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Personal space as a function of repression-sensitization, sensation-seeking and the stigmatized characteristics of a target person

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PERSONAL SPACE AS A FUNCTION OF REPRESSION-SENSITIZATION, SENSATION-SEEKING AND THE STIGMATIZED CHARACTERISTICS OF A TARGET PERSON

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THESIS ACCEPTANCE

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The concept of personal space has been an unregarded sociological and psychological dimension. Probably the work of animal ethologists has done more to generate interest in spacing and territorality than any other group of behavioral investigators. The characteristics of individual space in animals has been studied by Hediger (1950, 1955, 1961). From Hediger's important work, research in the area of personal space in humans has evolved.

The term personal space has been defined by a host of researchers. According to Sommer (1967), Burckhardt (1944) first used the term individual distance in reference to the spacing an organism maintains between itself and another organism. Little (1965) defines personal space "as the area immediately surrounding the individual in which the majority of his interactions with others take place (p. 237)." Horowitz, Duff, and Stratton (1964) suggest that the area surrounding a person functions as a body-buffer zone in interpersonal relations. Their view leads to the prediction that "there would be a certain reproducible distance which persons impose between themselves and objects or persons (p. 651)." Sommer, who has probably been the guiding force in stimulating research in human spatial behavior, points out that personal space has no fixed boundaries, is carried around with the body as its center, and varies from individual to individual (Sommer, 1959).

The literature of personal space contains several important studies concerning the determinants of individual distances. Hediger (1955) initially observed that the interacting distances between animals varied as a function of species. Hall (1966) recognized the importance of culture, degree of intimacy between people, and feeling states as important determinants of individual spacing. For Hall, the attitudes and feelings people have for each other are important determinants in individual spacing. Through controlled observation and experimentation, Hall has classified his distance categories into four distance zones. These he has labeled intimate, personal, social, and public. Kleck (1968) observed that interactive distance depended on the characteristics of the target person, i.e., whether the other person was thought to be stigmatized or non-stigmatized. In this regard, Sommer (1966) recognized ecological setting and personality as important determinants of spacing between people.

Research involving personality variables as influences of personal space has been quite scanty. Williams (1963) and Leipold (1963) studied personal space and its relation to introversion-extroversion. Leipold studied the distance at which low and high anxious introverted and extroverted college students placed themselves in relation to an interviewer in either a stress, praise, or nonstress situation. In the stress situation, subjects were told their course grade in

introductory psychology was quite poor and an interview with the primary instructor was necessary. The praise situation involved telling the pre-interviewed subject his grades were quite good, and the neutral situation consisted of a neutral statement with respect to the student's grades. In general, subjects sat furthest from the experimenter in the stress condition. More specifically, introverted high anxious subjects sat further from the experimenter than extroverted low anxious subjects. Similarly, Williams showed that introverts maintained greater conversational distance than extroverts. Dosey and Meisels (1969) predicted that high anxious individuals and individuals with weak body-image boundaries would maintain greater spatial distances in a stress condition. The stress condition involved subjects being told that individuals they approached would be judging their attractiveness or sex appeal. Anxiety and body-image boundary was measured by various Rorschach indicators. The authors employed three independent measures of personal space: (1) Subjects approached the target person directly with the instructions "walk slowly towards the other person; when you reach him or her, stop, and wait until I tell you to return;" (2) Subjects viewed a printed silhouette and traced a self-silhouette in relation to the printed form. Distance between figures was the personal space measure; (3) Subject entered a room with a target person seated at a table. Two other chairs were at the table and subject was invited to be seated.

Distance between chairs was the spatial measure. Results indicated a significant stress effect, but no relationship was found between personal space and the personality variables. It should be pointed out that little consistency was found between three separate personal space measures used in this study.

The present investigation was designed with two purposes in mind. First, to assess the effect of various personality variables on interpersonal distance. Secondly, an attempt was made to assess the degree of correspondence between psychological distance measured by a projective technique and physical distance measured in a live interaction setting.

The two personality dimensions taken into consideration were repression-sensitization (R-S, Byrne, 1964) and sensation-seeking (SS, Zuckerman, 1964). Repression-sensitization is viewed as a continuum of defensive capabilities where the repression pole is associated with the active avoidance of anxiety arousing stimuli, while the sensitization pole is associated with an attempt to achieve anxiety reduction by means of approaching the threatening stimuli (Byrne, 1964). Language similarities tie the concepts of R-S and personal space together. The approach-avoidance language of the R-S dimension has obvious parallels in the area of personal space and interpersonal interaction. For example, we speak of people being close or distant, of being within a hairs-

breadth of someone, of keeping one's distance from strangers, or of keeping at an arm's length of someone. It is expected, then, that repressors and sensitizers should manifest interpersonal spatial differences in an anxiety-induced situation. In this regard, in studying the effects of three types of interaction on repressors and sensitizers, Gleason (1968) predicted that "the tendency under stress is for sensitizers to approach and repressors to avoid stimuli associated with anxiety and this results in anxiety reduction (p. 1377-B)." Stress was introduced into Gleason's study by telling subjects they were going to receive electrical shock. In the experimental setting, groups of repressors and sensitizers interacted with confederates playing the role of either a repressor or sensitizer. Here the repressor-confederate avoided the threatening topic of electrical shock and the sensitizer-confederate openly discussed this topic. Gleason predicted that repressors exposed to congruent avoidant behavior and sensitizers exposed to congruent approach behavior would manifest less anxiety than repressors and sensitizers exposed to incongruent approach-avoidance behavior. Dependent measures of anxiety included an assessment of pulse rate, GSR rate, and a paper and pencil self report scale. Results supported Gleason's initial hypothesis. Subjects exposed to congruent confederate behavior revealed a greater decrease in anxiety than in the incongruent situation.

