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ABSTRACT

The effect of the invasion of personal space upon an individual's subsequent use of personal space was investigated. Subjects in the invasion condition stood closer to the confederate than did subjects in the non-invasion condition. Results were interpreted in terms of the confederate serving as a model for the subjects. Still, subjects generally did not stand as close as the intimate distances exhibited by the confederates. Also, females initially stood closer to the confederates than did males. Both of these findings support other research regarding the norms for interpersonal distance. Seated distance measures were not significant in the present study. (Author)

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INTIMATE DISTANCES: TOO CLOSE TO IMITATE?

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INTIMATE DISTANCES: TOO CLOSE TO IMITATE?¹

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Researchers are becoming increasingly aware of the spatial behavior of humans in social interactions. Sommer (1969) identified one behavioral pattern as the individual's personal space, which he defined as "an area with invisible boundaries surrounding a person's body into which intruders may not come" (p. 27).

Interpersonal distances have also been discussed by Hall (1966). He defined a normative distance as that which is appropriate for an interaction. He said that when strangers interact at an intimate distance of 18 inches (.46 meters) or closer, the distance is inappropriately close and violates social norms. Sommer (1969) labelled such a violation an invasion of personal space, and he defined it as the unwanted "physical presence of an intruder within the boundaries" (p. 44) of the individual's personal space.

Indeed, a number of field studies have shown that people refrain from approaching to within a stranger's intimate distance (Barefoot, Hoople, & McClay, 1972; Liebman, 1970). Furthermore, experimental research establishing the norms for interpersonal distances (Bailey, Hartnett, & Gibson, 1972; Daves & Swaffer, 1971; Dosey & Meisels, 1969; Rodgers, 1972) has shown that subjects normally would only approach another to within 1.5 to 3 feet (.46 to .91 meters), i. e., a personal distance (Hall, 1966).

The sex of the subject and the other person seem to affect normative interpersonal distances. Closer distances are reported for females than for males (Byrne, Baskett, & Hodges, 1971; Pedersen & Heaston, 1972). Also, when Rodgers (1972) instructed subjects to indicate the distance that

was too close for a comfortable conversation, they approached a female confederate to within an intimate distance. When Williams (1972) used similar instructions but a male confederate, most subjects approached only to within a personal distance.

Individuals typically react to spatial invasion by fleeing (Felipe & Sommer, 1966; McDowell, 1972). Moreover, a subject who does not attempt to escape from the intruder signals withdrawal in other ways (Barash, 1973; Knowles, 1972; Patterson, Mullens, & Romano, 1971). For example, some individuals block further intrusion into their personal space by turning their bodies away from the invader (Felipe & Sommer, 1966).

The norms for interpersonal distance suggest that an invasion of an individual's personal space is especially likely to occur in interactions conducted at intimate distances (Hall, 1966). However, it appears that the individual's reactions to the spatial invasion have not been fully investigated. Previous research generally has not focused upon the subject's physical distance in relation to the invader following the spatial invasion. Research typically has assessed reactions only during the time of the spatial invasion (Felipe & Sommer, 1966; McDowell, 1972).

The present study explored the effect that the invasion of an individual's personal space had upon his subsequent use of personal space in relation to the invader. It was hypothesized that: (a) an individual would maintain a greater distance from another person if that person previously had invaded his personal space, and (b) a female would interact at a closer distance to another person than would a male.

Method

Subjects

The subjects were 35 male and 35 female introductory psychology students at the University of Windsor who received extra course credit for their participation in the experiment. Only students with North American cultural backgrounds were included in the final analyses.

Experimenters and confederates

The author served as the experimenter and two male undergraduate students from an advanced social psychology course alternated as the confederate. Because one confederate was married but refused to remove his wedding band during the experiment, another ring was secured and worn by the second confederate.

Procedure

The experimenter introduced the experiment to the subject and the confederate seated in a waiting room by explaining that each subject would read a selected passage to the other subject in order that the experimenter could investigate the effect of vocal cues upon the message attended to by a listener. The experimenter then escorted the subject and the confederate to another room where the actual invasion manipulation occurred.

Here, if the subject had been randomly selected to be in the invasion condition, the confederate sat 6 inches (.15 meters) from the subject as both familiarized themselves with the readings. In the non-invasion condition he sat at a personal distance of 2.5 feet (.76 meters). When the subject was prepared, the experimenter escorted both the subject and confederate to the microphone area to record the readings.

The experimenter seated the subject on a high stool, ostensibly to facilitate the transmission of his voice by a nearby microphone. As the subject began to read, the confederate moved to within an intimate distance of 13.5 inches (.34 meters) of the subject in the invasion condition or to within a personal distance of 2.6 feet (.79 meters) in the non-invasion condition. Afterwards, the subject and the confederate switched roles, and the confederate read to the subject.

Experimental variables

The major independent variables were the sex of the subject and the invasion condition. Also, in order to consider any possible differences due to characteristics of the confederate, a confederate variable was included. Thus, a 2 x 2 x 2 (Sex of Subject x Invasion Condition x Confederate) experimental design was employed. Dependent measures included the subject's initial and average (i. e., the mean of the subject's distances at the beginning, after one minute, and at the end of two minutes of the confederate's reading) standing distances from the confederate. Also included were the subject's seated distances from the confederate in the waiting room before and after the experimental manipulations.

