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Visual Interaction at Extended Distances

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Abstract. Male and female visual orientation levels while speaking and while listening were examined at interpersonal distances above those typically chosen for conversation to test an equilibrium theory of social intimacy. Results indicated that while an upper distance boundary for female visual responsiveness is reached between 7' and 9.5', predictions from an equilibrium theory still hold for males as an upper boundary for male responsiveness (a decrease in looking) had not been reached by 14.5'. Further, while males increased their looking while they spoke at these large distances, females decreased their level of visual regard over the course of the conversation. This result reinforces the interpretation that the extended distances used lack the appropriate reinforcement value for women and hence lead to their greater withdrawal from interaction.

The relationship between visual interaction and interpersonal distance has been examined by a number of investigators during the last decade (see Aiello, 1976; Argyle & Cook, 1976; and Patterson, 1973; for reviews of these studies). This growing body of research has been quite supportive of an equilibrium theory of intimacy suggested by Argyle & Dean (1965). This model maintains that approach and avoidance tendencies are present in every interpersonal encounter. These conflicting tendencies are then reflected through the verbal and nonverbal behaviors that are emitted by individuals, examples of these behaviors include the topic of conversation discussed, the degree of physical proximity, the amount of smiling, and the amount of visual interaction.

Once a comfortable level of intimacy is established between interactants, any change or disturbance of this overall level that results from the modification of the intimacy level for one of the components should lead to compensatory adjustment vis-à-vis another of the components to restore the established level of comfort. If compensation is not possible "because all (components) are held constant or because the deviation is too extreme, the subject will feel uncomfortable..." (Argyle & Dean, 1965, p.293-294).

Most of the research to date that has provided data to examine the utility of this model has considered the effects of inappropriately close interaction distance on other components of the Argyle & Dean formulation. That is, what people do when someone stands or sits too close, thereby invading their "personal space". Results of these investigations have been rather unequivocal. People who cannot adjust this distance experience physiological arousal, anxiety, and display signs of discomfort. Several studies have found decreased visual gaze at very close distances (Aiello, 1972, 1976; Argyle & Dean, 1965; Goldberg, Kiesler, & Collins, 1969) and decreased directness of body orientation with increased proximity (e.g., Aiello & Jones, 1971).

Few studies however have focused on the reactions that occur as a result of interaction distances that are too far. Two recent probes

(Dinges & Oetting, 1972; Haase, 1970) which showed pictures of interactants at various distances to subjects, yielded ratings of the largest distances as most uncomfortable. Similiarly, in data that we have recently gathered, where subjects were shown videotapes of interactants at varying seated distances, both males and females characterized distances at 10' and above as "very uncomfortable, inappropriate, and definitely not preferred". Since females (after about age 12) actually prefer closer distances than do males (Aiello & Aiello, 1974), we could expect that the uninitiated experiencing of large distances might even produce greater discomfort for females than for males. Some evidence supporting this expectation has been found in our previous research (Aiello, 1972, 1976); while larger distances led to increased looking by males, female gaze increased only to an intermediate distance of 6 feet and then declined beyond that distance. Aiello (1976) proposed a modification of the equilibrium model which specified that very uncomfortable interaction distances, whether too small or too large, lead to decreases in the involvement level desired by the individual that may then be reflected by a decrease in visual interaction. The present study was designed to explore the process of male and female visual interaction at distances beyond those usually chosen for seated conversation. Sommer (1962), and more recently Patterson (1976) and Aiello (1976) determined that the seated distance typically chosen for "comfortable (face-to-face) conversation" was about 5 feet; this distance falls within the close phase of Hall's (1966) social distance zone. The distances used in the present design all represent expanses above the close phase of this social distance zone.

Method. Forty male and forty female undergraduates from introductory psychology courses were the subjects. Equal numbers of subjects were exposed to one of the experimental distances: 7', 9.5', 12', and 14.5', according to a random schedule prepared prior to the experiment.

When a subject arrived for the experiment, he or she was met by one of the two male interviewers (approximately the same age as the Ss) and escorted into the (16.5' x 8.0') experimental room. After telling the S to "have a seat over there (pointing), please" and taking his own prearranged seat, the interviewer exchanged names with the subject and asked him/her a few "ice-breaking" questions (e.g., What class are you in?). The use of tables and a relatively heavy, comfortable chair with armrests for subjects to sit in insured the intended direct angle (within five degrees) and distance (within a few inches). The format for the session then proceeded in a manner similar to that fully described by Aiello (1976).