In the present study the dependent variable of distance between subject and target person leads to a prediction that contradicts Gleason's hypothesis and that of conventional R-S theory. The prediction is that with the target person perceived as threatening, repressors will interact with the target person at a significantly closer distance than will sensitizers. This prediction stems from the view that repressors possess a higher threshold for perceiving situational threat than do sensitizers, i.e., repressors possess higher and more successful avoidance defenses against situational threat, quickly reducing the anxiety-arousing components of the situation. Sensitizers possess lower and less successful avoidance defenses and are expected to be more vulnerable to the anxiety-arousing components of situational threat. Repressors, then, are expected to interact with the target person at closer distances than are expected for sensitizers who cannot resolve the threatening implications of the target person and must attempt to reduce anxiety by interacting at a greater interpersonal distance. Consistent with this prediction, Leipold (1963) showed that high anxious males (sensitizers) maintained a greater interactive distance in relation to an interviewer under stress contitions.

Another dimension of personality hypothesized to influence the personal space of an individual is his degree of sensation seeking. Because the concept of "optimal level of stimulation" has received theoretical and experimental attention by a host of psychologists, Zuckerman (1964) developed a general sensation seeking scale in order to identify individuals who tend to avoid or approach novel stimuli. Zuckerman (1964) theorized that "every individual has characteristic optimal levels of stimulation (OLS) and arousal (OLA) for cognitive activity, motoric activity, and positive affective tone (p. 1)." Interest here focuses on the high and low sensation seekers as measured by the Zuckerman scale. High sensation seekers are characterized as active, extroverted, independent, impulsive, and oriented toward body sensations. Low sensation seekers are described as valuing predictability, deferance, nurturance, orderliness, affiliation, and self-control. The prediction is that high and low sensation seekers will differ in the distances maintained between themselves and a target person in a stress situation with low sensation seekers manifesting a greater spatial distance than high sensation seekers.

Having discussed the function and rationale of these two hypothesized personality dimensions of personal space, let us turn to a third variable hypothesized to affect the distance people place between each other in an interactive setting. Here we are referring to disability attribution

as a determinant of physical proximity. Kleck (1968) studied the effect of the presence of a stigmatized person (epileptic) on interpersonal distance. Kleck refers to Goffman's (1963) definition of a stigmatized person as one "who has a personal attribute or characteristic which is discrediting in the eyes of others (p. 111)." Kleck contends that subjects will actively avoid the stigmatized person by employing less proximity between himself and a stigmatized individual than between himself and a non-stigmatized individual. Results of Kleck's work support this contention.

In the present study, Kleck's independent variable will be expanded to include the stigmatizing condition of "mental illness" in addition to "epilepsy." These conditions represent the stress induced aspect of the live interaction setting and the projective technique. The present hypothesis is that subjects will perceive the stigmatized individuals as representing a condition of threat. What follows will be avoidance behaviors manifested by the use of less physical proximity between subject and the stigmatized individual. Subjects perceiving another person as a peer (nonthreatening) should interact at a significantly closer distance than they should toward a stigmatized individual. Moreover, greater distance is expected between subject and the "mentally ill" individual than between subject and the "epileptic" individual.

In terms of the present experimental proceedings, interest focuses on the distinction between a projective figure placement task and a live interactive setting as two independent measures of the personal space continuum. A significant degree of correspondence is expected between the subject's psychological schema of individual distance measured by a projective test and the actual distance between subject and target person determined in a live interactive setting. Each experimental situation will involve high sensation seeking repressors (HSS-R), high sensation seeking sensitizers (HSS-S), low sensation seeking repressors (LSS-R), and low sensation seeking sensitizers (LSS-S). Predictions concerning the distances maintained by each group are the same in the projective and live interaction setting. The HSS-R group is expected to manifest the shortest interactive distance, while the LSS-S group is expected to manifest the greatest interactive distance. The remaining two groups are expected to fall somewhere between the latter two personality groups.

In addition to measuring the distance between subject and target individual, eye contact is expected to provide an important source of variation among the groups. At the close interactive distance in the live interactive setting, significant differences similar to the ones expected for distance are expected between groups with respect to eye contact. For an excellent study concerning eye contact,

physical proximity, and affiliation, the reader is referred to a 1965 article by Argyle and Dean.

METHOD

SUBJECTS

Forty-eight subjects were selected from the introductory psychology course at the University of Nebraska at Omaha (N=943) on the basis of their scores on the Millimet (1970) Manifest-Anxiety-Defensiveness (MAD) Scale[1] and the Zuckerman (1964) Sensation Seeking Scale. The four personality groups under consideration were derived by using a multiple cut-off procedure where each subject was required to be at least one standard deviation above or below the mean of both personality measures. Each personality group (N-12) was composed of an equal number of males and females.

