

Attitude similarity and attraction: The effects of the bogus pipeline

RICHARD A. PAGE and MARTIN K. MOSS
Wright State University, Dayton, Ohio 45431

While attitude similarity has been found to lead to high attraction, attitude dissimilarity has generally been found to lead to only slight disliking. It was hypothesized that this asymmetry is the result of a social desirability artifact caused by subjects' reluctance to express negative evaluations. In a 2 by 2 factorial design, subjects evaluated either a 0% or a 100% similar stranger, and attraction toward the stranger was measured by either a typical rating procedure or by a "bogus pipeline" procedure expected to minimize socially desirable responding. The expected results appeared in the case of a "liking" measure but not in the case of a "work with" measure.

In an extensive series of studies on the relationship between attitude similarity and attraction, Byrne (1969) has consistently found that attraction toward a stranger is a positive linear function of the proportion of similar attitudes an individual holds in common with a stranger. To account for this relationship, Byrne has suggested a reinforcement model in which similar attitudes act as positive reinforcements and dissimilar attitudes act as negative reinforcements. Such a model would seem to suggest a symmetry in the similarity-attraction relationship, with 100% similarity between a subject and a stranger leading to high attraction and 0% similarity leading to low attraction.

While empirical studies have consistently found that 100% similarity leads to high attraction, 0% similarity has generally been found to result in only slight disliking. This asymmetry is apparent in the linear equation $Y = 5.44X + 6.62$, derived by Byrne and Nelson (1965) from the results of several studies. Scores on Byrne's measure of attraction may range from 2 (low attraction) through 8 (neutral feelings) to 14 (high attraction). When the proportion of similar attitudes (X) is 1.0, attraction (Y) is predicted to be 12.06, indicating fairly high attraction. However, when the proportion of similar attitudes is 0, attraction is predicted to be 6.62 indicating only slight disliking.

This asymmetry may reflect a difference in the reinforcing properties of similar and dissimilar attitudes. Alternatively, the asymmetry may be the result of subjects' approval needs and desire to be evaluated favorably. As Riecken (1962) and Rosenberg (1965) have pointed out, subjects in laboratory experiments are often highly motivated to behave in a way which will lead to a favorable evaluation by the experimenter. One result of this may be the "generosity effect" described by Jones and Sigall (1971). They suggest that subjects do

not want to appear odd or extreme in their ratings, and, as a result, choose a moderately positive rating as a "place to hide" on the scale. Consequently, there is a general tendency to give positive rather than negative ratings. This tendency should be strongest for subjects high in the need for approval (Crowne and Marlow, 1964). Ettinger, Nowicki, and Nelson (1970) have reported that individuals high in the need for approval express greater attraction toward a stranger than do individuals low in the need for approval.

To minimize socially desirable responding, Jones and Sigall (1971) have suggested a dependent variable paradigm known as the bogus pipeline. This paradigm involves convincing the subject that the experimenter has a machine which can measure the subject's true feelings, and then asking the subject to predict the machine's readings. Evidence regarding the effectiveness of this technique has been presented by Sigall and Page (1971, 1972). The purpose of the present study was to compare attraction responses obtained toward similar and dissimilar strangers under bogus pipeline conditions with those obtained under more typical rating conditions. It was predicted that if the asymmetry is the result of a social desirability artifact, then subjects' evaluations of a dissimilar stranger should be more negative in the bogus pipeline condition than would evaluations obtained by a more typical rating procedure. While it was also possible that the bogus pipeline procedure would lead to more positive evaluations of a similar stranger, the high ratings typically obtained and the problem of ceiling effects made this seem less likely.

METHOD

Overview and Subjects

The effects of attitude similarity and measurement procedure were investigated in a 2 by 2 factorial design.¹ Subjects were asked to evaluate a stranger whose attitudes were either 0% or 100% similar to their own. For half of the subjects, a bogus pipeline procedure was employed, while for the other half, a more typical rating procedure was employed.

This paper is sponsored by W. Wilson, who takes full editorial responsibility. Requests for reprints should be sent to Richard Page, Department of Psychology, Wright State University, Dayton, Ohio 45431.

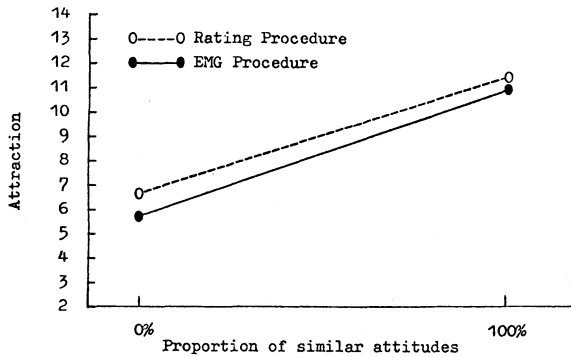


Figure 1. Attraction toward a stranger as a function of the proportion of similar attitudes and the attitude measurement technique employed.

