

EYE-CONTACT PHENOMENA RELATED TO CHOICE OF
PARTNER AND AGGRESSIVE/PASSIVE ROLE PLAYING

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CHAPTER I

INTRODUCTION

A definitive provision of social performance is that it takes place within the confines of the interrelated behavior of two or more individuals whose behavior is not solely determined by the wishes of a single person. That the idiosyncratic behavior of the individuals can be interrelated supplies the base for, or basis of, social performance. As Argyle and Kendon (1967) pointed out, ". . . individuals must be able to agree as to what the encounter is about, who is dominant, who is submissive; they must agree upon the level of intimacy; and there must be coordination in terms of emotionality and the patterning of actions in time," (p. 59).

It is readily apparent that the above adjustments may come about only by the transmission of signals or cues (information) between the confronting individuals. How is this transmission accomplished? The answers range from the obvious--they tell each other--to the abstruse (Goffman, 1959, 1963). One method of transmitting this information which long has been popular with poets and writers has been the "message of the eyes." Or, stated in the accepted academic terminology, that of eye-contact.

~ A great deal of effort has been devoted to the demonstration of eye-contact as a behavioral variable within social performance. Simmel (1921) has stated that one's desire for union with another determines

whether a one-way or mutual glance is used in establishing communication. Tomkin's (1963) discussion of taboos of mutual looking suggests that the emotional involvement implicit in a mutual glance (particularly of a sexual nature) will, under certain circumstances, inhibit--or encourage--the desire to become involved. This inhibition effect may be found within many animal studies concerned with dominance and aggression (Devore, 1965). Exline and his associates (Exline, 1963; Exline & Eldridge, 1965; Exline & Winters, 1965; Exline, Gray & Schuette, 1965) have lent generous support to the notion that the amount of eye-contact (attempted and accomplished) is related to the orientation a person holds toward his situation or companion(s). Exline and Winter (1965) note, ". . . one observes another's visual behavior and infers, we believe, the degree and affective sign of the other's involvement in a momentary interpersonal relationship . . . or learns from the behavior of the other's eyes something of the other's desire, willingness, or ability to relate emotionally to another" (p. 320).

~ It would seem, then, that enough thought and evidence exists to consider eye-contact as a meaningful variable within social performance. However, a distinction in non-verbal acts such as eye-contact has been made by Ekman (1965). His system classifies an act as an indicator or a communicator. Essentially, the indicator focuses attention upon the sender and the communicator focuses upon the receiver. Perhaps the terminology of information sending and receiving is more descriptive. The previously mentioned research has focused on the receiving or interpretation of eye-contact and as yet fully failed to ask the question of whether subjects will use eye-contact

to elicit effects that have been established previously by manipulating the amount of eye-contact. What, then, have some normal patterns of eye-contact found to be? When engaged in normal conversation two people will engage in mutual eye-contact on an intermittent basis. The percentage of the time that two people will share this mutual glance will usually fall between 5 and 30 percent of the time (Argyle, 1967; Exline & Winters, 1965). This percentage of eye-contact is established by each individual looking non-mutually at the other between 30 and 60 percent of the total time. In an unpublished study Cathcart, Kersey, Breed, Garcia, Rubin, and Wells (1968) found consistent individual patterns of mutual eye-contact percentages well above 70 percent. Argyle (1967) has also noted the close interrelation between eye-contact and the pattern of speech taking place. People seem to look more when listening than when transmitting information. Their glance, or "looking behavior" tends to be longer and their away-glances, or "avoidance behavior," are shorter in duration. When a person is preparing to speak, he will glance away from the person who is the object of his message; at the end of sentences or natural breaks he glances briefly at the other person, and at the termination of his communication he will give a longer gaze. The listener will at the same time be giving glances that are much longer (Kendon, 1965).

Along with the information obtained demonstrating the existence of general eye-contact norms, great variation between individuals in the amount of looking was found. Argyle and Dean (1965) have demonstrated that women engage in more eye-contact than do men, particularly when talking to other women. Exline and Winters (1965) also found



same-sex pairs to engage in more eye-contact than cross-sex pairs. In an attempted replication of these data, Cathcart, et al. (1968) could not substantiate the findings. Exline and Winters (1965) also found that women will look more at the other while speaking if they like him, while men look more when listening if the other is liked.

People high in the need for affiliation look more, but only in a cooperative situation. If the situation is competitive, the subject high in dominative needs tend to look more. These effects are heightened among women. This has been used to explain women looking more, i. e., women are higher in affiliation and lower in dominance, so that a friendly experimental setting elicits more looking (Exline, 1963).

