

The Influence of a Communicator's Body Position on Opinion Change in Others

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The question was asked, "While discussing his or her views, does a communicator who exhibits limb-outward or open body positions effect greater opinion change in an addressee than a communicator who exhibits limb-inward or closed body positions?" In an attempt to answer this question, female subjects, whose attitudes were premeasured, perused an attitude questionnaire of a female student and then viewed pictures that were taken of her while she discussed her beliefs. Some subjects viewed open body position pictures of the communicator, while others viewed closed body position pictures. Retesting of the subjects' opinions showed a change toward the communicator's viewpoint for subjects who had viewed "open" pictures compared with subjects who had viewed "closed" pictures of the communicator ($p < .01$).

The common observation that communicators vary in the openness of their body positions and movements while orally presenting their views led to the question, "While discussing his other views, does a communicator who exhibits limb-outward or open body positions effect greater opinion change in an addressee than a communicator who exhibits limb-inward or closed body positions?" Information that is pertinent to this question is reported by Mehrabian and Williams (1969). Mehrabian and Williams found that the degree of liking a communicator nonverbally communicates to an address is a positive correlate of both the communicator's intention to persuade and the degree to which others judge the communicator to be persuasive. They found the following nonverbal behaviors to be directly associated with both the communicator's intent to persuade and the judges' tendency to rate a communicator as persuasive: facial activity, rate of gesticulation, and eye contact. These behaviors all loaded a nonverbal communication factor that Mehrabian has labeled "relaxation." Other nonverbal behaviors loading this factor are: degree of sideways lean, leg-position asymmetry, arm-position asymmetry, openness of arm posi-

tion, hand relaxation, and neck relaxation (Mehrabian, 1968a, 1968b, 1972; Mehrabian & Friar, 1969; Mehrabian & Williams, 1969).

Mehrabian (1972) has delineated three referential dimensions of nonverbal behavior that seem to be important in nonverbal communication. These dimensions are positiveness, potency, and responsiveness. The positiveness dimension relates to evaluation, liking, and the expression of affect. The potency dimension deals with social status and social control; more or less, it reflects interpersonal effectiveness. The responsiveness dimension reflects general voice and body activity as well as the communicator's orientation toward his addressee. Mehrabian's nonverbal communication factor of relaxation is involved with each of three referential dimensions.

In accord with Mehrabian's work, the communicator who uses open body positions as compared to the communicator who uses closed body positions should (a) be more persuasive, (b) be seen as more active (responsive), (c) be better liked or positively evaluated, and (d) be seen as more potent (effective).

The question we posed concerns opinion change in a person who has knowledge of the attitude stance of another person. The previously cited works generally pertain to intended and perceived persuasiveness and not to opinion change. However, intuitively, one expects a direct association between the

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persuasiveness of a communicator and his opinion-change effect on an addressee. Following this line of thought, the main hypothesis of the present study is that addressees who are exposed to the opinions of a communicator who displays open body positioning of the arms and legs will demonstrate more opinion change than addressees who are exposed to the opinions of a communicator who displays closed body positioning of the arms and legs.

The secondary hypotheses of the experiment are, essentially, tests of the internal validity of the experimental manipulation, the open and closed body positions of the communicator. A communicator who exhibits open body positions should be rated higher in activity, positive evaluation, and potency by addressees than a communicator who exhibits closed body positions. For subjects from whom opinion change data were obtained there was an attempt to control for variations in positive evaluation and potency. For positive evaluation, this was done by presenting the communicator as being highly similar in attitudes to the addressees which, according to Byrne (1971), results in attraction toward the communicator (positive evaluation); for potency, this was achieved by introducing the communicator as a peer of the subjects—Mehrabian (1972) reported that his potency dimension was highly loaded by status.

METHOD

Subjects and Materials

Subjects were 96 female students from introductory psychology and introductory education classes at the University of Wyoming who volunteered to participate in the experiment. The materials used in the experiment were a 24-item attitude questionnaire, a modified version of the Interpersonal Judgment Scale, a 12-scale semantic differential, 30 color slides of a female model, and a Kodak Carousel 850 projector timed by a Hunter timer.

