

Interpersonal attraction and confidence of attraction ratings as a function of number of attitudes and attitude similarity*

EMIL J. POSAVAC* and STANLEY J. PASKO
Loyola University of Chicago, Chicago, Ill. 60626

The principles involved in the averaging-summation controversy in person perception research were applied to an attitude similarity paradigm in which the number of attitudes (2, 4, and 8) and proportion of similar attitudes (.00, .50, and 1.00) were manipulated, forming a 3 by 3 factorial design. The 81 Ss evaluated the sets of attitude responses presented and indicated how confident they felt about their evaluations. It was predicted that increasing the number of attitudes would lead to increased attraction toward a person holding similar attitudes and to decreased attraction toward a person holding dissimilar attitudes. It was further predicted that confidence would increase with increasing number of attitudes for all proportions. The hypotheses were supported; however, the effects were strongest in the complete-agreement condition.

A comparison of person perception research of the form conducted by Anderson (1965, 1967) and Fishbein (Fishbein & Hunter, 1964) with the interpersonal attraction research done by Byrne (1969) suggests that the two research domains are largely similar in the manner of stimulus presentation, the task of the S, and the research design. In the type of person perception research cited above, Ss are asked to indicate how much they think they would like a hypothetical person having the personality traits presented. The stimuli used in attraction research are attitude items supposedly answered by another participant in the study. The S's task is always to evaluate the stimulus person or persons either directly, by reporting how much he would like this unknown person, or somewhat indirectly, by filling in a rating form including several irrelevant questions. The research designs manipulate the likeability of the stimuli by systematically changing the information given to the Ss. To achieve this effect, research in person perception often varies the mean social desirability of the traits used to describe the stimulus person, while research in attraction varies the degree to which the stimulus person's attitudes agree with those of the S. While the two domains are very similar, they are not identical. A major difference in the research in these domains concerns what Kiesler, Collins, & Miller (1969) call "stimulus

control versus psychological control." All Ss are given the same trait descriptions in person perception research (stimulus control), while each stimulus person's attitude responses are prepared for each individual S in attitude similarity research (psychological control).

If the areas are similar, it should follow that principles developed in one area would also apply in the other area. One issue which had received attention in person perception research of trait description and which has not been dealt with directly in the attitude similarity domain is the effect of variation in the amount of information the Ss evaluate. This effect has been called the set-size effect by Anderson (1967). Initial evidence showing the set-size effect was presented by those favoring a summation theory of information integration (Fishbein & Hunter, 1964). Anderson (1967), however, has shown that an averaging theory can account for these results when the initial impression is considered part of the impression formation process.

Byrne (1969) has not been explicitly involved in this issue, although his research relating the degree of attitude similarity to attraction can be construed to support an averaging position which does not include the initial impression. Strong linear relations have repeatedly been found between attitude agreement (similarity) and interpersonal attraction. Byrne & Nelson (1965) manipulated degree of attitude similarity and number of similar attitudes. They found neither a main effect due to number of similar attitudes nor an interaction effect

between degree of similarity and number of similar attitudes. These results suggested that Ss were averaging the degree of agreement of the individual attitude items in arriving at their ratings. Two aspects of their design tended to reduce the likelihood of finding a set-size effect, however. In the first place, Byrne & Nelson (1965) were unable to control the total number of attitudes presented. The three variables of interest are: the proportion of similar attitudes, the number of similar attitudes, and the total number of attitudes presented. It is possible to control simultaneously any two of these variables, but not all three. Thus, they were not able to study the effect of the total number of attitudes making up the stimuli. This observation is not a criticism of their work since a different issue was being examined. Secondly, Byrne and Nelson may not have found a set-size effect because they presented a fairly large number of attitudes, between 4 and 48. In most person perception research finding a set-size effect, the number of traits or pieces of information presented is considerably smaller, often ranging between 1 and 9 (Anderson, 1965, 1967). Brewer (1968) pointed out that after six or seven units of information, evaluation has reached an asymptote.

