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ABSTRACT

This paper reports a factor analytic investigation of the interpersonal attraction construct. Two hundred-fifteen subjects completed 30 Likert-type, 7-step scales concerning an acquaintance. Factor analysis indicated three dimensions of the interpersonal attraction construct which were labeled "task," "social," and "physical." Obtained internal reliability estimates for the highly loaded items on these factors were .86, .75, and .80 respectively. The results of the study suggest that the resulting 18-item instrument can be expected to measure reliably three dimensions of interpersonal attraction. (Author)

THE MEASUREMENT OF INTERPERSONAL ATTRACTION

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The Measurement or Interpersonal Attraction

For at least the past two decades, theorists and researchers in interpersonal communication have centered much of their attention on interpersonal attraction. Not only has interpersonal attraction been found to be a facilitator of interpersonal communication across a wide range of cultures (Rogers and Shoemaker, 1971), but also much interpersonal communication exists for the primary purpose of enhancing interpersonal attraction (McCroskey, Larsen, and Knapp, 1971). A review of the research literature on interpersonal communication suggests two very important conclusions: 1) The more people are attracted to one another, the more they will communicate with each other, and 2) The more we are attracted to another person, the more influence that person has on us in interpersonal communication.

The Nature of Interpersonal Attraction

Interpersonal attraction can best be thought of as a hypothetical construct. It concerns "judgements about whether we 'like' another person, whether we 'feel good' in his presence, etc." (McCroskey, Larsen, Knapp, 1971, p. 38). In their introduction to a review of the interpersonal attraction literature, Berscheid and Walster (1969) fail to define the parameters of what constitutes interpersonal attraction, since in their view attraction deals with any and all aspects of "why it is that a particular person has evoked our positive regard." (p.1). They further note that "a hasty reading of the research might leave the impression that the way one researcher measures 'interpersonal attraction' bears little relationship to the way in which another researcher has assessed 'interpersonal attraction.'" Things are not really as chaotic as one might think, however. Almost all experimenters who are interested in interpersonal attraction "investigate variables which affect an individual's positive or negative attitude toward another person." (Berscheid and Walster, 1969, p. 2.) Such a broad all-encompassing orientation to attraction may well be meaningful to social psychologists interested both in the "qualities of the attracted as well as to the qualities of the attracter" (Berscheid and Walster, 1969, p. 1), but for communication researchers finer distinctions would seem more appropriate.

Numerous studies have utlized liking or interpersonal attraction as a dependent variable (c.f. Secord and Bachman, 1964, and Berscheid and Walster, 1969). In most of these studies, interpersonal attraction is conceptualized as a unidimensional variable. Few researchers have attempted to distinguish empirically among different dimensions of interpersonal attraction. There are a few exceptions. Newcomb (1960), for example, notes differences between "varities" of interpersonal attraction. Jennings (1950) distinguishes between two sociometric choices by considering a "psychegroup" and a "sociogroup." In a similar fashion, Coleman (1961) distinguishes between sociometric choice based on status and based on the quality of being "liked".

Two previous researchers have directed their attention specifically to assessing and measuring the dimensionality of interpersonal attraction. Triandis (1964) used two sets of questionnaire items related to various aspects of interpersonal attraction and factor analyzed the responses. He reported a five factor solution. The first factor, labeled "Toward social acceptance with subordination versus rejection with superordination," appears to represent a task property of interpersonal attraction. The second factor represented a socio-emotional category of interpersonal attraction. The other three dimensions which Triandis reported were factors with single scales loading on them and are of questionable reliability. Although there are some serious limitations to his factor analytic techniques, Triandis' results suggest the multidimensionality of the interpersonal attraction construct.