PROCEDURE

Subjects were formally briefed on the purposes of the live interaction. Subjects were led to believe that this investigation was designed to aid the Psychology Curriculum Committee in researching a new course for the 1973 fall semester. The contrived course was one in which students would learn to operate alphaphone kits and control their own brain waves. Subjects in the control condition were asked to interact with another student and offer personal

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[1] Research has shown that the MAD and Byrne (1963) R-S scales are equivalent forms (r=.97 for males; r=.94 for females; Millimet & Cohen, in press).

insights into the merits and demerits of such a course. Subjects in the experimental condition were asked to discuss the alphaphone concept with an outpatient (either epileptic or mentally ill) from Nebraska Psychiatric Insititute. Confederates consisted of one female and one male, both in their early twenties and college students. The same confederate was used in the peer, epileptic, and mentally ill conditions. Confederates were unaware of their role in any single condition and there was no attempt to have them appear abnormal in the stigmatized conditions. (One-third of the subjects were exposed to same-sexed "epileptic" confederates, one-third to same-sexed "mentally ill" confederates, and one-third to same-sexed normal "peer" confederates.) At this time the subject was asked to carry a chair into the experimental room (16' x 15') and have a seat, but not to talk until the experimenter returned from an errand. Objects within the room consisted of a small table and chair with the confederate seated. Initial interactive spacing between subject and target person was measured directly as the distance between subject chair and confederate chair. After the subject had seated himself during the initial interaction, the experimenter entered the room and asked the subject to help with something in another room. This allowed the confederate to unobtrusively measure and record the distance between the two chairs. The second interactive situation evolved as the subject and experimenter returned to the room. With the confederate

seated at a table, the subject was asked to "pull up his chair" so the discussion could be recorded. At this time the experimenter told the subject and confederate to discuss their views concerning a laboratory course using alphaphones. The experimenter excused himslef and told the subjects to go ahead and begin talking. Eye contact was measured manually by a silent cumulative stop watch in the pocket of the confederate. After three minutes, the experimenter returned and terminated the study. Subjects were then lead to another room for the figure placement task. The purpose of further employing these subjects was to get a second independent measure of personal space.

A modification of the felt technique devised by Levinger and Gunner (1967) was employed to measure projected interpersonal distances. Levinger and Gunner discribe two convenient methods of measuring interpersonal spacing. The felt technique involves subjects placing felt figures (8 in. high x 3 in wide) on a 2 ft. x 3 ft. felt board. One modification of this technique was used in Kleck's study (1968) and employed presently. In Kleck's projective testing, subjects were asked to place figures on a horizontal line drawn across 81/2 x 11 inch paper. This removed the variable of verticle differences in figure placement which Levinger and Gunner relate to be an index

of the status relationship between figures. A further modification of the felt technique involved the use of four separate pieces of felt used in four placement situations. This allowed for measurements of the dependent variable after the testing situation. Each piece of felt consisted of a figure near the center. Subjects then responded to general instructions by placing the figure on the felt board. Instructions consisted of the statement: "The figure near the middle represents someone who has been released from a mental hospital. Place this figure of another person on the horizontal line in a comfortable position for conversation." The independent variable included the centered felt figure as representing an "epileptic", "mentally ill person", or "peer". To determine possible sensitizing effects from experiment one, a post experimental questionnaire followed the Figure Placement Task. Subjects were asked (1) the purpose of Experiment I (2) the purpose of Experiment II (3) the relationship between the two experiments. Post experimental debriefing followed.

RESULTS

Four separate analyses of variance were performed on the dependent measures of the study. The first analysis assessed the initial seating distance in the live interaction situation. Distance between subject and target person chairs was measured by an extension ruler calibrated

to eights of an inch. Table 1 represents the distance scores with respect to sensation-seeking, repression-sensitization, sex, and target person. All main effects and interaction effects were not statistically significant. Predictions made prior to data collection concerning the R-S x SS interaction and the R-S x SS x Target Person Interaction allowed further analysis into these interactions. Simple main effects did not reveal any significant effects within these interactions.

The second major analysis involved data associated with the second interpersonal distance in the live experiment. This was the distance maintained between subject and target person after the experimenter asked the subject to pull up his chair in preparation for the three minute conversation (see table 2). Measurement again was calibrated to eights of an inch. All main effects and interaction effects were not statistically significant. Predictions concerning the R-S x SS interaction and the R-S x SS x Target Person interaction allowed further analysis into these interactions. All simple main effects were nonsignificant.

The third analysis consisted of an assessment of eye contact. This variable was measured to tenths of a second by a cumulative stopwatch. Table 3 represents the degree of eye contact with respect to repression-sensitization, sensation-seeking, sex, and target person. The analysis indicated that the main effect of target person

(peer, epileptic, mentally ill) to be marginally significant (f=2.57, df=2,24, $p<.10$). The sensation seeking x target person interaction (f=2.68, df=2,24, $p<.10$); repression-sensitization x target person interaction (f=4.19, df=2,24, $p<.05$); sex x target person interaction (f=3.69, df=2,24, $p<.05$); and repression-sensitization x sex interaction (f=7.27, df=1,24, $p<.05$) were statistically significant. All remaining main effects and interaction effects were not statistically significant.

Further analysis of the main effect of target person showed that subjects exposed to the peer ($\bar{x}$=106 sec.) maintained significantly greater eye contact than subjects exposed to the epileptic ($\bar{x}$=85.4 sec.; f=4.06, df=1,24, $p<.10$) or mentally ill ($\bar{x}$=86.5 sec.; f=3.64, df=1,24, $p<.10$) person. There were no significant differences in eye contact between the epileptic and mentally ill conditions ($f<1$).