The 24 items selected for the attitude questionnaire were taken from Byrne (1971). Each topic item was followed by 10 alternative choices that ranged from an absolutely supporting to an absolutely nonsupporting position. The items included topics such as the legalization of marijuana, the custom of tipping, and the use of nuclear weapons.

The Interpersonal Judgment Scale (Byrne, 1971) was modified so that each item had nine alternatives. The items required the subjects to make judgments about the intelligence, knowledge of current events,

likability, and creativity of the communicator. We were only interested in the subjects' responses to the likability item; the other items were fillers.

The semantic differential (Osgood, Suci, & Tannenbaum, 1957) consisted of 12 seven-interval bipolar scales. The scales were evenly grouped into scales loading the semantic factors activity, evaluation, and potency.

Thirty color slides were selected from 144 taken of a seated, slack-suit clad, female student (communicator) while she conversed with a stationary photographer. Two judges rated the closed-open quality of the 144 slides on a 5-point scale. The judges considered such things as the angle between torso and legs (reclining angle), suggestion of outward movement of arms and legs, and head positions. Ten slides that were twice judged by both raters as demonstrating closed body position were selected. These slides showed the communicator in some sort of combination of the following: elbows next to her body, arms crossed, hands folded in her lap, knees pressed together, feet together, and legs crossed at either knees or the ankles. Ten other slides were judged as representing open position. These slides showed the communicator in various combinations of the following: leaning backward, legs stretched out, knees apart, one ankle crossed over the other knee, elbows away from her body, hands held outward, and arms held outward from her body either directly at her side or elevated. The judges also selected 10 slides that were consistently rated in the middle of the open-closed body position scale. In these slides the communicator was typically leaning back, her legs were slightly stretched out and slightly apart, her hands were either resting on her lap or her thighs, and her arms were held relatively close to her sides. The neutral slides were, depending on the experimental condition, either mixed with the open or closed slides or were shown by themselves. During the experiment, the slides of the communicator were projected to a size of approximately 120 × 180 cm onto a screen in a darkened room. Each slide was shown for 9.2 sec; the interslide interval was .75 sec.

Procedure

Approximately 500, 24-item attitude questionnaires were administered to students. Students were assured of confidentiality and were asked to indicate their name, sex, and telephone number on the questionnaire. Some of the students were later invited to participate in an experiment having to do with making judgments about people. Two to three weeks after they had filled out the initial questionnaire, the students were assigned to one of six experimental conditions, each of which, in the final analysis, contained 16 subjects. The subjects met in small groups of from 2 to 8 persons.

Experimental Conditions

Four of the six experimental conditions allowed for a direct test of the main hypothesis concerning opinion change (similar-open, similar-neutral, similar-closed, and retest-neutral conditions). Also, two of

these conditions and two other conditions allowed for the testing of the secondary hypotheses (similar-open, similar-closed, open, and closed conditions).

Similar-open condition. Subjects (hereafter referred to as addressees¹) perused a "copy" of the communicator's attitude questionnaire, a bogus questionnaire that agreed with the addressee's attitude questionnaire on 22 of 24 items. The bogus questionnaire was prepared so that 8 items were marked the same as the addressee had marked them, 7 were marked one interval more centrally, and 7 were marked an interval more extreme. Furthermore, 2 items that the addressee had marked in the "strongly" interval, were marked in the opposite strongly category. The addressees were given the following instructions:

I am sure you remember when you filled out an attitude questionnaire in your class. I am going to pass out copies that were made from another girl's questionnaire. After you have had 5 minutes to study the copy of her questionnaire, I am going to show you some pictures that were taken of her as she talked about her responses to the questionnaire. I would like you to get as clear a notion as you can of what this girl is like. Once I hand out the questionnaires please don't talk or ask questions.

Following the initial instructions, roll was called, and the appropriate bogus questionnaire was handed to each addressee. After the addressees had perused the questionnaires for 5 minutes, the instructor said, "Now I am going to turn off the lights and show you a series of pictures that were taken while the girl talked about her responses to the questionnaire items. Again, I'd like you to figure out what kind of a girl she is."