The essence of the information alternatives are summarized by Argyle (1967) as follows:

1. A wants to initiate interaction with B.
2. A shows B the attitude or emotions which he feels toward B.
3. B wishes to show A that he accepts--or rejects--A's proposed relationship.
4. At the end of each speech A looks at B to signal he may speak.
5. A wishes to show B he is more believable, more confident, and more favorable in his attitude toward B.
6. If A gives B glances rather longer than normal, he

indicates he is more concerned with B as a person than with the issue at hand.

While the above possibilities are essentially concerned with the sending of information, it is equally necessary for a communicator to get feedback on the other person's response, i.e., attend to communicator acts. Person A may wish to know simply if he still has B's attention, or if B has understood and/or agrees, or, perhaps most importantly, if he still has permission to continue the interaction.

While an extensive effort has been made to catalog the norms of eye-contact data, quite a bit of research has been completed concerning the motivational aspect of eye-contact.

Argyle (1967) used the information seeking function to hypothesize the nature of the underlying motivation of the avoidance behavior at the outset of a communication. He felt that the speaker does not wish to be distracted by extra inputs of information while he is planning and organizing his message. Several studies are available as support for this theory of eye-contact motivation; Kendon (1967) states that A ". . .will tend to look more when he is engaging in fluent, well-rehearsed material than when engaging in hesitant and unfluent passages." Exline (1963) has found that the difficulty of the material, per se, correlated with looking. That is, more difficult and complex material elicits less looking behavior on the part of the sender. Argyle also offered the hypothesis that the avoidance is really an effort to reduce anxiety as an alternative to his information theory of motivation. (Argyle & Dean, 1965; Stass and Willis, 1967).

While short periods of looking may simply be information processes, longer periods signify a heightened interest in the other person (Argyle, 1967), either in an affiliative, sexual, or aggressive/competitive sense. Looking should be correlated positively with these motives (Argyle, 1967). For example, Exline and Winters (1965) have found high affiliators to engage in more eye-contact when in the presence of a person whom they like. However, there is evidence that being aware of being observed is disturbing (Liang, 1960).

Paralleling the research devoted to the information and anxiety hypotheses is work directed toward suggesting eye-contact to be a component of "intimacy" (Argyle & Dean, 1965). Exline, Gray, and Schuette (1965) found fewer personal questions to be asked of an interviewer when the interviewer gazed continuously. Kendon (1967) found a negative relation between smiling and eye-contact. If A smiles, then B smiles, thus raising the intimacy in the conversation. At this point of higher intimacy the amount of eye-contact decreased. Argyle and Dean (1965) tested the hypothesis that distance and eye-contact would also be negatively related. Their results add evidence that eye-contact decreases with intimacy--in this case operationalized by assuming physical closeness to be intimacy.

It is obvious that considerable effort has been directed toward the variable of eye-contact within social performance; however, several criticisms may be levied against the preceding research. One aspect is that the paradigms selected, almost without exception, assume the subject to be using eye-contact in connection with a pre-selected variable. That is, a receiver indicates he is interpreting a condition

which contains increased eye-contact as a condition that contains aggression; therefore, the experimenter ascribes aggression to the sender. It seems, however, that no one has asked subjects to be aggressive and checked to see if indeed the subject as a sender uses the variable is predicted. Of notable exception to this criticism is an attempt to examine the motivational aspect of eye-contact in which the behavioral state of the subject, i.e., anxiety, is manipulated (Stanley & Martin, 1967). Even this study, however, fails to get at the question of how the subject interprets his efforts at information sending. By utilizing the method of role playing, perhaps two questions may be answered: 1) Do subjects as senders recognize the social value of eye-contact as information sending, and 2) if subjects do recognize the variable as useful, will they use it in the manner predicted by the behavioral scientist from his data gathered from receivers?

Another seeming failure in the attempt to demonstrate the eye-contact phenomenon has been the choice of experimental designs. Only one study (Stass & Willis, 1967) has attempted a true within-subject design; the remainder have been cast into a between-subjects analysis. That is to say, rather than attempting to find differential effects of several eye-contact conditions to the same individual, experimenters have relied upon assigning one condition of eye-contact to a group and then comparing its results to another group which has received a different condition. Since it is readily demonstrated that baseline rates between individuals is a highly significant factor (Cathcart, et al., 1969) between groups seems to be tenuous--or at least a less powerful demonstration of the viability of the variable of eye-contact.

Although less severe, several additional criticisms exist. Virtually all the data collected is from dyadic discussion or interview situations. That is to say, the effect has generally been studied only among the smallest of groups. Furthermore, the available cross-sex data is conflicting and quite scarce.

