothetical persons that held four similar attitudes to those of the subject manifested attitude similarity while those that held four dissimilar attitudes manifested attitude dissimilarity. The third variable manipulated was value similarity. Those hypothetical persons to whom similar values were attributed were described as considering important in their lives the three terminal values the subjects themselves ranked first, second, and third, plus one other value that the subjects ranked no lower than eighth. Hypothetical persons to whom dissimilar values were attributed were described as considering important in their lives the three terminal values the subjects ranked sixteenth, seventeenth, and eighteenth, plus one other value the subjects ranked no higher than eleventh. This procedure insured that each hypothetical person had one unique value. In addition, the order in which the values were listed for each hypothetical person was varied so as to reduce the probability that subjects would notice that two sets of four hypothetical persons each manifested almost identical values. Each hypothetical person, then, was described to the subject in a six sentence paragraph. The first sentence contained the hypothetical person's name, race, and home town, the next four his attitudes towards the issue discussed earlier, and the final sentence conveyed his values.

About two months after returning the Rokeach Value Survey and the

Student Attitude Survey subjects in both the experimental and control groups received eight descriptions of individuals to be evaluated. A cover letter (Appendix E), from the Dean of Men at Adrian College, explained to those in the experimental group that the persons described in the accompanying booklet (Appendix F) were, like themselves, high school students who planned to attend Adrian College in the fall. They were instructed to indicate how much they would like each person described as a roommate by circling a number from one to nine on a scale that appeared directly below each description. By circling one, subjects could indicate extreme preference for the person as a roommate. By circling nine, the opposite feeling could be expressed. It was explicitly spelled out to these subjects that their ratings would determine roommate assignments for the fall semester.

A cover letter from the psychology department at Michigan State (Appendix G) explained to those in the control group that the persons described in the accompanying booklet were high school students who planned to attend Michigan State University in the fall. The control group subjects were instructed to imagine that they were being given an opportunity to select their roommates for their first year at college. They were then asked to respond to the persons described as if they were actually choosing a roommate. As in the experimental group, the subjects could indicate their preferences on a one to nine scale that appeared below each description. Every attempt was made to make it clear to the control group subjects that their ratings would have no bearing on whom they would be living with at college.

Of the 43 subjects in the experimental group, 39 (90%) returned their evaluations of the hypothetical persons as roommates. The

corresponding figure for the 44 subjects in the control group was 42 (95%).

Although it seems that those in the experimental group should view their responses as consequential while those in the control group should not, it is desirable to objectively determine that this crucial independent variable was in fact successfully manipulated. Perhaps those in the experimental group somehow guessed that they too were in a psychology experiment and realized roommate assignments would not be contingent upon their responses. If the variable of consequences was not satisfactorily manipulated, testing hypotheses concerning its effects on racial discrimination and the principle of belief congruence would be illusory. To determine if the manipulation was successful, an attempt was made to find out if subjects had some idea as to whom they would be living with at Adrian College. Those who saw their roommate choices as consequential should have some idea as to whom they might be living with whereas those who viewed their choices as inconsequential should not.

About two weeks after rating the hypothetical persons as roommates, all subjects received a cover letter (Appendix H) and questionnaire from Alpha Tau Omega Fraternity at Adrian College. The letter explained that the fraternity was interested in discovering the aims and goals of the imminent freshmen so that it might make its programs more appealing. To facilitate achieving this end, the subject was asked to complete and return the accompanying questionnaire. The questionnaire (Appendix I) had but one question of relevance. It asked subjects to indicate on a one to nine scale if they had any idea who their roommate would be at college. One signified subjects knew precisely who they would be living with while nine indicated no knowledge of future roommates at all.

Of the 43 subjects in the experimental group 22 (51%) returned the fraternity questionnaire. The corresponding figure for the 44 subjects in the control group was 24 (55%).

Twelve weeks after expressing their own attitudes and values, four weeks after rating the hypothetical persons as roommates, and one week after receiving the fraternity survey, subjects received the final mailing which again consisted of a letter and a questionnaire. Those in the experimental group received their materials from the Dean of Men at Adrian while those in the control group received theirs from the psychology department at Michigan State. Both letters (Appendix J) described the purpose of the questionnaire as being to find out something about the subjects' perceptions of friends' and parents' reactions to behaviors the subject might engage in. The Significant Others Questionnaire itself (Appendix K) contained three relevant items. These items required subjects to indicate what they thought their best friends, parents, and the students at Adrian would think of them if they shared a room with a Negro at college. Responses were given on a one to nine scale with one representing extreme approval and nine representing extreme disapproval on the part of the significant others. These responses, then, served to provide a measure of perceived social pressure for racial discrimination.

Of the 43 subjects in the experimental group, 36 (84%) returned the Significant Other Questionnaire. The corresponding figure for the 44 subjects in the control group was 42 (95%). An overview of the experimental design is shown in Table 1.

About September 1 subjects in the experimental group, who had been deceived throughout the study, received a letter (Appendix L) from the experimenter. In the letter the deception was fully explained and apologies were offered. The purpose of the study was made clear and a

preliminary report of the findings was made. Further, subjects were invited to meet with the experimenter later in the fall at Adrian so that their questions might be more completely answered. On October 15 the experimenter met with subjects in both the experimental and control groups and reviewed the purpose, procedure, and results of the study.

TABLE 1

THE EXPERIMENTAL DESIGN

<u>Weeks from Beginning</u>	<u>Experimental Group</u>	<u>Response Rate</u>	<u>Control Group</u>	<u>Response Rate</u>
0	Letter from Adrian		Letter from Michigan State	
0	Rokeach Value Survey	43/75	Rokeach Value Survey	44/75
0	Student Attitude Survey	43/75	Student Attitude Survey	44/75
8	Letter from Adrian		Letter from Michigan State	
	Rating of Hypothetical Persons	39/43	Rating of Hypothetical Persons	42/44
10	Letter from Alpha Tau Omega		Letter from Alpha Tau Omega	
	Fraternity Survey	22/43	Fraternity Survey	22/44
12	Letter from Adrian		Letter from Michigan State	
	Significant Others Questionnaire	36/43	Significant Others Questionnaire	42/44
16	Letter of explanation from Michigan State			
22	Personal meeting with subjects		Personal meeting with subjects	

RESULTS

To test the first hypothesis, that discrimination against Negroes increases as responses are invested with consequences, it was first necessary to ascertain whether those in the experimental group actually saw their responses as more consequential than those in the control group. Presumably subjects who believed their ratings of the hypothetical persons determined roommate assignments should have some idea as to whom their roommate at Adrian might be. On the other hand, subjects should have no knowledge of a possible roommate if they viewed their ratings as inconsequential. Table 2 shows mean knowledge of roommate scores for those in the experimental and control groups. Subjects in the experimental group indicated, on the average, that they had some idea of their roommate at Adrian ($\bar{X}=5.22$) whereas their control group counterparts indicated no knowledge about roommates ($\bar{X}=8.95$). A t-test for independent samples revealed that the difference between the mean knowledge of roommate scores was significant ($t=11.80$, $df=44$, $p<.001$), leading to the conclusion that experimental group subjects perceived their choices as consequential while those in the control group did not.

Given that the consequences variable was adequately manipulated, its effects on racial discrimination may be examined. An analysis of variance of subjects' ratings of the hypothetical persons is shown in

Table 3. ^{6/} The finding of particular interest is the significant consequences x race interaction (Figure 1), for it reveals that the manipulation of consequences made a significant difference in subjects' reactions to the hypothetical persons' race. Table 4 shows the mean ratings assigned to the various attributes of the hypothetical persons by subjects in both the experimental and control groups. Within the consequences condition, Caucasians were evaluated significantly more favorably than Negroes ($F=40.81$, $df=1/76$, $p<.01$) but there was no difference in subjects' evaluation of Negroes and Caucasians when responses were perceived to be of no consequence ($F=.55$, $df=1/76$, N.S.).

TABLE 2

Knowledge of Roommate Scores For
Experimental and Control Groups

	$\bar{X}$	N	S^2	t	df	Significance
Experimental	5.22	22	2.07			
				11.80	44	$p<.001$
Control	8.95	24	0.04			

t-test for independent measures

Note: Smaller scores imply greater knowledge of roommate

^{6/} A $2 \times 2 \times 2 \times 2$ analysis of variance with repeated measures on three factors was employed. This design is a generalization of those described in chapter 7 of Winer (1962). Appendix M presents the computational procedures for the specific design. Three subjects were randomly chosen for removal from the control group. This resulted in 39 subjects in both the experimental and control groups and served to facilitate the analysis.

TABLE 3
ANALYSIS OF VARIANCE OF SUBJECTS' RATINGS OF
HYPOTHETICAL PERSONS

<u>Source of Variance</u>	<u>SS</u>	<u>df</u>	<u>F</u>	<u>% Variance Accounted for</u>
Consequences (A)	64.75	1	14.91*	1.4
Subjects within groups	330.51	76		
Race (B)	139.47	1	25.82*	3.0
A x B	84.03	1	15.56*	1.8
B x Subjects within groups	410.65	76		
Attitude (C)	1644.40	1	127.07*	36.0
A x C	3.57	1	0.27	-
C x Subjects within groups	983.61	76		
Values (D)	93.08	1	22.00*	2.0
A x D	.46	1	0.10	-
D x Subjects within groups	321.61	76		
B x C	11.08	1	7.19*	-
A x B x C	3.22	1	2.09	-
BC x Subjects within groups	117.31	76		
B x D	.85	1	0.47	-
A x B x D	5.59	1	3.12	-
BD x Subjects within groups	136.67	76		
C x D	8.57	1	7.51*	-
A x C x D	.17	1	0.14	-
CD x Subjects within groups	86.88	76		
B x C x D	1.50	1	1.04	-
A x B x C x D	.48	1	0.33	-
BCD x Subjects within groups	109.65	76		
TOTAL	4558.11	623		

* = $p < 0.01$

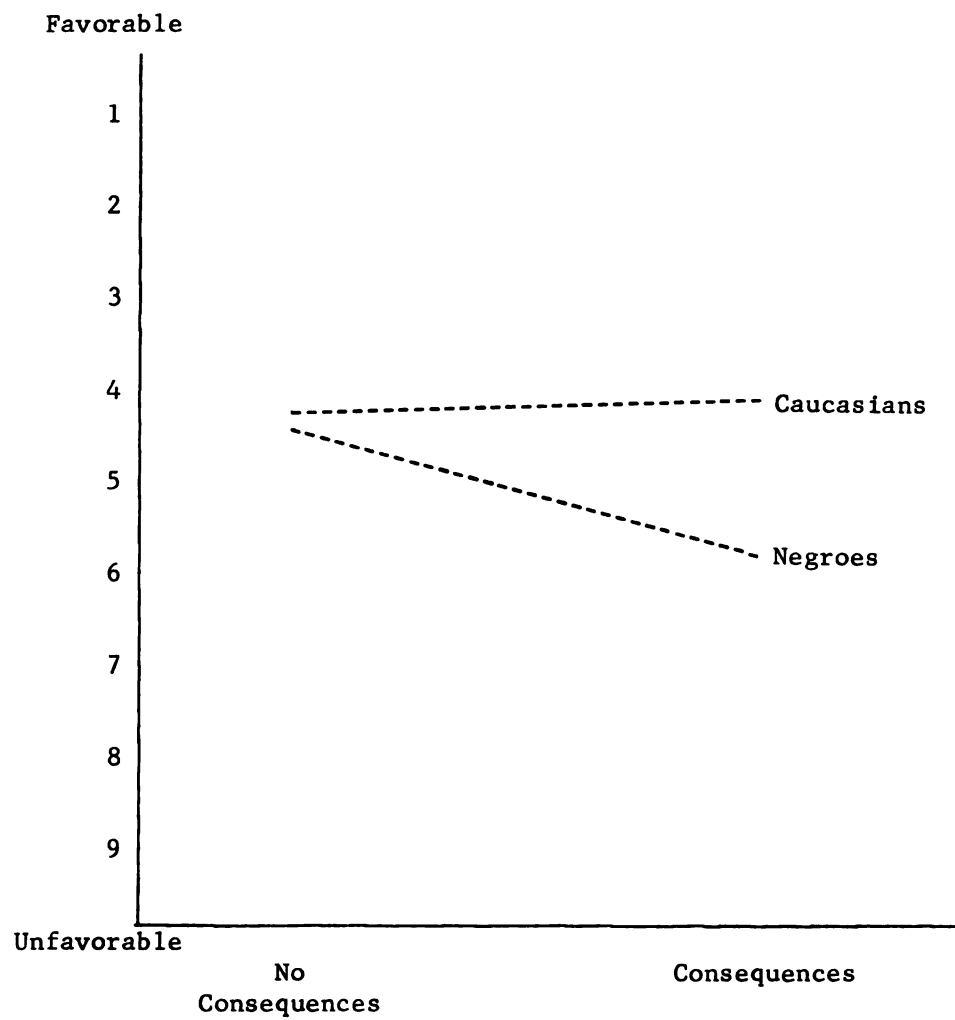


Figure 1. The Consequences x Race Interaction

TABLE 4

MEAN EVALUATIONS OF HYPOTHETICAL PERSONS

EFFECT	LEVELS	MEAN	EFFECT	LEVELS	MEAN
Consequences (A)	Consequence (A1)	5.02	AxBxD	A1-B1-D1	5.44
	No Conseq. (A2)	4.38		A1-B1-D2	6.28
Race (B)	Negro (B1)	5.17		A1-B2-D1	3.88
	Caucasian (B2)	4.23		A1-B2-D2	4.48
Attitudes (C)	Similar (C1)	3.08		A2-B1-D1	4.20
	Dissimilar (C2)	6.32		A2-B1-D2	4.76
Values (D)	Similar (D1)	4.31		A2-B2-D1	3.73
	Dissimilar (D2)	5.08		A2-B2-D2	4.82
AxB	A1-B1	5.86	AxCxD	A1-C1-D1	2.83
	A1-B2	4.18		A1-C1-D2	3.82
	A2-B1	4.48		A1-C2-D1	6.50
	A2-B2	4.27		A1-C2-D2	6.94
AxC	A1-C1	3.32		A2-C1-D1	2.32
	A1-C2	6.72		A2-C1-D2	3.34
	A2-C1	2.83		A2-C2-D1	5.61
	A2-C2	5.92		A2-C2-D2	6.24
AxD	A1-D1	4.66	BxCxD	B1-C1-D1	3.26
	A1-D2	5.33		B1-C1-D2	4.10
	A2-D1	3.96		B1-C2-D1	6.38
	A2-D2	4.79		B1-C2-D2	6.94
BxC	B1-C1	3.68		B2-C1-D1	1.88
	B1-C2	6.66		B2-C1-D2	3.06
	B2-C1	2.47		B2-C2-D1	5.73
	B2-C2	5.98		B2-C2-D2	6.24
BxD	B1-D1	4.82	AxBxCxD	A1-B1-C1-D1	3.89
	B1-D2	5.52		A1-B1-C1-D2	4.84
	B2-D1	3.80		A1-B1-C2-D1	7.00
	B2-D2	4.65		A1-B1-C2-D2	7.71
CxD	C1-D1	2.57		A1-B2-C1-D1	1.76
	C1-D2	3.58		A1-B2-C1-D2	2.79
	C2-D1	6.05		A1-B2-C2-D1	6.00
	C2-D2	6.59		A1-B2-C2-D2	6.17
AxBxC	A1-B1-C1	4.37		A2-B1-C1-D1	2.64
	A1-B1-C2	7.35		A2-B1-C1-D2	3.35
	A1-B2-C1	2.28		A2-B1-C2-D1	5.76
	A1-B2-C2	6.08		A2-B1-C2-D2	6.17
	A2-B1-C1	3.00		A2-B2-C1-D1	2.00
	A2-B1-C2	5.97		A2-B2-C1-D2	3.33
	A2-B2-C1	2.66		A2-B2-C2-D1	5.46
	A2-B2-C2	5.88		A2-B2-C2-D2	6.30