Subjects were 40 male undergraduates enrolled in introductory psychology classes. Each subject was tested individually.

Procedure

Several weeks prior to the experiment, subjects completed in class a 24-item attitude questionnaire. Upon reporting for the experiment, they privately completed an additional 5-item attitude inventory.

EMG procedure. The procedure used to convince subjects of the validity of the EMG is described in detail by Sigall and Page (1971, 1972) and is mentioned only briefly here. Subjects were told that a machine (the electromyograph, or EMG) would be used to physiologically measure their attitudes, and that the machine was highly accurate in measuring their true and undistorted feelings. Subjects then observed the experimenter obtain accurate measures with the EMG of their responses on the same 5 items which they had just completed. Readings on the EMG, however, were actually controlled by a confederate who had covertly copied the subjects' prior answers and could operate the EMG from an adjacent room.

Once it had been "demonstrated" to subjects that the EMG could accurately assess their attitudes, they were told that the purpose of the present experiment was to examine the impressions people form of others after finding out their attitudes on a number of important issues. Subjects were asked to examine a 24-item attitude survey reportedly filled out by another male member of the class. Actually, responses on this questionnaire were either 0% or 100% similar to the responses the subject had given when he completed a similar questionnaire several weeks earlier. In constructing the bogus questionnaire, the constant discrepancy faking pattern was employed (Byrne, 1969).

After subjects examined the questionnaire, the experimenter explained that he wished to examine their impressions of this person, again employing the EMG. He then informed them that, as part of the experiment he was interested in the extent to which people are in touch with their "real feelings," and that to test this he would block their view of the EMG and have them predict its readings. Subjects were encouraged to try to predict as accurately as possible, and were told that at the completion of the list of questions they would be allowed to see how accurately they had predicted. Actually, their predictions constituted the dependent measure. Subjects were asked to predict on a 7-point scales how they would judge the person regarding intelligence, knowledge of current events, morality, and adjustment; how much they felt they would like the person (the "liking" measure), and how much they felt they would like working with the person in an experiment (the "work with" measure).

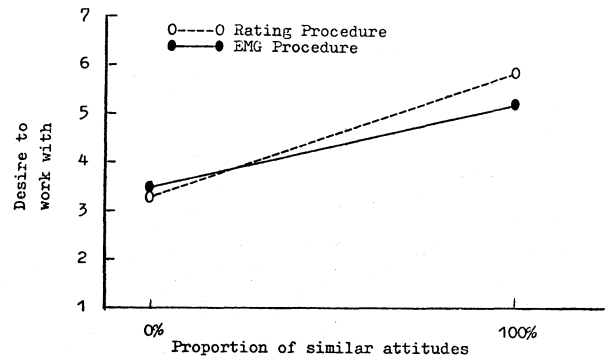


Figure 2. Desire to work with a stranger as a function of the proportion of similar attitudes and the attitude measurement technique employed.

Rating procedure. In this procedure no mention was made of the EMG apparatus, and subjects were simply asked to indicate their responses by turning a pointer along a scale to the number that best indicated their true feelings. The importance of honest responses was stressed.

All subjects were completely debriefed.

RESULTS

In examining the results, each subject's responses on the "liking" and "work with" measures were combined to form an overall attraction measure, as is typically done in research employing Byrne's paradigm. A two-way analysis of variance was computed, with the factors being attitude similarity (0% and 100%) and measurement technique (EMG or rating). The results, illustrated in Figure 1, revealed only a main effect for similarity, with higher attraction being expressed toward a 100% similar stranger ($\bar{M} = 11.4$) than toward a 0% similar stranger ($\bar{M} = 6.15$) ($p < .001$). It may be noted that these means are very close to those predicted by the Byrne and Nelson (1965) equation. However, there was no indication of a main effect for measurement or of an interaction between similarity and measurement condition. Hence, the prediction of an interaction resulting from EMG subjects evaluating 0% similar stranger more negatively than rating subjects and evaluating a 100% similar as positively or more positively than rating subjects was not supported.