The following series of two experiments were designed to attempt to correct the first two criticisms. The manipulations were: 1) To ask subjects to "play roles," i.e., attempt to send a specified type of information, and determine if the subjects use the variable as previously hypothesized, and 2) cast the subject in such an experimental setting as to expose him to several conditions of eye-contact rather than a single condition. The experiments will also attempt to extend specific previous findings, e.g., to groups larger than dyads, and to attempt to simply replicate findings of previous experiments in order to more fully demonstrate their existence.

CHAPTER II

EXPERIMENTS

Experiment One: Method and Results

Subjects

The 176 male and 176 female subjects involved in the experiment were, for the most part, from the University of Florida's introductory psychology course subject pool. Most subjects were fulfilling introductory psychology course requirements for experimental participation, however some were recruited by asking passing students to "help out." With only a few exceptions, the passersby responded affirmatively to the request.

Procedure

A posted announcement indicated an experiment that offered enough credit to meet the student's entire obligation, but that a prerequisite of an interview by a committee was necessary. The subjects were informed that perhaps one-half of those interviewed would be selected to continue with the second half--this information was given after the completion of the collection of the data from the interview. In reality, only 32 subjects were selected to continue in the second experiment.

Upon reporting to the experimental room, the subject found a panel of three persons waiting for him. The panel was comprised of

either all males, all females, or a mixture. The three specific individuals comprising the panel were one combination of all the possible combinations of four male and four female confederates of the experimenter. The compositions were counterbalanced so that each confederate was a member of differently constituted panels an equal number of times. The members of the panel had been previously instructed to conform to one of three eye-contact availability conditions: constant availability, spontaneous availability, or non-availability. The portrayal of the three conditions was also rotated among panel members in a counterbalanced manner.

Following a brief introduction to the panel the experimenter left the interview room. The subject found himself seated facing the panel which was in turn seated about a small table some 10 to 12 feet away. The seating order of the panel was haphazardly changed with each change of subject. A 4-minute discussion of the subject's concepts, attitudes, and goals in the field of psychology and experimentation in psychology took place. During this interview, the panel members attempted to maintain a neutral presentation of their questions --each asking three of the same nine questions (see Appendix A). The choice of which three to ask was also changed in a haphazard manner, i. e., each panel member asked any three questions that he had not asked in the immediately previous interview. The order of the questions was established only by the subject's responses, i.e., if the response of a subject led naturally to another question it was asked.

Upon completion of the discussion, the experimenter returned and asked the subject to follow him outside the interview room. Once

the subject was away from the panel he was asked to simply identify the member of the panel he preferred to work with, or for, in the remainder of the experiment. If the subject questioned the experimenter about the feasibility of the choice, the experimenter acknowledged the difficulty, but stated it was to be a variable in the next experiment and was necessary. This satisfied all questioning subjects enough so that they made the choice requested. After the subject identified the member, he was informed that notification of those selected would be posted on the experiment notice bulletin board.

Predictions

If one makes the simple assumption that people will choose to work with those whom they like or find more attractive, then previously reported data indicating what degree of eye-contact makes a person attractive should predict the choice of the subjects. Winer and Mehrabian (no date) had two female subjects interviewed by a male confederate who looked more at one of the subjects. The most looked at subject found the interviewer to be more positive in value. Kersey (1968) in a re-analysis of the Cathcart, et al. data found that when the effect of individuals was statistically controlled, a significant interaction existed between liking, eye-contact, availability condition, and sex of subject. In essence, the females did not dislike being stared at, at least, did not devalue those who made eye-contact constantly available, but did devalue those who ignored their attempts at eye-contact. The male subjects did not dislike the condition where the confederate made no eye-contact available--that is, the males did not devalue those who gave no eye-contact while they did devalue males who

made it constantly available.

Based on the two studies above, the following specific predictions were made:

Prediction One: The female subjects will choose members of the panel in the following manner: spontaneous eye-contact availability more often than or with the same frequency as constant eye-contact availability, with no eye-contact availability chosen significantly less often.

Prediction Two: The male subjects will choose members of the panel in the following manner: spontaneous eye-contact availability more often than or with the same frequency as no eye-contact availability, with constant eye-contact availability chosen significantly less often.

Because of the conflicting data on cross-sex situations combined with the lack of data on triads, no hypotheses were advanced on the six intervening male/female combination panels. Rather, these data were to be viewed as exploratory investigation within the area of eye-contact.

Results

The frequencies with which subjects chose panel members for future partners in a second experiment constituted the data. The

data were subjected to a series of chi-square tests. The data obtained from the all-male and all-female panels were cast in a three-way contingency table with sex of subject, sex of panel, and eye-contact availability as the classification factors. The choice frequency from each of the six possible combinations found in the mixed panel situation, i. e., a male playing each of the three eye-contact availability conditions with two females playing the others, and a female playing each of the three eye-contact availability conditions with two males playing the others, were subjected to separate tests of independence in 2×3 contingency tables (Li, 1964).