This occurred because subjects' evaluations of Caucasians remained constant across levels of consequences ($F=.14$, $df=1/152$, N.S) while subjects' evaluation of Negroes grew significantly less favorable as responses came to be seen as consequential ($F=30.39$, $df=1/152$, $p<.01$). These findings strongly support the hypothesis that discrimination against Negroes increases as responses are invested with consequences.

The second hypothesis holds that subjects who perceive their responses to lack consequences discriminate significantly more on belief similarity than racial similarity. To test this hypothesis Westie's (1953) Summated Differences Technique was used to calculate racial and belief discrimination scores for each control group subject.^{7/} The bottom two rows of Table 5 reveal that control group subjects discriminated significantly more on belief similarity than racial similarity ($t=5.02$, $df=38$, $p<.01$). Therefore the second hypothesis is confirmed.

^{7/} Racial discrimination scores were calculated by subtracting the ratings given the four Caucasian hypothetical persons from the sum of the ratings given the four Negro hypothetical persons. Belief discrimination scores were defined as the sum of attitude plus value discrimination scores. Attitude discrimination scores were calculated by subtracting the sum of the ratings given hypothetical persons expressing similar attitudes from the sum of the ratings given hypothetical persons expressing dissimilar attitudes. Value discrimination scores were calculated by subtracting the sum of the ratings given those expressing similar values from the sum of the ratings given those expressing dissimilar values.

To remove negative values, a constant of 26 was added to both race and belief discrimination scores. Thus a racial discrimination score of less than 26 indicated that subjects discriminated against Caucasians while a score greater than 26 indicated discrimination against Negroes. A belief discrimination score less than 26 meant subjects discriminated against those expressing similar attitudes and values while a score greater than 26 meant subjects discriminated against those holding dissimilar attitudes and values.

TABLE 5

A Comparison of Belief and Racial Discrimination For
The Experimental and Control Groups

Groups		$\bar{X}$	S^2	df	t	P
Experimental	Belief Discrimination	41.83	99.53	38	4.14	p<.01
	Racial Discrimination	32.71	60.99			
Control	Belief Discrimination	39.94	198.41	38	5.02	p<.01
	Racial Discrimination	26.84	25.44			

t-test for dependent measures

The third hypothesis tested was that subjects who perceive their responses to be consequential discriminate equally on race and belief similarity. As in the control group, both belief and race discrimination scores were calculated for each subject in the experimental group. The top two rows of Table 5 reveal that experimental group subjects discriminated significantly more on belief similarity than racial similarity when evaluating the hypothetical persons as roommates. Therefore the third hypothesis is not confirmed.

Although the principle of belief congruence accurately describes subjects' roommate selections in both the control and experimental groups, increased racial discrimination in the latter might result in the principle providing a significantly less accurate description of behavior. To see if this was the case, a score which reflected the degree to which belief similarity was more important than race similarity, was calculated for each subject by subtracting racial discrimination scores from belief discrimination scores. The larger the resulting belief congruence score, the better the principle described the subjects'

evaluation of the hypothetical persons as roommates. It can be seen in Table 6 that there was no difference between belief congruence scores in the experimental and control groups ($t=1.18$, $df=76$, N.S.).

TABLE 6
Belief Congruence Scores in The Experimental
and Control Groups

	$\bar{X}$	S^2	t	df	Significance
Experimental	9.12	175.80	1.18	76	N.S.
Control	13.10	258.50			

t-test for independent measures

The fourth hypothesis tested was that perceived social pressure for racial discrimination is not related to discrimination itself when subjects see their roommate selections as being of no consequence. Perceived social pressure scores from three sources were generated by each subject. These were added together so that a single number indicated the subject's overall perceived social pressure for racial discrimination. Correlating this measure with racial discrimination scores provided an index of the strength of the relationship between perceived social pressure and racial discrimination. As a significant correlation was not obtained ($r_{xy}=.30$, $df=38$, N.S.) it must be concluded that control group subjects' discrimination against Negroes is not related to perceived social pressure. Thus the data confirm the fourth hypothesis.

The fifth hypothesis tested was that the strength of the relationship between perceived social pressure and racial discrimination differs depending on whether racial discrimination is inferred from consequential

or inconsequential responses. Among experimental group subjects, the relationship between racial discrimination and perceived social pressure to behave in such a manner was strong and significant ($r_{xy}=.77$, $df=38$, $p<.01$). To directly test the fifth hypothesis, a t-test between corresponding correlations from the experimental and control groups was conducted (Guilford, 1965). Table 7 shows that the correlation between perceived social pressure and racial discrimination was significantly stronger in the experimental than the control group ($t=3.04$, $df=71$, $p<.01$). Therefore the fifth hypothesis is supported.

TABLE 7

Correlations Between Racial Discrimination
and Overall Perceived Social Pressure to Discriminate
For The Experimental and Control Groups

	r_{xy}	N	df	t	Significance
Experimental	.77	36	71	3.04	$p<.01$
Control	.30	41			

Note: Only subjects who returned both their ratings of the hypothetical persons and their significant others questionnaire were included in this analysis.

Although a stronger relationship was obtained between perceived social pressure and discrimination when the latter was derived from consequential as compared to nonconsequential responses, the manipulation of consequences did not effect average perceived social pressure. Perceived social pressure scores could range from 3 to 27 with scores greater than nine reflecting varying degrees of perceived social pressure for racial discrimination. Table 8 shows that the experimental and control groups perceived equally slight social pressure to discriminate

against Negroes as roommates ($t=.80$, $df=75$, N.S.).

TABLE 8

Perceived Social Pressure For Racial Discrimination in
The Experimental and Control Groups

	$\bar{X}$	s^2	df	t	Significance
Experimental	11.25	31.74	75	.80	N.S.
Control	12.24	27.13			

t-test for independent measures

Note: Only subjects who returned both their ratings of the hypothetical persons and their significant others questionnaire were included in this analysis.

According to the sixth hypothesis, value similarity is a significantly stronger determinant of subjects' evaluations of the hypothetical persons than attitude similarity. It can be seen by looking at Table 3 that while value similarity accounts for 2% of the variance in subjects' responses, 36% of the variance is accounted for by attitude similarity. Although both variables significantly affected subjects' evaluation of the hypothetical persons, attitude similarity appears to be the more important of the two. To determine if discrimination due to attitude similarity was significantly greater than discrimination due to value similarity, attitude and value discrimination scores were calculated and compared by means of a t-test for dependent measures. Table 9 shows that subjects discriminated significantly more on attitude similarity than value similarity ($t=7.22$, $df=77$, $p<.01$). The sixth hypothesis, then, was not supported.

TABLE 9Discrimination Due to Attitude Similarity
and Value Similarity

	$\bar{X}$	S^2	df	t	Significance
Attitude Similarity	12.43	115.43	77	7.22	p<.01
Value Similarity	2.55	33.27			

t-test for dependent measures

Specific hypotheses were not formulated about several significant findings that up to now were not completely described. The reasons no specific hypotheses were formulated were that these findings were so completely expected that they were taken for granted or, on the other hand, they were not anticipated and thus came as a surprise. Falling in the former category are the main effects due to the race, attitudes and values of the hypothetical persons. Inspection of Tables 3 and 4 shows that those described as Caucasians, those with similar attitudes and those with similar values were evaluated significantly more favorably than those described as holding dissimilar attitudes and values and as being of a different race. The significant main effect of consequences, however, was unexpected as were the significant race x attitude and attitude x value interactions. Subjects gave significantly less favorable evaluations to the hypothetical persons when they thought their evaluations were consequential. Note that the consequences main effect was "pulled through" to significance by the consequences x race interaction (Figure 1) as Negroes alone were evaluated less favorably when responses were perceived to have consequences. Although Negro hypothetical persons were evaluated significantly less favorably than their

Caucasian counterparts when expressing similar ($F=17.20$, $df=1/152$, $p<.01$) as well as dissimilar attitudes ($F=5.43$, $df=1/152$, $p<.05$), the significant race x attitude interaction reveals that the difference in ratings between Negroes and Caucasians was significantly greater when hypothetical persons manifested similar attitudes than when they manifested dissimilar attitudes. Finally, hypothetical persons who expressed similar values were evaluated significantly more favorably than those who expressed dissimilar values regardless of whether they held similar ($F=29.58$, $df=1/152$, $p<.01$) or dissimilar attitudes ($F=8.23$, $df=1/152$, $p<.01$). However, the significant attitude x value interaction reveals that the difference in evaluations given those holding similar as compared to dissimilar values was significantly greater when the hypothetical persons expressed similar rather than dissimilar attitudes.

DISCUSSION

"We don't hate niggers. We just don't want them near us. That's why we moved from Chicago" (Harris, 1963). In light of the prejudice expressed in this statement and the racial strife frequently reported by the communications media, the principle of belief congruence literally appears incredible. Incredulity inspired by the principle has no doubt led investigators to posit that belief congruence is nothing more than an artifact of the experimental situation. Hendrick, Bixenstine, and Hawkins (1971) felt that belief similarity proved more important than race similarity because the latter was not made sufficiently salient. To rectify this, subjects were asked to express their feelings towards blacks and whites presented on videotape. This procedure did not weaken the evidence for belief similarity being a stronger determinant of liking than race similarity. Silverman and Cochrane (1972) suggested that exclusive use of student samples in academic settings served to bias results in favor of the principle of belief congruence. They found, however, that middle-aged homeowners in an all white neighborhood discriminated more on beliefs than race when choosing friends and neighbors. The present study, like those just described, was designed to test the hypothesis that the validity of the principle of belief congruence resulted as much from the methodology employed as from the subjects' underlying attitudes. Specifically, the use of inconsequential behavior in previous studies was thought to have inhibited subjects' expressions of racial discrimination and in this way artificially created support for

belief congruence. But as in previous studies the principle of belief congruence provided an adequate description of subjects' responses. The remainder of this discussion will endeavor to provide a tenable explanation as to why the results turned out as they did.

Similar Attitudes as Reinforcers

It seems reasonable to propose that persons emit responses that they believe will be reinforced or rewarded. A reward or reinforcer might be any stimulus that enhances the pleasures, satisfactions and gratifications a person enjoys. The reduction of a drive or the fulfillment of a need thus constitutes a reward (Thibaut and Kelley, 1959). Unfortunately pleasures, satisfactions and gratifications are difficult to observe and measure. Thus the reinforcement value of a reward must be inferred from its effects on the responses it serves to reinforce. These effects may be defined in terms of such indicators as response rate, resistance to extinction and discrimination learning.

The responses of others often provide reinforcement for responses emitted by individuals. Perhaps the best example of this is provided in a study by Adams and Hoffman (1960). They found that murmuring in agreement whenever subjects made statements about themselves resulted in increasing the rate at which self-references were emitted. Other investigators have confirmed that the content of subjects' speech is easily influenced by subtle expressions of agreement on the part of the experimenter (Greenspoon, 1955; Centers, 1963). As these expressions of agreement affect the response rate of particular classes of verbal behavior they can be considered reinforcers and it may be hypothesized that they provide satisfaction to the subjects.

Not all stimuli serve equally well as reinforcers. Presumably the attitudes, values, and needs of an individual largely determine the reward value of a stimulus. Generally attitudes similar to those of the individual have proven to be effective reinforcers. Golightly and Byrne (1964) taught subjects, choosing among pairs of cards, to discriminate on the size dimension by following correct choices with statements expressing similar attitudes and following incorrect choices with statements expressing dissimilar attitudes. They went on to suggest that similar attitudes were rewarding because they satisfied subjects' learned drive to correctly interpret their social environment. While Golightly and Byrne's results present adequate evidence for similar attitudes acting as positive reinforcers, there is some difference of opinion as to their interpretation.

McWhirter and Jecker (1967) showed that the proportion of similar attitudes attributed to an individual was strongly related to how much a subject thought the individual would like him. Therefore McWhirter and Jecker posited that subjects' perception of attitude similarity in another individual is rewarding not so much because it satisfies subjects' drive for correctly interpreting their social environment, but because it increases the probability that the individual will approve of them. Lamberth and Craig (1970) repeated Golightly and Byrne's experiment but used favorable personal evaluations in place of statements expressing similar attitudes. Their subjects more quickly learned to discriminate on the size dimension when correct choices were followed by favorable personal evaluations than when correct choices were followed by neutral statements. Thus favorable personal evaluations served as positive reinforcers just as statements expressing similar attitudes.

