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THE EFFECT OF SEATING VARIATIONS AND GROUP SALIENCY  
ON OPINIONS

by

ARTHUR J. SHULMAN

A dissertation submitted to the Graduate Faculty  
in Psychology in partial fulfillment of the re-  
quirements for the degree of Doctor of Philosophy,  
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## Abstract

THE EFFECT OF SEATING VARIATIONS AND GROUP SALIENCY  
ON OPINIONS

by

Arthur J. Shulman

Advisers: Professor Harold Proshansky  
Professor William Ittelson

This study utilized a 2x2x2 factorial design in which Seating Density (Compact vs. Scattered), Seating Method (Selected vs. Random), and Instructions (Student Salient vs. Non-Student Salient) were varied. In each condition subjects (250 college students enrolled in an introductory psychology course) filled out the same 25 item attitude questionnaire twice. First they supplied their own opinions, and then, after an interpolated task, they were asked to record what they thought were the attitudes of other students at their college. The major dependent variable (Total Absolute Difference scores, or TAD) was the sum of the absolute differences, over 25 items, between the two opinion recordings. The major hypotheses were that TAD scores would be smaller under Compact Seating, Selected Seating, and Student Salient instructions, because of greater influence due to group presence in these conditions.

Results were essentially negative, as none of the hypotheses were supported. Contrary to expectations, the only differences that were found were that TAD scores were larger than average with Student Salient Instructions, but under Selected Seating only, and that TAD scores were lower with Non-Student Salient Instructions, but again under Selected Seating only.

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The completion of this paper might never have been accomplished without the encouragement and moral support of my wife Lonnie. Her dedication that I finish was a comfort throughout. I therefore acknowledge her contribution to this dissertation.

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BACKGROUND

The systematic study of the effect of spatial arrangements on social behavior has had a relatively short history. As a consequence, although the number of articles devoted to it is growing, the literature is still relatively small. The most prolific of investigators in this area has been Sommer (e.g. 1959, 1961, 1962, 1965, 1967, 1969), who has defined small group ecology as the systematic study of spatial arrangements in face-to-face groups. Sommer's (1967) review of studies on small group ecology indicated that status relationships, friendships, and communication may be a function of spatial arrangements.

In two characteristic studies Sommer (1961, 1962) found first that subjects preferred to sit side-by-side, and not opposite, only when the distance between two couches facing each other was greater than  $3\frac{1}{2}$  feet; secondly, that subjects preferred sitting across from one another only when the distance across was equal to or less than the side-by-side distance. Results such as these, as Sommer readily admits, are limited as a contribution to the psychological literature in that they are not presented within any theoretical framework. The problems investigated are rather specific and are formulated in such a way as to allow the results only very limited generalizability.

Among other descriptive and non-theoretical treatments of spatial arrangements are Hall's (1966) observations on formal and informal space, Garfinkle's (1964) anecdotal account of what may happen when normal distances are violated, and Strodbeck and Hook's (1961) study indicating that jury foremen were more likely to be chosen from those sitting at the ends of a rectangular table than those sitting in other positions.

The present study will attempt to place the study of spatial arrangements in relation to behavior within a theoretical context.

We begin with the assumption that the presence of other people can influence a given individual's behavior. Zajonc (1965), for example, refers to a considerable literature (e.g. Allport, 1924; Dashiell, 1930; Pessin, 1933) indicating that the mere physical presence of others can affect both learning and performance of various tasks such as the pursuit-rotor, work association, and learning nonsense syllables. Zajonc's review mainly describes studies in which simple performance tasks were affected by the presence of an observer. On a more complex level, Knower (1935) found greater opinion change among those subjects who heard a communication with no other audience members present, as compared to subjects who heard the communication in an audience with others. In both cases subjects heard a communication on the prohibition issue which was in a direction opposed to their original opinion. Knower suggested that in the audience situation negative attitudes of subjects were socially facilitated by the incipient negative responses of other group members.

There are several ways in which the presence of others might act to influence an individual's behavior. Zajonc, using a Hullian framework, hypothesized that, in the studies he cited, the presence of others increased drive; increased drive had differential effects depending on the relative dominance of the required response. From a social psychological viewpoint one might explain the reason for greater drive when others are present to an individual's desire to be thought of as capable by others. Hovland, Janis and Kelley (1953) have noted that conformity to group norms is partially a function of situational cues which operate to arouse the motives

related to conformity; it is reasonable to assume that the mere physical presence of others, even apart from any overt action on their part, can provide situational cues which operate to arouse or make salient, group norms. Two additional important ways in which the presence of others can affect an individual's behavior are by providing models of behavior and threatened, implied, or actual sanctions or reinforcements of certain types of behavior.

If it is true that the mere physical presence of others can affect an individual's behavior, then it seems a reasonable inference that variations in the spatial arrangements of these others can act so as to increase or lessen the extent of the physical presence or even meaning of this presence. Three parameters of spatial arrangements are: 1) group size, i.e. number of others present; 2) shape of arrangement, e.g. rectangular, circular, etc., and; 3) group density, i.e. the distance between others.

Argyle (1959) noted that a greater proportion of people indicated conversion in an evangelical setting when the overall size of the audience increased; but this might have been due to either increased pressure or facilitation to convert, or to differential audience composition (Milgram and Toch, 1967). Asch (1956) found, in his classical study of conformity in judging the length of lines, that the amount of social influence increased as the number of confederates increased to about three or four; further increases in number of confederates had little additional effect. Malpass and Fitzpatrick (1959) found that large groups (26 - 30) rated thirty jokes as funnier than did small groups (6-7). Subjects hearing the jokes while alone gave intermediate ratings. On the other hand, individual subjects rated thirty cartoons as funnier than did large groups

(intermediate ratings) and small groups. Results may have been due to more spontaneous overt reactions to both cartoons and jokes occurring in small groups; although no data were collected on this point, it was the authors' impression that small groups cheered cartoons and jeered jokes, and these behaviors may have affected ratings. That is, the cheering of cartoons by small groups may have, through suggestion, enhanced the "funniness" of the cartoons to individual group members. And similarly the jeering of jokes may have depressed their perceived funniness to individual members. The major point for our purposes is that certain behaviors (e.g. cheering or jeering of cartoons or jokes) may be more or less likely to occur depending on group size.

In a study of group shape (Minton, Steger, and Smrtic, 1968), groups of six subjects were seated in either a circular or rectangular seating arrangement. Within each group, two or the six subjects were actually confederates who attempted in the course of group discussion to change the group opinion toward a deviant position. Although the authors found no difference between seating arrangements in extent of opinion change, they state that, "It is possible that seating arrangement may have an effect on resistance to opinion change for larger size groups where the nature of the spatial relationships among a large number of group members may be more salient in counteracting or not counteracting the influence attempts of a minority."

There have been only two systematic studies of seating density. Thomas and Ralph (1959) had American students listen to a speech by a Christian Arab suggesting that people in the United States should weigh both sides of the Arab-Jewish question. Opinions were obtained before and after the

speech. Seating varied as follows: In one condition all seats were filled except for the front row and a few seats in the back row. In two conditions subjects were alternately seated four and three persons to a row, but in one of these conditions the first three rows were not used. In the remaining three conditions subjects were seated so that four rows were completely filled; these four rows were either in the front, the middle, or in the back of the room. Results indicated no differential opinion change among these seating groups.

In Furbay's (1965) study, subjects heard a tape-recorded speech with the thesis that nuclear testing should be discontinued. A pretest indicated that about one-fifth of the subjects were favorable to the thesis, one half were opposed, and the rest undecided. Scales administered after the speech indicated that a greater proportion of subjects who heard the speech in a scattered seating arrangement changed their opinions toward the thesis than subjects in a compact seating arrangement. There were no differences between seating groups in comprehension of the speech, enjoyment of the speech, the amount of information they thought they had learned, their opinions toward the speaker as a person, their estimates of the effectiveness of the speech, and the degrees to which they were aware of other listeners. In discussing his results Furbay suggested that logical persuasion is more effective when individuals are separated, but that emotional appeals are more effective when listeners are close together. (It should be noted that Furbay's suggestion of the greater effectiveness of emotional appeals with greater listener compactness was not based on his experiment, since only "logical persuasion" was attempted.)

Alternate explanations of Furbay's results are possible, however. It is reasonable to believe that people in a group may tend to be reluctant to take a stand on an issue which is deviant from the perceived attitudes of most group members. And furthermore, they may tend to resist a communication attempting attitude change if they perceive that other group members are resisting. In other words, the psychological presence of others will result in greater conformity to perceived group norms. We may also suppose that when subjects are arranged in a compact (as opposed to scattered) manner, the operation of selected factors related to the presence of others will be accentuated. For example, we may suppose that in a compact arrangement group norms are more likely to be aroused or made salient, that models of behavior provided by others are more likely to be followed, and that sanctions or reinforcements of certain behaviors are likely to be more imminent. When people are close together, an individual is more likely to perceive cues from the others. For example, people are probably more likely to converse, as well as communicate on a non-verbal level when they are closer together. To the extent that an individual is receptive to these cues he is likely to be influenced by the presence of others.

