

## PHYSICAL ATTRACTIVENESS, ATTITUDE SIMILARITY, AND LENGTH OF ACQUAINTANCE AS CONTRIBUTORS TO INTERPERSONAL ATTRACTION AMONG ADOLESCENTS

---

NORMAN CAVIOR, KAREN MILLER, AND STANLEY H. COHEN  
*West Virginia University*

Tenth and twelfth grade males and females who knew each other judged, within grade levels, their classmates on physical attractiveness (PA), perceived attitude similarity (PAS), and interpersonal attraction (IA). In addition, a measure of actual attitude similarity (AAS) was computed for each pair of subjects. Regression analyses supported the hypotheses that PA and PAS are positively correlated. Little support was found for the hypothesis that AAS and PAS are correlated. The results of the present naturalistic study also conflict with results obtained in laboratory studies which have found AAS to be correlated with IA.

*Keywords:* interpersonal attractiveness, adolescents, physical attractiveness, attitude similarity, length of acquaintance, contributors.

Recent research on the determinants of various aspects of interpersonal attraction has indicated the importance of physical attractiveness (e.g., Walster, Aronson, Abrahams, & Rottman, 1966), actual attitude similarity (e.g., Byrne, 1969), and perceived attitude similarity (e.g., Cavior & Dokecki, 1973).

Using laboratory methodology, three studies have investigated the joint effects of physical attractiveness and actual attitude similarity on various measures of interpersonal attraction (Byrne, Ervin, & Lamberth, 1970; Byrne, London, & Reeves, 1968; Stroebe, Insko, Thompson, & Layton, 1971). In general, these researchers have reported that both physical attractiveness and actual attitude similarity are important and that there are minimal interaction effects between them on interpersonal attraction.

Detailed critiques of Byrne's standard procedures and the three studies mentioned above, all of which use similar methodologies, have been reported elsewhere (Aronson & Worchel, 1966; Berscheid & Walster, 1974; Cavior, 1970). In Byrne's standard research paradigm there is no

---

The authors thank the students and principal, Paul McGhee, who made this study possible, and Hayne W. Reese for his assistance in the preparation of this paper.

Correspondence and reprint requests should be addressed to: Stanley H. Cohen, Department of Psychology, West Virginia University, Morgantown, VA 26506, USA.

face-to-face interaction; bogus attitude scales are presented to participants who are told that the scales came from anonymous strangers; the participants are asked if they “*would like*” the person; and facial photographs are attached to the attitude statements from the “strangers”.

In addition, Berscheid and Walster (1974) have commented on another methodology of Byrne: “One major obstacle to extrapolation from these laboratory findings to naturalistic settings is the immediate presentation of large blocks of similarity-dissimilarity information, prior to interaction, in the former, and the gradual unfolding of such information in the latter. A gradual disclosure of similarities and dissimilarities may permit other variables to influence not only how much dissimilarity is revealed at any point in time, but the interpretation of what is disclosed.” Byrne et al. (1970) pointed out that interacting individuals in natural settings may never get around to discussing areas of similarity or dissimilarity. In other words, in the research of Byrne et al. and Stroebe et al. (1971) it is immediately clear to the participant whether his attitudes are in agreement with those of the nonexistent or real partner. In natural settings such would frequently, or usually, not be the case. In real life, after much time and discussion one person of a dyad may believe his attitudes are congruent with another’s while the other does not think that such is the case. This is the issue of actual vs. perceived similarity (Taguiri et al., 1958). There are findings which suggest that in natural settings perceived attitude similarity and actual attitude similarity are not congruent and that perceived attitude similarity has a greater effect on interpersonal attraction than does actual attitude similarity (Byrne & Blaylock, 1963; Levinger & Breedlove, 1966).

The purpose in the present study was to determine the relative impact of physical attractiveness, perceived attitude similarity, actual attitude similarity, and length of acquaintance on interpersonal attraction in naturally occurring groups who have known each other for a considerable period of time. The following hypotheses were examined: (1) physical attractiveness and perceived attitude similarity contribute more to the variance in interpersonal attraction than do actual attitude similarity and length of acquaintance, (2) physical attractiveness and perceived attitude similarity are positively correlated, and (3) actual attitude similarity and perceived attitude similarity are positively correlated.