The second study which has attempted to measure dimensions of interpersonal attraction was reported by Kiesler and Goldberg (1968). Following Triandes' (1964) lead, these researchers generated items to represent task and socio-emotional properties of interpersonal attraction, employing a variety of measuring devices. They factor analyzed the results and used the sum of the factor scores for the extracted factors as dependent measures in an experimental design. We need be concerned here only with their factor analysis results. They extracted and rotated only the two factors with the highest eigenvalues, disregarding other possible solutions. Factor one represented "a socio-emotional category of interpersonal attraction closely related to what one might ordinarily call 'liking'." (Kiesler and Goldberg, p. 700) Factor two was "a task category of interpersonal attraction, related to what one might ordinarily call 'respect'." (p. 700)

The interpretation of these factor analytic results is difficult since several items load strongly on both factors, and the authors failed to examine other solutions. Nonetheless, the results clearly indicate the multidimensionality of the interpersonal attraction construct.

Walter, Aronsen, Abrams, and Rottman (1966) conducted an extensive field experiment to test the hypothesis that one's romantic aspirations are influenced by aspirations in other areas. In this study three properties of interpersonal attraction were measured using single scales. They included: physical attractiveness, personal attractiveness, and how considerate subjects were. The results showed that physical attractiveness was by far the most important determinant of how much a date would be liked by a partner.

It seems clear from these studies that what we refer to as interpersonal attraction is not a unidimensional construct. Rather it seems to be composed of at least three dimensions: 1) a social or liking dimension, 2) a task or respect dimension, and 3) a physical or appearance dimension. For the most part, previous research on interpersonal attraction has not taken this multidimensionality into account in the measuring instruments employed.

Measures of Interpersonal Attraction

A quick review of several of the measurement techniques used for interpersonal attraction provides further evidence of the multi-dimensionality of the construct, as well as pointing out difficulties surrounding its assessment.

Bogardus (1925) developed a scale to measure "social distance", or the degree to which a respondent was willing to admit members of designated social groups into his sphere of interpersonal relationships. His scales contained seven items, which Bogardus believed denoted seven degrees of permitted closeness.

Argyle (1967) used eye contact as a measure of interpersonal attraction. He found the frequency of glances to positively correlate with an individual's liking for another. Pupil size and eye dilation has also been proposed as a measure of interpersonal attraction (Hess and Polt 1960, Hess, 1965).

Kiesler and Goldberg (1968) used seating distance as one of their measures of attraction. They found that we generally stand slightly closer to those we like than to those we do not like.

Sociometric choices have also been used as measures of interpersonal attraction. The assumption here being that the more we like someone the more anxious we are to associate with him (Berschied and Walster, 1969).

Also used for measuring attraction have been a full range of attitude scale approaches, including Thurstone, Likert, and semantic differentials (Berscheid and Waltser, 1969).

Triandis (1964) and Kiesler and Goldberg (1968) used multiple measuring devices. For example, Kiesler and Goldberg used sixteen 60-point scales "with the first, fifteenth, forty-fifth and sixtieth points marked with a vertical line and labeled with a short phrase, and the mid-point marked but not labeled" (p. 699). They also used five multiple-choice questions with seven possible answers scaled on an *a priori* basis and two seating-arrangement diagrams, which they scored according to spatial distance.

Assumptions of the Present Study

The present attempt to develop scales for measuring interpersonal attraction assumes this construct to be multidimensional in nature, rather than unidimensional. Based on previous research in interpersonal attraction we view the principle components of this construct to be task attraction, social attraction, and physical attraction.

Measurement Approach

Likert-type scales were selected as the most appropriate measurement device for our purposes. They yield results amenable to parametric statistical analysis, are comparatively easier to construct and administer than most other measures, and have been demonstrated to be highly reliable when properly developed (Edwards, 1957).

Procedures

Ten Likert-type items were generated for each of the three presumed dimensions of interpersonal attraction. Five were positively worded and five negatively worded for task, social, and physical properties of attraction.

The instrument offered a seven point strongly agree-strongly disagree response field. The 30 items were randomly ordered. Subjects were 215 undergraduate students enrolled in nine sections of introductory communication courses at Illinois State University.

The subjects were instructed to complete the instrument for "a classmate with whom you are acquainted". Subjects wrote the first name of a classmate on the top of the questionnaire. Each subject completed the instrument for one acquaintance.