Furbay, as described above, found that more subjects were initially unfavorable to the thesis than were favorable; thus, the direction of the speech was opposed to the original of at least half of the subjects with many others having undecided or neutral attitudes. Let us suppose that subjects knew or perceived that a majority of other subjects were resistant to the communication; then, according to the interpretation above, they would tend to conform to group norms and would tend to be resistant (or less receptive) to the communication. And, since compact

seating would accentuate this conformity, greater resistance, and therefore less attitude change, would occur among subjects seated compactly than among subjects seated in a scattered manner.

Another way of accounting for the results is by allowing for the possibility of differential opinion change on the part of subjects in different conditions. It is possible that the same amount of attitude change took place in each of the groups but that subjects in compact groups were less likely to admit it. This explanation assumes a distinction between attitudes and opinions, in which opinions are verbal behaviors purporting to reflect an underlying attitude on a given issue. But an opinion may not be congruent with the attitude it purports to reflect, since what a person admits to being his opinion may be influenced by the social situation. In the particular case of Furbay's study, subjects in different conditions may have been differentially more or less likely to admit opinions which they might have known were opposed to the opinions of most other subjects. Thus, it is possible that subjects in different seating conditions may have responded differently not because they had different attitudes with regard to nuclear disarmament, but because they were tested in situations which made different demands on them. For example, compact seating, without affecting the extent of attitude change, could have had the effect of making more students reluctant to produce opinions opposed to what they believed were the attitudes of other students.

Unlike Furbay's study, in the present study no attempt will be made to change attitudes directly via a communication; consequently, any differences in opinions between groups differentially seated cannot be due to differential receptivity and acceptance or rejection of a communication,

resulting in attitude shifts. However, the extent of closeness of subjects' opinions to the perceived opinions of other subjects will be assessed under various seating conditions. Therefore, if any differences are found then they may be attributed to differential reluctance to provide opinions perceived as different from the perceived opinions held by others. Above, we have offered alternate, but not incompatible, explanations for Furbay's results - that differential seating resulted in differential attitude change, and that differential seating resulted in differential opinion change. The present study will not choose between these possibilities (since both may occur at the same time) but will investigate the possibility of whether differential seating can result in differential opinions.

It should be noted that the approach and framework of this study is in agreement with Rokeach's (1966) thesis that the behavior of recording opinions is a function not only of attitudes toward the object but of the total situation in which the person is involved (seating arrangements and instructions being some of the components of the total situation in the present study). The more salient the situational cues and the greater the importance of what they signify, the greater the likelihood of the influence of situational factors on opinions. But, similarly, the greater the importance of the attitude toward the object, and the more central and critical to the person it is, the greater the influence of this attitude on opinions. In fact, we might expect to find very little or no situational influence on opinions when attitudes are held very intensely. For this reason we might expect lessened situational influence when attitudes are extreme, as opposed to moderate (extreme attitudes have generally been

found to be held more intensely than moderate attitudes), and when they are central to maintaining a consistent picture of the world and of oneself. Thus, we would not expect situational factors to very greatly affect opinions when the issues are of some importance to subjects; however, we might expect some effect to be evident when a variety of issues is used, since it is less likely that subjects hold intense attitudes on all of the issues.

Hypothesis 1: Individuals in a compact seating arrangement will reveal greater similarity between their recorded opinions and those they perceive in others in the group, than individuals in a scattered seating arrangement.

It seems reasonable to expect that the extent to which an individual will be influenced by the presence of others is a function of the relationship between the individual and the others. The reference group literature (e.g. Sherif and Sherif, 1964) leads one to expect that others who represent one of an individual's reference groups, or who are reference individuals for him, will be more effective as influencers than non-reference persons. While an individual's reference persons are not necessarily his friends, it is reasonable to suppose that many of his friends serve as his reference persons. That is, while not all reference persons are friends, we can consider friends as reference persons if they serve a normative function. We might expect that if another person is known and liked he is able to influence an individual's behavior more than another person selected at random could influence his behavior. If the assumption is also made that given a choice as to who they will sit next to, people will choose their friends or reference individuals, it is hypothesized that:

Hypothesis 2: For any given seating arrangement individuals given a choice in these arrangements will reveal greater similarity in their recorded opinions to what they believe the opinions of the others are, than individuals whose seats are randomly assigned.

It should be noted that if an individual is to be influenced by others, then a crucial factor is what he perceives is the content of the attempted influence. That is, if an individual succumbs to perceived pressure to conform, he will conform to the norms as he perceives these norms. Thus, an individual who mis-perceives a norm may, as a result of succumbing to a conformity motive, actually violate the norm. It is essential then, that in determining whether social influence has been effective, we know something about what is perceived as the norm.

When the norms on an issue are not sufficiently clear to an individual, or when he is not sure of the attitudes held by others, he may be likely to attribute or project a norm or attitude to others on the basis of what he himself deems to be correct. (Similarly, when an individual is not clear regarding what the "correct" norm or attitude is, he may be more likely to be influenced by the position he perceives held by others.) Newcomb (1953), for example, cited a study where subjects were interviewed about their choice for President of the United States and what they thought were the choices of their good friends. Subjects were extremely likely to respond that their friends had the same choices as they themselves had; this was true irrespective of what the real choices of their friends happened to be. In a similar vein, Hastorf, Bender, and Weintraub (1955), among others, have noted that people may see in others what they see in themselves. In

investigating the effects of the presence of others on a subject's attitudes, then, it is important to determine the subject's perceptions of the attitudes held by others.

As mentioned earlier, it is expected that differential seating will differentially influence the effect of the presence of others on responding behavior. That is, assuming that people are responsive to perceived norms, it is believed that norms will be differentially salient in the various seating conditions, and consequently subjects will respond differentially according to these norms. There are many ways of varying the level of saliency of group norms other than by varying seating. For example, saliency may be varied through instructions given or appeals made to subjects. Charters and Newcomb (1952) describe a study where Roman Catholic students were administered questionnaires either in a large class with many other students; in a small group by themselves, but with no mention of their church membership or of the reason for their being together; or in a small group by themselves, but where they were told that the experimenters wanted to know how Catholics felt. In the latter group, compared to the other groups, the experimenters found that responses were more similar to the attitudes prescribed for Catholics. Thus, it is expected that when instructions make the presence of others and group membership salient, opinions will be closer to perceive group norms.

Hypothesis 3: Where the presence of others and group membership is deliberately made salient, then individuals will show greater similarity in their recorded opinions to what they perceive the opinions of others in the group are, than will individuals who do not experience such salience treatment.

Verbal instructions seem to be much less subtle in arousing a conformity motive both seating density and seating method. Presumably the differential effects of seating density and method are at least partially mediated through an increased saliency of student status; when student saliency arises through instructions given to subjects then we might expect that differences in responding between compact and scattered subjects, or between subjects assigned and subjects given their choice of seats, are likely to be diminished. On the other hand, the differences among levels of seating density and method should not be so affected when these instructions are not given.

Hypothesis 4: The differences listed in Hypotheses 1 and 2 between compact and scattered groups, and between subjects allowed to choose their own seats and those assigned seats will be less under instructions making group presence and membership salient.

To summarize, the framework of the study is that opinions are behaviors and that an individual's behavior at any moment is a functional resolution of a number of relevant elements which have the potential to influence him. Some of the elements may reside within the individual. For example, a given attitude may be held very intensely or very weakly, and a person's opinion will, in most cases, be greatly affected by his attitude. Other elements may have their source outside the individual, although they are effective only in so far as they are interpreted by the individual. It is with the latter sort of elements with which we are interested in this study. Specifically, it is believed that varying spatial arrangements and instructions varying group membership and saliency can

affect the behavior of recording opinions by resulting in different levels of perceived social influence to conform to perceived group standards.

#### METHODOLOGY

Subjects: Subjects were 250 students (163 male and 87 female) enrolled in Day Session Basic Psychology classes in the Baruch College of the City University of New York. Whole classes were tested during a class period; since classes had different enrollments, the number of students tested during any one session ranged from 9 to 22. Two classes were randomly assigned to each of the eight conditions; however, 1 of the 16 scheduled sessions had to be cancelled due to unavoidable circumstances (the President of the college requested use of the testing room for the purpose of addressing the faculty and could not be rescheduled). All testing was performed within a seven day period in mid-December, 1969.

Subjects were obtained by soliciting the cooperation of the instructors of the classes. Each instructor was asked to tell his students in class meetings prior to the testing date to report to the testing room instead of the regular classroom on a specified date to participate in research study. In addition, on the testing date signs were placed on the door of the students' regular classrooms reminding any students forgetting the testing date to report to the test room. While not all students registered in a class attended the test session, absenteeism was at about the same level as for regular class sessions. Participation was not made mandatory by instructors, but neither did any instructor mention that attendance was completely voluntary.