A research design which would detect the existence of a set-size effect in attraction should present a number of attitudes more nearly equal to the number of traits used in person perception research and should control the total number of attitudes presented. Designed in this fashion, the research would be more comparable to the work of Anderson (1965, 1967) and Fishbein (Fishbein & Hunter, 1964). Specifically, it was hypothesized that increasing the number of attitudes presented would lead to more attraction if the attitude items tended to agree with the Ss' attitudes and to less attraction if the attitude items tended to disagree with those attitudes. It was further hypothesized that such increased polarization of attraction ratings would be accompanied by more confidence in the ratings. In other words, as the information available increased above some minimal amount, Ss were expected to become more confident of their judgments, regardless of the degree of attitude similarity. To use Byrne's concept of consensual validation (Byrne, 1969), the Ss would become more sure of the degree of consensual validation they were receiving as information presented increased and thus would be willing to commit themselves to a relatively more extreme position.

PROCEDURE

The design and procedure followed

*Requests for reprints should be sent to the first author at Department of Psychology, Loyola University, 6525 North Sheridan Road, Chicago, Ill. 60626.

Table 1
Attraction and Confidence Treatment Means*

Proportion of Similar Attitudes	Attraction			Confidence		
	Number of Attitudes			Number of Attitudes		
	2	4	8	2	4	8
.00	7.22	7.56	6.22	6.78	7.22	9.44
.50	9.00	8.67	9.89	5.78	8.00	7.22
1.00	9.33	10.44	12.56	4.67	10.00	11.89

*Both indices range from 2 to 14. Higher values indicate greater liking or more confidence.

the general form of Byrne's attitude similarity research (Byrne, 1969). The Ss, who were members of the introductory psychology S pool at Loyola University of Chicago, were assigned randomly to the various conditions. Of the total of 81 Ss, 37 were male and 44 were female. The Ss served in two sessions in groups of about 20. During the first session, they were told that they were participating in a study of the relationships of personality and interpersonal attraction. Several personality measures and an attitude questionnaire were then administered. The personality measures were used to mislead the Ss about the actual variables under investigation and were not used in this study. The attitude questionnaire was largely identical to that used by Byrne and his coworkers (Byrne, 1969). Each item had six options.

Between Session 1 and Session 2, three sets of attitude responses were constructed for each S. During Session 2, the Ss received these three sets of answered attitudes. The Ss were told to imagine a same-sexed fellow student who held the attitudes in the first set, then to make the ratings requested. After rating the first stranger, they proceeded in the same fashion to rate the other two strangers. The first two sets included one which was highly similar (seven agreements out of eight attitudes) and one which was highly dissimilar (one agreement out of eight attitudes). These two sets were presented primarily to serve as anchors for the experimental stimulus, which was always presented in the third position. The order of the two anchor sets was varied randomly. The experimental stimuli were constructed so that the number of attitudes (2, 4, or 8) and the proportion of similar attitudes (.00, .50, or 1.00) formed a 3 by 3 factorial design. A similar attitude was defined as one alternative away from the S's position on the same side of the issue. A dissimilar attitude was defined as an attitude three options away from the S's attitude (Byrne, 1969). The specific direction in which a given attitude was keyed (i.e., agreement or disagreement) was chosen randomly, although reasonable content consistency across attitudes was

required in order to maintain face validity.

The Ss rated each of the stimuli on the Interpersonal Judgment Scale (IJS) (Byrne, 1969). Six judgments were requested; however, only two items were scored. The degree to which they would expect to like the stimulus person and the degree to which they think they would like to work with him were summed to form a measure of attraction, ranging from 2 to 14. This IJS index has an average reliability of .85 (Byrne & Nelson, 1965). After rating all three stimuli, the Ss were requested to look back over their ratings of the third stimulus person and indicate on 7-point scales how confident they were about each of the six ratings. The confidence ratings of the two IJS items dealing with liking were summed to yield an index of confidence ranging from 2 to 14.