The addressees then viewed 20 slides of the communicator (10 neutral and 10 open slides). After the slides were shown, the experimenter said, "I'd like you to spend another couple of minutes looking through the questionnaire trying to clear up your concept of this person now that you have seen the pictures."

After 3 minutes the experimenter gathered the bogus questionnaires and said, "Now I would like to get a measure of your impression of the girl in the pictures whose questionnaire you have been looking over. Please fill out these scales in the next 3 minutes." The Interpersonal Judgment Scale and the semantic differential scales were handed out. After about 3 minutes the experimenter suggested that the addressees finish completing the forms and shortly thereafter proceeded to collect the scales. After gathering the forms, he handed out blank attitude questionnaires and said, "I'm interested in how the attitude questionnaire that you filled out in class remains stable or changes over time. What I'm

wondering is how reliable it is. Will you please fill out the questionnaire again?" The experimenter picked up the questionnaires as they were completed.

Similar-closed condition. The procedure for this group was the same as that for the similar-open group with the exception that the addressees viewed 10 closed body position slides interspersed with the 10 neutral body position slides.

Similar-neutral condition. The procedure for this group was exactly the same as that for the similar-open and similar-closed groups except that the addressees viewed only the 10 neutral slides.

Retest-neutral condition. The procedure for this group was the same as that for the similar-neutral group, only the addressees filled out their second attitude questionnaires before they were exposed to the bogus questionnaire and the neutral slides of the communicator.

The two remaining conditions were labeled open and closed. In these conditions there was no attempt to control for the addressee's initial attraction toward the communicator by making the communicator appear similar to her in attitude. Addressees in these two groups were simply asked to make judgments about the girl whose pictures they viewed. The addressees in the open condition viewed the open and neutral slides, while addressees in the closed condition viewed the closed and neutral slides. There was no option change measure for the open and closed groups.

Attitude questionnaire retest data were obtained from 16 female students 2½ weeks after the initial administration of the attitude questionnaire. The retesting was done in the classroom. The product-moment coefficient for the test-retest total scores was .79 ($df = 14$, $p < .001$).

Scoring the Dependent Measures

The opinion change score was obtained by comparing an addressee's markings on the two items of the attitude questionnaire with which the communicator radically disagreed. If an addressee's response on one of the items was 2 points less extreme (toward the communicator's viewpoint) than her response on the first completion of the attitude questionnaire, she was assigned a score of +2; if her second response was two points more extreme, her score was -2. The total opinion change score was the algebraic total of the scale movement for the two critical items.

The only item scored from the Interpersonal Judgment Scale was one concerning how much the addressee thought she liked the communicator. A score of 1 indicated that she strongly disliked her, while a score of 9 indicated that she strongly liked her.

The semantic differential was made up of 12 bipolar scales, 4 scales each for the evaluative, potency, and activity dimensions. High scores, a maximum of 28 for each dimension, indicated positive evaluation as opposed to negative evaluation, potent as opposed to impotent, and active as opposed to passive.

¹For simplicity we used the terms *addressee* for the subject and *communicator* for the model. There was no direct, person-to-person communication.

Data Analyses

The opinion change scores were analyzed by a one-way analysis of variance. The data for this analysis were from subjects in the similar-open, similar-neutral, similar-closed, and neutral-retest conditions. The ratings were analyzed by four, separate 2 × 2 analyses of variance. The two factors were an attitude similarity—no attitude similarity manipulation and an open—closed body position. Data for these analyses were obtained only from subjects who had viewed 20 slides, subjects from the similar-open, similar-closed, open, and closed conditions.

RESULTS

Opinion Change

The overall analysis showed a significant difference between the similar-open, similar-neutral, similar-closed, and retest-neutral groups, $F(3, 60) = 3.15, p < .05$. The mean opinion change scores were 3.50, 1.19, 1.81, and 1.69, respectively. The similar-open group's mean opinion change score was significantly greater than the mean opinion change scores of all other groups ($p < .01$ for the smallest difference between paired means). The mean opinion change scores for the three other groups did not significantly differ from each other.