## METHOD

### PARTICIPANTS

All the people in two classes were used: 12 male and 11 female sophomores (all 15 or 16 years old) and 12 male and 12 female seniors (all 17 or 18 years old). All participants were white, of European ancestry, and members of the upper-lower to lower-middle socioeconomic classes. All participants had been in class together for at least three months and many had known each other for many years.

**MEASURES**

A personal data form obtained the participant's name, age, number of years at the high school, and how long they had known each of their classmates.

Actual attitude was assessed by a 12-item questionnaire. The participant responded with his own actual attitude on a 5-point scale from (1) *strongly agree, like, or it is very important*, etc. to (5) *strongly disagree, dislike, or it is not at all important*, etc., with intermediate points labeled appropriately. The instructions were, "For each of the categories below, please indicate which of the statements most accurately describes the way you feel". The 12 items were questions about school, sports, religion, hippies, dancing, politics, abortion, parents, marijuana, social life, music and grades.<sup>2</sup>

Perceived attitude similarity was measured by asking each participant to compare, on a 5-point scale, his attitudes regarding the 12 attitude areas listed above with those of each of his classmates, whose names were printed on a sheet of paper, from (1) *almost all of our ideas and interests are the same* to (5) *almost none of our ideas and interests are the same*. Physical attractiveness was assessed by having each participant rank his classmates, including himself, and for each sex separately, from most to least attractive. Interpersonal attraction was measured by having each participant rank the opposite sex participants in order of dating preference and same-sex participants on the basis of how well he liked them.

**PROCEDURE**

Sophomores and seniors completed the forms separately so that there was no communication between the two groups. The participants were seated around tables in a classroom and did not confer with any of the other members of the class. They were assured that all responses would be kept confidential. All participants completed the personal data form first. The other forms were handed out in random order, so that approximately one-fourth of the participants received each form first. One set of forms was collected before another was passed out. After all forms had been completed, the participants were debriefed.

**RESULTS**

A measure of actual attitude similarity was computed for all possible pairs of persons within a class by summing the discrepancy between the two persons' answers to each of the 12 items on the attitude questionnaire. Thus, each person had a measure of actual attitude similarity with every other person in his group.

The data were analyzed by means of stepwise multiple regression analyses in which interpersonal attraction, the criterion variable, was predicted from physical attractiveness, actual attitude similarity, perceived attitude similarity, and length of acquaintance. The data for

---

<sup>2</sup>The complete questionnaire and a more detailed methods section are available from the first author upon request.

**TABLE 1**  
**PERCENTAGE OF VARIANCE IN INTERPERSONAL ATTRACTION ACCOUNTED FOR BY FOUR PREDICTOR**  
**VARIABLES: PHYSICAL ATTRACTIVENESS (PA), PERCEIVED ATTITUDE SIMILARITY (PAS), ACTUAL ATTITUDE**  
**SIMILARITY (AAS), AND LENGTH OF ACQUAINTANCE (ACQ)**

<i>Grade level</i>	<i>Sex of judge</i>	<i>Sex of participant</i>	<i>N</i>	<i>PA</i>	<i>PAS</i>	<i>AAS</i>	<i>ACQ</i>	<i>Total variance accounted for</i>
10	M	M	144	0.009	0.108***	0.008	0.000	0.125
		F	132	0.277***	0.004	0.000	0.000	0.281
	F	M	132	0.450***	0.009	0.004	0.044**	0.507
		F	121	0.442***	0.146***	0.004	0.015*	0.607
12	M	M	144	0.339***	0.005	0.000	0.012	0.356
		F	144	0.460***	0.001	0.019*	0.003	0.483
	F	M	144	0.390***	0.075***	0.000	0.014*	0.479
		F	144	0.232***	0.124***	0.005	0.001	0.362

*Note:* \*  $p < .05$ ; \*\* $p < .001$ ; \*\*\* $p < .001$ .

seniors and sophomores were analyzed separately. Within each class, separate regressions were computed for males rating males, males rating females, females rating males, and females rating females. The data sets for these analyses consisted of all possible combinations of persons within each respective set taken two at a time.<sup>3</sup> For example, the number of observations at the sophomore level for males rating females equaled 12 males x 11 females 132 observations. Thus, the participant predictor ratios in these analyses ranged from 121:4 to 144:4.