Design: In this 2x2x2 factorial experiment the factors were seating density (Compact vs. Scattered), seating method (Random vs. Selected), and instructions (Student Salient vs. Non-Student Salient). Each subject responded in only one of eight conditions. Each subject responded to two test questionnaires separated by an interpolated questionnaire. The two test questionnaires were identical except that on the first subjects recorded their own attitudes, and on the second they recorded what they perceived were the attitudes of most other students in the Baruch College. The test session usually was completed in about 25 minutes, although in a few sessions it took a few minutes longer.

#### Experimental Procedures

Seating variables: All testing was performed in a lecture hall on the fourth floor of the Baruch College. This room contained 17 rows of seats, with each row, except the last, containing 12 seats; the last row contained 8 seats. Half of the seats in a given row were on one side of a center aisle, and half were on the other side. Each of the seats had a desk arm which could either be raised or lowered as desired. The experimenter delivered instructions to subjects from a raised platform in the front of the room.

Three classes participated using a Scattered-Selected seating arrangement (the fourth class scheduled was cancelled due to the College President's appropriation of the test room) and four classes participated using each of the other three seating arrangements: Scattered-Random, Compact-Selected, and Compact-Random. Examples of the Compact and Scattered seating arrangements are found in Figures 1 and 2.

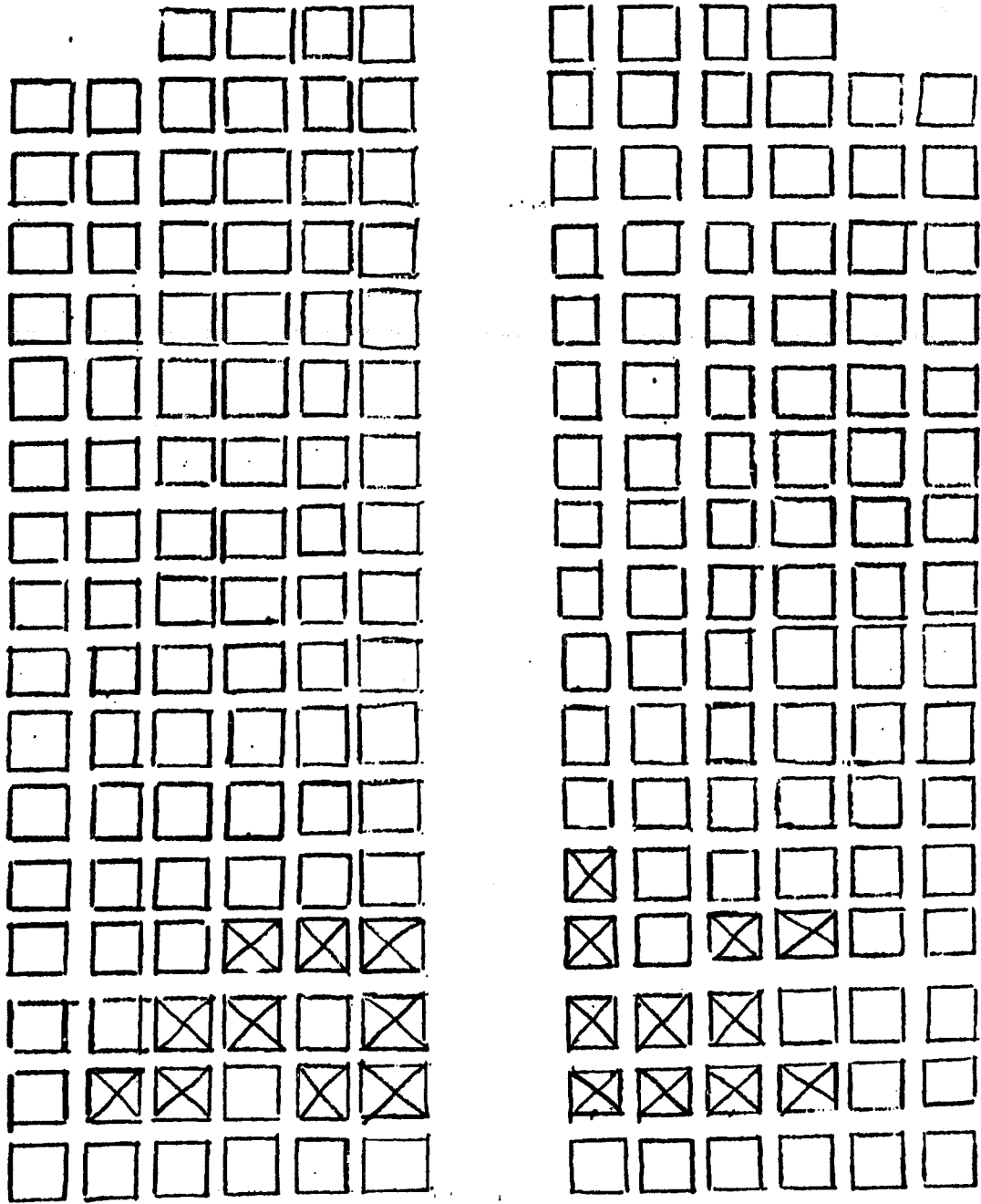


Figure 1. Diagram of Test Room and Example of Compact Seating.

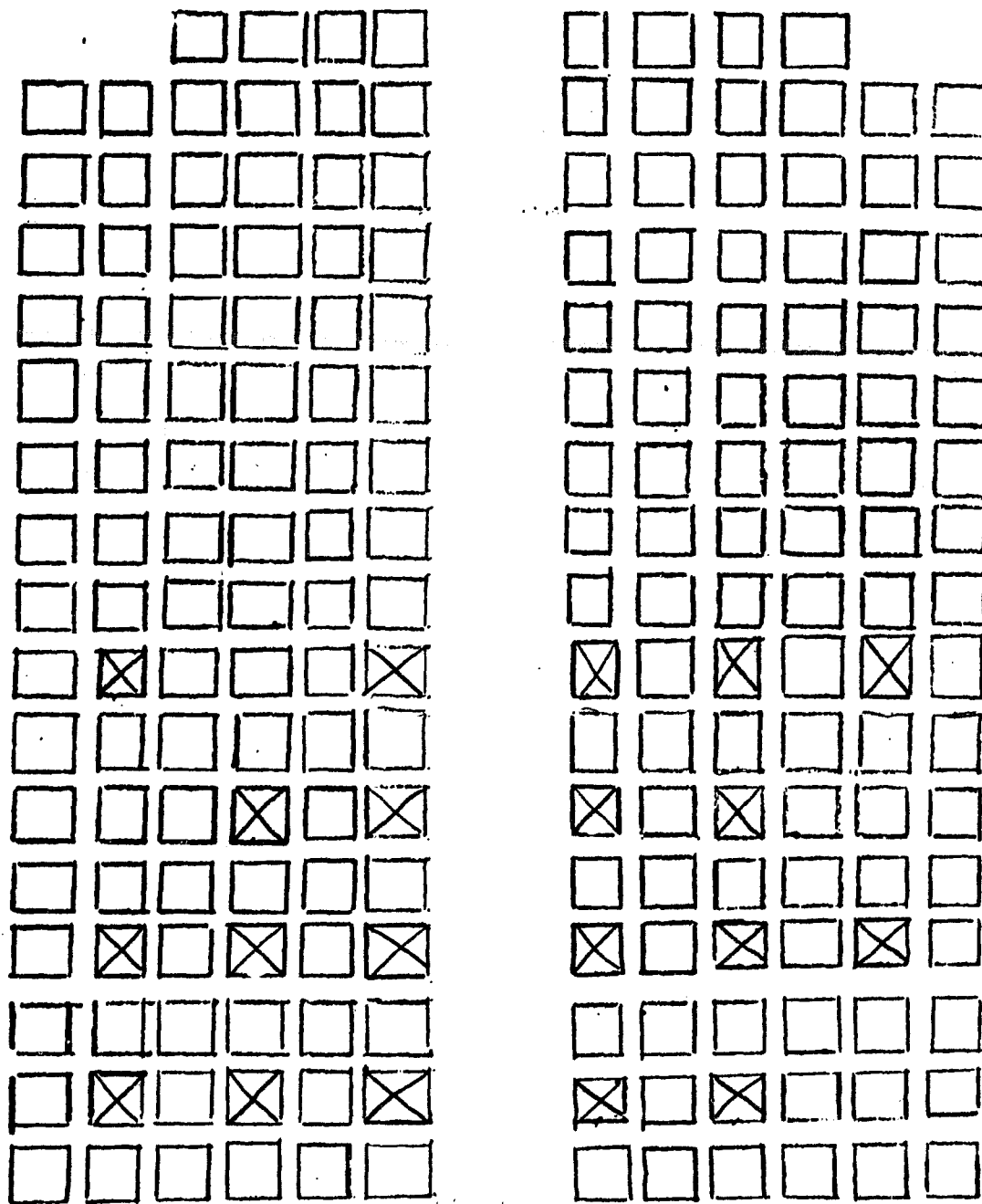


Figure 2. Diagram of Test Room and Example of Scattered Seating.