Predictions made prior to data collection allowed further analysis into the R-S x SS x Target Person interaction. Tests of simple main effects revealed high sensation seeking repressors to maintain significantly different degrees of eye contact in relation to the target person condition (f=13.96, df=2,24, $p<.01$). High sensation seeking repressors exposed to the peer ($\bar{x}$=144.3 sec.) maintained significantly greater eye contact than high sensation seeking regressors exposed to the epileptic condition ($\bar{x}$=81.0 sec.; f=9.44, df=1,24, $p<.01$) or mentally ill condition

($\bar{x}$=74.75 sec.; f=11.41, df=1,24, p<.01). Analysis of eye contact in the peer condition showed significant differences between the personality dimensions (f=12.63, df=2,24, p<.01). High sensation seeking repressors ($\bar{x}$=144.3 sec.) maintained significantly more eye contact than low sensation seeking sensitizers ($\bar{x}$=71.25 sec.; f=12.58, df=1,24, p<.01). All other simple main effect analyses were nonsignificant.

A simple effects analysis of the sensation seeking x target person interaction showed that high sensation seekers maintained differing lengths of eye contact with a peer ($\bar{x}$=124.2 sec.), epileptic ($\bar{x}$=87.7 sec.), and mentally ill person ($\bar{x}$=81.2 sec.; f=10.2, df=2,24, p<.01). Further analysis showed that high sensation-seekers interacting with the peer maintained significantly greater eye contact than high sensation-seekers interacting with the epileptic (f=6.29, df=1,24, p<.05) or mentally ill (f=8.73, df=1,24, p<.01) target qerson. No significant eye contact differences were found between the epileptic and mentally ill persons (f<1). There was no significant eye contact effects associated with low sensation-seekers in their response to the three target persons. (Peer = 88.0 sec., epileptic = 83.0 sec., mentally ill = 91.0 sec., f<1). High sensation seekers exposed to the peer ($\bar{x}$=124.2 sec.) maintained signficantly greater eye contact than low sensation seekers ($\bar{x}$=88.0 sec.) exposed to the peer (f=6.21, df=2,24, p<.01).

Analysis of the repression-sensitization x target person interaction showed that repressors maintianed significantly different lengths of eye contact with respect to the three target persons (f=13.34, df=2,24, $p<.001$). Repressors interacting with the peer ($\bar{x}$=124.5 sec.) maintained significantly greater eye contact than repressors in the epileptic ($\bar{x}$=77.6 sec.; f=10.37, df=1,24, $p<.01$) and mentally ill ($\bar{x}$=79.37 sec.; f=9.61, df=1,24, $p<.01$) conditions. No differential eye contact was noted between the epileptic and mentally ill conditions ($f<1$). There was no significant eye contact effects between sensitizers in their response to the three target persons. Repressors ($\bar{x}$=124.5 sec.) maintained significantly more eye contact than sensitizers ($\bar{x}$=87.7 sec.) with respect to the peer (f=6.37, df=1,24, $p<.05$).

Analysis of the sex x target person interaction showed that females maintained significantly different lengths of eye contact with regard to the three target persons (f=10.43, df=2,24, $p<.01$). Further analysis showed that females in the peer condition ($\bar{x}$=122.4 sec.) maintained significantly greater eye contact than females in the epileptic condition ($\bar{x}$=75.4 sec.; f=10.43, df=1,24, $p<.01$). Differences between females in the peer and mentally ill ($\bar{x}$=98.0 sec.) conditions were marginally significant (f=2,80, df=1,24, $p<.10$). No significant eye contact difference was noted for females in the epileptic and mentally ill condi-

tions (f=2.41, df=1,24, p<.25). There was no significant differences in eye contact for males in the target person condition. Finally, females maintained significantly greater eye contact than males ($\bar{x}$-89.9 sec.) in the peer condition (f=4.98, df=1,24, p<.05).

Analysis of the repression-sensitization x sex interaction showed that female sensitizers ($\bar{x}$=108.7 sec.) maintained significantly greater eye contact than male sensitizers ($\bar{x}$=74.25 sec.; f=8.43, df=1,24, p<.01). There was no significant differences in eye contact between male and female repressors (f=<1).

The fourth major analysis assessed the subjects behavior in the projective situation following the live interaction. Projective data was measured to sixteenths of an inch. The analysis involved computing subject differences in doll placement with respect to a second doll depicted as representing a peer, epileptic, or mentally ill person. Mean placement distances may be found in table 4. The main effect of doll placement in relation to the peer, epileptic, and mentally ill conditions was statistically significant (f=5.69, df=2,48, p<.01). The trend was in the direction predicted with subjects placing a doll closest in the peer condition ($\bar{x}$=4.3 in.), furthest in the mentally ill condition ($\bar{x}$=5.3 in.) and between the two in the epileptic condition ($\bar{x}$=4.7 in.). Marginal significance was found for the SS x R-S x sex interaction (f=3.34, df=1,48,

$p<.10$). The sex x target doll x target person exposure interaction was observed to be highly significant ($f=5.85$, $df=4,48$, $p<.001$). All remaining main effects and interaction effects were not statistically significant. Predictions made prior to data collection concerning the R-S x SS interaction and the R-S x SS x target person interaction allowed further analysis into these interactions. All simple main effect analyses for these latter effects proved nonsignificant.

