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Affective reactions to interpersonal distances by friends and strangers

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An experiment was conducted to determine affective reactions to interpersonal distances. Pairs of male-female friends or strangers were exposed to six interpersonal distances, and their reactions to each distance were assessed. The results showed that interpersonal distances could be "mapped" and that maps differed for friends and strangers. The results also showed that reactions increased in positivity as distance between friends decreased, but for strangers positivity increased, then decreased with decreasing interpersonal distance. The latter finding was interpreted as providing limited support for Sundstrom and Altman's theory. It was suggested that future research might be improved by adopting a "zone approach" instead of the common "personal-space approach" and that more attention should be directed toward the analysis of affective responses to interpersonal distances.

One of the important variables in social behavior is the distance between persons who are interacting. Considerable research has shown that people have personal standards concerning the appropriate interpersonal distances for various situations (e.g., Argyle & Dean, 1965; Fisher & Byrne, 1975; Little, 1965; Sommer, 1969; Willis, 1966). Furthermore, there is good evidence that close approach by another person often evokes characteristic responses, such as facing away from the "intruder," pulling in the shoulders, and placing the elbows at the side (Sommer, 1969), moving away, glancing over shoulder, and changes in facial expression (Harris, Luginbuhl, & Fishbein, 1978), and similar behaviors. These reactions are usually interpreted as reflecting discomfort resulting from the proximity of the other person. For instance, Sundstrom and Altman (1976) asserted that the best supported proposition in the research literature on personal space probably is that positive affect is associated with close proximity.

The interpretation that interpersonal distances are related to affective reactions is based largely on the kinds of instructions that are typically employed in personal-space studies, namely, to approach as close as is comfortable. Thus, it is inferred that behaviors in response to the approach of another are mediated by negative affect. There appears to have been no attempt to assess directly people's feelings about interpersonal distance, although this gap in knowledge has been noted earlier (Hayduk, 1978; Shaw, 1976).

The experiment reported here was designed to measure the individual's feelings about the distance between himself or herself and another person. Measures were obtained for pairs of opposite-sex friends and strangers who were separated by six interpersonal distances.

METHOD

Subjects

The subjects were 20 male and 20 female undergraduates who reported to the laboratory in male-female pairs. Pairs were either friends or strangers. The subjects were given course credit for participating in the experiment.

Design

The experimental design was a mixed factorial, including interpersonal relationship (friends or strangers) and six interpersonal distances (30, 60, 120, 180, 240, and 300 cm). The relationship variable was an independent one, but all subjects responded to all interpersonal distances, which were marked on the floor of the laboratory by colored strips of tape. Response cards containing questions designed to measure the person's feelings about interpersonal distance were color coded to match the color of the distance markers. Each response card contained two questions:

"1. People usually have some reaction to the presence of other persons which varies with the distance between persons. Please indicate your reaction to the proximity of the other person by checking one of the following categories: I would like to be closer; I would like to be further away; I am just the right distance from the other person; I have no reaction to the proximity of the other person.

"2. How do you feel about the distance between you and the other person?"

The second question was followed by five semantic differential scales reflecting the evaluative dimension (positive-negative, unfavorable-favorable, pleasant-unpleasant, bad-good, and fair-unfair). The order of responses to distances was randomized for each subject.

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Procedure

When male-female pairs reported to the laboratory, the following instructions were read to them:

"You will notice markers on the floor at regular intervals. On each of several trials, I will ask you to stand on one of the markers facing the other person and to consider for a moment how you feel about the proximity of the other person; that is, how you feel about being as close or as far away from the other person as you are. Then you will be asked to record your feelings by checking the appropriate alternative on a response card like this one. [At this point, the subject was handed the first card from the prepared stack.] Your responses in each case will be completely confidential. Are there any questions?"

After answering any questions posed by subjects, the experimenter said, "Okay, now stand on the ____ marker, look at the other person, and record your feelings by checking the appropriate alternative." As soon as the response card had been marked and collected, the subject was asked to move to the colored marker corresponding to the next response card on the stack and to repeat the procedure. This was continued until the subject had responded to all six distances. Both male and female subjects responded to the six distances, with order of responding counterbalanced across experimental sessions.

RESULTS

The first three categories for Question 1 were designed to represent an ordering of feelings about interpersonal distances, ranging from the feeling that the distance is too small (the other person is too close), just right, or too great (the other person is not close enough) to the final category, "I have no reaction to the proximity of the other person." The final category reflects distances so large as to be irrelevant to the person. Therefore, responses to this question may be used to "map" feelings about interpersonal distances. Mean distances at which male friends, female friends, male strangers, and female strangers shifted from one response category to another were computed. These shift points are plotted in Figure 1 to show the zones in which persons have the various reactions to the other person's proximity.[1] It can be seen that these zones were different for friends and strangers. It is noteworthy that no distance under