The obtained frequencies of choice of future partner from same sex panels, i.e., all male or all female, for each cell are presented in Table 1. The expected frequencies are in parentheses. The resulting chi-square analysis of the same-sex panels indicated significant effects as shown in Table 2.

One note of explanation is necessary concerning the statistical analysis. Sex of subject effect and sex of target effect were forced to zero by the choice of the a priori assignments of expected cell frequencies. That is, all between-subjects data is not testable. This may be demonstrated if the male subject \times all-male panel cell is examined. Since each of the subjects in that cell ($n = 18$) must make a choice among the three conditions in the cell, and the a priori expectancies call for a frequency of 18 in that cell, it is readily seen that the two numbers will exactly coincide giving a chi-square of zero. The practical consequences of the situation are as follows:

- 1) the loss of one degree of freedom for each of the two between-subjects effects as well as a loss of another degree of freedom for

University of Florida's introductory psychology course subject pool. The 16 male and 16 female subjects were fulfilling introductory psychology course requirements for experimental participation.

Procedure

Upon reporting to the experimental waiting room, the subject found another person, the confederate of the experimenter, already waiting there. The experimenter immediately appeared and asked if the two were there for experiment number 191. Upon receiving affirmative answers from the subjects, they were led to the experimental setting: a room containing a small table (approximately 32 inches wide), two chairs, and a mirror. The experimenter then gave the following directions and explanations: "Would you (pointing to the confederate) please be seated there (pointing in a casual manner to the chair between the table and the mirror). And you, there (indicating in a manner that appeared to be a random choice for the subject to be seated in the chair facing the mirror). I'm exploring the conditions surrounding dyadic interaction; that is, interaction between two people. I would like to explain two aspects of this experiment. First, the mirror behind you is obviously a one-way screen. It is placed there so that my presence is minimized during this experiment. After all, I am investigating dyads and not three people, or what's called triads. Secondly, because I shall be asking each of you to participate in this experiment in a slightly different manner, I shall present the remaining instructions for this experiment as written text rather than verbally. Do you understand? O. k., here are your further instructions."

their interaction, and 2) all of the testable variances being forced to the within-subject condition, i.e., eye-contact availability conditions, and its interactions.

The two significant chi-squares found were for eye-contact availability condition ($\chi^2 = 7.6$, df = 2, $p < .025$) and for eye-contact availability conditions interacting with the sex of the subject ($\chi^2 = 7.6$, df = 2, $p < .025$). This, then, is support that eye-contact availability conditions lead to a differential choice of future partners. However, the effect seems to be different depending upon the sex of the person receiving the eye-contact; a male does not choose another male who looks at him continually or a female who avoids looking at him and females rarely choose anyone who avoids looking at them.

The data from the intervening mixed-sex panel conditions displayed in Table 3 appear to agree with the above. That is, eye-contact availability conditions found to be aversive in the same-sex panel conditions continue to be chosen less often. Table 4 compares the chi-squares found in the six mixed-sex conditions. The results indicate that as conditions establish more numerous aversive cells, choices are forced to the remaining cells, thus yielding chi-squares with smaller probability levels.

Experiment Two: Method and Results

Subjects

The 32 subjects involved in the experiment were a sample from the 252 subjects involved in Experiment One. All were from the

The confederate received no particular instructions. He was handed typewritten pages of text of obviously longer length than the subject's instructions, and, on the next occasion, a handwritten note. This was to make the subject unsure if the confederate were receiving the same set or type of instructions. The subject's instructions were one of two sets:

Set of Instructions Number One:--This part of the experiment requests that you discuss Mormons (Church of the Latter Day Saints).* Anything that you know, feel, or believe about the Mormons may be discussed. In other words, anything you feel to be appropriate to the discussion may be brought forth, but please do attempt to play the "role" of an AGGRESSIVE and VITAL debater. You may define the "role" as you see fit. PLEASE DO NOT BEGIN THE DISCUSSION UNTIL YOU HEAR A SMALL TAP ON THE ONE-WAY MIRROR.

Set of Instructions Number Two:--This part of the experiment requests that you discuss Mormons (Church of the Latter Day Saints). Anything that you know, feel, or believe about the Mormons may be discussed. In other words, anything you feel to be appropriate to the discussion may be brought forth, but please do attempt to keep the discussion only on Mormons. However, I further wish you to attempt to play the "role" of a PASSIVE and RETIRING debater. You may define the "role" as you see fit. PLEASE DO NOT BEGIN THE DISCUSSION UNTIL YOU HEAR A SMALL TAP ON THE ONE-WAY MIRROR.