A simple effects analysis of the sex x target doll x target person exposure interaction showed that males who interacted with a peer in the live situation placed a doll at significantly different distances from a felt doll depicted as a peer ($\bar{x}=4.5$ in.), epileptic ($\bar{x}=6.7$ in), and mentally ill ($\bar{x}=7.7$ in.) person ($f=9.68$, $df=2,48$, $p<.001$). Further analysis revealed significant different placement made by males between the peer condition and epileptic condition ($f=8.27$, $df=1,48$, $p<.01$) and between the peer condition and mentally ill condition ($f=18.66$, $df=1,48$, $p<.01$).

Females who interacted with the mentally ill person placed the doll at significantly different distances from the peer ($\bar{x}=4.2$ in.), epileptic ($\bar{x}=4.3$ in.), and mentally ill ($\bar{x}=6.5$ in.) felt figures ($f=6.28$, $df=2,48$, $p<.01$). Further analysis revealed placement differences between the

peer condition and the mentally ill condition (f=9.90, df= 1,48, p<.01) and between the epileptic condition and the mentally ill condition (f=8.91, df=1,48, p<.01).

Three questions were asked to each subject following completion of the projective test: (1) What was the purpose of the first experiment? (2) What was the purpose of the second experiment? (3) Did you see any relationship between the two experiments? If so, what was that relationship? Binomial tests indicated that subjects were effectively deceived into believing the experimenters rationale for the experiments. In answering question one, all but three subjects were incorrect in indicating the actual purpose of the experiment (z=5.83, p<.001). As previously discussed subjects were told prior to the projective test the true purpose of this situation. As expected, subject response to question two indicated an awareness of the true nature of the projective situation (z=3.20, p<.001). In answering question three, virtually all subjects were aware of some relationship between the two experiments, but only eight could verbally relate the actual relationship between experiments (z=4.38, p<.001).

DISCUSSION

The purpose of this study was to answer three important questions concerning personal space: One, do the personality dimensions repression-sensitization and sensation seeking

effect the distance people maintain between themselves in an interactive setting? Two, does the ascription of mental illness or epilepsy to a target person influence the interactive distance maintained by another person? And thirdly, is there a correspondence between two independent measures of personal space, i.e., personal space measured in a live interaction situation and personal space measured in a projective situation. In addition, eye contact was expected to covary with the personality dimensions under study.

With regard to question one, the personality dimensions repression-sensitization and sensation-seeking were not observed to significantly effect the distance maintained between subject and target person. However, directional differences consistent with the hypotheses of the study were noted. Low sensation seekers maintained a mean distance of 54.4 inches from the target person and high sensation seekers maintained a mean distance of 42.2 inches from the target person. Repressors maintained a mean distance of 54.7 inches from the target person. Sensitizers maintained a mean distance of 41.9 inches from the target person. This represents a mean difference of more than one foot for both personality dimensions. These differences are in the direction predicted by the classical repression-sensitization viewpoint. The conjunction of these personality dimensions mean difference showed that

over two feet existed between high sensation seeking sensitizers and low sensation-seeking repressors. In general, the nonsignificance of the interpersonal seating differences was due to considerable variability among the subjects. It was noted that people with the same personality dimensions with respect to repression-sensitization and sensation seeking manifested tremendous differences in seating distance from the target person. These sorts of occurrences lead to a considerably inflated error term.

In the general introduction mention was made of the dearth of studies concerning personality dimensions of personal space. Presumably an unaccounted for subject variable affected the experimental results. Personality differences with regard to introversion-extroversion, a subject variable not considered in this study, may have influenced subject response to the target person. As previously mentioned, Williams (1963) found introverts maintaining a greater conversational distance than extroverts. Although Dosey and Meisels (1969) found the Rorschach variable of body-image boundary unrelated to personal space, this variable must remain open to further testing. Also an individuals affiliation motivation can effect proximity in spatial relationships (Argyle & Dean, 1965). Altman and Haythorn (1967) found spatial behavior in isolated groups to be influenced by the personality

dimensions of need achievement, need affiliation, need dominance, and dogmatism. With further investigation into these and other personality variables, perhaps light can be shed on the low commonality of organized responding in this study.

Post experimental questioning revealed a variable which may have confounded results for females. Four of the six high sensation seeking repressor females were first year nursing students. In addition, several other female subjects were also enrolled in first year nursing school. Results showed a discrepancy between the verbal report of the nursing students in the projective situation, and their behavior in the live situation. A number of nursing students verbally related after the projective technique that they were trained to treat all patients the same, whether the illness was mental or physical. Yet in the live situation, the high sensation seeking repressor females maintained a mean seating distance of 28 inches from the peer, 35 inches from the epileptic, and 88 inches from the mentally ill individual. This result gives some credence to the notion that an individuals personal space is established completely outside his awareness (Little, 1965). In the live situation, subjects were unaware of the experimental variables of interest, and distance differences were manifested that were contradicted in the projective situation. Here the nursing students

(and all other subjects) were told before the doll placement experiment began that the experimenter was interested in the distances people maintain between themselves in a conversation. Subsequently, three of four subjects reported they saw no difference in distance they would maintain to peer, epileptic, and mentally ill individuals.

