

Effects of Duration of Eye Contact on Judgments of Personality Characteristics

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ABSTRACT. American male ($n = 60$) and female ($n = 60$) college undergraduates were randomly assigned to 12 same-sex groups of 10 subjects each. The groups individually viewed one of six 60-s videotapes. The male or female model in the tape maintained eye contact with an alleged interviewer for a total of 5 s, 30 s, or 50 s. Thus, the design factorially combined gender of subject, gender of model, and duration of eye contact, with all comparisons between subjects. After viewing the tape, subjects rated the model on a series of bipolar adjectives designed to assess the perceived potency (e.g., strength, aggression, and leadership) of the model. The results consistently showed that as eye contact increased, the models were perceived as more potent. In addition, the models were judged to have higher grade point averages (GPAs) as their eye contact increased. The effects of gender (of both model and subject) were mostly nonsignificant, following no systematic pattern.

EYE CONTACT has been found to be a crucial variable in regulating communication between two individuals (Wiens, Harper, & Matarazzo, 1980), in observing people on videotapes (Wheeler, Baron, Michell, & Ginsburg, 1979), and in evaluating photographs of individuals (Tankard, 1970). Apparently, it is a salient factor in forming impressions of communicator credibility and is one of the first nonverbal behaviors noticed by an interviewer (Beebe, 1977). Visual behavior has also been correlated with a variety of personality characteristics (e.g., Cook & Smith, 1975; Foddy, 1978; Russo, 1975; Wheeler et al.). There are, however, little data on the formation of judgments about personalities under systematically varied conditions of eye contact.

In most studies, subjects have rated photographs (e.g., Tankard, 1970)

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or viewed videotapes of natural interview situations and correlated personality ratings with patterns of eye contact (e.g., Wheeler et al., 1979). In the present experiment, videotapes with three conditions of varying degrees of eye contact displayed by a model were produced. Observers of the tapes were then asked to rate the model on a variety of personality characteristics related to potency dimensions (e.g., dominance, extraversion, and leadership). We expected that as the model in the taped session increased the duration of eye contact, he or she would be rated as having more potent personality characteristics.

Method

Subjects

The subjects were 60 male and 60 female undergraduate students enrolled in introductory psychology classes at King's College, a small, coeducational, 4-year liberal arts college. The subjects volunteered for an experiment on impression formation.

Materials

The two models (one male and one female) in the color videotapes were students from another college. The camera was pointed at the model, over the shoulder of an apparent interviewer. One shoulder and the back of the head of the interviewer were clearly visible, and it was obvious when the model was gazing at the face of the interviewer.

All videotapes were 60 s long. The model neither spoke nor changed facial expression from neutral; only eye contact was shifted on a signal from a prompter off camera but peripherally visible to the model. During the 60-s period, the interviewer read from a highly general statement explaining an experiment in which the model would have to match colors and shapes. The statement was concealed in the interviewer's lap, and his head remained positioned so that it appeared on the monitor that he was looking at the model.

Tapes were produced for three eye-contact conditions, with the same male or female model, for a total of six tapes. In the 5-s condition, the model looked at the interviewer during the 25- to 30-s interval of the 60-s period. In the 30-s condition, the model looked at the interviewer during the following intervals of the 60-s period: 0 to 5 s, 12 to 17 s, 22 to 27 s, 30 to 35 s, 42 to 47 s, and 52 to 57 s. In the 50-s condition, the model looked at the interviewer during the following intervals: 0 to 20 s, 25 to 40 s, and 45 to 60 s. During non-eye-contact periods, the model periodically shifted his or her gaze downward and to either side. Therefore, the duration of eye contact per glance was roughly held constant within conditions.

Design and Procedure

The subjects were randomly assigned to one of 12 conditions ($N = 10$) derived from the factorial combination of duration of eye contact, gender of model, and gender of subject. They signed up for a session according to gender and in groups of 10. The order in which the same-gender groups were tested and the particular tape viewed by a group were randomly predetermined. Subjects were seated at a rectangular table, 5 on each side, with a 19-in. television at one end and the experimenter at the other. The experimenter said, "I want you to view a brief videotape of a student who is having an experimental task explained. Please watch the student closely. We are interested in your impressions of this person, and after viewing the tape I will ask for your evaluations." After the subjects viewed the tape, they were asked to rate the model on 21 bipolar adjectives (e.g., honest/dishonest) arranged along a 7-point scale. They were also asked to estimate the model's overall college grade point average on the standard 4-point scale. Of all the adjective pairs, 11 were designed to assess potency components of personality (e.g., dominant/submissive). The remaining 10 pairs reflected no particular theme and, although of empirical interest, served primarily as filler items. One particular pair, masculinity/femininity, served as a validity check on the model variable.