After the subject and confederate read the instructions the experimenter took the instructions and retired to behind the one-way

*The subject of "Mormons" was chosen because the experimenter's previous use of the subject had established it as a neutral topic for the majority of University of Florida students.

screen. He then tapped on the one-way mirror to signal subjects to begin the discussion. A ten-point Esterline-Angus Event Recorder was used to record the amount of eye-contact availability the subject used in his interpretation of his assigned role. The recorder was wired in such a manner that the experimenter controlled the movements of one stylus with a telegraph key. Deflections of the stylus recorded eye-contact availability.

At the end of a 4-minute period, the experimenter returned to the experimental room, said, "Fine, now please read these." The subject was handed the second set of instructions and the confederate received another copy of what appeared to be different instructions. When the subject had read the instructions, the experimenter took them and once again retired behind the screen for another 4-minute period.

At the end of the second "staging," the subject and confederate were thanked for their assistance. At this time the two were asked if they would consent to do a favor for the next subject. It was explained that one of the pair due to participate next on the schedule had failed to arrive, and while it was a bit irregular, perhaps one of them would consent to do the experiment again. The confederate refused because of an extremely important prior commitment. After gaining the subject's acceptance (only two refused), another confederate of the opposite sex from the first confederate was ushered into the experiment room.

The procedure was then repeated, the experiment terminated, and the subject debriefed.

Predictions

Since the level of looking has been assumed to be related to the subject's orientation toward the others, this experiment was set up

to give the subject a specific orientation toward another and find out if he did, indeed, use eye-contact to differentially send information. Of specific interest in this experiment was Argyle's (1967) assertion that aggression should correlate positively with eye-contact. Cross-sex data once again were offered in a normative manner.

Prediction One: Based on Kendon's (1967) findings that the subject looks more when he is fluent and rehearsed, the subject should look more during his second presentation.

Prediction Two: Based on Argyle (1967) findings, it is predicted that women will engage in more eye-contact than men, particularly with other women.

Prediction Three: Based on Exline and Winters' (1965) findings, it is predicted that the same sex-pairs will engage in more eye-contact than cross-sex pairs.

Prediction Four: Argyle's (1967) assertion predicts that male subjects will stare more when playing the aggressive role. Since no female or cross-sex data afford a prediction, it should be assumed to also hold true for females and cross-sex situations as well.

Results

The data, consisting of the millimeters of inscription on event-recorder tape, were subjected to a $2 \times 2 \times 2$ (sex of confederate \times sex of subject \times passive/aggressive condition) repeated measures design. The repeated measures were over two factors--passive/aggressive condition and sex of confederate. This is referred to by Winter (1962) as Case-I type. The order of presentation was randomized for sex of confederate and randomized within sex of confederate for passive/aggressive presentation.

Table 5 shows the means for each of the experimental conditions. No effort was made to convert the millimeters of inscription on the event-recorder tape to increments of time since this amounts only to multiplying the data by a constant and would in no way change the statistical presentation. Table 6 presents a summary of the analysis of variance applied to the data. Sex of subject is a very strong effect ($F = 258.6$, $df = 1/30$, $p < .001$) with female subjects presenting far more eye-contact availability than male subjects. The eye-contact availability used by subjects in the two role playing conditions, i.e., aggressive or passive, is significantly different ($F = 17.3$, $df = 1/30$, $p < .01$). The subjects use less eye-contact when role playing the passive condition. And, finally, the amount of eye-contact availability used in the role conditions is found to interact significantly with the sex of the target person ($F = 6.7$, $df = 1/15$, $p < .05$).

The data may be recombined in such a manner as to demonstrate any effect found over trials. That is, by ignoring the sex of the

target, which in the actual experiment was counterbalanced, one obtains the measure of eye-contact during the first and second role playings of the aggressive and passive conditions. Table 7 shows the means of the cells obtained from the recombination of the data and Table 8 presents a summary of the separate analysis performed.

The prediction that women will look more across all conditions established from Exline and Winters' (1965) data is firmly substantiated. However, neither Kendon's (1967) prediction that more fluency will allow more eye-contact, nor Exline and Winters' (1965) findings that same-sex pairs engage in more eye-contact than cross-sex pairs finds support from the analysis of the recombined data. Nor is Argyle's (1967) assertion that aggression is positively related to eye-contact sustained by the analysis of the data in their original form. But, since there is a significant interaction between eye-contact availability and sex of target, the hypothesis does find some support.

Table 1

Choice of Future Partner Frequencies Obtained
from Same-Sex (Male or Female) Panel Conditions

	All Male Panel			All Female Panel		
	Constant	Spontaneous	Never	Constant	Spontaneous	Never
Male <u>Ss</u>	2 (6)	8 (6)	8 (6)	7 (6)	10 (6)	1 (6)
Female <u>Ss</u>	9 (6)	7 (6)	2 (6)	11 (6)	5 (6)	2 (6)

Note: The expected cell frequencies shown in parentheses are a priori assignments based on the assumption of independence of conditions.