Byrne and Griffitt (1966) sought to determine whether attitude similarity served mainly the need to be correct about one's social environment or the need for approval. If similar attitudes acquire their reinforcing properties because they satisfy subjects' needs to correctly interpret their social environment, the mere perception of similar attitudes, devoid of the implication of possible approval on the part of another, should prove attractive. In contrast, if the reinforcing properties of similar attitudes are due mainly to their satisfying the subject's need for approval, direct satisfaction of this need, conveyed through another's expression of liking for the subject, should prove a more important determinant of attraction than perceived attitude similarity itself. Byrne and Griffitt found that subjects' beliefs about what others thought of them was a stronger determinant of attraction than their perception of whether others held similar or dissimilar attitudes. Therefore they concluded that the perception of similar attitudes in another serves as a cue to the subject that the other can potentially satisfy the subject's need for approval. This conclusion received support in a replication and extension by Ettinger, Nowiki, and Nelson (1970) who found that subjects high on need for approval were more attracted to hypothetical persons manifesting similar attitudes than were subjects who were less approval oriented.

Sources of Reinforcement in the Belief Congruence Experiment

In light of the previous discussion it is not surprising that attitude similarity accounted for much of the variance in subjects' roommate choices. Presumably the principle of belief congruence provides accurate descriptions of behavior because similar attitudes serve as cues indicating

that persons expressing them can potentially reward subjects by satisfying their need for approval.

Racial discrimination is no doubt one of the most frequently studied phenomena in social psychology. Two divergent viewpoints have often been espoused to explain this phenomenon. As Pettigrew (1958, p. 29) puts it, "one strongly emphasizes the personality of the bigot and neglects his cultural milieu; the other views intolerance as a mere reflection of cultural norms and neglects individual differences." Both perspectives have been employed in conjunction with the principle of belief congruence to explain discrimination. When the tendency to discriminate on race is viewed as a property of individuals, racial similarity is posited to act as a cue indicative of attitude similarity which in turn is indicative of potential satisfaction of subjects' need for approval. Thus, in this context the race variable is conceived to be a tertiary reinforcer. The results of a study by Stein, Hardyk, and Smith (1965) support the conclusion that "when white subjects are given no information at all about a Negro they apparently assume he is different from them in values, and react towards him accordingly." Just as with more conventional indicators of prejudice, individuals can differ on the degree to which they attribute different beliefs to Negroes, and thus can differ in their tendency to discriminate against Negroes. Seen from this perspective, racial discrimination acquires a tinge of rationality as it may not be completely unrealistic to suppose that Caucasians and Negroes have somewhat divergent belief systems.^{8/}

^{8/} Rokeach and Parker (1970) found significant differences between the values of Caucasians and Negroes while numerous attitudinal differences are catalogued by Dreger and Miller (1968). The fact that differences in values and attitudes might be due to underlying socioeconomic differences is not especially important in this discussion as the question is not whether racial differences inevitably lead to cognitive differences but simply, are the two variables correlated?

It is likely that after a period of time racial attitudes acquire functional autonomy (whether they resulted from the conditioning process just described or from parental instruction, psychodynamic processes, etc.) and serve to influence responses even when the race variable no longer functions as a reliable cue to potential rewards.^{9/}

The tendency to discriminate on race may also be explained by the social pressures a person is subjected to in his cultural milieu. Individuals' rewards from choosing to interact with another are contingent upon more than just the potential of the other to supply approval. In response to an individual initiating a relationship, significant others may bestow or withdraw approval. Thus, in trying to determine the total potential reinforcement value of a relationship, the probable reactions of significant others must be taken into account. And if significant others withdraw approval for establishing an interracial but not an intraracial relationship, an incentive is clearly provided for racial discrimination.

Two more sources of reinforcement need to be considered before focusing on the specific results of this study. The first is the experimenter, who, in a psychological study, acquires the status of a significant other. It is the experimenter who evaluates subjects' responses and who draws inferences about the subjects from them. Favorable evaluation from a psychologist may well bolster subjects' self-esteem

^{9/} In contrast to the position that racial discrimination is perpetrated in the service of need for approval, Tajfel (1970) posits a basic disposition within individuals to discriminate against members of groups other than their own. He writes that racial discrimination should occur "...even if there is no reason for it in terms of the individual's own interests -- in terms of what he can gain as a result of discrimination against the outgroup."

while a poor evaluation can do nothing but hurt it. The experimenter then is more than a minor contributor to the rewards a subject can obtain in the typical psychological experiment.

The second source of approval, yet to be dealt with, is the subject himself. Most persons are brought up believing that it is good and proper to behave in an honest fashion. This emphasis is reflected in the fact that the value of HONEST is ranked above all others on the Rokeach Value Survey (Rokeach, 1972). Those who respond dishonestly may suffer the unpleasant sensation of guilt, perhaps generated by their superegos (Cameron, 1963). Now the avoidance of an aversive stimulus is considered rewarding (Marx, 1969). Thus by responding in an honest manner, congruent with their beliefs, individuals may be reinforced by avoidance of potential guilt and anxiety.

An Explanation of the Present Findings

Perhaps the most interesting as well as the easiest finding to explain is the significant difference in correlations between perceived social pressure for racial discrimination and racial discrimination in the experimental and control groups (Table 7). Subjects' perceived social pressure scores can be thought of as indicators of expected reinforcement or its withdrawal given their choosing a Negro as a roommate. It will be recalled that subjects in both groups perceived equal social pressure against choosing a Negro roommate (Table 8). Thus some subjects in both groups saw themselves as standing to lose rewards if they should choose to live with a Negro at college. But only experimental group subjects were choosing a roommate. Therefore only these subjects had to be concerned with or take into account the possible loss of rewards that

would result from choosing a Negro roommate. And this concern may have been reflected in the significant correlation between perceived social pressure and racial discrimination found in the experimental group.

Control group subjects no doubt realized that while their friends and parents might object to their living with a Negro, they would object much less, if at all, to their saying they would live with a Negro. For control group subjects then, the probability that parents and friends would withdraw rewards was equivalent to the probability that their choices would determine their roommate -- about zero. Thus there was little reason for control group subjects to believe that their responses would lead to a gain or loss of reinforcement from parents and friends, and it is not surprising to find that their responses were not correlated with an indicator of such reinforcement.

Implicit in this discussion is the proposition that perceived social pressure by itself does not influence behavior. Only when such social pressure has a non-zero probability of being applied does it become effective in influencing subjects' responses. Thus effective perceived social pressure for racial discrimination is a function of perceived social pressure for racial discrimination multiplied by the probability that such social pressure will actually lead to the withdrawal of rewards for a specific response.

One very plausible explanation of the greater racial discrimination shown by experimental group subjects follows directly from the previous discussion (Figure 1). Experimental group subjects, but not their control group counterparts, expected significant others to withhold rewards if they chose roommates in a non-discriminating manner. To avoid this loss of reinforcement subjects in the experimental group may

have been compelled to discriminate against Negroes. If this is in fact what occurred, it constitutes a prime example of effective perceived social pressure causing racial discrimination and may be taken as evidence for Rokeach's assertion, cited earlier, that were it not for perceived social pressure, there would be no racial discrimination.

The argument that (effective) perceived social pressure is responsible for subjects' racial discrimination rests mainly on a comparison of the significant and strong correlation describing the relationship in the experimental group to the nonsignificant correlation describing the same relationship in the control group. Campbell and Stanley (1963) point out that "correlation does not necessarily indicate causation, but a causal law...does imply correlation." Thus the significant and strong correlation between perceived social pressure and racial discrimination observed in the experimental group is a necessary but not a sufficient condition for claiming that the former causes the latter. It is not difficult to conceive of parents who, for whatever reason, expect few rewards from Negroes, and inculcate the same expectancy in their children. The idea that children adopt the racial attitudes of their parents has received ample support in the literature (Horowitz, 1936; Mosher and Scodel, 1960; Epstein and Komorita, 1966) and the principle of belief congruence itself implies that persons will choose as friends those that espouse similar attitudes. In general then, subjects who have negative attitudes towards Negroes should have parents and friends who share these feelings while subjects who have positive attitudes towards Negroes should have parents and friends who have similar feelings. These relationships, rather than the causal relationship suggested earlier, might be what is reflected in the significant correlation between perceived social pressure and racial discrimination. If so, another explan-

ation for the difference in racial discrimination between the experimental and control groups needs to be found.

If subjects believe that interacting with Negroes will not be rewarding they might reasonably be expected to discriminate against Negroes. It seems safe to assume that some subjects held this belief and that these subjects were equally distributed between the experimental and the control groups. Accepting these assumptions changes the emphasis from trying to determine why experimental group subjects discriminated against Negroes to trying to determine why control group subjects did not.

Given the liberal stereotype of academic personnel, subjects in both the experimental and control groups no doubt realized that they would receive a more positive evaluation from the dean of men and the experimenter respectively if they refrained from racial discrimination. Looking only at this source of reinforcement, no racial discrimination would be expected in either group. But experimental group subjects had to weigh the reinforcement value of a positive evaluation from the dean of men against potential reinforcements from their choice of roommate. And if some subjects expected few rewards from Negroes, the potentially greater reinforcements from a roommate of the same race might overcome the reinforcement value of a positive evaluation from the dean, and significant racial discrimination might result.

Control group subjects could gain little by discriminating against Negroes even if they believed Negroes were less likely than Caucasians to provide them with reinforcement. Their only source of reinforcement for racial discrimination would lie in the avoidance of guilt that might result from responding in a manner not in accord with their underlying attitudes. And it is possible that the avoidance of guilt failed to

constitute a large enough reward to balance the experimenter's approval that would accrue to subjects if they refrained from racial discrimination. The lack of racial discrimination among control group subjects can be understood in light of these reinforcement contingencies.

The significantly lower correlation between perceived social pressure and racial discrimination in the control group than in the experimental group can be explained in terms of these same contingencies. One interpretation of the strong correlation obtained in the experimental group is that subjects, whose parents and friends held negative attitudes towards Negroes, and who therefore may have felt similarly themselves, accurately reflected their own feelings when rating the hypothetical persons by discriminating against Negroes (Figure 2). A significantly lower correlation was obtained in the control group because subjects, while not reluctant to attribute negative attitudes to parents and friends, were hesitant because of the reinforcement contingencies detailed previously, to exhibit the same feelings in themselves (Figure 3). This explanation applies particularly well to subjects indicated by X's rather than O's in Figures 2 and 3.

Up to now two distinct explanations have been advanced for both the greater racial discrimination and the stronger correlation between such discrimination and perceived social pressure found in the experimental as compared to the control group. The first explanation emphasized the effect of consequences on the probability that significant others would withdraw rewards from subjects if they refused to discriminate against Negroes while the second emphasized the effect of consequences on increasing the saliency of the hypothetical persons' reward potential and thereby reducing the relative importance of the experimenter (dean

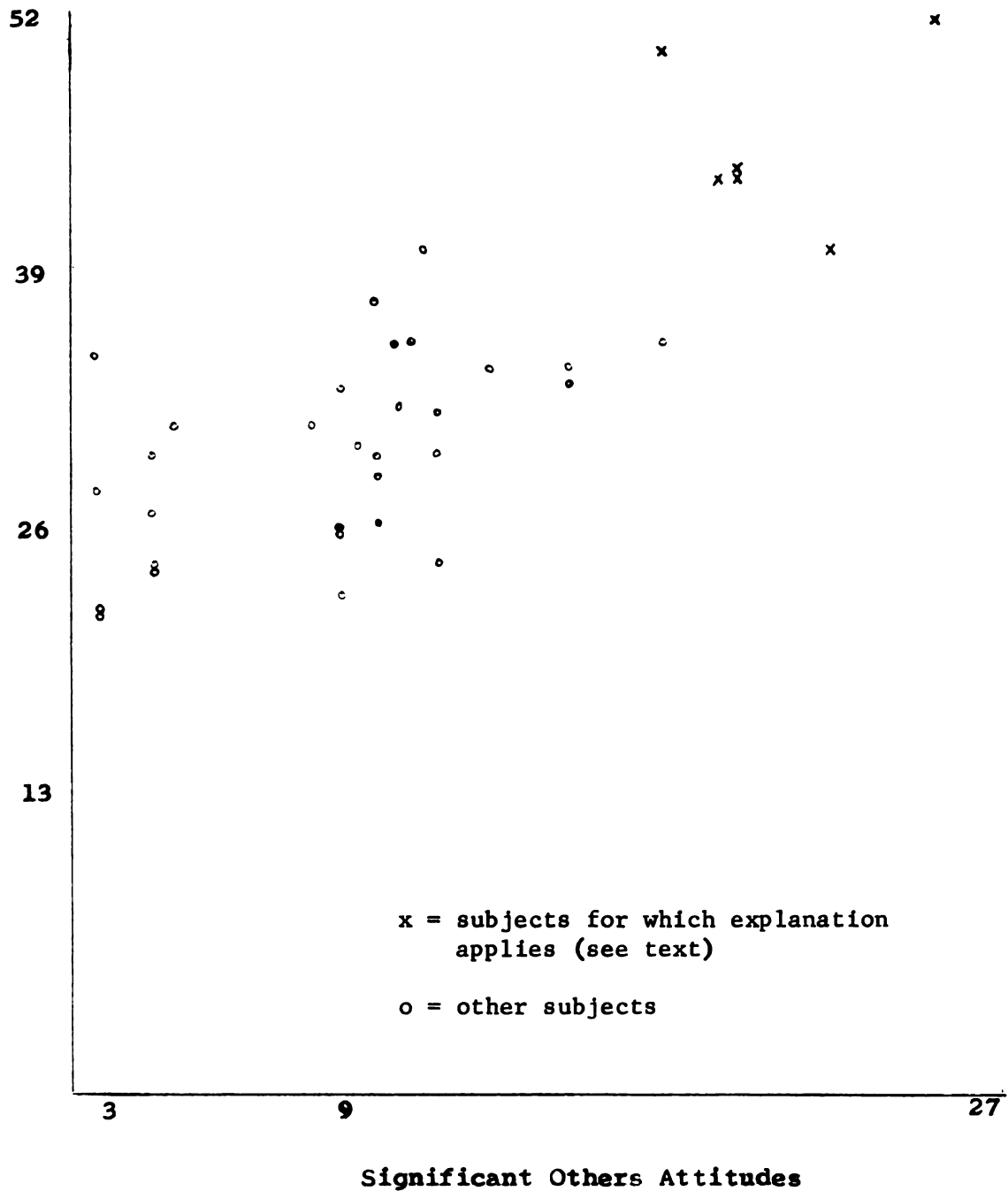


Figure 2. Correlation between racial Discrimination (Y-axis) and percieved social pressure for racial discrimination (X-axis) in the experimental group.