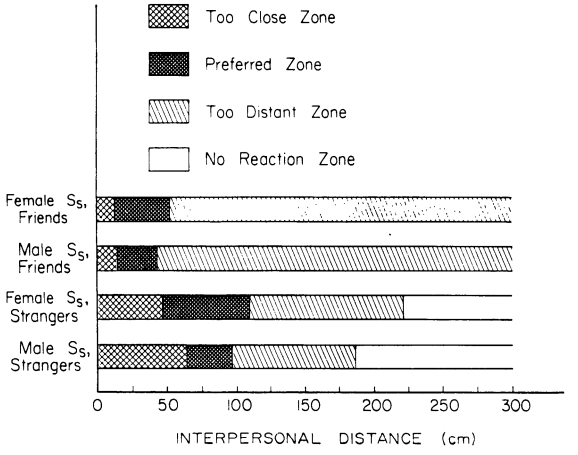

Figure 1. Interpersonal zones as a function of sex of actor and relationship.

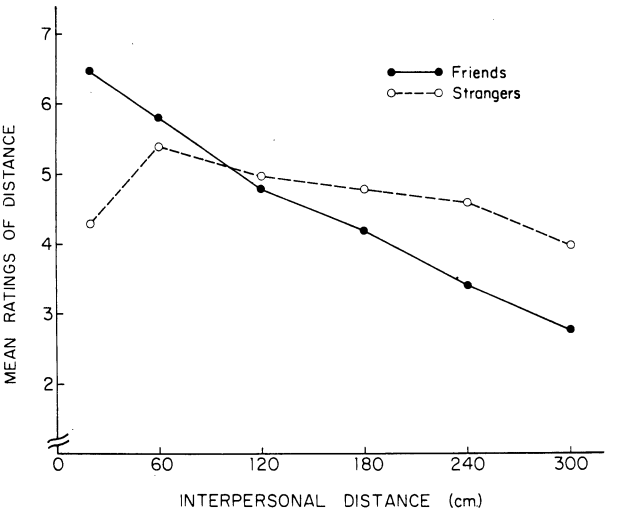

Figure 2. Mean ratings of interpersonal distances as a function of relationship.

300 cm (10 ft) was seen as irrelevant for friends and that the subjects preferred friends to be closer than strangers.

The responses to the semantic differential items were scored on a scale from 1 to 7, with larger numbers representing more positive feelings. Each person's score was the average of the five individual scores. The unit of analysis was the pair, and the score for each pair was the average of the two individual scores. Analysis of variance indicated that responses to interpersonal distances differed significantly [$F(5,90) = 12.24$, $p < .0001$]. However, this finding was qualified by a significant Distance by Relationship interaction [$F(5,90) = 6.87$, $p < .001$]. The means for this interaction are plotted in Figure 2. For friends, reactions to interpersonal distances became progressively more favorable as the distance between persons decreased. For strangers, the reaction became more favorable as distance decreased to 60 cm, then became less favorable at 30 cm.

DISCUSSION

The results from this experiment indicate with some clarity that the proximity of another person elicits specifiable affective responses. The space between persons may be divided into four zones, like those depicted in Figure 1. At the smallest interpersonal distances, there is a zone in which the reaction is one of discomfort: The other person is seen as being too close. Next is a zone in which proximity is seen as desirable, followed by a zone in which the other person is seen as being too far away. Beyond this zone, the proximity of the other person is seen as irrelevant, and the reaction is one of indifference. Thus, the reaction to the proximity of another person may be indifference, negative and uncomfortable, or positive. In some situations the negative reaction occurs both when the other person is too far away (especially for friends) and when the other person is too close (especially for strangers). These data suggest that a "zone approach" to the study of interpersonal distances, similar to that proposed by Hall (1966), may yield results more fruitful than the more common "personal-space approach."

The finding of a curvilinear relationship between distance

and affective responses by strangers agrees with Sundstrom and Altman's (1976) hypothesis about reactions to distance between interacting strangers. Persons in the present experiment were interacting at a minimum level, however, and the situation may have involved some degree of invasion by the stranger. Data from this experiment do not fit the Sundstrom and Altman hypothesis about invading strangers.

The failure to find a curvilinear relationship for friends is contrary to Sundstrom and Altman's (1976) hypothesis concerning interacting friends. It is possible, of course, that the interaction was too minimal, that 30 cm was not close enough for the decrease in positive affect to occur, or that the curvilinear relationship occurs only for same-sex pairs. The latter interpretation seems more likely to be the correct one.

In general, the data from this experiment have two important implications for future studies of interpersonal distance effects: (1) It may be more profitable to consider appropriate distances or zones for specific kinds of interpersonal behavior, similar to Hall's (1966) approach, rather than the more common personal-space approach. And (2) greater research efforts should be directed toward an analysis of affective reactions to interpersonal distances.

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NOTE

1. Data for males and females are plotted separately, although each member of the pair was exposed to the same set of experimental conditions. However, no sizable sex difference is apparent; analysis of semantic differential scores also failed to reveal a sex difference.

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