Table 2

Chi-square Summary Table for Same-Sex Panel Conditions

Source	Chi-square	df	Probability
Sex of subject (SS)			
Sex of target (ST (confederate)			
Eye-contact availability condition (EC)	7.5833	2	.025
SS x ST interaction			
SS x EC interaction	7.5833	2	.025
ST x EC interaction	4.0833	2	.10
SS x ST x EC interaction	3.0834	2	.30

Table 3

Choice of Future Partner Frequencies Obtained
from Mixed-Sex (Male and Female) Panel Conditions

Panel Condition	Male Subject	Female Subject
Constant Male	2 (5)	6 (5)
Never Male	7 (5)	3 (5)
Spontaneous Female	6 (5)	6 (5)
Spontaneous Male	4 (5)	7 (5)
Never Male	5 (5)	2 (5)
Constant Female	6 (5)	6 (5)
Spontaneous Male	9 (5)	6 (5)
Constant Male	2 (5)	7 (5)
Never Female	4 (5)	2 (5)
Constant Female	7 (5)	7 (5)
Never Female	2 (5)	3 (5)
Spontaneous Male	6 (5)	5 (5)
Spontaneous Female	11 (5)	6 (5)
Never Female	3 (5)	2 (5)
Constant Male	1 (5)	7 (5)
Spontaneous Female	5 (5)	6 (5)
Constant Female	6 (5)	6 (5)
Never Male	4 (5)	3 (5)

Note: Expected cell frequencies established a priori on the assumption of independence of conditions.

Table 4

Chi-squares Obtained from Analyses of Six Intervening
Mixed-Sex Panel Conditions

Panel Condition	"Aversive" Cells	Chi-square	df	Probability
Constant Male				
Never Male				
Spontaneous Female	2	4.0	2	.20
Spontaneous Male				
Never Male				
Constant Female	2	3.2	2	.30
Spontaneous Male				
Constant Male				
Never Female	3	8.0	2	.02
Constant Female				
Never Female				
Spontaneous Male	2	4.4	2	.20
Spontaneous Female				
Never Female				
Constant Male	3	14.0	2	.001
Spontaneous Female				
Constant Female				
Never Male	1	1.6	2	.50

Table 5

Mean Millimeters of Event Recorded Inscription
Measuring Time Subjects Made Eye-Contact Available
to Target Person

	Male Target		Female Target	
	Aggressive Role	Passive Role	Aggressive Role	Passive Role
Male Subject	177.25	168.19	157.56	193.75
Female Subject	237.19	228.50	227.06	263.25

Table 6

Analysis of Variance Summary Table for Millimeters of Inscription
Measuring Time Subjects Made Eye-Contact Available to Target Person

<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>Probability</u>
<u>Between Subject</u>	290,394	31			
Sex of Subject (SS)	134,421	1	134,421.0	25.8	.01
Subject Within Groups	155,973	30	5,199.1		
<u>Within Subject</u>	87,755	96			
Sex of Target (ST)	1,861	1	1,861.0	3.4	.10
SS x ST	703	1	703.0	1.3	.30
ST x Subject Within Groups (error B)	16,372	30	545.7		
Role Condition (C)	5,967	1	5,956.0	17.3	.01
SS x C	00	1	00.0	0.0	
C x Subject Within Groups (error C)	10,344	30	344.8		
ST x C	16,244	1	16,244.0	6.7	.05
SS x ST x C	1	1	1.0		
ST x C x Subject Within Groups (error BC)	36,263	15	241.8		

Table 7

Mean Millimeters of Event Recorded Inscription
Measuring Time Subjects Made Eye-Contact Available
to Target Person

	Trial One		Trial Two	
	Aggressive Role	Passive Role	Aggressive Role	Passive Role
Male Subject	161.3	182.4	173.5	179.5
Female Subject	230.5	243.7	233.8	248.1

Table 8

Analysis of Variance Summary Table for Millimeters of Inscription Measuring Time Subjects Made Eye-Contact Available to Target Person

<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>Probability</u>
<u>Between Subjects</u>	290,394.0	31			
Sex of Subject (SS)	134,421.9	1	134,421.9	25.9	.01
Subject Within Groups	155,972.8	30	5,199.0		
<u>Within Subjects</u>					
Trial (T)	578.2	1	578.2	0.9	
SS x T	4.4	1	4.4	0.0	
T x Subject Within Groups (error T)	18,352.4	30	611.8		
Role Condition (C)	5,967.8	1	5,967.8	17.3	.01
SS x C	0.3	1	0.3	0.0	
C x Subject Within Groups (error C)	10,343.9	30	344.8		
T x C	384.8	1	384.8	1.1	
SS x T x C	536.4	1	536.4	1.6	
T x C x Subject Within Groups (error T x C)	51,586.8	15	343.9		