Scattered-Random Seating: Prior to testing each seat in the room was assigned a number, and answer sheets were prenumbered to indicate which seats would be used for each class tested. The maximum possible number of seats to be used was indicated by the class enrollment. For example, if the class enrollment was 20 students, 20 answer sheets were numbered to indicate the 20 seats which would be used. The answer sheets were then placed in an order determined by a table of random numbers.

Subjects were allowed to enter the test room as soon as they arrived (in contrast to the Selected seating conditions, where subjects were asked to wait outside and were later allowed to enter as a group). Subjects were then seated according to the numbers on the randomly numbered answer sheets. As subjects entered the room they stopped by a table on which the answer sheets had been placed. Then, the experimenter or an assistant took the answer sheet on the top of the of the pile, asked the subject to follow him, led the subject to the designated seat, and asked the subject to sit down and fill out the information requested on the top of the answer sheet (name, date, age, sex). If more than two students arrived at the same time they were asked to wait at the table until one of the experimenters could get back to them.

Subjects were seated in either the second, fifth, eighth, or eleventh seat in a row. In addition subjects were seated only in every other row, beginning with the second row, and continuing as far back as required.

As mentioned above, the maximum number of seats to be used for each class was dictated by the class enrollment. However, some enrolled students

did not report for the study, and consequently not all of the seats prepared for the class were utilized. This was true of the other conditions as well.

Compact-Random Seating: Seating was the same as above, except that subjects were seated in the fourth, fifth, sixth, seventh, eighth, and ninth seats in a row and consecutive rows, beginning with the second row, were used.

Scattered-Selected Seating: Subjects were not allowed to enter the testing room until a few minutes after the class period was scheduled to begin. This was accomplished by closing the doors of the test room, and asking the subjects who arrived early to wait outside until the investigators were "set up." Once the first few students were told this, most of the other subjects arriving later joined them waiting without being told by the experimenters to do so. It is believed that this procedure increased the likelihood of friends sitting nearby one another. That is, when subjects were not allowed to enter the room, informal observation indicated that they congregated outside the room, conversing in small groups. When allowed to enter the testing room the groups' members tended to enter together and to sit near each other. If subjects had been allowed to enter the testing room as soon as they arrived, then the opportunity for friends to sit near one another would probably have been reduced because seats near one's friends would already have been taken by other students who had arrived earlier.

Before subjects entered the room, prenumbered answer sheets were placed on the raised desk arms of the seats to be utilized. (Although not necessary for purposes of seating subjects, these answer sheets were prenumbered

because the answer sheets of the counterpart subjects in the Random conditions were numbered). Placing answer sheets on the raised arms was done in order to establish the required seating arrangement without the necessity of assigning seats. As subjects entered the testing room they were asked to take any seat with an answer sheet on it, and to fill out the information requested on the top of the answer sheet. As in the Scattered-Random condition, answer sheets were located on the second, fifth, eighth, and eleventh seats in a row, in every other row beginning with the second row and going as far back as required.

Compact-Selected Seating: Seating was the same as above, as in the Compact-Random condition, except that subjects were allowed to sit in the fourth, fifth, sixth, seventh, eighth, or ninth seats in a row, and consecutive rows, beginning with the second row, were used.

In all conditions, the first questionnaire was distributed only after all subjects were seated and had filled out the top of their answer sheet. Anyone arriving at the testing room after the first questionnaire had been distributed was not admitted.

In some of the seating conditions described above, a few subjects sat in a seat which they were not supposed to be sitting in. For example, a subject assigned a given seat in one of the Random seating conditions might have sat in the seat adjacent to the one he was assigned. However, at no time did any subject in any condition sit more than one seat away from where he should have been sitting. No attempt was made to move these subjects to the "correct" seat, since it was felt that infrequent displacement by one seat would not seriously endanger the nature of the



On the questionnaire you will find listed a number of statements referring to various actions or events which have already occurred, are occurring at the present time, or might occur in the future. On the answer sheets are scales corresponding to the statements on the questionnaire. You are to indicate on the answer sheet your attitude toward what is contained in each statement. Each scale goes from Very Much In Favor, on one end, to Very Much Against, on the other end. Place an "X" in the middle of the space which indicates your answer. If you are very much in favor of what is contained in a statement you would make an "X" in the space all the way on the left. If you are very much against what is contained in a statement you would make an "X" in the space all the way on the right. If you are somewhere in between, neither very much in favor of, nor very much against, you would make an "X" in any one of the other spaces.

Obviously there are no right or wrong answers, except in the sense that a wrong answer would be where your answer did not really reflect your attitude.

Be sure you answer each item. Don't discuss your answers with anyone else, and, of course, there isn't any need to look at anyone else's answers. Also, please do not write on the questionnaires, but only on the answer sheets. If you have any questions please raise your hand and I will come over to see you.

Non-Student Salient Instructions:Instructions here were identical to those above except for the part beginning, "Just about everybody..." and ending, "Baruch College students' attitudes are on a number of different issues." That part of the instructions was omitted and the following was substituted: "The reason why I'm here is that I'm trying to find out people's attitudes on a number of different issues."

The basic difference between Student Salient and Non-Student Salient instructions was the mention and stress, in the former, of group membership and particularly subjects' membership in the group "Baruch College students." In Student Salient instructions, the experimenter told subjects he wanted to find out what Baruch College students' attitudes were, while in Non-Student Salient instructions, the experimenter told subjects he wanted to find out what people's attitudes were, with no mention of Baruch College students.

Questionnaire and Answer Sheet: The test questionnaire contained 25 statements referring to various topical social, educational, and political issues. The issues were selected by the experimenter to be somewhat representative of the multitude of issues confronting college students at the time of testing. The items included in the questionnaire are presented in Table 1.

The specific wording of the items was developed by the experimenter. Pretests of substantially the same questionnaire one to two months prior to the experiment indicated no problems with the items, and the final questionnaire was changed from the pre-test version only to remove a few outdated items and to substitute others. The questionnaire was not constructed to represent any particular psychological, political, or other construct, but merely to be somewhat representative of topical issues.

The response scale consisted of nine points; the scale was unanchored except at the extremes. The anchors were Very Much in Favor and Very Much Against.

Interpolated Task: After all subjects completed the first questionnaire their questionnaires and answers sheets were collected and the questionnaires for the interpolated task were distributed. In this interpolated task subjects were asked to choose which one of two political figures was most like a third political figure in terms of political beliefs and ideology.

TABLE 1ISSUES INCLUDED IN ATTITUDE QUESTIONNAIRE

1. Drafting full-time college students into the armed forces
2. Allowing the chairman of the American Communist Party to speak at the Baruch College
3. The United States Congress passing anti-gun legislation
4. Laws which make it easier for women to obtain legal abortions
5. Immediately withdrawing most, if not all, United States troops from Viet Nam
6. Voting for Ted Kennedy for President of the United States in 1972
7. A chapter of the John Birch Society being set up at the Baruch College
8. Keeping Red China out of the United Nations
9. The lowering of the voting age to 18 years
10. Students picketing the college administration to give students a greater voice in forming college policy
11. Male college students allowing their hair to grow to their shoulders
12. Calling in police to break up nonviolent demonstration on college campuses
13. Increasing the amount of federal financial aid to education
14. Voting for George Wallace for President of the United States in 1972
15. Legislation to prevent racial discrimination in the renting and selling of apartments and houses
16. Giving local neighborhood school boards greater power to run the schools in their area
17. Eliminating capital punishment
18. The United States and Russia entering into an agreement to limit their nuclear armament testing
19. Forcing men on the city welfare rolls to work, if they are physically able to do so
20. Legalizing the use and possession of marijuana
21. Legalizing the use and possession of LSD
22. Doctors killing babies who are born extremely deformed
23. The election of John Lindsay as Mayor of New York City
24. Charging tuition at the Baruch College
25. Supporting peace moratoriums on Viet Nam

Instructions:

The instructions given subjects for responding to the first questionnaire have been supplied above. The following instructions were administered to all subjects for the interpolated task:

I have just handed out to you a sheet which has political figures listed on it. I would like to find out about the similarities you perceive between various political figures. There are 20 items. In each item you will be asked to choose which one of a pair of political figures is most like a third political figure in terms of political beliefs and ideology. For example, look at the first item. The question reads:

In terms of political beliefs and ideology, which of the following figures is most like:

John Lindsay

Nelson Rockefeller \_\_\_\_\_ Ronald Reagan \_\_\_\_\_

If you think that Nelson Rockefeller is more like John Lindsay than is Ronald Reagan, in terms of political beliefs and ideology, then you would check Rockefeller. If you think that Reagan is more like Lindsay than is Rockefeller, then you would check Reagan.