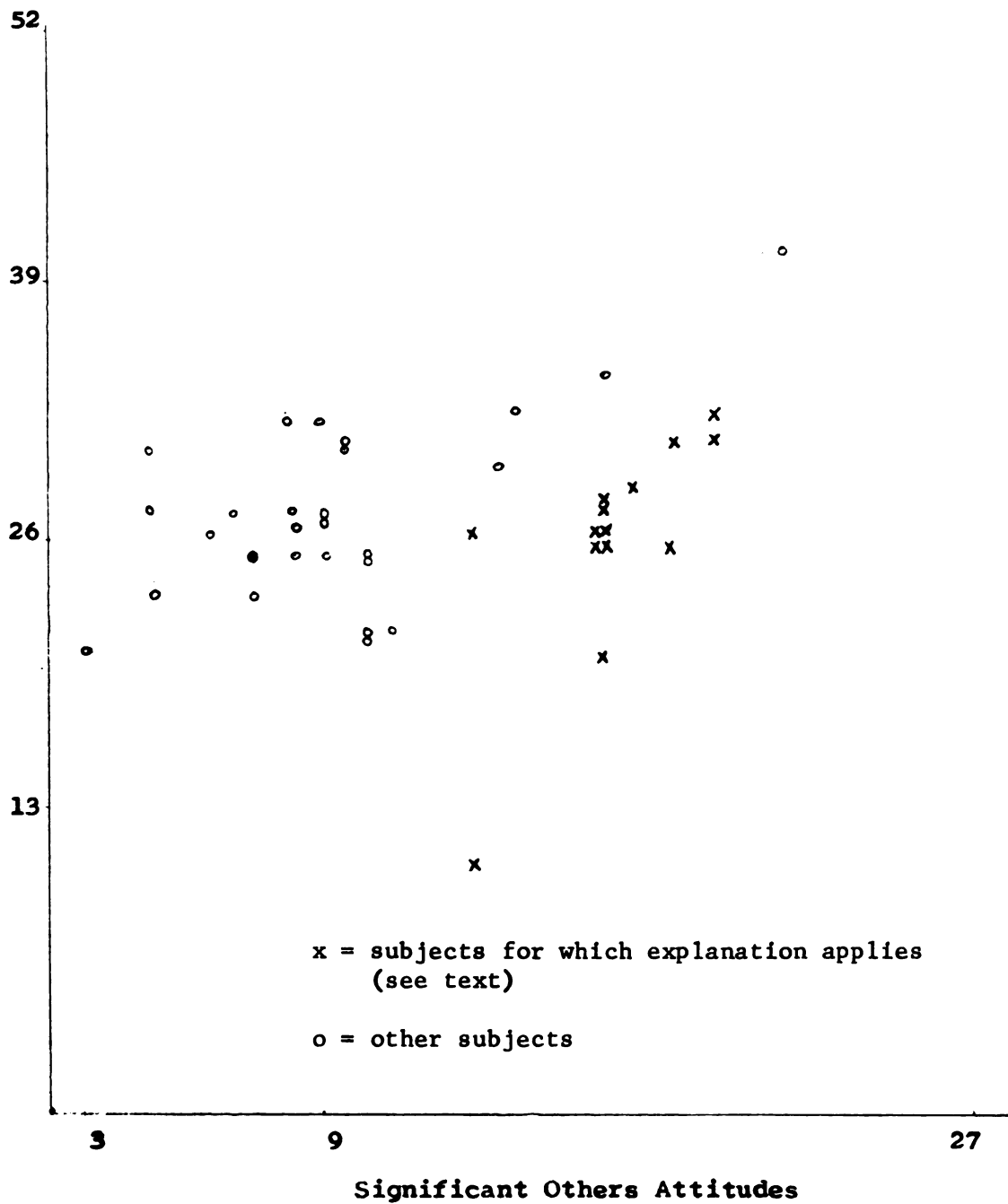


Figure 3. Correlation between racial discrimination (Y-axis) and perceived social pressure for racial discrimination (X-axis) in the control group.

of men) as a source of reward. According to the first explanation, some subjects discriminated against Negroes not because they were prejudiced but because society's reward structure was such that racial discrimination was profitable. According to the second explanation, some subjects held negative attitudes towards Negroes and chose and would choose again, in the absence of pressure from significant others, Caucasians in preference to Negroes. Although the explanations were presented separately, they are not necessarily mutually exclusive. It is not at all difficult to imagine subjects' own racial attitudes combining with perceived social pressure from significant others to determine racial discrimination in roommate choices.

Perhaps this study's most important finding was that the principle of belief congruence accurately described the responses of subjects in both the experimental and control groups. That belief similarity was a stronger determinant of attraction than race similarity among control group subjects was not surprising for it corresponds to the findings of previous studies in which inconsequential responses were employed. All that remains to be explained for this group of subjects is why they bothered to discriminate on belief similarity at all, supposing they were so inclined, given that they realized the hypothetical persons were not a source of potential rewards. Quite possibly subjects gave honest responses to the extent such responses did not seem to lead to the loss of reinforcement. Responding otherwise might result in guilt. While it may be assumed control group subjects thought they would lose the experimenter's approval for racial discrimination, it may also be assumed that a similar thought did not exist regarding belief discrimination. And since their task was to respond as if they were choosing a roommate,

they did so faithfully except when doing so might result in their receiving a poor evaluation from the experimenter.

A more basic question raised by the principle's accurate description of roommate choices in both groups is simply why does belief congruence provide accurate descriptions of the data or, in other words, why does belief similarity constitute a stronger determinant of attraction than racial similarity? A possible answer to this question follows from the theory described earlier in the discussion. Belief similarity, it will be recalled, acquired its reinforcing properties from acting as a direct indicator of approval from others. Racial similarity was thought to acquire its reinforcing properties from acting as an indicator of belief similarity. Therefore, belief similarity might be thought of as a secondary reinforcer whereas racial similarity might be thought of as a tertiary reinforcer. Belief similarity then, should serve as a better cue for potential approval and should account for more of the variance in subjects' roommate choices.

The fact that attitude similarity accounted for so much more of the variance than value similarity (Table 3) in subjects' roommate selections is perhaps the most difficult finding to explain as both theory and the results of previous studies pointed toward the opposite outcome. Rokeach (1972) has maintained that values are more central in persons' belief systems than attitudes. Therefore values are thought to be determinants of attitudes but attitudes are not thought to be determinants of values. Evidence for these contentions is found in several studies in which changes in subjects' attitudes, inferred from overt behavior as well as paper-and-pencil scales, resulted from an experimental manipulation of subjects' values (Rokeach, 1968, 1971). Because of their greater

centrality values were expected to convey more about the hypothetical persons' belief systems to subjects than attitudes, and thus they were expected to be better indicators of potential reward. But clearly this expectation was not realized. One reason for this might be that values are no more central than attitudes in persons' belief systems, and therefore no more revealing of cognitive structure. Showing that value change leads to attitude change is but one step toward proving that the latter is determined by the former. It remains to be shown that attitude change does not result in value change. When this is demonstrated the assertion that values are more central than attitudes will appear more tenable. The present data support the conclusion that the reverse is true, that is, that attitudes may be more central than values.

The pre-eminence of the attitude similarity variable in determining subjects' responses may be explained in another way. Nelson (1965), in the only previous study that pitted attitude similarity against value similarity, found that value similarity was a more important determinant of friendship choices. However, Nelson manipulated but a single attitude as compared to several values. Thus her manipulation of value similarity may have been much stronger than her manipulation of attitude similarity. In the present study the number of attitudes manipulated equalled the number of values. However, a greater proportion of the hypothetical persons' descriptions pertained to attitudes than values. Thus the way in which the attitude and value variables were operationalized, rather than their position in subjects' belief systems, may have contributed to attitude similarity being a significantly stronger determinant of subjects' roommate selections than value similarity.

There were several significant relationships about which no hypotheses

were formulated. One of these was the significant race x attitude interaction that resulted from a significantly greater difference in ratings assigned Negroes and Caucasians when both expressed similar attitudes than when both expressed dissimilar attitudes. An explanation becomes apparent if it is assumed that subjects expect Negroes to have dissimilar belief systems to their own, but do not expect Caucasians to necessarily have similar belief systems. It is unlikely that simply attributing four similar attitudes to Negroes will completely dispel subjects' expectations that in general Negroes' belief systems are dissimilar to their own. To the extent this expectation remains, hypothetical persons described as Negroes and as having four similar attitudes should be rated less favorably than Caucasian hypothetical persons espousing an equal number of similar attitudes. If there is no predisposition to view Caucasians as having similar belief systems, subjects might imagine completely dissimilar belief systems in Caucasian hypothetical persons described as holding four dissimilar attitudes, and thus evaluate them about as unfavorably as their Negro counterparts.

No hypothesis was posited regarding the significant main effect of consequences which resulted from hypothetical persons receiving more favorable ratings in the non-consequences than in the consequences condition (Tables 3 and 4). Care must be taken in generalizing this finding for it applies only to Negro hypothetical persons. Caucasians were evaluated equally favorably whether subjects perceived their responses to be consequential or not. Thus the consequences main effect must be considered in terms of the consequences x race interaction, and the two explanations offered for that interaction may apply equally well here.

By now explanations for most of the significant findings have been discussed. The remainder of the discussion will focus on methodological and conceptual issues called to mind by the procedures and results of this investigation.

Advantages of the Summated Differences Technique

Paper-and-pencil measures of personality have often been criticized for reflecting subjects' tendencies to agree with any statement put before them rather than the variables they are purported to measure (Bass, 1955; Jackson and Messick, 1961). It has been recognized that one advantage of Westies' (1953) summated differences technique is that it reduces the probability of such response set variance being interpreted as variance due to the variable of interest, such as subjects' racial attitudes. To the degree that the acquiescence response set influences subjects' responses, it should affect ratings given Negroes and Caucasians equally and thus differences between ratings given these groups would necessarily be due to some other variable. A second often overlooked advantage of the summated differences technique is that it generates scores that may be more reliable (internally consistent) than the ratings from which they were derived.

As the name implies, the technique involves first adding subjects' ratings together, and then calculating differences between the resulting sums. Three measurements or variables used in the present study were acquired in this manner. These were racial discrimination scores, belief discriminations scores, and the difference between these difference scores, belief congruence scores. These variables can be more reliable than subjects' ratings of the hypothetical persons if two conditions

obtain. First the ratings that make up the various sums or composites should be positively intercorrelated. Second the sums from which the difference scores are calculated should be negatively correlated.

A standard definition of reliability is $r_{tt} = (\sigma_t^2 - \sigma_e^2) / \sigma_t^2$ where σ_t^2 represents the total variance of a variable and σ_e^2 represents the variable's error variance (Guilford, 1954). The less the proportion of error variance in a variable or measurement, the greater its reliability. When two variables are added together, the variance of their sum is given by $\sigma_{x+y}^2 = \sigma_x^2 + \sigma_y^2 + 2r_{xy}\sigma_x\sigma_y$. Thus the total variance of a sum equals more than the sum of the components' variances to the extent that the components are positively intercorrelated. Error variance by definition is uncorrelated or random, and thus the error variance of a sum equals $\sigma_{e(xty)}^2 = \sigma_{ex}^2 + \sigma_{ey}^2$ (Magnussen, 1966). Therefore the total variance of a sum will increase at a greater rate than corresponding error variance as long as the correlation between the components is positive. It can be seen from the first formula given that this will lead to higher reliability.

It is likely that common factors influenced subjects' ratings of the hypothetical persons from which the sums were calculated. This is because each rating that went into a sum was elicited by a hypothetical person that represented a single level (either similar or dissimilar) of some variable (race, attitudes, or values) that was shown to significantly influence subjects' responses. If a common factor, such as attitude toward Negroes, underlies a set of ratings, they should correlate positively with each other. On purely rational grounds then, it seems reasonable that the components used to compute the sums in the present study were positively correlated. Tables 10 and 11 in Appendix N

contain evidence which shows, with some exceptions, that this was the case. It seems safe to conclude that the sums derived from subjects' initial ratings of the hypothetical persons are slightly more reliable than the ratings themselves.

When variables are subtracted from each other, the variance of the difference is given by $\sigma_{x-y}^2 = \sigma_x^2 + \sigma_y^2 - 2r_{xy}\sigma_x\sigma_y$. Error variance combines in the same way as when variables are added. Therefore the total variance of difference scores will increase at a greater rate than corresponding error variance as long as the correlation between the component scores is negative.

It will be remembered that racial discrimination scores were calculated by subtracting the sum of ratings given Caucasians from the sum of ratings given Negroes. The correlation between these sums was $-.52$ ($p < .01$) in the experimental group and $.27$ (N.S.) in the control group. This indicates that when subjects perceive their responses as consequential, racial discrimination scores are likely to be more reliable than the summated ratings from which they were computed. Although in the control group racial discrimination scores were less reliable than the scores from which they were computed, it is unlikely that this would be the case in general.

The correlation between the sum of ratings given those holding similar beliefs and the sum of ratings given those holding dissimilar beliefs was $-.59$ ($p < .01$) for subjects who perceived their responses to be consequential and $-.45$ ($p < .01$) for subjects who perceived their responses to be inconsequential. This indicates that belief discrimination scores are more reliable than the sum of the ratings from which they were calculated. The correlations between racial discrimination scores and

belief discrimination scores were $-.19$ (N.S.) and $-.28$ (N.S.) in the experimental and control groups respectively, indicating that in general belief congruence scores are no more or less reliable than their constituent scores.