Few studies in the literature of personal space have directly viewed the spacing differences between males interacting with males, and females interacting with females. Sommer's work in personal space has described women as being able to function at a closer distance to women than to men, whereas men tend to maintain greater distances from individuals of either sex (Sommer, 1967). Horowitz, Duff, and Stratton (1964) also found females interacting at a closer distance to other females than to males. In the present study, experimental results do not completely confirm these sex differences. The main effect of sex found females interacting at a mean distance of 44 inches and males at a mean distance of 52.7 inches. These results are not significant but are in the same direction found in Sommer's research.

It has been noted that high sensation seeking-repressor females maintained a mean distance of 28 inches from the peer, 35 inches from the epileptic, and 88 inches from the mentally ill target person. Conversely, high sensation seeking-repressor males maintained a distance of 76 inches from the peer, 58 inches from the epileptic, and 27 inches from the mentally

ill target person. The opposite kind of distance relationship existed for low sensation seeking-sensitizer males and females. Here females maintained a mean distance of 78 inches from the peer, 24 inches from the epileptic, and 20 inches from the mentally ill target person. Males maintained a mean distance of 30 inches from the peer, 72 inches from the epileptic, and 83 inches from the mentally ill target person. Although these results are not significant, the differences indicate that females do not typically interact at a closer distance to other females than males to males. Physical attributes of the target person and the R-S, SS dimensions influenced interactive distances.

The second question of interest concerned the physical attributes of the target person and its effects on spatial distance. Predictions concerning the live interaction distances indicated that subjects would maintain greatest spatial proximity to the peer, least spatial proximity to the mentally ill individual, with distance to the epileptic falling somewhere between the two. These predictions were partially based on Kleck's (1968) research which found subjects maintaining a significantly greater distance from epileptic confederates than control confederates. Mean distance in the control condition was 5 ft. 4 in. and 6 ft. 6 in. in the epilepsy condition. Findings from Kleck's modified use of the Levinger figure placement task showed subjects maintaining similiar proximity to mentally ill dolls as to epileptic dolls. Present results do not confirm the Kleck hypothesis. The main

effect of subject interaction with the peer, epileptic, and mentally ill target person was not significant. Even though mean distance differences were as great as 2 1/2 feet between stigmatized and nonstigmatized conditions, overall signifigance was not found. Again, this reflects the tremendous variability of subject responding within the target person condition.

Kuethe's (1962) research concerning social schemas offers some insight into the lack of commonality in subject responding to the target individuals. Kuethe relates that for subjects to manifest a high commonality of responding similiar "social schemas" or "response sets" must function to structure the responding. For Kuethe, similiar social schemas across subjects lead to organized responding. These hypotheses were tested by means of a projective technique.

In the present investigation, the lack of commonality in subject responding may be a function of subjects possessing dissimiliar social schemas with respect to peer, epileptic, and mentally ill individuals. The implication is that subjects did not hold the same schema in organizing a response to the target person conditions. Individual differences and experiences toward stigmatized individuals would lead to the kind of idiosyncratic behavior observed.

The third important question within the present study involved assessing the correspondence between two independent

measures of personal space, i.e., personal space measured in a live interaction and personal space measured in a projective situation. The literature of proxemics offers a wide range of methodologies used to measure spatial behavior: Levinger and Gunner (1967) devised a felt technique and tape technique to measure interpersonal distances; Kuethe (1962) employed a felt board and felt figures; Dosey and Meisels (1969) used a silhouette task, an approach task, and a seating task; Little (1965) employed human projective figures and placement of live actors in measuring personal space; Haase and Markey (1973) studied the relationship between four measures of personal space: in vivo participation (subjects approaching another person until a comfortable distance is reached), live observation (subjects rank ordering five interaction distances depicted by actors), felt board placement (placing felt figures on a felt board), and photograph observations (subjects rank ordering five photographed interaction distances between seated models).

Studies attempting to assess the correspondence between independent methodologies offer a wide range of conclusions. Little found a pearson correlation of .77 between personal space measured by means of small projective figures and personal space measured by subjects arranging actors in a live situation. Dosey and Meisels found a lack of consistency across their three measures of personal space.

Kleck found some similiarity in spatial behavior by using a modification of the Levinger and Gunner technique and an unobtrusive interaction technique. Haase and Markey intercorrelated the in vivo participation and other techniques and found the live observation technique ($r.=.75$, $p<.01$) and felt board technique ($r.=.56$, $p<.01$) as the best estimates of actual behavior in a live situation.

Present results report a pearson correlation of .25 for males and -.18 for females with regard to the two independent measures of personal space. This suggests there is little correspondence between the employed methodologies, i.e., the projective technique was not an accurate predictor of how a person would respond in a live situation and vice versa. However an important point must be mentioned. In the live interaction subjects were totally unaware that distance was the important experimental variable. In the projective situation subjects were told that the experimenter was interested in the distance between felt dolls for comfortable conversation. With subjects aware of the distance variable in one technique and unaware in the other technique, a valid correspondence between the two methodologies cannot be assessed. The implication becomes that subjects respond differently in terms of spacing when the distance variable is either known or not known. A valid correspondence between the two measures

would call for subjects to be informed of the distance variable before each technique, or to remain uninformed through both techniques.

Analysis of the projective data also revealed the main effect of doll placement in relation to the peer, epileptic, and mentally ill conditions to be significant. The trend is in the direction predicted with subjects placing a doll closest in the peer condition, furthest in the mentally ill condition, and between the two in the epileptic condition. These results support Kleck's projective data which showed subjects placing a doll representing the self at closer distances to a nonstigmatized doll than to a stigmatized doll.