In some cases you may feel that neither of the two choices is like the third person. For example, some of you may feel that neither Rockefeller nor Reagan is at all close to Lindsay in political beliefs and ideology. Even if you feel this way you must make a choice; choose the political figure in the pair who is most like the figure underlined.

Please put your name on the top of the sheet and begin. Do as best you can. Please do not discuss your answers with anyone else and do not look at anyone else's answers. Also, do not skip any items. If you have any questions please raise your hand.

After all students were done with the interpolated task the sheets were collected and the test questionnaire redistributed together with the new answer sheets. Subjects were then given the following instructions:

As some of you have noticed, the questionnaire I have just handed out is exactly the same as the one you filled out at the beginning of the period. But now I would like you

to answer the questionnaire in a different way than before. Instead of putting down what your own attitude is on each of the issues, I would like you to put down what you think are the attitudes of most of the other students in the Baruch College. Again, do not put down your own attitudes, but instead put down what you think are the attitudes of most of the other students in this college. Again please don't discuss your answers with anyone else, do not look at anyone else's answers, and don't skip any items. Write your name on the top of the answer sheet and begin. If you have any questions raise your hand.

After all materials were collected subjects were told that the study was to be conducted with other classes and it was imperative for the sake of the study that they not discuss it when they left the testing room. The experimenter fully debriefed subjects and thanked them for their cooperation.

#### Method Of Scoring:

In scoring subjects' responses to the test questionnaires consecutive integers were used to signify consecutive response categories, with a Very Much in Favor response scored as 1 and Very Much Against scored as 9.

For each subject the absolute difference between the response he recorded as his own attitude (OA) and the response he recorded as the perceived attitude of most other students in the Baruch College (POA) was obtained for each of the 25 issues. Then, for each subject, a Total Absolute Difference (TAD) score was obtained by summing these 25 absolute difference scores. This TAD score provided a single summary measure, for each subject, of how discrepant his opinions were from what he perceived and recorded as the attitudes of most other students.

### RESULTS

The mean TAD scores of subjects in the eight conditions are shown in Table 2.

TABLE 2

MEAN TOTAL ABSOLUTE DIFFERENCE SCORES

Student Salient Instructions				Non-Student Salient Instructions			
Random Seating		Selected Seating		Random Seating		Selected Seating	
Scattered Seating	Compact Seating	Scattered Seating	Compact Seating	Scattered Seating	Compact Seating	Scattered Seating	Compact Seating
(N=26)	(N=34)	(N=40)	(N=30)	(N=34)	(N=29)	(N=16)	(N=41)
47.15	47.94	52.90	52.97	47.20	48.69	43.31	40.80
47.59		52.93		47.89		41.50	
50.47				44.85			
47.77							

A two tailed analysis of variance for a 2x2x2 factorial experiment with unequal replications was performed to test for differences in TAD scores between conditions.

It was predicted that:

1. The TAD score would be smaller under Compact Seating than under Scattered Seating.
2. The TAD score would be smaller under Selected Seating than under Random Seating.
3. The TAD score would be smaller when Student Salient instructions were administered than when Non-Student Salient instructions were administered.
4. The TAD score difference between the Compact and Scattered Seating groups would be smaller under Student Salient instructions than under Non-Student Salient instructions.
5. The TAD score differences between the Selected and Random Seating groups would be smaller under Student Salient instructions than under Non-Student Salient instructions.

Results, reported in Table 3, indicate that the main effect of the instruction variable and the interaction between the instruction variable and the method of seating were significant at the .95 level, while the remaining main effects and interactions were not significant. Contrary to predictions, the mean TAD score when Student Salient instructions were administered (50.47) was greater than the mean TAD score under Non-Student Salient instructions (44.85). However, this difference was only true

TABLE 3  
2x2x2 ANALYSIS OF VARIANCE FOR DIFFERENCES IN  
TOTAL ABSOLUTE DIFFERENCE SCORES

<u>Source Of Variation</u>	<u>Sum Of Squares</u>	<u>d.f.</u>	<u>Mean Square</u>	<u>F</u>
Seating Density	154.41	1	154.41	0.39
Seating Method	1.04	1	1.04	0.00
Instructions	1,883.67	1	1,883.67	4.72*
Seating Density x Seating Method	157.03	1	157.03	0.39
Seating Density x Instructions	51.30	1	51.30	0.13
Seating Method x Instructions	1,929.89	1	1,929.89	4.84*
Seating Density x Seating Method x Instructions	38.62	1	38.62	0.10
Within cells	<u>96,522.67</u>	<u>242</u>	<u>398.85</u>	
Total	100,738.63	249		

\*Significant at the .05 level.

with Selected Seating (52.93 vs. 41.50); among subjects seated in a Random manner there was no difference in mean TAD scores between subjects given Student Salient and Non-Student Salient instructions (47.59 vs. 47.89).

The mean absolute difference scores on each of the 25 questionnaire items were then examined among those subjects who were tested under Selected Seating in order to determine whether the above difference in Total Absolute Difference scores between subjects tested under Student Salient and Non-Student Salient instructions was due to responses to a few items, or whether the difference was due to consistent differences in absolute scores over a number of individual items. A t-test was performed on each of the 25 items in order to indicate whether, under Selected seating, the mean absolute difference score varied among groups given the different sets of instructions. (In performing this analysis subjects were collapsed across the Seating Density variable since results of the previous analysis indicated that this variable did not significantly affect responses.) Results (See Table 4) indicated that five of these differences were significant at the required .95 level (Items 2,3,8,10 and 25), and an additional four items were significant at the .90 level (Items 1,5,17 and 18). Further inspection revealed that out of the 25 items, 23 indicated higher absolute difference scores under Student Salient instructions than under Non-Student Salient instructions suggesting that the differences in TAD scores reported above were consistent across many items but that certain items were more affected than others.

In order to more fully investigate the question of whether certain scale items were more or less likely to be susceptible to the effects of the

TABLE 4

MEAN ABSOLUTE DIFFERENCE SCORES ON EACH ITEM AMONG SUBJECTS IN THE SELECTED SEATING TREATMENT

GIVEN STUDENT SALIENT INSTRUCTIONS VS. NON-STUDENT SALIENT INSTRUCTIONS

<u>Item #</u>		(a) Selected Seating- Student Salient Instructions	(b) Selected Seating- Non-Student Salient Instructions	Difference Column a-b	t-score
1	Drafting full-time college students into the armed forces	1.31	0.56	0.75	1.95xx
2	Allowing the chairman of the American Communist Party to speak at the Baruch College	2.99	2.19	0.80	2.15*
3	The United States Congress passing anti-gun legislation	2.44	1.60	0.84	2.28*
4	Laws which make it easier for women to obtain legal abortions	2.00	1.56	0.44	1.16
5	Immediately withdrawing most, if not all, United States troops from Viet Nam	2.26	1.56	0.70	1.71xx
6	Voting for Ted Kennedy for President of the United States in 1972	2.49	2.07	0.42	1.05
7	A chapter of the John Birch Society being set up at the Baruch College	2.23	1.88	0.35	1.08
8	Keeping Red China out of the United Nations	2.83	1.77	1.06	2.85*
9	The lowering of the voting age to 18 years	1.64	1.19	0.45	1.22
10	Students picketing the college administration to give students a greater voice in forming college policy	2.69	1.91	0.78	2.12*
11	Male college students allowing their hair to grow to their shoulders	2.56	1.96	0.60	1.55

\*Significant at .05 level  
xxSignificant at .10 level

(Continued)

TABLE 4 (Cont'd.)

MEAN ABSOLUTE DIFFERENCE SCORES ON EACH ITEM AMONG SUBJECTS IN THE SELECTED SEATING TREATMENT

GIVEN STUDENT SALIENT INSTRUCTIONS VS. NON-STUDENT SALIENT INSTRUCTIONS

<u>Item #</u>		(a) Selected Seating- Student Salient Instructions	(b) Selected Seating- Non-Student Salient Instructions	Difference Column a-b	<u>t-score</u>
12	Calling in police to break up non-violent demonstrations on college campuses	1.97	1.93	0.04	0.09
13	Increasing the amount of federal financial aid to education	0.53	0.61	-0.08	-0.41
14	Voting for George Wallace for President of the United States in 1972	1.33	1.19	0.14	0.46
15	Legislation to prevent racial discrimination in the renting and selling of apartments and houses	2.16	2.30	-0.14	-0.34
16	Giving local neighborhood school boards greater power to run the schools in their area	2.49	1.98	0.51	1.35
17	Eliminating capital punishment	2.59	1.88	0.71	1.89xx
18	The United States and Russia entering into an agreement to limit their nuclear armament testing	1.24	.72	0.52	1.77xx
19	Forcing men on the city welfare rolls to work, if they are physically able to do so	1.31	.98	0.33	1.07
20	Legalizing the use and possession of marijuana	2.73	2.51	0.22	0.52
22	Doctors killing babies who are born extremely deformed	1.97	1.53	0.44	1.50

xxSignificant at .10 level

(Continued)

TABLE 4 (Cont'd.)