In general, the correlations between the ratings themselves and the correlations between the sums from which the difference scores were calculated are in the direction that leads to enhanced reliability. Unfortunately the reliabilities of the ratings themselves are not available, so that it becomes impossible to determine over what value reliability would be enhanced. Still the variables derived from the summated differences technique should be more reliable than conventional ratings and free of variance due to subjects' acquiescence response set, and for these reasons, the use of the technique is to be recommended in future investigations of this type.

Consequential Responses as Indicators of Attitudes

Rokeach (1968) writes "...an attitude is a relatively enduring organization of beliefs around an object or situation predisposing one to respond in some preferential manner." More out of expediency than anything else, written responses to questionnaires have come to be the most frequently used indicators of attitudes. Although frequently used, the validity of questionnaire responses as indicators of attitudes and attitude change has been questioned (Festinger, 1964). Rokeach (1966) has suggested that overt behavior, either by itself or in conjunction with "paper-and-pencil" responses might prove a more valid indicator of subjects' attitudes towards an object or situation. In adopting this outlook social psychologists have become proponents of the maxim, actions speak louder than words.

Any behavior, overt or verbal, is a good indicator of an attitude to the degree that it is not confounded with extraneous sources of variance. Extraneous sources of variance refer to any factors that influence subjects' behavior other than the particular attitude under study. Presumably most social psychologists suspect overt behavior is less confounded than questionnaire responses. However, some overt behaviors, such as petition signing, may have only a small portion of their variance accounted for by the attitude they purportedly measure (Blake, Mouton, and Hain, 1956; Helson, Blake, and Mouton, 1958). It may be that in judging the quality of a behavior as an indicator of an attitude, the crucial factor is not whether a behavior is overt or verbal, but whether it is consequential.

Consequential responses are those that are perceived by the subject as affecting his relationship with the attitude object.^{10/} As a more or less intimate relationship may result from their behavior, subjects emitting consequential responses must take into account the reward value of the attitude object. The reward value of any attitude object is contingent in part upon subjects' attitudes. Therefore subjects must consider their attitudes toward the attitude object when emitting consequential responses. In contrast, subjects emitting inconsequential responses toward an attitude object can ignore the attitude object's potential reward value, and thus need not seriously consider their own

^{10/} It is worth pointing out that all behaviors emitted in a psychological experiment are consequential in the sense that they are perceived as eliciting an evaluation from the experimenter. This is not the connotation of "consequential" as employed herein. Behaviors consequential only in this sense are probably very poor indicators of subjects' attitudes because they are likely to reflect what the subject believes the experimenter will evaluate most favorably rather than the attitude ostensibly being measured.

attitude toward the attitude object. For this reason consequential responses should be better indicators of subjects' attitudes than their inconsequential counterparts.

This is not to say that consequential responses are necessarily pure indicators of subjects' attitudes toward some attitude object encountered in a specific situation. Making responses consequential may compel subjects to consider factors other than their own attitudes, such as the feelings of parents and friends, before issuing a response. If this happens, the response in question becomes less valuable as an attitudinal indicator. Yet it may be assumed that one factor considered before a response is emitted will be subjects' attitudes toward the attitude object if the response is consequential. The same assumption cannot be made if it is known simply that a behavior was overt or verbal. Therefore it is suggested that whether or not a behavior is consequential is a more useful distinction than whether a behavior is verbal or overt when it comes to assessing the value of a behavior as an indicator of an attitude toward an object or situation.

Strengths and Shortcomings -- Future Research

The present investigation combined the techniques of the laboratory experiment with those of the mail survey. The random assignment of subjects to the experimental and control groups, coupled with the manipulation of the consequences variable, allowed for a causal interpretation to be made of the relationship between consequences and racial discrimination. The use of the mail survey allowed a sample to be drawn from a broader population than is usually the case in this sort of study. It also reduced the likelihood of experimenter expectancy effects biasing subjects' responses (Rosenthal, 1966).

The failure to obtain a measure of subjects' perceptions of the experimenter's racial attitudes is perhaps the major shortcoming of this study. Time after time it was simply assumed that subjects saw the experimenter as frowning upon racial discrimination. Subsequent studies would profit from employing such a measure. If the assumptions made in this study were correct subjects' own racial discrimination should be significantly and negatively correlated with the attribution of nondiscriminatory racial attitudes to the experimenter. As it was suggested that consequences attenuated subjects' tendencies to respond in a socially desirable manner, it would further be expected that this correlation would be significantly larger in the non-consequences than in the consequences group. Specific answers to these speculations can only be provided by further research.

It should be recognized that the results obtained in this study cannot be safely generalized beyond the social context of choosing a roommate. Studies reviewed earlier showed that subjects' expressions of racial discrimination vary across situations, and was greatest in those situations in which there was considerable perceived social pressure for racial discrimination. If consequences leads to racial discrimination by rendering perceived social pressure effective, the discrepancy between consequences and non-consequences groups' expressions of racial discrimination should become greater as perceived social pressure for racial discrimination increases across situations. Figure 4 depicts the relationship between consequences, perceived social pressure, and racial discrimination if this is true.^{11/} Studies yet to be done will

^{11/} The relationship between perceived social pressure and racial discrimination for those emitting inconsequential responses, shown in (cont'd.)

determine if this relationship provides an accurate description of reality.

Other assumptions made in the course of this study are sufficiently interesting to warrant further investigation. First, the assumption that values are more central than attitudes seems less certain in light of the present findings. Greater centrality implies a greater number of relationships with other cognitive elements and thus the manipulation of a value, more than an attitude, should have repercussions throughout subjects' belief systems. It has already been shown that manipulating values affects attitudes, for when the importance of EQUALITY is increased, attitudes toward such issues as civil rights and the Vietnam War were also modified. But suppose that subjects' attitudes toward civil rights were modified by a persuasive communication that made no mention of the value EQUALITY and it was later observed that EQUALITY became more important to subjects. This finding, combined with the results of the present study, would suggest that while the value EQUALITY and several attitudes are related, one is no more central than the other in subjects' belief systems.

Another assumption worth testing is that racial similarity acts as a reinforcer. Several studies were reported in which subjects learned the correct response more quickly if it was followed by attitudinal statements in accord with their own. It would not be difficult to

11/ cont'd.

Figure 4, implies Caucasians will discriminate against Caucasians when there is an absence of social pressure from significant others (parents and friends) to discriminate against Negroes. This is congruent with the findings of Dienstbier (1970) and Silverman and Cochrane (1972) and might be seen as subjects' adjustments to their perception of a change in the liberal ethic (and therefore the experimenter's ethic) from no discrimination on race to discrimination in favor of Negroes.

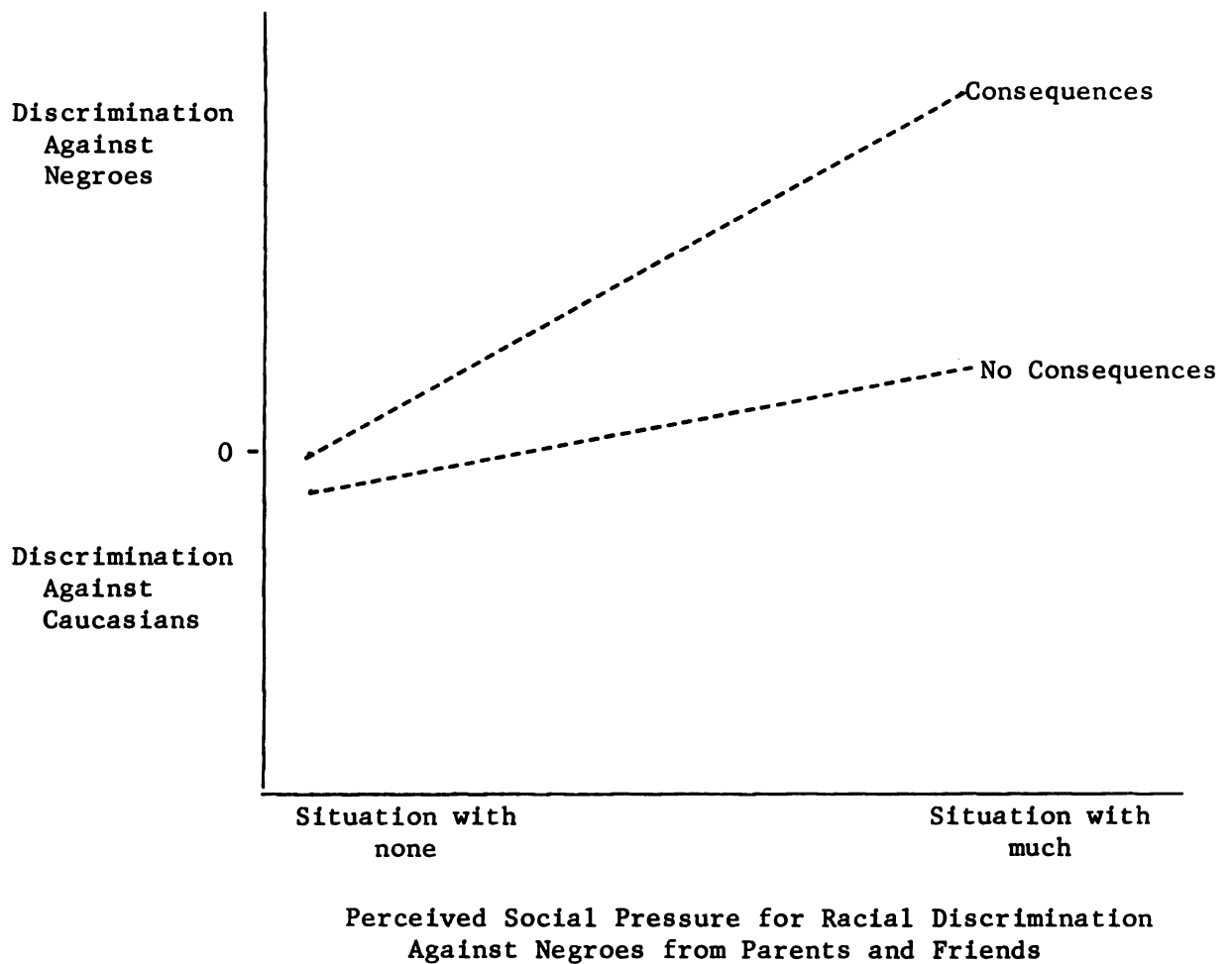


Figure 4. Racial discrimination as a function of perceived social pressure and perceived consequences of subjects' responses (hypothetical relationship).

substitute photographs of Caucasians and Negroes for similar and dissimilar attitude statements in order to see if following correct responses with a photo of a person of the same race facilitates learning. Were this not the case, the explanation of the results would become somewhat less tenable.

This research was begun with the idea that the principle of belief congruence was not true. By the time the research was finished the opposite conclusion had been reached. The results clearly imply that belief similarity is a more important determinant of interpersonal attraction than is racial similarity. The task of designing a better test of the principle of belief congruence now falls to those who still doubt its validity.

REFERENCES

REFERENCES

- Adams, J. S. and Hoffman, D. The frequency of self-reference statements as a function of generalized reinforcement. Journal of Abnormal and Social Psychology. 1960, 60, 384-389.
- Anderson, C. C. and Cote, A. D. Belief dissonance as a source of disaffection between ethnic groups. Journal of Personality and Social Psychology. 1966, 4, 447-453.
- Bass, B. Authoritarianism or acquiescence. Journal of Abnormal and Social Psychology. 1955, 51, 616-623.
- Bem, D. The epistemological status of interpersonal simulations. Journal of Experimental Social Psychology. 1968, 4, 270-274.
- Blake, R. R., Mouton, J. and Hain, J. D. Social forces in petition signing. Southwestern Social Science Quarterly. 1956, 36, 385-390.
- Byrne, D. and Griffitt, W. Similarity versus liking: a clarification. Psychonomic Science. 1966, 6, 295-296.
- Byrne, D. and McGrew, C. Interpersonal attraction towards Negroes. Human Relations. 1964, 17, 201-213.
- Byrne, D. and Wong, T. Racial prejudice, interpersonal attraction, and assumed dissimilarity of attitudes. Journal of Abnormal and Social Psychology. 1962, 65, 246-253.
- Cameron, N. Personality Development and Psychopathology--A Dynamic Approach. Boston: Houghton-Mifflin Co., 1963.
- Campbell, D. T. and Fiske, D. W. Convergent and discriminant validation by the multitrait-multimethod matrix. Psychological Bulletin. 1959, 56, 81-105.
- Campbell, D. and Stanley, J. Experimental and Quasi-Experimental Designs for Research. Chicago: Rand McNally and Co., 1963.
- Centers, R. A laboratory adaptation of the controversial procedure for the conditioning of verbal operants. Journal of Abnormal and Social Psychology. 1963, 67, 334-339.

- Cochrane, R. and Rokeach, M. Rokeach's value survey: a methodological note. Journal of Experimental Research in Personality. 1970, 4, 159-161.
- Cook, S. W. and Selltiz, C. A. Multiple indicator approach to attitude measurement. Psychological Bulletin. 1964, 62, 36-55.
- Crowne, D. P. and Marlowe, D. The Approval Motive. New York: Wiley, 1964.
- Dienstbier, R. A. Positive and negative prejudice: interactions of prejudice with race and social desirability. Journal of Personality. 1970, 38, 190-215.
- Dreger, R. M. and Miller, K. S. Comparative psychological studies of Negroes and whites in the United States: 1959-1965. Psychological Bulletin Monograph Supplement. 1968, 70.
- Edwards, A. L. The Social Desirability Variable in Personality Assessment and Research. New York: Dryden Press, 1957.
- Epstein, R. and Komorita, S. S. Childhood prejudice as function of parental ethnocentrism and punitiveness. Journal of Personality and Social Psychology. 1966, 3, 259-264.
- Ettinger, R. R., Nowicki, S., and Nelson, D. Interpersonal attraction and the approval motive. Journal of Experimental Research in Personality. 1970, 4, 95-99.
- Farley, R. and Taeuber, K. Population trends and residential segregation since 1960. Science. 1968, 159, 953-956.
- Festinger, L. Behavioral support for opinion change. Public Opinion Quarterly. 1964, 28, 404-417.
- Freedman, J. Role playing: psychology by consensus. Journal of Personality and Social Psychology. 1969, 13, 107-114.
- Golightly, C. and Byrne, D. Attitude statements as positive and negative reinforcements. Science. 1964, 146, 798-799.
- Greenspoon, T. The reinforcing effect of two spoken sounds on the frequency of two responses. American Journal of Psychology. 1955, 68, 409-416.
- Grodzins, M. Metropolitan segregation. Scientific American. 1957, 197, 33-41.
- Guilford, J. P. Psychometric Methods. New York: McGraw-Hill Book Co., 1954.