The results of the regression analyses, presented in Table 1, supported the hypothesis that physical attractiveness and perceived attitude similarity make significantly larger variance contributions to interpersonal attraction than do actual attitude similarity and length of acquaintance. Furthermore, inspection of Table 1 reveals that, with the exception of tenth grade males judging themselves, physical attractiveness accounted for more of the variance in interpersonal attraction than did perceived attitude similarity.

Although in 7 of the 8 analyses physical attractiveness made the largest variance contribution to interpersonal attraction, there appeared to be differences in the amount of variance accounted for as a function of type of judgment, opposite or same-sex. Within each class, physical attractiveness accounted for more variance in opposite-sex judgments than in same-sex judgments, but perceived attitude similarity accounted for more variance in same-sex judgments than in opposite-sex judgments.

In none of the eight analyses did length of acquaintance account for more than 5% of the variance, nor actual attitude similarity for more than 2%, and in general the variance contributions made by these two variables were not significant.

The correlational data from which the regression analyses were derived are presented in Table 2. The results support the second hypothesis, that physical attractiveness and perceived attitude similarity are positively correlated; in all eight groups the correlation between these variables was statistically significant.

The data presented in Table 2 tend to be inconclusive regarding the third hypothesis: the positive correlations between actual attitude similarity and perceived attitude similarity are low and generally not significant. Other relevant findings presented in Table 2 are: (a) Actual attitude similarity was not significantly correlated with interpersonal attraction, (b) length of

---

<sup>3</sup>Because each participant provides data on several other participants the units of observation are not strictly independent within any multiple regression analysis. Goldberger (1964) and Wonnacott and Wonnacott (1970) have discussed the implications of this "assumption violation" for the estimation of regression coefficients. These authors have proved that the ordinary least squares procedure yields unbiased point estimators, albeit with larger variance, and recommend this technique unless the degree of dependency in the *population* is known.

**TABLE 2**  
**CORRELATIONS BETWEEN INERPERSONAL ATTRACTION (IA), PHYSICAL ATTRACTIVENESS (PA), PERCEIVED ATTITUDE SIMILARITY (PAS), ACTUAL ATTITUDE SIMILARITY (AAS), AND LENGTH OF ACQUAINTANCE (ACQ)**

<i>Judges Participants</i>	<i>Sophomores</i>				<i>Seniors</i>				<i>Sophomores Combined</i>	<i>Seniors Combined</i>
	<i>Male</i>		<i>Female</i>		<i>Male</i>		<i>Female</i>			
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>		
IA x PA	0.17*	0.53***	0.67***	0.67***	0.58***	0.69***	0.55***	0.46***	0.38***	0.57***
IA x PAS	0.33***	0.18*	0.22**	0.56***	0.26**	0.27**	0.54***	0.45***	0.28***	0.37***
IA x ACQ	0.23**	0.02	0.50***	0.19*	0.26**	0.20	0.38***	0.18*	0.22***	0.26***
IA x AAS	-0.08	-0.02	0.05	0.14	0.07	0.09	0.14	0.00	-0.02	0.09*
PA x PAS	0.25**	0.44***	0.29***	0.29**	0.34***	0.36***	0.46***	0.22*	0.22***	0.34***
PA x AAS	0.12	-0.01	0.12	0.08	0.12	-0.08	0.13	-0.10	0.08	0.02
PA x ACQ	0.27**	0.09	0.48***	0.09	0.26**	0.23**	0.29***	0.00	0.25***	0.20***
PAS x AAS	0.11	0.17*	0.11	0.03	0.15	-0.11	0.20*	0.25**	0.12**	0.13**
PAS x ACQ	0.60***	0.30***	0.35***	0.05	0.18*	0.16	0.38***	0.44***	0.36***	0.26***
AAS x ACQ	0.01	0.15	0.17*	0.19*	-0.04	-0.04	0.04	0.05	0.12**	0.01