RESULTS

The attraction and confidence ratings means are given in Table 1. The effect on attraction of degree of agreement was significant ($F = 30.54$, $df = 2/72$, $p < .001$), and the interaction between degree of agreement and number of attitudes was significant ($F = 3.86$, $df = 4/72$, $p < .01$). Duncan's multiple range test indicated that attraction increased with increasing information in the 100% agreement condition, but not in the 0% and 50% conditions. Thus, the first hypothesis was supported for agreements.¹

The effect of the number of attitudes on confidence was highly significant ($F = 11.71$, $df = 2/72$, $p < .001$).² The interaction was also significant ($F = 3.12$, $df = 4/72$, $p < .05$). In the 0% agreement condition, the amount of information did not significantly influence the confidence ratings; however, in the 100% agreement condition, Ss were significantly less confident with two attitudes compared to the larger sets of attitudes ($p < .001$). The second hypothesis received support, especially in the agreement treatment.

DISCUSSION

The results of the present study suggest that the linear relationship between attitude similarity and interpersonal attraction should be adjusted to account for attraction

when only a small amount of information is presented. The effect on attraction of increasing the amount of information (a set-size effect) was found when using agreements but not when using disagreements. The Ss seemed to place nearly as high a weight on a small amount of negative information (two disagreements) as they did on larger amounts of negative information. On the other hand, agreements were weighted more equally, and thus, stimuli for which more positive information was supplied were evaluated more highly. This finding of a differential weighting effect supports some of the conclusions of Clore and Baldrige, who showed a differential weighting effect when they juxtaposed interesting and uninteresting topics (Clore & Baldrige, 1968) and personal evaluations and attitudes (Clore & Baldrige, 1970). One reason that disagreements and agreements were weighted differently may lie in the norms which people obey when rating a disagreeing stranger. When the purpose of the present study had been explained to some of the participants, the Ss confided that they knew that the stimulus person disagreed with them but that they felt that it would be unkind to report attraction much lower than the neutral point. It, therefore, seems reasonable that the 100% agreement treatment produced more support for the hypotheses than the 0% agreement condition.

In addition to the substantive concerns of this study, the fruitfulness of combining procedures and insights from different research areas has been illustrated. Without noting similarities between the research designs and the tasks the Ss were asked to perform, the generality of the set-size principle may not have been recognized. It may be that other topics of study in person perception research (e.g., order effects, social desirability of the stimuli, and stimulus redundancy) may also be applicable to research on attitude similarity.

REFERENCES

- ANDERSON, N. H. Averaging versus adding as a stimulus combination rule in impression formation. *Journal of Experimental Psychology*, 1965, 70, 394-400.
- ANDERSON, N. Averaging model analysis of set size effect in impression formation. *Journal of Experimental Psychology*, 1967, 75, 158-165.
- BREWER, M. B. Averaging versus summation in composite ratings of complex social stimuli. *Journal of Personality & Social Psychology*, 1968, 8, 20-26.
- 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 & Social Psychology*, 1965, 1, 659-663.
- CLORE, G. L., & BALDRIDGE, B.

Interpersonal attraction: The role of agreement and topic interest. *Journal of Personality & Social Psychology*, 1968, 9, 340-346.

CLORE, G. L., & BALDRIDGE, B. The behavior of item weights in attitude-attraction research. *Journal of Experimental Social Psychology*, 1970, 6, 177-186.

FISHBEIN, M., & HUNTER, R. Summation versus balance in attitude organization and change. *Journal of Abnormal & Social Psychology*, 1964, 69, 505-510.

KIESLER, C. A., COLLINS, B. E., & MILLER, N. *Attitude change*. New York: Wiley, 1969.