- Harris, L. How whites feel about Negroes: a painful American dilemma. Newsweek. 1963, 62, 44-50.
- Hays, W. Statistics for Psychologists. New York: Holt, Rinehart and Winston. 1966.
- Heiden, R. Attitudes and cognitive organization. Journal of Psychology. 1946, 21, 107-112.
- Helson, H., Blake, R., and Mouton, J. Petition signing as adjustment to situational and personal factors. The Journal of Social Psychology. 1958, 48, 3-10.
- Hendrick, C., Bixsenstine, V. E., and Hawkins, G. Race versus belief similarity as determinants of attraction. Journal of Personality and Social Psychology. 1971, 17, 250-258.
- Horowitz, E. L. The development of attitudes toward the Negro. Archives of Psychology. 1936, No. 194.
- Insko, C. and Robinson, J. Belief similarity versus race as determinants of reactions to Negroes by southern white adolescents: a fuller test of Rokeach's theory. Journal of Personality and Social Psychology. 1967, 7, 216-221.
- Jackson, D. and Messick, S. J. Acquiescence and desirability as response determinants on the M.M.P.I. Educational and Psychological Measurement. 1961, 21, 771-792.
- Kutner, B., Wilkens, C. and Yarrow, P. R. Verbal attitudes and overt behavior involving racial prejudice. Journal of Abnormal and Social Psychology. 1952, 47, 649-652.
- Lamberth, J. and Craig, L. Differential magnitude of reward and magnitude shifts using attitudinal stimuli. Journal of Experimental Research in Personality. 1970, 4, 281-285.
- LaPiere, R. T. Attitudes versus actions. Social Forces. 1934, 13, 230-237.
- Linn, L. S. Verbal attitudes and overt behavior: a study of racial discrimination. Social Forces. 1964, 43, 353-364.
- Magnusson, D. Test Theory. Reading, Massachusetts: Addison-Wesley Publishing Co., 1966.
- Marx, M. H. Learning Processes. London: The Macmillan Company, 1969.
- McGrew, John M. How "open" are multiple-dwelling units. The Journal of Social Psychology. 1967, 72, 223-226.

- McWhirter, R. M. and Jecker, J. D. Attitude similarity and inferred attraction. Psychonomic Science. 1967, 7, 225-226.
- Mezei, L. L. Race, belief, and perceived social pressure as determinants of interpersonal behavioral intentions. Unpublished Ph.D. thesis, Michigan State University, 1970.
- Mosher, D. L. and Scodel, A. Relationships between ethnocentrism in children and the ethnocentrism and authoritarian rearing practices of their mothers. Child Development. 1960, 31, 369-376.
- Nelson, A. M. The relative importance of race, belief and values as determinants of discrimination. Unpublished M.A. thesis, Michigan State University, 1965.
- Newcomb, T. Persistence and regression of changed attitudes: long range studies. Journal of Social Issues. 1963, 19, 3-14.
- Orne, M. T. On the social psychology of the psychological experiment. American Psychologist. 1962, 17, 776-783.
- Penner, L., Homant, R., and Rokeach, M. Comparison of rank-order and paired-comparison methods for measuring value systems. Perceptual and Motor Skills. 1968, 27, 417-418.
- Pettigrew, T. F. Personality and sociocultural factors in intergroup attitudes: a cross-national comparison. Journal of Conflict Research. 1958, 2, 29-42.
- Robinson, W. S. Ecological correlations and the behavior of individuals. American Sociological Review. 1950, 15, 351-357.
- Rokeach, M., Smith, P., and Evans, R. Two kinds of prejudice or one? In M. Rokeach (ed.), The Open and Closed Mind. New York: Basic Books, 1960, 132-168.
- Rokeach, M. Belief versus race as determinants of social distance: comments on Triandis' paper. Journal of Abnormal and Social Psychology. 1961, 62, 187-188.
- Rokeach, M. and Rothman, G. The principle of belief congruence and the congruity principle as models of cognitive interaction. Psychological Reviews. 1965, 72, 128-172.
- Rokeach, M. Attitude change and behavioral change. Public Opinion Quarterly. 1966, 30, 529-550.
- Rokeach, M. and Mezei, L. Race and shared belief as factors in social choice. Science. 1966, 151, 167-172.

- Rokeach, M. The nature of attitudes. The International Encyclopedia of the Social Sciences. The Mcmillan Company and the Free Press. 1968, 449-457.
- Rokeach, M. Beliefs, Attitudes, and Values. San Francisco: Jossey-Bass, Inc., 1968.
- Rokeach, M. The role of values in public opinion research. Public Opinion Quarterly. 1969, 32, 547-559.
- Rokeach, M. and Parker, S. Values as social indicators of poverty and race relations in America. The Annals of the American Academy of Political and Social Science. 1970, 338, 97-111.
- Rokeach, M. Long-range experimental manipulation of values, attitudes, and behavior. American Psychologist. 1971, 26.
- Rokeach, M. The Nature of Human Values. San Francisco: Jossey-Bass, Inc., 1972.
- Rosenberg, M. When dissonance fails: on eliminating evaluation apprehension from attitude measurement. Journal of Personality and Social Psychology. 1965, 1, 28-42.
- Rosenthal, R. Experimenter Effects in Behavioral Research. New York: Appleton-Century-Crofts, 1966.
- Silverman, B. I. and Cochrane, R. The relationship between verbal expressions of behavioral intention and overt behavior. The Journal of Social Psychology. 1971, 84, 51-56.
- Silverman, B. I. and Cochrane, R. The effect of the social context on the principle of belief congruence. Journal of Personality and Social Psychology. 1972.
- Smith, C. R., Williams, L., and Willis, R. H. Race, sex, and belief as determinants of friendship acceptance. Journal of Personality and Social Psychology. 1967, 5, 127-137.
- Stein, D. The influence of belief systems on interpersonal preference. Psychological Monographs. 1966, 80, No. 616.
- Stein, D., Hardyk, J. and Smith, M. Race and belief, an open and shut case. Journal of Personality and Social Psychology. 1965, 1, 281-289.
- Tajfel, Henri. Experiments in intergroup discrimination. Scientific American. 1970, 223, 96-102.
- Thibaut, J. W. and Kelley, H. The Social Psychology of Groups. New York: John Wiley & Sons, 1959.

Triandis, H. A note on Rokeach's theory of prejudice. Journal of Abnormal and Social Psychology. 1961, 62, 184-186.

Triandis, H. and Davis, E. Race and belief as determinants of behavioral intentions. Journal of Personality and Social Psychology. 1965, 2, 715-725.

Westie, R. R. A technique for the measurement of race attitudes. American Sociological Review. 1953, 18, 73-78.

Winer, B. J. Statistical Principles in Experimental Design. New York: McGraw-Hill Book Company, 1962, pp. 319-330.

Yamane, T. Elementary Sampling Theory. Englewood Cliffs: Prentice-Hall, Inc., 1967.

APPENDIX A

ADRIAN COLLEGE
ADRIAN, MICHIGAN

April 16, 1970

Dear Incoming Freshman:

Congratulations on your admission to Adrian College. We hope your stay here will prove both enjoyable and enlightening. My office is at your disposal when and if you ever need assistance. You will find that my relationship to the male student body is one of assistance and help. My primary concern is keeping you at Adrian College.

This year we are initiating a new program designed to facilitate your adjustment to college life. In the past we have assigned new students to dormitory rooms solely on the basis of their responses to the questionnaire headed "Application for Room in a Residence Hall." We believe that this procedure can be improved upon by allowing new students a greater voice in selecting their roommates for the upcoming academic year. Since it is impossible for you to meet the other members of the freshman class before coming to Adrian, we will provide you with detailed descriptions of eight other incoming freshmen from which you may select your roommate. These descriptions will be constructed from other incoming freshmen's responses to the three enclosed questionnaires. Copies of the questionnaires for you to fill out and return are enclosed along with a self-addressed, stamped return envelope. We will do our best to provide you with individuals having a wide range of views and interests from which you may choose your roommate. In order to expedite the compilation of the descriptions we would very much appreciate your returning the enclosed questionnaires within 2 weeks.

You will find that college presents many new and wonderful experiences that can be most rewarding and fulfilling if you will only let yourself become involved in the total college environment. You will also find that you may have some traumatic experiences and the true test of one's abilities comes, when faced with adversity, if he can remain cool and calm and emerge a more mature individual for having experienced this trauma. You will find that your freshman year is a year of adjustment--adjustment to a newly found freedom--and if you can discipline yourself both academically and socially you will not have one bit of trouble with Adrian College. The outcome of your actions will reflect what values you place on college and college life.

Page -2-

April 16, 1970

For your information the college furnishes twin-size beds, one chest of drawers, chairs, drapes, one waste basket, mattress cover, and dresser desks in your room. For those who wish to do their own laundry, the dorm has both washers and dryers. The fee for the use of the washer is 25¢ per load, with a 10¢ fee for 10 minutes of drying time. You are asked to bring your bedding including blanket, pillow, bed spread, towels and wash cloths, study lamp, small rug, iron and radio. For those of you who would like to sign up for linen service you will be contacted during the first week of August by the Quality Linen Company of Detroit who would be most happy to supply you with clean linens each week. The charge for this, per semester, is around \$20. This service provides you with three clean towels, two sheets, and a pillow case.

Your room assignment and the name of your roommate will be mailed to you sometime during the first part of August. In the meantime if I can be of any assistance to you please do not hesitate to call on me at anytime. Looking forward to making your acquaintance and hoping your stay at Adrian will be a most fruitful and prosperous one, I remain.

Sincerely,

A handwritten signature in cursive script that reads "Charles Marvin".

Charles Marvin
Dean of Men

CM/bd

APPENDIX B

STUDENT ATTITUDE SURVEY

Please express your feelings towards the following issues in no more than four sentences. In the first sentence state your position as clearly as possible while in the following sentence(s) explain why you feel the way you do.

What is your position on --

- 1) Our government's past actions and present policy in Vietnam?
- 2) A college admissions policy that gives preferential treatment to Negroes?
- 3) Administrators' vs. teachers' vs. students' desires in determination of course content -- who should determine what is taught in a course?
- 4) Student protest demonstrations?
- 5) Abolishing the draft -- an all volunteer army?

DEMOGRAPHIC INFORMATION

Sex _____ Race _____

Religion _____

Name _____

APPENDIX C

VALUE SURVEY

Name _____ Sex: Male _____ Female _____

Birthdate _____ City and State of Birth _____

Below is a list of 18 values arranged in alphabetical order. Your task is to arrange them in order of their importance to YOU, as guiding principles in YOUR life.

Study the list carefully. Then place a 1 next to the value which is most important for you, place a 2 next to the value which is second most important to you, etc. The value which is least important, relative to the others, should be ranked 18.

Work slowly and think carefully. If you change your mind, feel free to change your answers. The end result should truly show how you really feel.

- _____ A COMFORTABLE LIFE (a prosperous life)
- _____ AN EXCITING LIFE (a stimulating, active life)
- _____ A SENSE OF ACCOMPLISHMENT (lasting contribution)
- _____ A WORLD AT PEACE (free of war and conflict)
- _____ A WORLD OF BEAUTY (beauty of nature and the arts)
- _____ EQUALITY (brotherhood, equal opportunity for all)
- _____ FAMILY SECURITY (taking care of loved ones)
- _____ FREEDOM (independence, free choice)
- _____ HAPPINESS (contentedness)
- _____ INNER HARMONY (freedom from inner conflict)
- _____ MATURE LOVE (sexual and spiritual intimacy)
- _____ NATIONAL SECURITY (protection from attack)
- _____ PLEASURE (an enjoyable, leisurely life)
- _____ SALVATION (saved, eternal life)
- _____ SELF-RESPECT (self-esteem)
- _____ SOCIAL RECOGNITION (respect, admiration)
- _____ TRUE FRIENDSHIP (close companionship)
- _____ WISDOM (a mature understanding of life)

Below is a list of another 18 values. Rank these in order of importance in the same way you ranked the first list on the preceding page.

- _____ AMBITIOUS (hard-working, aspiring)
- _____ BROADMINDED (open-minded)
- _____ CAPABLE (competent, effective)
- _____ CHEERFUL (lighthearted, joyful)
- _____ CLEAN (neat, tidy)
- _____ COURAGEOUS (standing up for your beliefs)
- _____ FORGIVING (willing to pardon others)
- _____ HELPFUL (working for the welfare of others)
- _____ HONEST (sincere, truthful)
- _____ IMAGINATIVE (daring, creative)
- _____ INDEPENDENT (self-reliant, self-sufficient)
- _____ INTELLECTUAL (intelligent, reflective)
- _____ LOGICAL (consistent, rational)
- _____ LOVING (affectionate, tender)
- _____ OBEDIENT (dutiful, respectful)
- _____ POLITE (courteous, well-mannered)
- _____ RESPONSIBLE (dependable, reliable)
- _____ SELF-CONTROLLED (restrained, self-disciplined)

APPENDIX D

DEPARTMENT OF PSYCHOLOGY • OLDS HALL

May 3, 1970

Dear Incoming Freshman,

As an entering freshman at Adrian College, you have been selected to participate in a psychological investigation. The attitudes and opinions of college students are currently a topic of much public interest. Several surveys have been conducted using as subjects students already attending colleges and universities. The purpose of this survey, conducted by the Psychology Department of Michigan State University, is to determine the attitudes and values of students before they enter such institutions. Your cooperation is necessary if we are to obtain a valid picture of the thoughts and feelings of incoming college students.

The study will consist of three sets of questionnaires mailed to you at approximately five week intervals. The first set is enclosed. Please fill out the Student Attitude Survey and the Value Survey and return both in the envelope provided within one week. You will receive a copy of our findings as soon as the data is analysed. Although your name is required on each questionnaire, (so that your responses to all questions may be compared) your responses are confidential. Only data concerning incoming freshmen as a group will be published.