The interviewer informed the subject that from these interviews a questionnaire concerning "our current welfare system" was being assembled. The interview was divided into three intervals, each consisting of a one-minute questioning interval followed by a one-minute responding interval. The interviewers used the "natural" visual behaviors of 75% looking into the subject's eyes when listening and 50% looking into his/her eyes when speaking, that had been established in previous research (e.g., Aiello, 1972, 1976). These looking patterns by the interviewers were routinely checked and were found to be quite stable (within 6%). The training of the two judges who would observe subject's visual regard took twenty hours to complete (see Aiello, 1976 for details). Reliability estimates were based on five one-minute segments of interview time during which the two judges simultaneously recorded the visual behavior of

a single subject. The reliabilities obtained at the four experimental distances ranged from .94 to .99 with an average reliability of .97.

Results and Discussion. The present results support Argyle and Dean's equilibrium theory only for men. Males looked more with larger distances but females did not (see Figure 1). Finding no differences between subjects' responses to the two interviewers, these data were combined in the analyses. Trend analyses performed on these data (Winer, 1962) revealed significant linear trends for the male visual orientations (subject's looking while speaking, L/S, and subject's looking while listening, L/L) across the four distances, $F(1, 36)=6.01$, $p<.025$ and $F(1, 36)=4.92$, $p<.05$. These results clearly diverge from those obtained by Argyle and Ingham (1972), who reported that the distance-looking relationship holds only for L/L. As can be observed in Figure 1, the amount of looking into the region of the interviewer's eyes by males while they are speaking increases from less than 40% at 7' to almost 60% at 14.5' and their amount of looking while listening increases from just over 70% at 7' to almost 90% at 14.5'. While these increases are occurring for males, females are gradually looking less as the distance between them and the interviewer becomes larger (from 7' for L/L and after 9.5' for L/S). It should be noted that no differences were found between groups for the other intimacy components (e.g., amount of smiling or talking) which might have compensated for this decrease in looking by females at the larger distances. Further, while only male interviewers were used in the present study, similar results were obtained with all sex combinations to

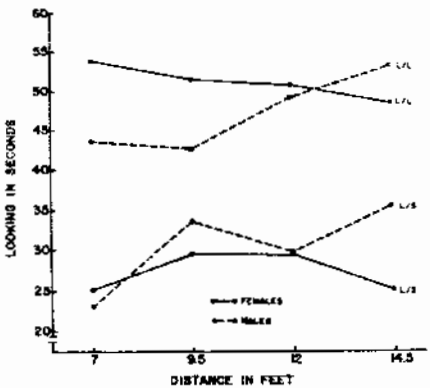

Figure 1:
Mean male and female visual orientation levels while listening (L/L) and while speaking (L/S) as a function of interpersonal distance.

10.5' in two previous studies (Aiello, 1972, 1976). It would certainly appear from these results that while the upper distance boundary for female visual responsiveness is reached between 7' and 9.5', indeed predictions from an equilibrium theory still hold for males as an upper boundary for male responsiveness had not yet been reached at 14.5'.

As expected, females looked more into the region of an interviewer's eyes while listening to him than did males at 7', $t(29)=3.99$, $p<.001$ and this difference remained at 9.5', $t(29)=3.05$, $p<.01$ but had dissolved by 12' and had shown a trend toward reversing itself by 14.5', $t(29)=1.32$, $p<.10$). For L/S, greater looking by males than by females occurred at

more proximal distance than for L/L. This difference approached but did not attain significance at 9.5', $t(29)=1.35$, $p<.10$; the difference was pronounced by 14.5', $t(29)=3.88$, $p<.001$. A marginally significant interaction was found between sex of subject and trial in the analysis of variance of the L/S data, $F(2, 144)=2.90$, $p<.06$; males increased their looking as they spoke during the interview, while the females decreased their looking across intervals. This result reinforces the interpretation that the large interaction distances used in this study lack the appropriate reinforcement value for women but are apparently not especially uncomfortable for men, particularly since the increased looking by males over time is directly opposite from results obtained at closer distances in past experiments (e.g., Aiello, 1976), which found the amount of looking to decrease as an interview progressed.

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Footnote

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