Statistical Analysis

The data were first submitted to principle components factor analysis with varimax rotation. The criteria for interpretation of the results included the following: (a) An eigenvalue of 1.0 was set for termination of factor extraction; (b) For an item to be considered loaded on a factor it was required to have a primary loading of at least .60 on that factor and to have no secondary loading above .40; (c) In order for a factor to be considered meaningful it was required to have at least three items loaded on it.

In order to determine the probable stability of the obtained factor structure in the absence of items not meeting criterion (b) above, a supplementary principle components analysis (with varimax rotation) was conducted including only the items meeting criterion (b).

The scales composed of the items loaded on the obtained factors were tested for internal reliability by means of the Hoyt (1941) procedure based on analysis of variance.

Results

The initial factor analysis produced the rotated three-factor solution reported in Table 1. This solution accounted for 49% of the total variance Factor I was labeled "social attraction" and included items which had been generated for this property of interpersonal attraction. The highest loaded item, "I think he (she) could be a friend of mine" represents this dimension well. The social attraction factor accounted for 17% of the variance after rotation.

Factor II is labeled "physical attraction", again representing items intended to tap this property of interpersonal attraction. "I think he (she) is quite handsome (pretty)" was the item most highly loaded on this factor. The factor accounted for 18% of the total variance after rotation.

Factor III was labeled "task attraction" and accounted for 14% of the variance after rotation. "I couldn't get anything accomplished with him (her)" was the item with the highest factor loading on this dimension.

Our primary concern in this research was to develop usable scales for subsequent communication research dealing with interpersonal attraction. In order to test whether the items which best represent the extracted factors could be expected to produce the same factor structure in a replication omitting our "bad items," the supplementary factor analysis was run. Table 2 presents the results of the factor analysis of the 18 items which met the criteria of the previous factor analysis. The results of the supplementary analysis suggest that the 12 "bad items" had little influence on the obtained factor structure in the primary analysis, and that replication excluding those items should still result in a factor solution similar to the one obtained in the present investigation.

This conclusion is further supported by the results of a study reported by Quiggens (1972). Quiggens included 12 of the items found to be highly loaded on the three factors in the present study (four from each dimension) in his research on interpersonal attraction in the small group setting. The subjects for Quiggens' study were 60 students in the introductory communication course at Illinois State University who evaluated each of four other members in a small group.

The 12 items were factor analyzed to test the reliability of the factor structure reported in Tables 1 and 2. The results of this replication are presented in Table 3. Once again three independent dimensions emerged, labeled "social", "physical", and "task" attraction. One social attraction item in the Quiggens' data did not meet the criteria. "A person that would just not fit into my circle of friends" split its loading between social and physical attraction. All other items loaded on the dimension to which they were directed with acceptable factor loadings.

The obtained internal reliability estimate for the five items highly loaded on the social attraction dimension was .75. For the eight items on the physical attraction dimension the estimate was .80, and for the five items on the task attraction dimension .86. These reliability estimates were all considered satisfactory.

Discussion

The most important and obvious conclusion from this study is that interpersonal attraction does appear to be a multidimensional construct.

These dimensions are independent of one another and should be considered so in future interpersonal attraction research. Further, the scales presented here appear to tap three dimensions of interpersonal attraction-a social or personal liking property; a physical dimension based on dress and physical features; and a task-orientation dimension related to how easy or worthwhile working with someone would be.

The replication of our scales in the small group setting suggests their usefulness for further research in this area.

One limitation inherent in this study is that sex differences were not controlled for, and may be responsible for different orientations to attractiveness. Further the degree of familiarity in the main study was not controlled. The results of the small group replication, where familiarity between subjects was perhaps more consistent, indicate this may not be too serious a limitation.

On the basis of the results obtained in this investigation we offer an instrument composed of the 18 items reported in Table 2 for consideration by future researchers concerned with interpersonal attraction. Our data suggest that this instrument is capable of reliably measuring physical, social, and task attraction. We wish to stress, however, that this should be perceived as a "first-generation" instrument. Later research should be expected to discover new items which also measure these dimensions of interpersonal attraction, and the discovery of completely new dimensions should be considered highly likely.