Results

Potency Pairs

Data regarding the 21 adjective pairs and the GPA estimates were subjected to a three-variable analysis of variance (ANOVA) with all comparisons between groups. Table 1 presents the mean ratings for each of the 11 adjective pairs assessing potency for the three eye-contact conditions. For all characteristics except follower/leader, the main effect of eye contact was significant. Eye contact interacted with the other variables in only two instances. For the follower/leader pair, only the male model was rated as higher in leadership qualities as eye contact increased, $F(2, 108) = 4.13, p < .025$. For the assertive/unassertive pair, a significant triple interaction was obtained, $F(2, 108) = 3.37, p < .05$. As eye contact increased, male subjects rated only the female model as more assertive, whereas the female subjects rated only the male model as more assertive.

Individual comparisons (t tests) among the eye-contact conditions for the main effects noted in Table 1 showed, in every instance, that the 30-s and 50-s groups did not differ (all $ps > .05$), whereas both differed significantly from the 5-s group (all ps at least $< .05$).

TABLE 1
Mean Ratings on Potency Dimensions Under Varying Eye-Contact Conditions

Dimension	Eye contact			Main effect, <i>F</i> (2, 108)
	5 s	30 s	50 s	
Not ambitious/ambitious	2.30	3.45	3.50	7.43**
Unassertive/assertive	2.78	3.40	3.88	4.72*
Noncompetitive/competitive	2.68	3.48	3.92	6.07**
Dependent/independent	3.00	4.05	4.22	7.08**
Follower/leader	2.72	3.25	3.52	2.33
Immature/mature	3.02	4.12	4.10	8.57**
Indecisive/decisive	2.80	3.88	3.85	6.05**
Inefficient/efficient	3.32	4.02	4.28	5.24**
Submissive/dominant	2.70	3.78	3.88	8.08***
Unaggressive/aggressive	2.40	3.30	3.58	7.67**
Weak/strong	3.02	4.12	4.32	9.33***

Note. The bipolar adjectives were arranged along a 7-point scale (e.g., not ambitious = 1 and ambitious = 7). Some means were reversed so that higher scores always reflect greater potency.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Miscellaneous Pairs

Table 2 presents the mean ratings for the 10 miscellaneous characteristics as a function of eye contact. For 4 of the 10 dimensions, a significant main effect of eye contact was obtained. No interaction of eye contact with either of the gender variables was found for any of the 10 pairs. Furthermore, as was the case with the potency dimensions, *t* tests among the eye-contact conditions for the 4 main effects showed no differences between the 30-s and 50-s groups ($p > .05$), but both of these groups were significantly different from the 5-s group ($ps < .05$).

Gender of Model

Table 3 presents the mean ratings for the male and female models on those dimensions that produced a significant main effect. Generally, the ratings are consistent with traditional sex-role stereotypes (e.g., the male is stronger, more dominant, louder). As with eye contact, there were no interactions between the variables of model gender and subject gender. Only for the competitive/noncompetitive dimension was this interaction obtained, $F(1, 108) = 4.32$, $p < .05$. The male subjects rated the male model more competitive than the female model, but the female subjects saw both models as equally competitive.

TABLE 2
Mean Ratings on Miscellaneous Dimensions Under Varying
Eye-Contact Conditions

Dimension	Eye contact			Main effect, <i>F</i> (2, 108)
	5 s	30 s	50 s	
Gentle/harsh	3.40	3.50	3.88	1.32
Honest/dishonest	3.80	3.68	3.58	1.00
Loud/quiet	5.75	5.08	5.05	2.51
Masculine/feminine	4.38	4.12	4.10	2.97
Nonconforming/conforming	3.40	3.98	4.42	4.40*
Rational/irrational	4.40	3.80	3.82	3.07
Selfish/generous	3.48	4.10	3.98	3.74*
Sick/healthy	3.95	4.97	5.02	9.32***
Sociable/unsociable	5.35	4.72	4.25	5.83**
Trustworthy/untrustworthy	4.22	3.70	3.78	2.93

* $p < .05$. ** $p < .01$. *** $p < .001$.