*Note:* \* $p < .05$ ; \*\* $p < .01$ ;  $p < .001$ .

acquaintance and interpersonal attraction were generally positively correlated, (c) physical attractiveness was not correlated with actual attitude similarity, (d) perceived attitude similarity and length of acquaintance were generally positively correlated, (e) physical attractiveness and length of acquaintance were generally positively correlated, and (f) actual attitude similarity and length of acquaintance were generally not correlated.

## DISCUSSION

The results gained in this study supported the hypothesis that physical attractiveness and perceived attitude similarity make larger variance contributions to interpersonal attraction than do actual attitude similarity and length of acquaintance. The findings that physical attractiveness and perceived attitude similarity are positively correlated with interpersonal attraction and with each other are consistent with the previous literature.

It is likely that perceived attitude similarity is, in part, a function of physical attractiveness. Persons who desire to be liked by an attractive other may say things to reduce actual attitude dissimilarity and increase perceived attitude similarity. For example, in a discussion in which persons actually have opposite attitudes one may say, "We're arguing over semantics".

The present study failed to support the findings of Byrne et al. (1968, 1970) and Stroebe et al. (1971) that actual attitude similarity is related to interpersonal attraction. These discrepant results are probably attributable to the entirely different methodologies used. It probably cannot be repeated often enough that studies of attitude similarity in which experimenters disclose similarity-dissimilarity information to participants, as was done by Byrne et al. (1968, 1970), or use methodologies in which people do not interact face-to-face, as was done by Stroebe et al. (1971), are not analogues of real-life situations and therefore are not expected to yield results generalizable to real-life situations.

The failure to find a positive correlation between actual attitude similarity and interpersonal attraction is also in accord with previous studies performed in naturalistic settings (Davitz, 1955; Levinger, 1972; Newcomb, 1956).

Considering the finding that perceived attitude similarity is fairly highly and consistently correlated with interpersonal attraction but that actual attitude similarity is not correlated with interpersonal attraction, it is not surprising that no consistent support was found for the hypothesis that actual attitude similarity and perceived attitude similarity are positively correlated. In only 3 of the 8 groups studied was a significant correlation obtained between actual attitude similarity and perceived attitude similarity, and the highest correlation was only 0.25. In fact, actual attitude similarity was not consistently correlated with any of the variables in this study.

Assuming that the actual attitude questions used in this study reflect some of the most important issues to this age group, it is unlikely that using other attitude questions would yield markedly different results, except perhaps for attitudes, followed by behaviors, that indicated willingness to engage in sexual activities. The willingness to engage in sexual activities is probably an important predictor of various aspects of interpersonal attraction. However, probably because of factors such as embarrassment, ethical considerations, and the problem of the reliability of verbal reports, studies relating sexual activities to interpersonal attraction have not been conducted, even though such research would likely contribute significantly to understanding various aspects of interpersonal attraction (cf. Cavior & Boblett, 1972).

The absence of a substantial correlation between actual attitude similarity and perceived attitude similarity is probably due to the fact that in conversation so many attitudes are revealed that it is impossible for the human brain to keep track of the number of similar and dissimilar attitudes let alone degrees of similarity. Thus, although the Byrne and Stroebe methodologies allow participants to keep track of a very limited number of actual attitude similarities and dissimilarities, under natural situations the individual is incapable of doing this while at the same time engaging in conversation.

Since an individual likely cannot keep track of actual attitude similarity, socially sanctioned explanations for why interaction is desired are given. Physical attractiveness is not a sufficient explanation by itself in our culture, especially for heterosexual relations. Following attribution theory, people seem to use rational explanations for their own behavior and the behavior of others. It is not uncommon to hear persons say that they are engaged in a heterosexual relationship because they "love" the other person; however, when asked why they love that person they respond, "I don't know; I just do". Other persons say that they love or like someone because they share things in common or the other has a nice personality. These variables are likely equivalent to perceived attitude similarity which then serve as the rational explanation.