MEAN ABSOLUTE DIFFERENCE SCORES ON EACH ITEM AMONG SUBJECTS IN THE SELECTED SEATING TREATMENT

GIVEN STUDENT SALIENT INSTRUCTIONS VS. NON-STUDENT SALIENT INSTRUCTIONS

<u>Item #</u>		(a) Selected Seating- Student Salient Instructions	(b) Selected Seating- Non-Student Salient Instructions	Difference Column a-b	<u>t-score</u>
23	The election of John Lindsey as Mayor of New York City	2.56	2.33	0.23	0.57
24	Charging tuition at the Baruch College	1.39	1.07	0.32	0.90
25	Supporting peace moratoriums on Viet Nam	2.63	1.61	1.02	2.51*

\*Significant at .05 level

experimental variables, items were grouped on the basis of an r-mode factor analysis with a varimax rotation performed on the 'own attitude' responses. Eight factors were derived. Based on the high loading items on each factor. The factors were named Social Permissiveness, Educational Sovereignty, Liberal Political Involvement, Population Control, Conservative Political Approach, Anti-Extremist at Baruch College, Liberal Social Policies, and Attitudes on Viet Nam. On each of these factors, items loading at least .40 were selected, and the absolute difference scores on these items on each factor were summed for each subject, so that eight 'factor scores' were obtained for him. (The items utilized for each factor are presented in Table 5). A 2x2x2 analysis was then performed for each factor, and these results are presented in Table 6.

Results indicated that the Instructions variable was significant at the .95 level for the Liberal Social Policies Factor, and the .90 level for the Conservative Political Approach Factor; the Seating Method and Instructions interaction was significant at the .95 level for the Anti-Extremist at Baruch College factor, and at the .90 level for the Attitudes on Viet Nam factor.

TABLE 5  
FACTORS DERIVED FROM 'OWN ATTITUDE' SCORES AND  
HIGHEST LOADING ITEMS ON EACH FACTOR

	<u>Loading</u>
<u>Factor 1: Social Permissiveness</u>	
Legalizing the use and possession of marijuana	.78
Male college students allowing their hair to grow to their shoulders	.76
Students picketing the college administration to give students a greater voice in forming college policy	.59
Legalizing the use and possession of LSD	.57
Allowing the chairman of the American Communist Party to speak at the Baruch College	.41
Eliminating capital punishment	.42
<u>Factor 2: Educational Sovereignty</u>	
Drafting full-time college students into the armed forces	-.76
Increasing the amount of Federal financial aid to education	.72
Calling in police to break up non-violent demonstrations on college campuses	-.61
<u>Factor 3: Liberal Political Involvement</u>	
Voting for Ted Kennedy for President of the United States in 1972	-.65
Giving local neighborhood school boards greater power to run the schools in their area	-.63
Legislation to prevent racial discrimination in the renting and selling of apartments and houses	-.54
The election of John Lindsey as Mayor of New York City	-.51
Eliminating capital punishment	-.40
<u>Factor 4: Population Control</u>	
Doctors killing babies who are born extremely deformed	.87
Laws which make it easier for women to obtain legal abortions	.58

(Continued)

TABLE 5 (Cont'd.)

FACTORS DERIVED FROM 'OWN ATTITUDE' SCORES ANDHIGHEST LOADING ITEMS ON EACH FACTOR

	<u>Loading</u>
<u>Factor 5: Conservative Political Approach</u>	
Keeping Red China out of the United Nations	-.67
Voting for George Wallace for President of the United States in 1972	-.54
The election of John Lindsey as Mayor of New York City	.52
Forcing men on the city welfare rolls to work, if they are physically able to do so	-.46
<u>Factor 6: Anti-Extremism At Baruch College</u>	
A chapter of the John Birch Society being set up at the Baruch College	-.86
Allowing the chairman of the American Communist Party to speak at the Baruch College	-.53
<u>Factor 7: Liberal Social Policies</u>	
The United States Congress passing anti-gun legislation	-.64
The United States and Russia entering into an agreement to limit their nuclear armament testing	-.54
Forcing men on the city welfare rolls to work, if they are physically able to do so	.43
Legislation to prevent racial discrimination in the renting and selling of apartments and houses	-.43
<u>Factor 8: Attitudes on Viet Nam</u>	
Immediately withdrawing most, if not all, United States troops from Viet Nam	.78
Supporting Peace moratoriums on Viet Nam	.71
The lowering of the voting age to 18 years	.42

TABLE 6

2X2X2 ANALYSIS OF VARIANCE FOR DIFFERENCES IN  
ABSOLUTE DIFFERENCE SCORES ON ITEMS DEALING WITH VARIOUS FACTORS

	<u>Sum Of</u> <u>Squares</u>	<u>df</u>	<u>Mean</u> <u>Square</u>	<u>F</u>
<u>Factor 1 - Social Permissiveness</u>				
Seating Density	6.64	1	6.64	0.10
Seating Method	6.74	1	6.74	0.10
Instructions	169.35	1	169.35	2.56
Seating Density X Seating Method	40.64	1	40.64	0.61
Seating Density X Instructions	18.89	1	18.89	0.28
Seating Method X Instructions	102.57	1	102.57	1.55
Seating Method X Seating Method X Instructions	0.11	1	0.11	0.00
<u>Within Cells</u>	<u>15,989.84</u>	<u>242</u>	<u>66.07</u>	
<u>Total</u>	<u>16,334.78</u>	<u>249</u>		
<u>Factor 2 - Educational Sovereignty</u>				
Seating Density	.15	1	.15	.00
Seating Method	49.73	1	49.73	3.06**
Instructions	.75	1	.75	.04
Seating Density X Seating Method	11.29	1	11.29	.70
Seating Density X Instructions	9.49	1	9.49	.58
Seating Method X Instructions	0.90	1	0.90	.05
Seating Method X Seating Method X Instructions	0.46	1	0.46	.02
<u>Within Cells</u>	<u>3,929.73</u>	<u>242</u>	<u>16.24</u>	
<u>Total</u>	<u>4,002.50</u>	<u>249</u>		
<u>Factor 3 - Liberal Political Involvement</u>				
Seating Density	14.81	1	14.81	0.33
Seating Method	29.94	1	29.94	0.68
Instructions	81.66	1	81.66	1.84
Seating Density X Seating Method	1.57	1	1.57	0.03
Seating Density X Instructions	27.78	1	27.78	0.63
Seating Method X Instructions	25.12	1	25.12	0.57
Seating Method X Seating Method X Instructions	10.04	1	10.04	0.22
<u>Within Cells</u>	<u>10,716.51</u>	<u>242</u>	<u>44.28</u>	
<u>Total</u>	<u>10,907.43</u>	<u>249</u>		

\*\*Significant at .90 level.

(Continued)

TABLE 6 (Cont'd.)

2X2X2 ANALYSIS OF VARIANCE FOR DIFFERENCES IN  
ABSOLUTE DIFFERENCE SCORES ON ITEMS DEALING WITH VARIOUS FACTORS

	<u>Sum Of</u> <u>Squares</u>	<u>df</u>	<u>Mean</u> <u>Square</u>	<u>F</u>
<u>Factor 4 - Population Control</u>				
Seating Density	7.00	1	7.00	0.71
Seating Method	1.28	1	1.28	0.13
Instructions	0.11	1	0.11	0.01
Seating Density X Seating Method	0.67	1	0.67	0.07
Seating Density X Instructions	2.44	1	2.44	0.25
Seating Method X Instructions	26.59	1	26.59	2.68
Seating Method X Seating Method X Instructions	5.14	1	5.14	0.52
<u>Within Cells</u>	<u>2,398.41</u>	<u>242</u>	9.91	
<u>Total</u>	<u>2,441.64</u>	<u>249</u>		
<u>Factor 5 - Conservative Political Approach</u>				
Seating Density	2.28	1	2.28	0.11
Seating Method	37.77	1	37.77	1.87
Instructions	62.85	1	62.85	3.12**
Seating Density X Seating Method	9.78	1	9.78	0.48
Seating Density X Instructions	9.29	1	9.29	0.46
Seating Method X Instructions	33.63	1	33.63	1.67
Seating Method X Seating Method X Instructions	0.05	1	0.05	0.00
<u>Within Cells</u>	<u>4,875.35</u>	<u>242</u>	20.15	
<u>Total</u>	<u>5,031.00</u>	<u>249</u>		
<u>Factor 6 - Anti-Extremism At Baruch College</u>				
Seating Density	2.36	1	2.36	0.26
Seating Method	3.34	1	3.34	0.36
Instructions	6.54	1	6.54	0.71
Seating Density X Seating Method	8.69	1	8.69	0.95
Seating Density X Instructions	6.63	1	6.63	0.72
Seating Method X Instructions	52.53	1	52.53	5.72*
Seating Method X Seating Method X Instructions	4.25	1	4.25	0.46
<u>Within Cells</u>	<u>2,220.97</u>	<u>242</u>	9.18	
<u>Total</u>	<u>2,305.31</u>	<u>249</u>		

\*Significant at .95 level.