Thank you very much for taking part in this study. Your assistance is greatly appreciated.

Sincerely,



Dr. Raymond Cochrane



Dr. Milton Rokeach



Mr. Bernard Silverman

APPENDIX E

ADRIAN COLLEGE
ADRIAN, MICHIGAN

CHARLES E. MARVIN
DEAN OF MEN

Dear

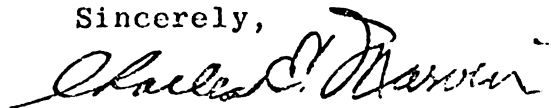
You will remember that a month ago, along with other incoming freshmen males, you completed several questionnaires in which you described your attitudes and values. On the following pages are the descriptions of eight young men, who like yourself, are incoming freshmen males at Adrian College. You may select your roommate from among these individuals. We have made every attempt to provide you with a diverse group of persons from which to choose.

After each description are the numbers 1 to 9. Let #1 stand for "I would like to share a room with this person very much." Let #9 stand for "I would not like to share a room with this person at all." You may use the numbers between #1 and #9 to express varying degrees of preference for the individuals as roommates. Circle one number after each individual described. Thus, the smaller the number you circle after any individual, the greater the chances that you will be sharing a room with him next fall at Adrian College.

We will do our best to assign you to a room with that individual you rate most favorably. If that should prove to be impossible, we will assign you to a room with that individual you indicate by your rating to be your second choice. It is unlikely that we will have to go beyond your second or third choice in assigning roommates.

So that we may begin the task of assigning roommates as soon as possible, we would appreciate your returning your selections in the envelope provided within one week. Before being notified of your exact roommate assignment, about August 15, you will be asked to fill out a general information survey which you will receive about the first of August. Until then, I remain,

Sincerely,



Charles E. Marvin
DEAN OF MEN

CEM:smk

APPENDIX F

John W. Phillips is a Negro, 18 years old, and lives in Battle Creek, Michigan. He does not think Negroes should be given preferential treatment for admission to college as he writes, "So that blacks may acquire the pride we need we should be given equal treatment in every way, but not preferential treatment, for this would be unfair." Further, he writes, "Although I'm against any sort of violence in protest demonstrations, I believe all people in this country, including students, have the right to make their views known through peaceful protest, so I support student protest demonstrations." Concerning the determination of course content he writes, "Since the student comes to college to learn, not to make policy, the administrators and teachers should decide course content." On the issue of abolishing the draft and replacing it with an all volunteer army he commented, "An all volunteer army in place of the draft is fine in theory, but it's unlikely many men would choose the army as a career." The values John considers to be most important as guiding principles in his life are SALVATION, NATIONAL SECURITY, AN EXCITING LIFE, and PLEASURE, which he ranked first to fourth respectively.

1 2 3 4 5 6 7 8 9

Clifford Carlsmith is a Caucasian, 18 years old, and lives in Lincoln, Nebraska. He writes, "Where education is concerned I do not believe anyone should receive preferential treatment, Negro or otherwise. Those who are qualified should be admitted while those who fail to meet the requirements should not." Clifford's position on student protest demonstrations is "peaceful protest demonstrations have my full support, but when violence, vandalism and injury results, protest demonstrations should be stopped." On determination of course content he says, "Although suggestions from students may be allowed, course content should be jointly determined by teachers and administrators." Regarding the issue of a volunteer army to replace the draft he writes, "I like the idea of abolishing the draft and a volunteer army, but with our foreign troop commitments I just don't think it's possible." The values Clifford considers to be most important as guiding principles in his life are A WORLD AT PEACE, FREEDOM, A SENSE OF ACCOMPLISHMENT, and EQUALITY, which he ranked first to fourth respectively.

1 2 3 4 5 6 7 8 9

Otis Simmons is a Negro, 17 years old, and lives in Benton Harbor, Michigan. Otis writes, "Until the primary and secondary school educational opportunities of blacks are equal to those of whites, I think we should be given preferential treatment for admissions to college." With regard to the issue of student protest demonstrations he remarks, "I think student protests are very wrong. Students should look up the rules of the college they plan to attend, and if they don't like them, they should go somewhere else." Regarding the issue of determination of course content, Otis writes, "Because we students have to take the course, we should be allowed to control what it is we have to learn." About the draft he remarked, "I support abolishing the draft in favor of an all volunteer army as this would insure that nobody would be forced to fight who didn't want to." The values Otis considers to be most important as guiding principles in his life are PLEASURE, NATIONAL SECURITY, TRUE FRIENDSHIP, and SALVATION, which he ranked first to fourth respectively.

1 2 3 4 5 6 7 8 9

Michael Barnat is a Caucasian, 18 years old, and lives in Marquette, Michigan. In response to the question, should Negroes be given preferential treatment when applying for admission to college, he replied, "Because Negroes generally have been deprived of adequate educational facilities I think preferential treatment should be given them when they apply to college." Michael's answer to the question on student protest demonstrations was, "I do not like and do not support student protests. A well constructed letter to a university or government official will probably have more effect anyway than a bunch of marching, chanting students." "I think the student should have the greatest say as to what is taught in a course because he is the one who will have to face the world with what he learned in the classroom." "I favor an all volunteer army and abolishing the present draft system because this would mean the anxiety and uncertainty draft-age men go through would be gone." The values Michael considers to be most important as guiding principles in his life are EQUALITY, FREEDOM, WISDOM, and A WORLD AT PEACE, which he ranked first to fourth respectively.

1 2 3 4 5 6 7 8 9

Peter Hampton is a Caucasian, 18 years old, and lives in Des Moines, Iowa. Peter opposes a college admissions policy that gives preferential treatment to Negroes as he writes, "I am against such a policy because I've always thought that admissions to college should be based on merit rather than skin color." Concerning the issue of student protest demonstrations he writes, "I support non-violent and orderly student protest demonstrations as I think they show that students have an interest in their country." In response to the question, who should determine course content he answered, "Because they have the experience, administrators and teachers should make the final decisions about course content." Concerning abolishing the draft and substituting an all volunteer army he writes, "It would be nice, but it's unrealistic. The government couldn't raise enough men." The values Peter considers to be most important as guiding principles of his life are SALVATION, PLEASURE, SOCIAL RECOGNITION, and NATIONAL SECURITY, which he ranked first to fourth respectively.

1 2 3 4 5 6 7 8 9

Raymond Dorsey is a Negro, 18 years old, and lives in Grand Rapids, Michigan. In response to the question, should Negroes be given preferential treatment when applying for admission to college, Raymond answered, "By giving blacks special consideration when they apply to college more blacks will get into the mainstream of society, thus giving the black community a greater stake in America, so I'm all for it." Concerning the issue of student protest demonstrations he writes, "I oppose all of those demonstrations as they only serve to take time away from studies and other important academic activities." As far as determination of course content goes, students know what they want to learn so they should be allowed to determine course content." Abolishing the draft and having a volunteer army is a great idea and can be done if army wages and prestige are both increased." The values Raymond considers to be most important as guiding principles in his life are A WORLD AT PEACE, EQUALITY, SELF RESPECT, and FREEDOM, which he ranked first to fourth respectively.

1 2 3 4 5 6 7 8 9

William Jackson is a Negro, 18 years old, and lives in Rockford, Illinois. William writes, "I am for the same admissions standards for everyone regardless of race. If we want to be treated as equals, we will have to meet the same standards as everyone else." Regarding the issue of student protests he answered, "I am all for protest demonstrations as long as the demands are justified, the demonstrations are non-violent, and there is no infringement on the rights of others." "Either administrators or teachers should decide course content, not the student as he has no qualifications." About the draft he writes, "Using a volunteer army instead of the draft is a good idea but I doubt if a big enough army could be raised." The values William considers to be most important as guiding principles in his life are FREEDOM, A WORLD AT PEACE, HAPPINESS, and EQUALITY, which he ranked first to fourth respectively.

1 2 3 4 5 6 7 8 9

Dan Albert is a Caucasian, 17 years old, and lives in Lansing, Michigan. Dan feels that Negroes should be given preferential treatment when applying for admission to college as he writes, "Since Negroes have been discriminated against throughout history they should now be given more than an equal chance to get into college." With regard to student protest demonstrations he comments, "I am going to college with the purpose of learning, not marching around, and therefore I generally dislike and do not approve of student protests." "As the student has to listen in class and learn the material he should be able to have the main voice in determining course content." Concerning abolishing the draft he responded, "You can't really call this a free country with the draft the way it is, so I'm all for abolishing it." The values Dan considers to be most important as guiding principles in his life are NATIONAL SECURITY, SALVATION, A WORLD OF BEAUTY, and PLEASURE, which he ranked first to fourth respectively.

1 2 3 4 5 6 7 8 9

APPENDIX G

DEPARTMENT OF PSYCHOLOGY • OLDS HALL

July 3, 1970

George F. Sweeny
3807 Heatherdowns Boulevard
Toledo, Ohio

Dear George:

First of all, thank you very much for filling out and returning our first questionnaire. This is the second questionnaire in our study of the attitudes and values of students before they enter college. In this questionnaire you will be asked to respond to descriptions of individuals as though you were evaluating them as potential roommates.

Let us posit a hypothetical situation to which we would like to know your reaction. Suppose you were given the opportunity to select your roommate for your first year at college. On the following pages are the descriptions of eight individuals who like yourself plan to begin college in the fall (at Michigan State rather than at Adrian). Read each description carefully and indicate to what extent you would prefer the person described as a roommate.

After each description are the numbers 1 to 9. Let #1 stand for "I would like to share a room with this person very much." Let #9 stand for "I would not like to share a room with this person at all." You may use the numbers between #1 and #9 to express varying degrees of preference for the individuals as roommates. Circle one number after each person described.

As before we have enclosed a stamped return envelope in which you may return this questionnaire. We would appreciate your doing so within one week. In approximately 5 weeks we will send you a third questionnaire designed to reflect your perceptions of your present environment and your expectations about college.

Thanks again,

Dr. Milton Rokeach

Mr. Bernard Silverman

APPENDIX H

ALPHA TAU OMEGA FRATERNITY

MICHIGAN ALPHA MU, ADRIAN COLLEGE



Cornelius House
210 S. Madison
Adrian, Michigan

July 23, 1970

Dear Freshman,

The men of Alpha Tau Omega at Adrian College are conducting this survey in order to discover the preferences and desires of those males who plan to begin their advanced education at Adrian College in the fall of 1970. This is not a solicitation for membership, but rather an attempt to find out in what directions our fraternity as well as our college might be heading in the years to come. Please return the enclosed questionnaire as soon as you can. We wish you success in your college endeavor and hope you'll feel free to stop in and see us at the ATO house when you arrive on campus this fall.

Look forward to seeing you,

Richard C. Sweebe

Richard C. Sweebe
President, Alpha Tau Omega

APPENDIX I

Fraternity Survey

First we would like to know what you expect from a fraternity you might consider joining. Please indicate how important each of the following fraternity functions is to you.

- a) Fielding atheletic teams in intramural competitions...
(check ✓ one)

Very Important

Important

Somewhat
Important

Unimportant

- b) Providing academic help (tutoring) to fraternity brothers...
(check ✓ one)

Very Important

Important

Somewhat
Important

Unimportant

- c) Providing a group of close friends... (check ✓ one)

Very Important

Important

Somewhat
Important

Unimportant

- d) Providing an opportunity to meet members of the opposite sex... (check ✓ one)

Very Important

Important

Somewhat
Important

Unimportant

- e) Conducting charitable and philanthropic functions...
(check ✓ one)

Very Important

Important

Somewhat
Important

Unimportant

Next we would like to know how likely you would be to take part in each of the following activities. (Check one number on each scale)

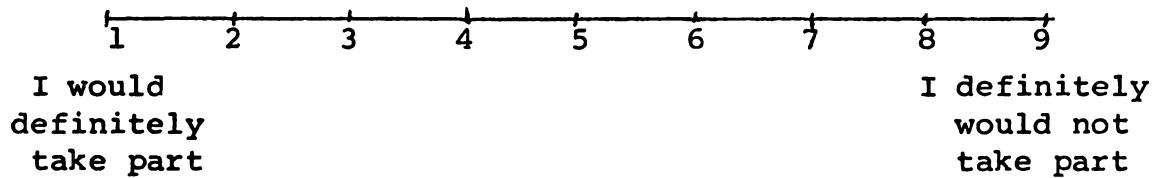
- a) Athletics

1 2 3 4 5 6 7 8 9

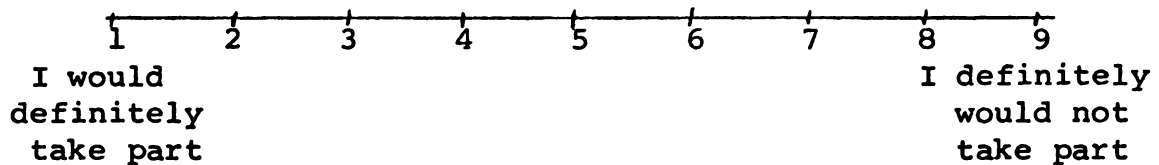
I would
definitely
take part

I definitely
would not
take part

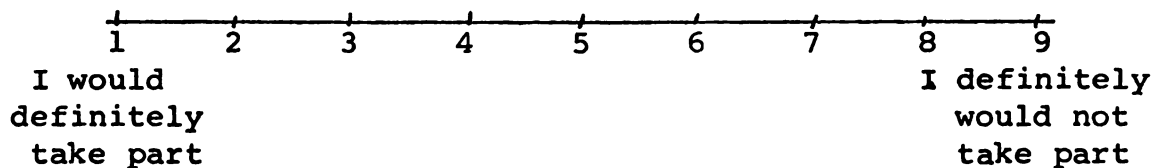
b) Tutoring "frat" brothers



c) Planing parties and arranging social functions



d) Conducting charitable activities



Finally, we would like to find out what preparations you have already made (or have been made for you) for living accomodations for the upcoming academic year at college.