TABLE 3
Mean Ratings for Male and Female Models

Dimension	Male	Female	Main effect, <i>F</i> (1, 108)
<i>Potency</i>			
Noncompetitive/competitive	3.58	3.13	6.07**
Dependent/independent	4.17	3.35	8.07**
Immature/mature	3.37	4.13	9.38**
Inefficient/efficient	3.48	4.27	9.95**
Submissive/dominant	3.82	3.08	7.68**
Unaggressive/aggressive	3.60	2.58	15.74***
Weak/strong	4.33	3.32	14.49***
<i>Miscellaneous</i>			
Gentle/harsh	4.08	3.10	18.13***
Loud/quiet	4.85	5.73	9.33**
Masculine/feminine	2.77	5.63	170.02***
Nonconforming/conforming	3.63	4.23	4.50*
Rational/irrational	4.28	3.73	6.05*
Selfish/generous	3.60	4.10	6.41*

Note. The bipolar adjectives were arranged along a 7-point scale (e.g., not ambitious = 1 and ambitious = 7). Some potency means were reversed so that higher scores always reflect greater potency.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Gender of Subject

Table 4 presents the mean ratings for male and female subjects on those dimensions showing a main effect. Subject gender produced very few effects. Including the interactions, gender of subject was a contributing factor for only 6 of the 21 personality pairs.

Grade Point Average

An ANOVA of the GPA data provided a main effect of model gender, $F(1, 108) = 11.16, p < .005$, and a main effect of eye contact, $F(2, 108) = 3.20, p < .05$. No other effects approached significance (all $F_s < 1$).

The male model received a lower GPA estimate ($M = 2.25$) than did the female model ($M = 2.56$). As eye contact increased, GPA estimates increased (M_s for 5 s, 30 s, and 50 s were, respectively, 2.26, 2.55, and 2.41). Individual t tests among the three groups showed only that the 30-s group was given a significantly higher GPA estimate than was the 5-s group ($p < .05$). No other comparisons were significant ($ps > .05$).

Discussion

The primary purpose of the present experiment was to manipulate eye contact in a systematic fashion to investigate whether personality estimates by American undergraduates along potency dimensions would be affected. The results were quite clear and consistent: As eye contact increased from 5 s to 30 or 50 s out of a 60-s period, models were perceived as more potent (e.g., assertive,

TABLE 4
Mean Ratings for Male and Female Subjects

Dimension	Male	Female	Main effect, $F(1, 108)$
<i>Potency</i>			
Dependent/independent	4.08	3.43	5.11*
Submissive/dominant	3.88	3.02	10.78**
<i>Miscellaneous</i>			
Gentle/harsh	3.83	3.35	4.38*
Nonconforming/conforming	3.60	4.27	5.55*

* $p < .05$. ** $p < .01$.

decisive, dominant, and aggressive). These findings are consistent with previous correlational studies relating eye contact to personality characteristics (e.g., Amalfitano & Kalt, 1977; Argyle & Williams, 1969).

The present results consistently revealed a plateau-like effect: Increasing eye contact from 5 to 30 s yielded significant changes in impressions, whereas increases from 30 to 50 s did not induce discriminable alterations in perceptions. Several explanations are possible. First, the 5-s condition involved a single gaze, whereas the 30- and 50-s conditions represented multiple gazes (six and three, respectively). Second, although the total amount of eye contact given by the interviewer was greater in the 50-s condition, frequency of gaze shifts was greater in the 30-s condition. Duration of eye contact per glance, however, remained relatively constant within both conditions. Because studies have shown that both frequency of eye contact and duration of eye contact per glance are significant in the formation of impressions (e.g., Hiscock, 1975; Meskin, 1974; Wheeler et al., 1979), these variables may have worked alone or in combination with respect to the observed effects on subjects' ratings. The present results, for example, extend the correlational data reported by Wheeler et al. by showing that estimates of GPA increased as eye contact increased. Wheeler et al. also found that GPA estimates increased as number of eye-contact shifts decreased, a finding not supported here. In the present study, GPA estimates increased as both duration and number of shifts increased.

In Western society, eye contact is clearly a dominant nonverbal cue that appears to convey confidence, control, and a positive emotional state. Interviewers generally like those who look at them and rate those individuals as desirable job candidates (Amalfitano & Kalt, 1977). Perhaps one reason why Americans give such positive personality attributions on the basis of eye contact from another person involves the gazing behavior of the individuals themselves under conditions of discomfort, awkwardness, and lack of control. Kendon (1967) found that when people hesitate while talking, possibly groping for appropriate words and phrases, they look away from their listener. Similarly, Hiscock (1975) and Meskin (1974) found that people look away from a questioner when confronted with a difficult question. Furthermore, Wiens et al. (1980) found that subjects who feel uncomfortable and awkward during periods of silence in clinical sessions show reduced eye contact with the interviewer. An American individual's personal sense of discomfort, uncertainty, and lack of control, therefore, appears to produce a shift in gaze away from another person. When confident, fluent, and more emotionally positive, however, individuals are more likely to maintain eye contact. If this is so, in Western society, an observer of another person can easily attribute a sense of control, assertiveness, and dominance when the person maintains eye contact and more negative qualities when the person fails to maintain such contact.

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