CHAPTER II

DISCUSSION

The results of Experiment One seem straightforward and clear. First and foremost, they demonstrate the effect of eye-contact in producing differential behavior within an individual. To those who had faith in the between-groups data perhaps this finding may seem unimportant; however, to the degree that the effectiveness of scientific variables rests upon demonstration in varying situations and content, this finding supports the belief that eye-contact may be viewed as a scientifically useful phenomenon. In this sense, Experiment One has dutifully contributed. The degree of consistency with which individuals in this experiment avoid the choice of certain types of partners in preference to other types seems to indicate the existence of generally known and accepted norms.

The conditions that are avoided are somewhat different for the two sexes. For males a "looking" male seems to be undesirable. If the animal data concerning dominance may be extended to humans at this point, it would seem reasonable to argue that this is merely one male resisting the attempted dominance by another male. What makes this ad hoc explanation somewhat tenuous is the data showing an opposite effect by a "looking" female. Since she is readily accepted--indeed, sought out--by the male, why is she not seen as attempting to dominate? Does the male wish to be dominated by the female? It does not seem

likely. Perhaps it is merely that the male does not perceive an attempt by a physically weaker female to dominate as plausible and therefore not as threatening. Another finding reported in the literature is that females just use more eye-contact than males, so it may merely be a case of a "looking" female meeting a cultural expectation while the "looking" male is not. If this be the case, one may explain both occurrences by noting that the unexpected is threatening. It must be stated, however, that invoking cultural expectations as an explanation says absolutely nothing about the genesis of the expectations.

In passing, it is easiest to explain the "looking" female choice of the male in terms of sexual connotations. Tomkins (1963) used this to explain his finding that females did not look at males as much as at other females, although this particular finding has not been replicated in several attempts by the experimenter and some of his immediate associates. However, it does not seem implausible that sexual implications may be found in eye-contact situations. This is different from saying they always are.

The psychology of individual differences offers one possible option for the female cultural trait of looking. She is found to be more field dependent in her behavior; that is, she leans upon the environmental milieu to guide her actions more than the male. It is perhaps for this reason that the results of Experiment One show the female subjects to avoid those--male or female--who do not offer them eye-contact. The explanation of expectation must be twisted a bit to fit this situation, but if the female expects the male to look at her for sexual reasons and another female to look at her for information-gathering reasons, then a nonlooking male or female is not meeting

her expectations.

Finally, Experiment One clearly shows that previously reported data in dyadic situations holds true at least for a group of four. This, of course, was an interview situation and it is possible that a discussion group could produce data of a different nature if sufficient competition were to be introduced. This could particularly affect the cross-sex conditions which, in this experiment, followed the same-sex patterns.

Experiment Two seems to be less straightforward in its results. Primarily the difficulty lies in the hypothesis concerning the amount of eye-contact that will be used when playing the aggressive role. Argyle's prediction of a positive relationship between aggression and eye-contact is not supported. In fact, the results of the statistical test of the data for the main effect of role conditions would indicate the reverse, i. e., that the relation between aggression and eye-contact is negative.

However, in examining the cell means listed in Table 1 it is possible to see that the data obtained from male targets are in the direction predicted. It is possible that the tremendous difference found in the results obtained from the females is overriding and hiding any possible effects to be found in the results obtained from the males. This situation is reflected in the significance of sex of target x role condition. The experimenter believes the significant interaction to be more truly reflective of the situation than the main effect. While this justifies to some degree the belief that Argyle's contention is supported by the male target data, it necessitates asking why it does not occur with females as targets.

The first place to look for an explanation of the result is in the experiment itself. Did some aspect of the experiment "force" the subjects into changed behavior? An examination of the role instructions offers one possible explanation. Did the subjects read the aggressive and active role demands as telling them to be hostile and/or negative? If so, then the results of the experiment agree remarkably well with the results of the first experiment. That is to say, if one does not care to be chosen (with its implication of not being liked), then what better way than to "look" at a male and not look at a female? This explanation fits the data well with the exception of the female-male cell in which the females choose to look more at the male. The males did not find this undesirable.

Alternatively, the passive and retiring instructions might have cued the subject to "sit and listen." This behavior has been demonstrated as positively related to more looking behavior. This does not seem likely since neither males and females followed this pattern of behavior when confronted with a male target.