These data fully support the main hypothesis: Addressees who viewed pictures of a communicator exhibiting open body position showed greater opinion change toward the communicator's viewpoint than addressees who viewed pictures of the communicator exhibiting closed body position. The latter addressees, however, did not differ in opinion change from addressees who saw neutral body position pictures of the communicator or from persons who simply rereported their opinions about various topics 2½ weeks after they had originally reported them.

Secondary Measures

The activity ratings showed only a body position effect, $F(1, 60) = 5.80, p < .025$. This result supports our prediction that addressees who viewed the open body position slides would rate the communicator as more active than addressees who viewed closed body position slides of her. As seen from the means listed in Table 1, this was the case both when the communicator was presented as having attitudes similar to those of the ad-

TABLE 1
EFFECTS OF MODEL'S BODY POSITION AND ATTITUDE SIMILARITY MANIPULATION

Measure	S_z	Attitude similarity		No attitude similarity	
		Open body position	Closed body position	Open body position	Closed body position
Opinion change	.54	3.50 _a †	1.81 _b	—	—
Activity	.79	21.88 _a	19.81 _{bc}	20.94 _{ab}	19.19 _c
Liking	.32	7.31 _a	7.06 _{ab}	7.06 _{ab}	6.31 _c
Evaluation	.67	22.63 _a	21.25 _b	21.00 _b	19.50 _c
Potency	.94	16.81 _{ab}	13.88 _b	15.06 _{ab}	16.44 _a

Note. Values within measures with different subscript letters differ at $p < .05$ (direct comparisons, two-tailed tests).
† The mean opinion change score for the retest-neutral group was 1.69; for the similar-neutral group it was 1.19.

dressees and when no attitude similarity manipulation was attempted. This result offers validity for the body position manipulation.

The analysis of the evaluation data showed both an attitude similarity effect, $F(1, 60) = 6.32, p < .025$, and a body position effect, $F(1, 60) = 4.58, p < .05$. Addressees whose attitudes were similar to the communicator rated her more positively than addressees who had no knowledge of the communicator's attitudes, and addressees who viewed open slides of the communicator rated her more positively than addressees who viewed closed slides of her. We wanted some control over the effect of the communicator's body position upon the addressees' evaluation of her. To do this, we tried to create an addressees' attitude toward the communicator that would not be differentially positive toward her because of the slides the addressees viewed. The present analysis shows that this attempt was not successful. Regardless of the attitude similarity condition, the communicator was seen as evaluatively more positive when addressees viewed open as compared to closed slides of her.

The liking data showed no overall effects, although, as would be expected, the attitude similarity and body position manipulations led to trends that are consistent with the evaluation ratings; for both manipulations, $F(1, 60) = 2.38$.

The analysis of the potency data revealed a significant Attitude × Body Position interaction, $F(1, 60) = 5.31, p < .025$. Simple

effects analyses of the data showed that when there was no attitude similarity manipulation, there was no difference in the potency ratings given to the communicator that were related to her body position. When the communicator was presented as having attitudes similar to the addressees, she was rated as being less potent in the closed slide condition.

As a post hoc analysis, the addressees' liking, evaluation, activity, and potency ratings of the communicator were regressed upon their opinion change scores in order to assess further the relationships involved. None of the regression F values were significant (all were less than unity). The multiple correlation based on all four measures accounted for less than 5% of the opinion change variance.

DISCUSSION

The results are perplexing. As hypothesized, the analyses of variance data showed that as opposed to the communicator with closed body position, the communicator with open body position: (a) effected more addressee opinion change and (b) was rated by the addressees as being more active, evaluatively positive, and, given attitude similarity between the communicator and the addressees, more potent. The perplexing part of these data is that, as shown by the stepwise multiple regression analysis, addressees' opinion change is seemingly independent of their activity, evaluative, and potency ratings of the communicator. In concert with Mehrabian's

work, we had expected that these ratings would help to explain what it was about the communicator's open body position that led the addressees to change their opinions toward the viewpoint of the communicator. Inasmuch as the ratings were not significantly related to the addressees' opinion change scores, an explanation needs yet to be offered for the opinion change phenomenon observed in the study. The absence of this explanation bespeaks the need for further research.

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