Nevertheless, the finding that in 3 of the 8 correlations actual attitude similarity and perceived attitude similarity were significantly correlated, albeit not highly, suggests that for some individuals actual attitude similarity and perceived attitude similarity are highly correlated. Future researchers might benefit from a study of the parameters of congruence of actual and perceived attitude similarity, such as memory and information processing variables.

Although it is inappropriate to assume that the issue of actual attitude similarity is settled, it is probably appropriate to use other new methodologies. An alternative methodology might be to observe dyads interacting in the most natural situations possible. The dyads could be strangers meeting for the first time, co-workers, friends, dating and married couples, etc. Judges could rate the conversations on number and degree of similar and dissimilar attitudes.

## REFERENCES

- Aronson, E., & Worchel, P. (1966). Similarity versus liking as determinants of interpersonal attractiveness. *Psychonomic Science*, *5*, 157-158.
- Berscheid, E., & Walster, E. (1974). Physical attractiveness. In L. Berkowitz (Ed.), *Advances in experimental social psychology*. New York: Academic Press.
- Byrne, D. (1969). Attitudes and attraction. In L. Berkowitz (Ed.), *Advances in experimental social psychology*, (Vol. 4; pp. 35-89). New York: Academic Press.
- Byrne, D., & Blaylock, B. (1963). Similarity and assumed similarity of attitudes between husbands and wives. *Journal of Abnormal and Social Psychology*, *67*, 636-640.
- Byrne, D., Ervin, C. H., & Lamberth, J. (1970). Continuity between the experimental study of attraction and real-life computer dating. *Journal of Personality*, *16*, 157-165.
- Byrne, D., London, O., & Reeves, K. (1968). The effects of physical attractiveness, sex, and attitude similarity on interpersonal attraction. *Journal of Personality*, *36*, 259-271.
- Cavior, N. (1970). *Physical attractiveness, perceived attitude similarity, and interpersonal attraction among fifth and eleventh grade boys and girls*. Doctoral dissertation, University of Houston, TX.
- Cavior, N., & Boblett, P. (1972). Physical attractiveness of dating versus married couples. *Proceedings of the 80th Annual Convention of the American Psychological Association*.
- Cavior, N., & Dokecki, P. R. (1973). Physical attractiveness, perceived attitude similarity and academic achievement as contributors to interpersonal attraction among adolescents. *Developmental Psychology*, *9*, 44-54.
- Davitz, J. R. (1955). Social perception and sociometric choice of children. *Journal of Abnormal and Social Psychology*, *50*, 173-176.
- Goldberger, A. S. (1964). *Econometric theory*. New York: Wiley.
- Levinger, G. (1972). Little sand box and big quarry: Comment on Byrne's paradigmatic spade for research on interpersonal attraction. *Representative Research in Social Psychology*, *3*, 3-19.
- Levinger, G., & Breedlove, J. (1966). Interpersonal attraction and agreement: A study of marriage partners. *Journal of Personality and Social Psychology*, *3*, 367-372.
- Newcomb, T. M. (1956). The prediction of interpersonal attraction. *American Psychologist*, *11*, 575-586.
- Stroebe, W., Insko, C. A., Thompson, V. O., & Layton, B. D. (1971). Effects of physical attractiveness, attitude similarity, and sex on various aspects of interpersonal attraction. *Journal of Personality and Social Psychology*, *18*, 79-91.
- Taguiri, R., Bruner, J. S., & Blake, R. R. (1958). On the relation between feelings and perception of feelings among members of small groups. In E. E. Maccoby, T. M. Newcomb, & E. L. Hartley (Eds.), *Readings in social psychology* (3rd ed.). New York: Holt, Rinehart, & Winston.
- Walster, E., Aronson, V., Abrahams, O., & Rottman, L. (1966). Importance of physical attractiveness in dating behavior. *Journal of Personality and Social Psychology*, *4*, 508-516.
- Wonnacott, R. J., & Wonnacott, T. M. (1970). *Econometrics*. New York: Wiley.