\*\*Significant at .90 level.

(Continued)

TABLE 6 (Cont'd.)  
2X2X2 ANALYSIS OF VARIANCE FOR DIFFERENCES IN  
ABSOLUTE DIFFERENCE SCORES IN ITEMS DEALING WITH VARIOUS FACTORS

	<u>Sum Of</u> <u>Squares</u>	<u>df</u>	<u>Mean</u> <u>Square</u>	<u>F</u>
<u>Factor 7 - Liberal Social Policies</u>				
Seating Density	5.49	1	5.49	0.27
Seating Method	8.17	1	8.17	0.40
Instructions	81.28	1	81.28	3.98*
Seating Density X Seating Method	1.91	1	1.91	0.09
Seating Density X Instructions	18.43	1	18.43	0.90
Seating Method X Instructions	15.37	1	15.37	0.75
Seating Method X Seating Method X Instructions	11.56	1	11.56	0.56
<u>Within Cells</u>	<u>4,946.12</u>	<u>242</u>	20.44	
<u>Total</u>	<u>4,088.33</u>	<u>249</u>		
<u>Factor 8 - Attitudes On Viet Nam</u>				
Seating Density	34.36	1	34.36	1.62
Seating Method	0.34	1	0.34	0.01
Instructions	49.84	1	49.84	2.35
Seating Density X Seating Method	0.89	1	0.89	0.04
Seating Density X Instructions	3.21	1	3.21	0.15
Seating Method X Instructions	79.87	1	79.87	3.77**
Seating Method X Seating Method X Instructions	8.20	1	8.20	0.39
<u>Within Cells</u>	<u>5,129.10</u>	<u>242</u>	21.19	
<u>Total</u>	<u>5,305.81</u>	<u>249</u>		

\*Significant at .95 level.

\*\*Significant at .90 level.

DISCUSSION

Findings were essentially negative since the results did not support any of the hypotheses. That is, we did not find the predicted main effects with regard to Compact vs. Scattered seating, Selected vs. Random seating, or Student Salient vs. Non-Salient instructions, nor, of course, were any of the predicted interactions significant. As described above, we did find some significant differences between the variables that were not predicted. Specifically, we found that method of seating - Selected vs. Random - in interaction with the instructions given subjects, had a significant effect on opinions; under Selected seating only, subjects given Student Salient instructions were more likely than average and subjects given Non-student Salient instructions less likely than average to report holding different attitudes than they perceived were held by their fellow students.

A possible reason to account for the absence of any effect of Compact vs. Scattered seating is that not enough 'pressure' was generated in the Compact condition. For example, we may speculate that there may not have been enough other people present, in relation to the size of the test room, to result in the intended effect in the Compact condition. This speculation implies that, phenomenologically, a sense of compactness may be some function of both the amount of surrounding space as well as the number and closeness of surrounding people. It will be remembered that the test room was relatively large, and when respondents were seated compactly, they were surrounded by a great deal of empty space, although of course, other subjects were in the immediate area. In the Scattered conditions subjects were spread out through the room, but they were also

surrounded by a great deal of empty space. While only speculative, it is possible that the density variable might have had a significant effect had the amount of total surrounding empty space been really different in the Compact compared to the Scattered condition. This could have been accomplished by conducting the conditions involving Compact seating in a smaller room than used in conducting the conditions involving Scattered seating or by utilizing in Compact seating a greater number of subjects studied in a test session than used in Scattered seating. In fact, these ideas were considered, but rejected, in designing the study. The problem with these procedures, of course, is that new variables are introduced which confound the Compact vs. Scattered seating variable. For example, by using a different room for Compact than for Scattered seating, it would not be clear whether to ascribe significant results to differences in various aspects of the room, or to differences in seating.

Another possible reason for the negative findings with regard to Compact vs. Scattered seating (as well as with the other treatment conditions) may have had to do with the nature of the material utilized on the questionnaire. We might consider that certain characteristics of the questionnaire items will operate to produce more or less of a group effect. For example, the psychological presence of a group may have little effect on an individual's opinions if the questionnaire content is highly central to him, but have a great effect if he perceives it is less central to him, but highly central to the group. Similarly, there may be certain types of material where it may not matter to the individual that others know his responses (e.g., certain demographic data such as sex, date of birth, mother's first name), and other types of material where he would

not want others to see his responses, but in the event they did he would want his responses to be the 'right' responses, (e.g., on a scale measuring homosexuality or family history of mental illness). It might be expected that the effect of the group would be more likely to 'distort' responses in the latter type of condition than in the former. In the present study, it might have been the case that the items used, reflecting various political, social, educational issues might not have been very susceptible to the experimental variables because subjects did not feel that deviance from any perceived standards would be of much concern to the group.

As mentioned earlier, findings of this research were essentially negative, since none of the hypotheses were confirmed. However, it is of some interest to consider and to attempt to account for the interaction we did find between seating method and instructions. An observer of any college classroom can identify a set of norms which operate in structuring and maintaining behavior. For example, there are norms governing the relationship between the instructors and the students (e.g., the instructor is addressed by his last name prefaced by Dr. or Professor; the class does not talk about while the instructor is talking). Also, there are norms governing relationships between students (e.g., if one student monopolizes the instructor's time with picky questions and objections, others in the class may, by poking fun at him, or by groaning, keep this behavior within limits; there may be norms with regard to the extent to which students will allow others to cheat by copying from them). In making predictions for the current research it was assumed that certain norms would be operative. Specifically, a norm underlying each of the predictions was that the increased psychological presence of a group to which one belonged would result in a closer correspondence between one's

own attitude and the perceived attitudes of others in the group.

What follows is a discussion of how the activation of norms other than those anticipated in the initiation of this research, may have accounted for the significant interaction we did find. It should be considered that this interpretation should be viewed in its proper perspective as a hypothetical explanation for a result which may have been due to chance. With this caveat in mind, we can consider that perhaps a norm for being a student in college is to maintain and express attitudes different from others, including other students, and to have a mind of one's own. The instructions making student status salient might have made this norm (which we had not considered prior to the experiment) more salient, and this may have caused the TAD differences to be larger under Student Salient instructions. But this result was true only under Selected seating. Selected seating may have increased the probability of activation of the norm in two ways:

- the fact that in Selected seating subjects are more likely to be near friends - other students - may have increased the likelihood of activation of the norm regarding how college students should behave.
- In Selected seating respondents were allowed to choose their own seats, as opposed to Random seating where subjects were assigned seats. It is possible that the manner of seating resulted in a feeling of greater freedom to behave as college students normally would on the part of those in Selected seating, while Random seating, with its greater control over behavior, restricted subject's behavior.

A weakness in the above explanation of the results, is that while it accounts for the TAD being higher under Student Salient instructions and Selected seating than in other treatments, it does not really account for the low TAD in the Non-Student Salient and Selected seating treatment. That is, granted that the tendency to express "different" attitudes from one's fellow students may be enhanced by Student Salient instructions under Selected seating, it is not clear why it should be depressed by Non-Student Salient instructions under Selected seating.

Perhaps the explanation for this finding is that the Non-Student Salient instructions allowed the Selected seating variable to act as predicted. That is, when no instructions were given to subjects that they were in a group called Baruch college students, subjects may have been more susceptible to the presence of their friends in Selected seating (i.e., under Student Salient instructions, the effective reference group may have been Baruch students, while under Non-Student Salient instructions, the effective reference group may have been the friends seated nearby) and, as predicted, less willing to admit differences between their attitudes and attitudes of others.

To the extent that this explanation is true (and again we should warn the reader of the tentative nature of both the explanation and the findings which it explains), the results of the present experiment suggest that variables such as instructions and method of seating can influence the behavior of providing opinions, and that the effect of these variables may be accounted for in terms of the activation and mediation of norms; however, in any given situation it may not always be possible to determine a priori exactly which characteristics of the situation will be

reacted to, how they will be interpreted, and which norms will be activated. This knowledge may be less of a theoretical matter than a practical one of knowing the characteristics of the people who are being studied. What this suggests in terms of future direction for experimental social psychology in general, and the study of the effects of spatial variables on behavior in particular, is that greater attention be given to such factors as identifying how people structure and perceive the world, and which cues and which roles and norms are salient, operative and given priority in given situations. Without having a complete picture of these factors, it may be extremely difficult to ascribe with confidence the results of the experiment to the independent variable the experimenter thinks he is varying, and not to some other independent variable which is some unknown function of treatment conditions interacting with the situation in which the study takes place.