It is exceedingly difficult to state which of the two, or if either of the two phenomena occurred. This is due to the failure on the part of the experimenter to include a control group in the design. In an effort to remedy the failure, a post-experimental attempt was made to find if the instructions were seen differently. This investigation consisted of asking 20 subjects to write three-sentence paragraphs explaining the behavior they thought was appropriate in a debate between two strangers. Next they were asked what behavior was indicated by either the one or the other set of instructions. That is, 10 subjects

wrote a paragraph about a debate and then a paragraph about the passive instructions, and 10 other subjects wrote a paragraph about a debate and then a paragraph about the aggressive instructions. Three judges (graduate students in clinical psychology) were unable to detect a significant difference in either comparison of the two situations.

If no element of the experiment, per se, seems to offer a satisfactory interpretation of the results, the next place to look is at the subjects as subjects. Does the subject actually know enough about his behavior to successfully "play" a role? The introductory texts in psychology are replete with one type of teaching mechanism: the initiate is offered a list of true-false questions concerning cultural truisms which he answers to the best of his layman's knowledge. He is then astonished to find that the behavioral scientist offers evidence that his preconceptions--those that everybody just knows!--are false. This is supposed to make the student more malleable to the new knowledge he is about to encounter. Perhaps, then the role behavior requested of the subjects in Experiment Two was an example of the behavioral science/layman disparity. That is, perhaps people do not see eye-contact as related to aggression. However, many folk-sayings, e.g., "stare the man down," exist that attest to the layman seeing a positive correlation between the two variables. Indeed, if questioned, the layman would probably predict as the experimenter and Argyle did. This particular questionnaire has yet to be given to a sample of subjects.

In line with the present discussion is a distinction that has been made concerning the difference between "role playing" and "role enactment." The essence of the distinction is that a subject will

offer different results if no ego investment is made in the situation. In other words, the role player does not have anything "on the line." Just why this would affect only half of the experiment is not very clear, and therefore open to some skepticism as an explanation.

Finally, let us look at the results of Experiment Two and the subject's actions as if they do truly reflect the culture and its norms, and try to isolate potentially effectual variables. If the experiment consisted of allowing some choice of behavior to the subject, it would surprise very few people if little aggressiveness was overtly directed toward females. Our cultural stereotypes of male and female are dichotomized by many things but very few so strongly as the one demanding a "man" to be strong, competitive, aggressive, and dominating, and a truly "feminine woman" to be soft, demure, and yielding. Our norms also demand consistent behavior toward them. To attest to this, one may refer to any of the current studies analyzing the difficulty of the emancipated women in resolving conflicts of role. Therefore, aggression is not only permissible with males but our culture demands it. Conversely, our culture does not readily accept aggression in relations with women. This, then, indicates the experimental results are reflecting social norms.

If the above relationship is granted, then two possible sources of motivation may be cited: 1) the discomfort from the dissonance (Festinger, 1964) suffered from the behavior demanded by the instructions being in conflict with the cultural norms, or 2) discomfort from guilt felt by the subject from the supposed discomfort, or mental pain, inflicted upon the target person. In both cases, the increased anxiety

or discomfort should decrease eye-contact (Stanley & Martin, 1968).

A choice among the possible interpretations requires a modification of experimental design, e.g., introducing controls, as well as experimental technique, e. g., using a method other than role playing to elicit aggression or passivity. These would have to be accomplished in further work on the eye-contact variable. Whether or not this is reflecting society's admonition to not be overly aggressive toward females or some inner discomfort about a possible transgression also remains to be tested.

APPENDIX A

- (1) Do you find experimental participation requirements to be a burden?
(If answer is yes or no, respond with, "Would you please explain.")
- (2) Is general psychological research--that you are aware of--useful?
(If answer is yes or no, respond with, "Would you please explain.")
- (3) Is general psychological research--that you are aware of--valid?
(If answer is yes or no, respond with, "Would you please explain.")
- (4) What experiments have you participated in previously?
- (5) Why did you take Psychology 201 (or 300 if applicable)?
- (6) Is psychology what you thought it to be?
- (7) If you weren't required to participate in experiments, what would motivate you to participate?
- (8) What is most exciting to you in psychology?
- (9) What is most disappointing to you in psychology?

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BIOGRAPHICAL SKETCH

Joseph Francis Kersey was born January 18, 1939, at Lakeland, Florida. In June, 1957, he was graduated from Edgewater High School, Orlando, Florida. In April, 1960, he entered the United States Army and served in Europe as a member of the Intelligence Corps until 1963. In December, 1964, he received the degree of Bachelor of Arts from the University of Florida. In 1965, he enrolled in the Graduate School of the University of Florida and matriculated for a Master of Arts and Doctor of Philosophy degrees in psychology.

This dissertation was prepared under the direction of the chairman of the candidate's supervisory committee and has been approved by all members of that committee. It was submitted to the Dean of the College of Arts and Sciences and to the Graduate Council, and was approved as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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