Results

Standing distances

The cell means and results of the analyses of variance for each measure of standing distance are provided in Tables 1 and 2, respectively.

Insert Tables 1 and 2 about here

Contrary to the first hypothesis, the results indicate that the subjects stood closer to, rather than farther from, a confederate who had interacted with them at an invasion distance (see Table 1). The effect of the invasion condition was highly significant with respect to both measures of standing distance (see Table 2). Interestingly, no effect for confederate was found for either distance measure.

The second hypothesis received partial support. A significant sex difference did occur, but only with respect to the initial standing distance measure. There was a trend for a sex of subject effect in the average standing distance measures.

Seated distances

The results indicated that there was not a single significant main effect nor interaction for any of the seated distance measures. Thus, the hypotheses were not supported by results obtained using the seated distance measures.

Discussion

It appears that there were at least two factors operating within the present experimental setting which affected the subjects' distances from the confederate: (a) the interpersonal distance norms which the subjects brought with them into the experimental situation, and (b) the interpersonal distance norms exhibited by the confederate within the experimental setting.

First of all, the results for standing distances generally supported previous research regarding distance norms. Subjects maintained distances that were personal and thus more normative distances than were the extreme distances exhibited by the confederate in the invasion condition. In the

invasion condition the confederate stood at an intimate distance of 13.5 inches (.34 meters); however, only four subjects approached the confederate to within an intimate distance and no subject approached as close as had the confederate.

Also, females stood significantly closer than did males at the beginning of the confederate's reading, and there was a trend for a sex effect with respect to the average standing distances. The evidence regarding sex differences is consistent with other research which indicates that females stand at closer interpersonal distances in relation to another than do males (Hartnett, Bailey, & Gibson, 1970; Pedersen & Heaston, 1972).

Secondly, subjects may have relied upon experimental cues suggesting the behavior appropriate for the situation. Rather than relying solely upon his own judgment as to the appropriate distance, the subject may have used the confederate's distance as a frame of reference. In other words, subjects stood at distances similar to those modeled by the confederate. When distances of 13.5 and 31.5 inches (.34 and .80 meters, respectively) were modeled, the average standing distances were 25.1 and 37.7 inches (.64 and .96 meters), respectively.

In fact, modeling effects have received relatively little attention in research regarding personal space, perhaps due to the experimental procedures commonly employed. Typically, the subject or the experimenter approaches the other person to a distance that is comfortable for the subject. However, in the present study the confederate first established a given distance from the subject and then the subject was given the opportunity to determine his own distance from the confederate.

The importance of modeling as a determinant of interpersonal distance was implied in other research which also deviated from the experimental procedures generally employed. Bailey, Hartnett, and Glover (1973) investigated the effect of a model who approached the subject to within a personal or social distance, instead of the intimate and personal distances used in the present study. Subsequently, when given an opportunity to approach the model, the subjects stood at distances which generally reflected the greater distances modeled by the confederate.

It is important also to note the similarity in distances subjects exhibited in relation to both confederates. The invasion effect was a significant determinant of standing distances for both confederates, thus enhancing the generalizability of the invasion effect with respect to male confederates.

Further research is required to clarify the seated distance measure results. Perhaps if the subjects in the waiting room had been exposed to modeling prior to the measurement of seated distances, an invasion effect would have been evident for them also.

In sum, it appears that the present study can be interpreted on the basis of modeling effects. Further studies, however, need to be conducted to clarify the instances in which modeling overrides the spatial invasion effect in determining interpersonal distances. Likewise, other variables, such as the sex of the invader, cultural differences among the interactants, and characteristics of the experimental setting should be more fully investigated in future studies.

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Footnote

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Table 1
 Mean Standing Distances according to
 of Subject and Invasion

Subject cell	n	Average distance	Initial distance
Male			
Invasion	19	26.2 (.67)	26.9 (.68)
Non-invasion	16	39.1 (.99)	38.4 (.98)
Female			
Invasion	18	23.9 (.61)	23.6 (.60)
Non-invasion	17	36.4 (.92)	36.1 (.92)

Note. Distances denote inches from the confederate. Figures in parentheses represent distances in meters.

Table 2
Summary of Analyses of Variance of Standing Distance Measures

Source of variation	df	Average distance ^a		Initial distance	
		MS	F	MS	F
Sex of subject (S)	1	133.48	3.62*	151.42	4.50**
Invasion condition (I)	1	2592.66	70.38***	2327.79	69.15***
Confederate (C)	1	25.59	.69	48.03	1.43
S x I	1	.15	.00	11.28	.34
S x C	1	27.77	.75	17.74	.53
I x C	1	20.93	.57	17.19	.51
S x I x C	1	2.13	.06	19.21	.57
Within cell	62	36.84		33.66	

^aAverage distance was calculated by finding the mean for the subject's distances at the beginning, after one minute, and at the end of two minutes of the confederate's reading.

* $p < .10$.

** $p < .05$.

*** $p < .0001$.