NOTES

1. Support for this hypothesis has been replicated in a separate study focusing on a different issue.

2. This result has also been replicated.

The relationship between punishment and unavailability in eliminating avoidance behavior in humans*

WAYNE A. MAXWELL, FRANK D. MILLER, and PHILIP A. MEYER†
University of South Dakota, Vermillion, S. Dak. 57069

Recent research has indicated that elimination of a persistent avoidance response (AR) is facilitated by an unavailability procedure, wherein the noxious stimulus (NS) is presented on all trials whether an AR occurs or not, but it is facilitated even more by punishment wherein the NS is presented only following an AR. The unavailability and punishment procedures were conceptualized as extremes on a continuum designated as the percentage of nonresponses followed by the NS. Thus, four groups ($N = 13$) of undergraduates received the NS following each AR made during the elimination phase, but they differed with respect to the percentage of nonresponses followed by the NS: 0% (punishment), 25%, 75%, and 100% (unavailability). Several measures of performance during the elimination phase indicated significantly greater persistence as the percentage variable increased. These results were taken as supporting the original conceptualization.

A number of studies (cf. Beecroft, 1967, pp. 66-67) have indicated the generally high resistance to extinction of an avoidance response (AR). In an effort to facilitate elimination of the persistent AR, Meyer (1970) found that human Ss stopped avoiding significantly faster with an unavailability procedure than with normal extinction. The unavailability procedure consisted of presenting the

noxious stimulus (NS) on each trial regardless of whether S made an AR or not, whereas normal extinction consisted of omitting the NS on each trial, again regardless of S's behavior. In the same study, however, Ss punished for making an AR (i.e., presented the NS only when they made an AR) stopped responding even faster than Ss given the unavailability procedure.

The present study was concerned with the difference between the unavailability and the punishment procedures. While in both these procedures the NS is presented following an AR, they differ with respect to whether or not the NS is programmed to follow a nonresponse (i.e., when an AR does not occur). Specifically, the punishment

procedure represents a condition in which a nonresponse is never followed by the NS, whereas in the unavailability procedure, a nonresponse is always followed by the NS. These two procedures may be viewed as extremes on a continuum designated as the percentage of nonresponses followed by the NS (punishment = 0%, unavailability = 100%). In order to determine further the usefulness of this interpretation, the present study varied the percentage of nonresponses followed by the NS in four groups: 0%, 25%, 75%, and 100%. Consistent with the methodology of Meyer (1970), human Ss received an air blast behind their right ear as the NS and learned a button depression as the AR.

APPARATUS

The apparatus consisted of a response button mounted on the right arm of a dental chair with a headrest, a pressurized-air delivery system with a 1/8-in. metal nozzle, a 7½-W white light mounted on a wall in front of the S's head, relay switches, Hunter Interval Timers, and a Hunter Klockounter. Additional equipment included an earplug, an ace bandage which was tied around S's forehead and the headrest, and a mirror which allowed E to observe S continuously.

PROCEDURE

The procedure generally followed that of Meyer (1970). Each S was seated and instructed that an air blast would occasionally be directed behind his right ear; this air blast was described as annoying but not painful. S was informed that there was a simple response he could make to control what happened in the experiment. The S was also given the option of discontinuing the experiment at any time he wished. Following these instructions, the nozzle was positioned so that the air blast, which served as the NS, struck S on the mastoid portion of the temporal bone, ½ in. behind its juncture with the pinna.

All Ss received 40 training trials, wherein a depression of the response button during the 2-sec signal light (i.e., an AR) terminated the signal and prevented the scheduled occurrence of a 4-sec NS at 40 psi. Any response during the NS was ineffective. The intertrial interval was 5 sec. As in Meyer (1970), Ss were prompted if they had not made three consecutive ARs by Trial 10 and again, if needed, by Trial 20. Nineteen Ss required one prompt; an additional five required the second prompt.

Following training, an elimination phase occurred for which Ss were assigned randomly to one of four groups ($N = 13$). Except as noted below, the method of trial presentation was as in training. For all

*This article is based on a thesis by the first author, which was supervised by the second and third authors and submitted to the Graduate School of the University of South Dakota in partial fulfillment of the requirements for the MA degree.

†Requests for reprints should be sent to Philip A. Meyer, Department of Psychology, University of South Dakota, Vermillion, S. Dak. 57069.