In order to further examine the hypothesis, the "liking" and "work with" measures were analyzed separately. The results for the "work with" measure are illustrated in Figure 2. Analysis of these results revealed only a main effect for similarity, with subjects indicating a greater desire to work with a 100% similar stranger ($\bar{M} = 5.55$) than a 0% similar stranger ($\bar{M} = 3.4$) ($p < .001$). The results for the "liking measure," illustrated in Figure 3, also showed a main effect for similarity, with liking increasing with increases in similarity ($p < .001$). However, this analysis also revealed a significant Similarity by Measurement Condition interaction ($p < .05$) which was of the form predicted. Simple

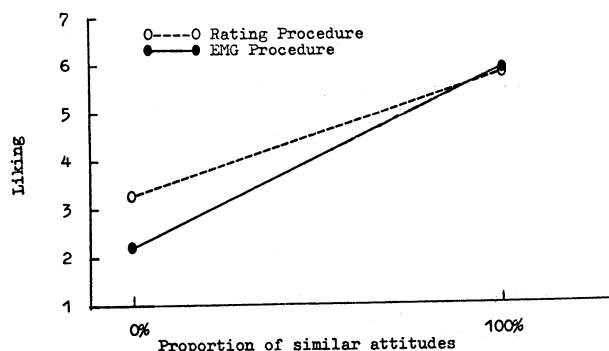


Figure 3. Liking for a stranger as a function of the proportion of similar attitudes and the measurement technique employed.

comparisons between EMG and rating subjects at the two levels of attitude similarity showed that EMG subjects evaluated a 0% similar stranger significantly more negatively ($\bar{M} = 2.2$) than did rating subjects ($\bar{M} = 3.3$) ($p < .05$), while EMG and rating subjects did not differ significantly in their liking for a 100% similar stranger (5.9 vs. 5.8) ($F < 1$).

Subjects' evaluations of the stranger on the other four dependent measures revealed only main effects for similarity, with similar strangers judged to be higher in intelligence ($p < .001$), to have a better knowledge of current events ($p < .01$), and to be better adjusted ($p < .01$) than dissimilar stranger. No significant effects were found for judgments of the stranger's morality.

DISCUSSION

The results of the present study offer partial support for the prediction that more negative evaluations of a dissimilar stranger may be obtained when subjects' responses are measured by means of a procedure designed to minimize socially desirable responding than when they are measured by means of a more typical rating measure. On the "liking" measure, significantly more negative evaluations of a 0% similar stranger were obtained in the EMG condition than in the rating condition. The results for EMG subjects on the liking measure also suggest a more symmetrical relationship between attitude similarity-dissimilarity and attraction than was obtained in the rating procedure and would thus seem to extend Byrne's reinforcement model to

dissimilar attitudes, with dissimilarity leading to low liking while similarity leads to high liking.

However, the failure to find a similar pattern of results on the "work with" measure or the combined measure of attraction raises questions about the interpretation of these results. If only the results for the combined attraction measure were considered (as is typically done in research employing Byrne's paradigm), the results would appear to indicate the absence of a social desirability artifact in the similarity-attraction relationship. This combined measure, however, is the sum of two dependent measures, and the results for the "liking" measure indicated the possibility of a social desirability artifact which can be reduced by means of the EMG. Although it has been traditionally assumed that there is a high relationship between the "liking" and "work with" measures (based largely on Byrne and Nelson's finding of a .85 split-half reliability for the combined attraction measure), it is possible that the two measures tap different aspects of interpersonal attraction. Future research should examine more systematically the relationship between the two attraction measures and variables which might differentially effect responding to the two items.

REFERENCES

- Byrne, D. Attitudes and attraction. In L. Berkowitz (Ed.), *Advances in experimental social psychology*. Vol. 4, New York: Academic Press, 1969.
- Byrne, D., & Nelson, D. Attraction as a linear function of proportion of positive reinforcements. *Journal of Personality and Social Psychology*, 1965, 1, 659-663.
- Crowne, D. P., & Marlow, D. *The approval motive*. New York: Wiley, 1964.
- Ettinger, R., Nowicki, S., & Nelson, D. Interpersonal attraction and the approval motive. *Journal of Experimental Research in Personality*, 1970, 4, 95-99.
- Jones, E., & Sigall, H. The bogus pipeline: A new paradigm for measuring affect and attitude. *Psychological Bulletin*, 1971, 76, 349-364.
- Riecken, H. W. A program for research on experiments in social psychology. In N. F. Washburne (Ed.), *Decision, values, and groups*. Vol. II. New York: Pergamon Press, 1962.
- Rosenberg, M. J. When dissonance fails: On eliminating evaluation apprehension from attitude measurement. *Journal of Personality and Social Psychology*, 1965, 1, 28-42.
- Sigall, H., & Page, R. Current stereotypes: A little fading, a little faking. *Journal of Personality and Social Psychology*, 1971, 18, 247-255.
- Sigall, H., & Page, R. Reducing attenuation in the expression of interpersonal affect via the bogus pipeline. *Sociometry*, 1972, 35, 629-642.

NOTE

1. This design was part of a larger experiment on the effects of social desirability on the attitude similarity and attraction relationship.

(Received for publication October 19, 1974.)