Since the sex x target doll x target person exposure interaction was found to be highly significant, the main effect above cannot be discussed independently of these other variables. Analysis of this interaction revealed an interesting trend for males. Doll placement was found to be related to the target person the males interacted with in the live setting. Males interacting with the peer in the live situation, placed the doll at a significantly closer distance to the peer doll opposed to the epileptic and mentally ill dolls. Although the remaining analyses were not significant, the trends indicate doll placement to be related to the target person exposure in the live setting. Subjects exposed to the epileptic in the live

situation, placed the doll at closer proximity to the epileptic doll than to the peer or mentally ill doll. The same holds true in the mentally ill condition. Subjects exposed to the mentally ill individual placed the doll closer to the mentally ill doll than to the peer or epileptic doll.

However, results did not reveal this sort of trend for females. For example, females exposed to the mentally ill target person placed the doll at a significantly greater distance in the mentally ill conditon than in the peer or epileptic conditions.

The last major consideration of importance focused on the dependent variable eye contact. Argyle and Dean (1965) have discussed this nonverbal behavioral phenomenon in terms of an affiliative conflict theory. The authors hypothesize that there are approach and avoidance forces behind eye contact and that an equilibrium level develops for intimacy. Eye contact and proximity are two variables hypothesized to effect this equilibrium level. Results found eye contact diminished the closer two subjects were placed together. Goffman (1963) found less eye contact when a state of tension existed between people. Kleck (1968) hypothesized that subjects would maintain less eye contact when exposed to an epileptic target person versus a non-epileptic target person. Results indicated, however,

no significant differences with regard to eye contact in the epileptic and non-epileptic conditions.

The present study related the approach-avoidance hypotheses of the four personality groups to levels of eye contact. High sensation seeking repressors were expected to maintain the greatest amount of eye contact, low sensation seeking sensitizers the least, with eye contact degree for the other two groups falling in between. For all subjects, eye contact was hypothesized to be greatest in the peer condition, and least in the mentally ill condition, with eye contact in the epileptic condition falling somewhere in between.

As previously mentioned the sensation seeking x repression-sensitization effect was not significant; however, trends were in the direction predicted. The main effect of peer, epileptic, and mentally ill conditions was significant in degree of eye contact. Subjects manifested the greatest amount of eye contact in the peer condition. No difference was found in the epileptic and mentally ill conditions. Although Kleck found no difference in eye contact in the control and epileptic conditions, these results support his hypothesis that degree of eye contact would be greater in a nonstigmatized condition versus a stigmatized condition. If one can assume subjects were more tense or anxious in the stigmatized condition, then Goffman's notion of less eye contact within a tension

situation is supported.

Consistent with the predictions, repressors maintained greater eye contact in the peer condition versus the epileptic and mentally ill conditions. Significant differences between repressors and sensitizers existed only in the peer condition. Also, consistent with the predictions, high sensation seekers maintained more eye contact in the peer condition versus the epileptic and mentally ill conditions. Significant differences between high sensation seekers and low sensation seekers existed only in the peer condition.

These findings can be explained in terms of Argyle and Dean's affiliative conflict theory. These authors contend that if the intimacy equilibrium is upset by increased physical closeness or increased/decreased eye contact, then compensatory behavioral changes will take place to maintain the equilibrium. Sommer's research (1967) has shown the standard interactive distance for seated conversation is approximately 5.5 feet. In the present study the grand mean for the first interpersonal distance 4 feet, and for the second interpersonal distance 2 1/2 feet. This is considerably under the 5.5 feet distance described by Sommer. Eye contact measurement was recorded within the second distance interaction. According to Argyle and Dean, compensatory changes should take place because of the interactive distance violation. Presumably the differences in eye contact between the stig-

matized and nonstigmatized conditions is a result of compensatory change. The increased proximity and tension involved with subject interaction with epileptic and mentally ill target people could be the reason subjects maintained more eye contact in the peer situation. The validity of this assumption could easily be tested by having subjects respond to the peer, epileptic, and mentally ill conditions at distances of 2 1/2, 5 1/2, and 8 feet. The decreased-increased spacing should lead to changes in the amount of eye contact, i.e., less eye contact at the closer distance, more eye contact at the furthest distance. Also the notion that a stigmatized target person leads to greater subject anxiety could be tested with a post experimental questionaire.

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TABLE 1

First interpersonal distance scores in inches with regard to the four independent variables (N=2)

GROUPS		PEER		EPILEPTIC		MENTALLY ILL	
		Male	Female	Male	Female	Male	Female
LSS	R	132;31	118;14	125;42	18;15	37;25	41;89
	S	21;40	128;29	19;126	19;30	136;31	20;20
HSS	R	102;51	18;38	83;33	37;33	34;21	39;137
	S	26;35	16;18	20;22	26;28	30;42	40;84

TABLE 2

Second interpersonal distance scores in inches with regard to the four independent variables (N=2)

GROUPS		PEER		EPILEPTIC		MENTALLY ILL	
		Male	Female	Male	Female	Male	Female
LSS	R	32;40	38;15	28;23	31;12	22;38	37;22
	S	16;37	27;22	33;37	37;16	37;32	16;23
HSS	R	53;21	41;38	44;23	33;41	17;28	40;30
	S	25;16	32;18	38;36	38;30	21;40	40;27

TABLE 3

Eye contact scores in seconds with regard to the four independent variables (N=2)