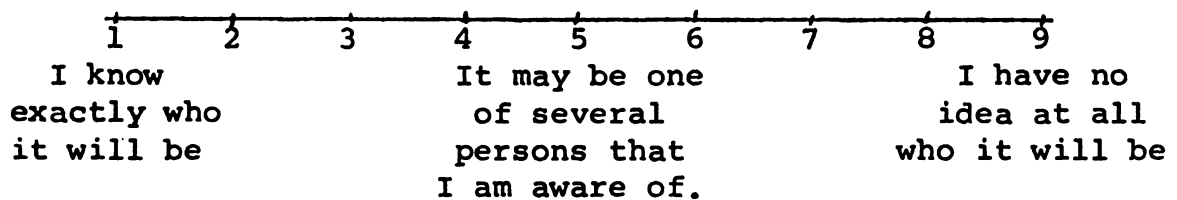
Where do you plan to live during your first year at college?

At home

Off campus
in town

On campus in
a dormitory

Do you have any idea who your roommate will be at college?



Your Name _____

Address _____

APPENDIX J

ADRIAN COLLEGE
ADRIAN, MICHIGAN

CHARLES E. MARVIN
DEAN OF STUDENTS

July 28, 1970

Dear

Thank you for promptly returning your roommate selections last month. It is quite likely that your room assignment has already been made and later in the month you will receive explicit information about it. From the questionnaires you previously completed, we have learned much about the attitudes and values of our incoming freshmen class. Now we would like to gain some idea about your perceptions of those important in your life. In the enclosed questionnaire we would like you to describe the reactions of your friends and parents to specific behaviors you might engage in.

As before we have enclosed a stamped envelope in which you may return the questionnaire. We would appreciate your doing so within one week.

Looking forward to seeing you in the Fall, I remain,

Sincerely,

Charles E. Marvin
Dean of Students

smk

DEPARTMENT OF PSYCHOLOGY • OLDS HALL

July 30, 1970

Dear

Thank you for filling out and returning the first two sets of questionnaires. This is the third and final questionnaire in our study of the attitudes and values of students before they enter college. However, in the enclosed questionnaire, rather than describing your own attitudes, we would like you to describe the reactions of your friends and parents to particular behaviors you might engage in.

As before we have enclosed a stamped self-addressed envelope in which you may return the questionnaire. We would appreciate your doing so within one week as that would facilitate data analysis. As soon as the data is analysed you will be sent a report of our findings. If the report is not completed by the end of August we will mail it to you at school rather than at home. Once again, thank you very much for helping us out in this study of student attitudes and values.

Sincerely

Milton Rokeach

Dr. Milton Rokeach

Bernard Silverman

Mr. Bernard Silverman

APPENDIX K

Significant Others Questionnaire

This questionnaire is designed to let you describe not your own attitudes but rather how you think your friends, parents, and students at college would react toward you if you engaged in the following behaviors.

First concentrate on the ideas and attitudes of your best friends. Circle that one response to each question that best reflects what you think your friends would think of you if...

- 1) You decided not to attend college in the fall.

1	2	3	4	5	6	7	8	9
They would		They wouldn't		They would		They would		They would
approve of		care one way		disapprove		disapprove		strongly
my behavior		or the other		slightly				disapprove

- 2) You decided to date a girl of a different religion.

1	2	3	4	5	6	7	8	9
They would		They wouldn't		They would		They would		They would
approve of		care one way		disapprove		disapprove		strongly
my behavior		or the other		slightly				disapprove

- 3) You decided to share a room with a Negro at college.

1	2	3	4	5	6	7	8	9
They would		They wouldn't		They would		They would		They would
approve of		care one way		disapprove		disapprove		strongly
my behavior		or the other		slightly				disapprove

- 4) You decided to refuse induction into the military when drafted.

1	2	3	4	5	6	7	8	9
They would		They wouldn't		They would		They would		They would
approve of		care one way		disapprove		disapprove		strongly
my behavior		or the other		slightly				disapprove

- 5) You decided to go on to graduate or professional school after your B.A.

1	2	3	4	5	6	7	8	9
They would		They wouldn't		They would		They would		They would
approve of		care one way		disapprove		disapprove		strongly
my behavior		or the other		slightly				disapprove

APPENDIX L

DEPARTMENT OF PSYCHOLOGY • OLDS HALL

Dear

My name is Bernard Silverman and I'm a graduate student at Michigan State University in psychology. Although you were not aware of it, you participated in an investigation of interpersonal attraction, during the past summer when you believed you were choosing a roommate for the upcoming academic year. I apologize for the deception, but I hope you will see that it was necessary in order for the study to be properly carried out. Let me tell you a bit about the purpose and design of the investigation.

A professor at Michigan State has an interesting theory that people discriminate more on attitude and value similarity than racial similarity when selecting individuals to interact with in various situations. He claims that individuals discriminate on race mainly because they attribute different beliefs and attitudes to those of a different race. To support this proposition, which has been called the Theory of Belief Congruence, he has presented college students in psychology courses with descriptions of hypothetical persons, and asked them to indicate to what extent they would like to interact with the hypothetical persons in various situations. These hypothetical persons were described as either Negro or Caucasian and as having either similar or dissimilar attitudes to the students. The results of these studies confirm belief congruence. Students discriminated very little on race, but very much on attitude similarity, choosing hypothetical persons espousing similar attitudes ahead of those holding dissimilar attitudes.

These findings, however, could be due in part to the fact that the students knew they were participating in a psychological experiment conducted by a liberal professor in a liberal university setting. In such surroundings it is considered socially unacceptable to discriminate on race, and since the subjects knew their choices were of no consequence they might well act in the socially desirable fashion and rate Negroes as favorably as Caucasians, regardless of their actual feelings.

I felt that to get some idea of a person's "true" attitudes it was necessary to make his selections appear to be of some consequence. If one believed he were actually choosing a roommate he would be more likely to act in accord with his actual feelings toward living with a Negro than if he were only behaving "as though" he were selecting a roommate. Two groups, of about 40 each, were randomly selected from the incoming freshman class at Adrian. One group, called the control group, was told that they were in a psychological study. Like you, they received and filled out the value and attitude surveys, evaluated the eight hypothetical students as potential roommates, and filled out the third and final "significant others questionnaire." They differed from your group, the experimental group, only in that they knew the responses they made to the eight hypothetical persons had no

bearing on their actual roommate assignment for the upcoming academic year.

From examining their responses one would conclude that race is an irrelevant factor in roommate selection as these individuals, on the average, did not discriminate at all against Negroes. The group of which you were a part, who actually believed they were choosing their roommates, discriminated significantly against Negroes. As it can be safely assumed the underlying attitudes of the two groups towards Negroes was equivalent, it can be concluded that those in the control group were responding in a socially desirable manner rather than in a manner congruent with their own feelings. If this occurred in the present study it is quite likely that it occurred in past studies in which the principle of belief congruence was tested.

As the data analysis has not yet been completed I do not know whether belief similarity proved to be a more important determinant of roommate choices than racial similarity for those in the experimental group. So that I may more fully describe the findings to you and answer other questions you may have, I plan to spend an evening at Adrian College early this fall. Dean Marvin will notify you of the time and place if you should care to get together and discuss this investigation.

Sincerely,

A handwritten signature in cursive script that reads "Bernard Silverman". The signature is fluid and elegant, with the first name and last name clearly distinguishable.

Bernard Silverman
Graduate Student, Dept. of Psychology
Michigan State University

APPENDIX M

THE EXPERIMENTAL DESIGN

A four way analysis of variance, with repeated measures on three factors was employed in the present study. The between subjects factor, or that factor on which there was no repeated measurement was consequences (A). The two levels of consequences are represented by p_1 , consequences, and p_2 , no consequences. In the following formula p stands for the number of levels of A. The three within subjects factors or factors on which there were repeated measures, were race (B), attitude similarity (C), and value similarity (D). The letters q , r , and s stand for the number of levels of the race, attitude, and value similarity variables respectively. Below is a diagram which depicts the experimental design. On the following pages are the computational formulas required for calculating the sums of squares and degrees of freedom for the main effects, interaction effects, and error terms in the analysis of variance.

		Negro				Caucasian			
		Similar Attitudes		Dissimilar Attitudes		Similar Attitudes		Dissimilar Attitudes	
		Sim. Val.	Dissim. Val.	Sim. Val.	Dissim. Val.	Sim. Val.	Dissim. Val.	Sim. Val.	Dissim. Val.
A	Conseq.								
	No Conseq.								

In the following formulas G^2 represents all scores summed, then squared. The sum of X^2 represents all scores squared, then summed. P represents subjects. For numbers 3 to 24 a different table of cell totals must be constructed. In the following formulas n represents the number of observations within each level of A. See Winer, pages 324-329 for an auxiliary description. The values corresponding to these numbers (1 to 24) may be "plugged in" to the formulas on the next page which yield SS and df.

Code Number	Partition of Scores	Code Number	Partition of Scores
1	$G^2 / n \times p \times q \times r \times s$	13	$(D)^2 / n \times p \times q \times r$
2	X^2	14	$(AD)^2 / n \times q \times r$
3	$(A^2) / n \times q \times r \times s$	15	$(BD)^2 / n \times p \times r$
4	$(B^2) / n \times p \times r \times s$	16	$(ABD)^2 / n \times r$
5	$(C^2) / n \times p \times q \times s$	17	$(CD)^2 / n \times p \times q$
6	$(AB)^2 / n \times r \times s$	18	$(ACD)^2 / n \times q$
7	$(AC)^2 / n \times q \times s$	19	$(BCD)^2 / n \times p$
8	$(BC)^2 / n \times p \times s$	20	$(ABCD)^2 / n$
9	$(ABC)^2 / n \times s$	21	$(DP)^2 / q \times r$
10	$(P)^2 / q \times r \times s$	22	$(BCP)^2 / s$
11	$(BP)^2 / r \times s$	23	$(BDP)^2 / r$
12	$(CP)^2 / q \times s$	24	$(CDP)^2 / q$

The following table provides the formulas necessary for calculating sums of squares and degrees of freedom for the various sources of variance. By dividing the sum of squares by their degrees of freedom mean squares can be calculated, leading to computation of F ratios.

Source of Variance	Computational Formula	Degrees of Freedom
<u>Between Subjects</u>	10-1	$(n\ p) - 1$
A	3-1	$p - 1$
S. with groups Sub. within groups (error A)	10-3	$p \times (n-1)$
<u>Within Subjects</u>	2-10	$n \times p \times (q \cdot r \cdot s) - 1$
B	4-1	$q - 1$
AB	$(6+1) - (3+4)$	$(p-1) \times (q-1)$
BxSubj. within groups (error B,AB)	$(11+3) - (6+10)$	$p(n-1) (q-1)$
C	5-1	$r - 1$
AC	$(7+1) - (3+5)$	$(p-1) \times (r-1)$
CxSubj. within groups (error C,AC)	$(12+3) - (7+10)$	$p(n-1) \times (r-1)$
D	13-1	$s - 1$
AD	$(14+1) - (3+13)$	$(p-1) \times (s-1)$
DxSubj. within groups (error D,AD)	$(21+3) - (10+14)$	$p(n-1) \times (s-1)$
BC	$(8+1) - (4+5)$	$(q-1) \times (r-1)$
ABC	$(9+3+4+5) - (6+7+8+1)$	$(p-1) \times (q-1) \times (r-1)$
BCPxSubjects (BC,ABC error)	$(22+6+7+10) - (3+9+11+12)$	$p(n-1) \times (q-1) \times (r-1)$
BD	$(15+1) - (4+13)$	$(q-1) \times (s-1)$
ABD	$(3+4+13+16) - (1+6+14+15)$	$(p-1) \times (q-1) \times (s-1)$
BDPxSubjects (error BD,ABD)	$(23+14+6+10) - (16+21+11+3)$	$p(n-1) \times (q-1) \times (s-1)$
CD	$(17+1) - (5+13)$	$(r-1) \times (s-1)$
ACD	$(18+3+5+13) - (7+14+7+1)$	$(p-1) \times (r-1) \times (s-1)$
CDPx Subjects (error CD,ACD)	$(24+14+7+10) - (18+12+21+3)$	$p(n-1) \times (r-1) \times (s-1)$
BCD	$(19+4+5+13) - (8+15+17+1)$	$(q-1) \times (r-1) \times (s-1)$
ABCD	$(20+6+7+14+8+15+17+1) - (9+16+19+18+3+4+5+13)$	$(p-1) \times (q-1) \times (r-1) \times (s-1)$
BCDxSubjects (error BCD,ABCD)	$(2+21+12+11+18+16+9+3) - (20+24+23+22+6+7+14+10)$	$p(n-1) \times (q-1) \times (r-1) \times (s-1)$

APPENDIX N

TABLE 10

CORRELATIONS RELEVANT TO THE RELIABILITY OF
RACIAL DISCRIMINATION SCORES

Correlations Between Ratings Assigned Negro Hypothetical Persons				Correlations Between Ratings Assigned Caucasian Hypothetical Persons			
X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8
X_1	.62*	.20	.07	X_5	.19	.08	-.31*
X_2		.02	.23	X_6		-.60*	-.23
X_3			.43*	X_7			.43*
X_4				X_8			

* $p < .05$

TABLE 11

CORRELATIONS RELEVANT TO THE RELIABILITY OF
BELIEF DISCRIMINATION SCORES

Correlations Between Ratings Assigned Hypothetical Persons with Similar Attitudes					Correlations Between Ratings Assigned Hypothetical Persons with Dissimilar Attitudes				
	X ₁	X ₂	X ₅	X ₆		X ₃	X ₄	X ₇	X ₈
X ₁		.62*	.01	.08	X ₃		.43*	.31*	.11
X ₂			-.10	.30*	X ₄			.01	.12
X ₅				.19	X ₇				.43*
X ₆					X ₈				
Correlations Between Ratings Assigned Hypothetical Persons with Similar Values					Correlations Between Ratings Assigned Hypothetical Persons with Dissimilar Values				
	X ₁	X ₃	X ₅	X ₇		X ₂	X ₄	X ₆	X ₈
X ₁		.20	.01	-.31*	X ₂		.23	-.10	-.18
X ₃			-.30*	.31*	X ₄			-.12	.12
X ₅				.08	X ₆				-.23
X ₇					X ₈				

* $p < .05$

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