A practical implication of the current research is that opinions may be affected by the way in which subjects are introduced to the test situation and instructed. In addition, care should be taken to ensure that these factors are controlled in future studies of opinion. Opinions cannot be obtained in a vacuum. They must be obtained in a situation where the subject is located in some proximity to other subjects (or, perhaps, is not located near others, but is studied alone); they must be obtained in a situation where the subject is somehow recruited to participate in the study; and they must be obtained in a situation where the subject receives certain cues as to how he should provide his opinions. As stated earlier, opinions are behaviors, and are a function of both an attitude toward a given object, as well as the situation in which the opinion is obtained. The situation should, as much as possible, be held constant

from subject to subject.

The suggestion that the instructions variable functioned by engendering different effective reference groups implies that results would have been different had subjects in the Salient condition been told something other than that they were a member of a group called Baruch College Students. For example, they might have been told that in a large school such as Baruch there were smaller groups formed, composed of people who gravitated together and thought like one another. (The instruction variable in this case, might have been called Small Group/Non-Small Group Salient, rather than Student/Non-Student Salient. If subjects had been instructed in this manner, then, based on the explanation provided above, it would be predicted that the TAD scores would have been lower with Salient instructions than with Non-Salient instructions; that is, with Salient instructions, subjects would have greater awareness of others and be less willing to admit differences between their own attitudes and their friend's attitudes.

One instruction that was given to all subjects (not just those in the Salient conditions) in this study was to fill out the second attitude questionnaire according to what they thought were the attitudes of most other students in their college. In view of the above discussion, it is of interest to speculate about what results would have been obtained had subjects instead been instructed to record what they thought were the attitudes of most of their friends in the college. It is suspected that had subjects been instructed in this manner, TAD scores would generally have been reduced across all conditions. For one thing, it is probably true that attitudes of a set of friends are, in fact, more homogeneous

than those of a set of strangers. Secondly, this type of instruction could have the effect of engendering 'friends in the college' as a reference group, and thus make subjects less willing to admit differences between their attitudes and the attitudes of others.

Certain of the findings lent a tinge of suggestion that certain scale items may have been more susceptible than others to the effect of the independent variables. For example, it was found that the Seating Method X Instructions interaction was significant at the .95 level for the Anti-Extremist at Baruch College Factor, and the .90 for the Attitudes on Viet Nam factor, but not for the remaining factors. In this particular case these factors may have been more susceptible to the effects of the variables because they dealt with content that was more imminent to Baruch students than content of items on other factors and thus more subject to normative pressures. That is, one may speculate that attitudes and opinions on items contained in these factors were heavily related to or a function of attitudes and opinions of other students (while items on other factors were less so), and thus more subject to the effect of any normative pressures generated by the experimental variables. This explanation fits in with the argument made earlier in this discussion that susceptibility to group pressure would be a function of the perceived importance of the item content to the group and the perceived consequences of deviance from the group expectation or norm. It should be cautioned, however, that the explanation offered depends on the items in the Anti-Extremist and Attitudes on Viet Nam Factors actually being different than other items in terms of characteristics such as imminence or importance. In this study, no measures relating to such characteristics were obtained. In addition, certain factors which might also have been considered on a

priori basis to be imminent and important (e.g., Social Permissiveness) did not result in any differences between conditions.

We had very little difficulty in seating subjects in any of the conditions. With few exceptions subject sat in a seat appropriate to the test condition. All the exceptions arose when subjects sat in a seat one seat removed from the one they should have been sitting in. No subject sat incorrectly by more than one seat. It was our impression that when mis-seating occurred it was not due to any defiance or refusal on the part of subjects, but due to the fact that these subjects either were confused as to which seat was assigned them (in Random seating), or did not think it mattered whether they sat in the "proper" seat or an immediately adjacent seat as long as it was in the close vicinity (in both Random and Selected seating). At any rate, we did not think it to be important in these few cases to ask subjects to move over one seat to their proper seat, since we felt that sitting incorrectly by one seat would not impair the variables under consideration, and that asking subjects to change seats might call too much attention to seating.

The ease in seating subjects was not unanticipated. It had been shown that, as a rule, subjects in a psychological study consider it proper role behavior to follow instructions no matter how ridiculous the instructions may seem because the subjects feel that the researcher has some purpose behind the instructions (e.g., Orne, 1962), as well as because the researcher may represent an authority image. For these reasons alone we anticipated a few problems in seating respondents or in being questioned by subjects regarding why they were seated as they were. Additionally, as students likely to have taken tests in similar circumstances previously,

there was little reason for subjects to be suspicious of the instructions and the seating methods since they had had considerable prior experience to legitimize the procedures utilized. Furthermore, it was felt that subjects did not perceive the situation as an "experiment," but, especially after being given the introductory instructions, as an attitude survey - and that this was sufficient rationale to preclude any suspicions that there was any purpose behind the study other than to find out about attitudes. Of course, this does not imply that situational factors had no effect on subject's behavior. In fact, the hypotheses of this study were based on expected different levels of situational influence, and even though results were essentially negative this does not necessarily mean that no situational influences were operating, but may merely indicate that they were operating at equal levels across conditions. It was also believed that the nature of the item on the questionnaire - topical and relevant - further legitimized the study as an attitude study and had the additional effect of maintaining subject interest.

BIBLIOGRAPHY

- Allport, F.H. The influence of group upon association and thought. J. exper. Psychol., 1920, 3, 175-179.
- Argyle, M. Religious behavior, Glencoe, Illinois: Free Press, 1959.
- Asch, S.E. Studies of independence and conformity. A minority of one against a unanimous majority. Psychol. Monogr., 1956, 70, 9 (whole no. 416).
- Charters, W.W. Jr., and Newcomb, T.M. Some attitudinal effects of experimentally increased salience of membership group. In G. E. Swanson, T. M. Newcomb, and E. L. Hartley (Eds.), Readings in social psychology (rev. ed), New York: Holt, 1952, 415-420.
- Dashiell, J.F. An experimental analysis of some group effects. J. abnorm. soc. Psychol., 1930, 25, 190-199.
- Edwards, A.L. Experimental design in psychological research (rev. ed.), New York: Holt, Rinehart, and Winston, 1965.
- Furbay, A.L. The influence of scattered vs. compact seating on audience response. Speech Monogr., 1965, 32, 144-148.
- Garfinkel, H. Studies of the routine grounds of everyday activities. Social Problems, 1964, 11, 225-250.
- Hall, E.T. The hidden dimension, New York: Doubleday, 1966.
- Hastorf, A.H. Bender, I.E., and Weintraub, D.J. The influence of response patterns on the 'refined' empathy score. J. abnorm. soc. Psychol., 1955, 51, 341-343.
- Hovland, C.I., Janis, I.L., and Kelley, H.H. Communication and persuasion: psychological studies of opinion change. New Haven: Yale Univers. Press, 1953.
- Knower, F.H. Experimental studies of changes in attitudes: I. A study of the effect of oral argument on changes of attitude. J. soc. Psychol., 1935, 6, 315-347.
- Kretch, D., Crutchfield, R.S., and Ballachey, E.L. Individual in society, McGraw-Hill, 1962.
- Malpass, L.F. and Fitzpatrick, E.D. Social facilitation as a factor in reaction to humor. J.soc. Psychol., 1959, 50, 295-303.
- Milgram, S., and Toch, H., Collective behavior: crowds and social movements. Unpublished manuscript, 1967.

- Minton, H. L., Steger, J.A. and Smrtic, G.R. Group opinion change as a function of circular vs. rectangular seating arrangement. Psychon. Sci., 1968, 12, 357-358.
- Newcomb, T.M. An approach to the study of communicative acts. Psychol. Rev., 1953, 60, 393-404.
- Orne, M. On the social psychology of the psychological experiment. Amer. Psychologist, 1962, 17, 776-783.
- Pessin, J. The comparative effects of social and mechanical stimulation on memorizing. Amer. J. Psychol., 1933, 45, 263-270.
- Rokeach, M. Attitude change and behavioral change. Pub. Opin. Quart., 1967, 30, 4, 529-550.
- Sherif, M., and Sherif, C.W. Reference groups, New York: Harper and Row, 1964.
- Sommer, R. Studies in personal space. Sociometry, 1959, 22, 247-260.
- Sommer, R. Leadership and group geography. Sociometry, 1961, 24, 99-110.
- Sommer, R. The distance for comfortable conversation: a further study. Sociometry, 1962, 25, 111-116.
- Sommer, R. Further studies in small group ecology. Sociometry, 1965, 28, 337-348.
- Sommer, R. Small group ecology. Psychol. Bull., 1967, 67, 145-152.
- Sommer, R. Personal space, Englewood Cliffs: Prentice-Hall, 1969.
- Strodbeck, F.L. and Hook, L.H. The social dimensions of a twelve man jury table. Sociometry, 1961, 24, 397-415.
- Thomas, G.L. and Ralph, D.G. A study of the effect of audience proximity on persuasion. Speech Monogr., 1959, 26, 300-307.
- Zajonc, R.B. Social facilitation. Science, 1965, 149, 269-274.