GROUPS		PEER		EPILEPTIC		MENTALLY ILL	
		Male	Female	Male	Female	Male	Female
LSS	R	85;135	102;97	110;95	42;50	48;113	89;86
	S	68;45	96;76	102;48	142;75	69;117	106;106
HSS	R	120;145	178;134	100;125	63;36	90;25	68;116
	S	85;36	121;175	85;98	65;130	88;50	125;88

TABLE 4

Mean placement scores in inches in the

projective situation

GROUPS		PEER						EPILEPTIC						MENTALLY ILL					
		Peer		Epil		MI		Peer		Epil		MI		Peer		Epil		MI	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
LSS	R	5.3	2.8	6.0	6.4	4.9	4.2	6.2	2.5	5.5	7.8	2.8	4.8	7.0	3.4	7.3	7.1	2.5	7.3
	S	3.3	3.1	4.4	5.9	3.9	4.3	6.1	4.1	4.2	7.6	4.4	5.3	6.3	3.3	5.1	8.9	4.0	9.5
HSS	R	4.0	4.4	2.9	4.7	3.9	4.4	6.0	2.9	2.3	5.4	3.4	4.1	6.8	2.7	2.5	4.9	3.5	4.3
	S	5.6	1.8	5.3	4.0	4.9	3.8	8.4	2.5	4.1	4.8	6.1	3.1	10.8	1.9	4.8	4.4	4.9	4.9

FIGURE 1

Frequency of first interpersonal distance scores in inches (Males)

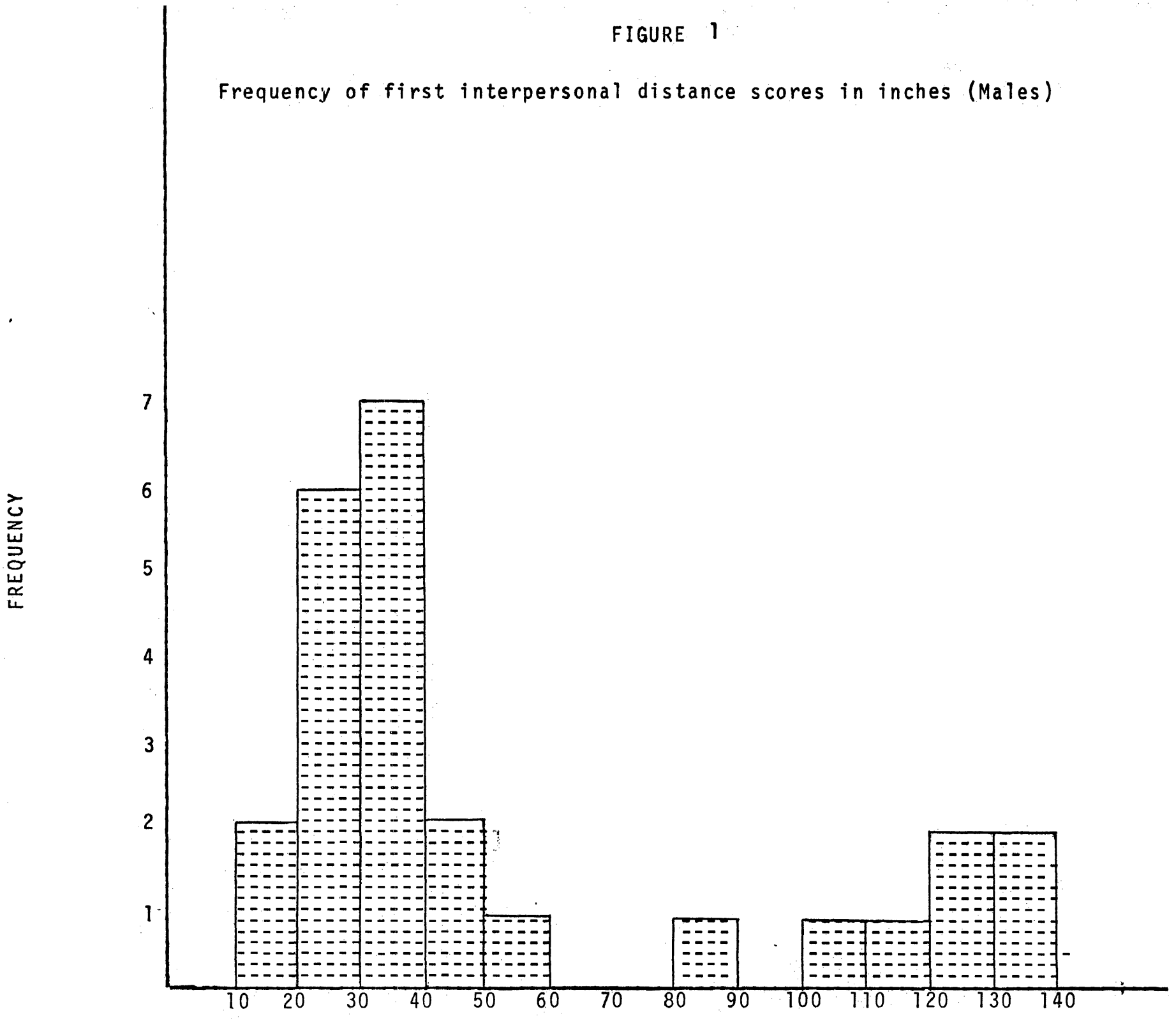

FIGURE 2

Frequency of first interpersonal distance scores in inches (Females)