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TABLE 1

ROTATED FACTOR MATRIX FOR INTERPERSONAL ATTRACTION SCALES

N=215	Social Attraction	Physical Attraction	Task Attraction
Social Attraction			
1. I think he (she) could be a friend of mine	.76*	-.20	-.29
2. I would like to have a friendly chat with him (her)	.70*	-.31	-.17
3. It would be difficult to meet and talk with him (her)	-.64*	-.07	-.01
4. We could never establish a personal friendship with each other	-.60*	.17	.27
5. He (she) just wouldn't fit into my circle of friends	-.60*	.12	.08
6. He (she) would be pleasant to be with	.65	-.44	-.15
7. I feel I know him (her) personally	.51	-.16	-.06
8. He (she) is personally offensive to me	-.50	.26	.24
9. I don't care if I ever get to meet him (her)	-.49	.23	.33
10. I sometimes wish I were more like him (her)	.27	-.42	-.20
Physical Attraction			
11. I think he (she) is quite handsome (pretty)	.16	-.85*	-.06
12. He (she) is very sexy looking	.14	-.83*	.01
13. I find him (her) very attractive physically	.07	-.78*	-.06
14. I don't like the way he (she) looks	-.29	.73*	.22
15. He (she) is somewhat ugly	-.19	.65*	.14
16. He (she) wears neat clothes	.25	-.64*	-.22
17. The clothes he (she) wears are not becoming	-.23	.63*	.25
18. He (she) is not very good looking	-.11	.61*	.22
19. She (he) is well groomed	.33	-.53	-.26
20. He (she) is repulsive to me	-.59	.32	.31
Task Attraction			
21. I couldn't get anything accomplished with him (her)	-.20	.08	.66*
22. He (she) is a typical goof-off when assigned a job to do	.13	.28	.66*
23. I have confidence in his (her) ability to get the job done	.31	-.15	-.64*
24. If I wanted to get things done I could probably depend on him (her)	.29	-.23	-.63*
25. He (she) would be a poor problem solver	-.16	.15	.62*
26. I think studying with him (her) would be impossible	-.07	-.07	.58
27. You could count on him (her) getting a job done	.19	-.15	-.57
28. I have the feeling he (she) is a very slow worker	-.11	.17	.59
29. If we put our heads together I think we could come up with some good ideas	.42	-.18	-.49
30. He (she) would be fun to work with	.56	-.18	-.15
Eigenvalue after rotation	5.00	5.54	4.06

TABLE 2

ROTATED FACTOR MATRIX FOR 18 BEST-FIT INTERPERSONAL ATTRACTION SCALES

N=215	Physical Attraction	Social Attraction	Task Attraction
Social Attraction			
1. I think he (she) could be a friend of mine	-.23	-.73*	.33
2. It would be difficult to meet and talk with him (her)	-.04	.67*	.00
3. He (she) just wouldn't fit into my circle of friends	.14	.67*	-.07
4. We could never establish a personal friendship with each other	.22	.65*	-.25
5. I would like to have a friendly chat with him (her)	-.36	-.64*	.19
Physical Attraction			
6. I think he (she) is quite handsome (pretty)	-.87*	-.10	.09
7. He (she) is very sexy looking	-.85*	-.09	.03
8. I find him (her) very attractive physically	-.79*	.04	.10
9. I don't like the way he (she) looks	.75*	.25	-.25
10. He (she) is somewhat ugly	.66*	.15	-.14
11. He (she) is not very good looking	.64*	.12	-.19
12. He (she) wears neat clothes	-.61*	-.28	.25
13. The clothes he (she) wears are not becoming	.60*	.25	-.26
Task Attraction			
14. He (she) is a typical goof-off when assigned a job to do	.23	-.19	-.73*
15. I have confidence in his (her) ability to get the job done	-.13	-.25	.70*
16. If I wanted to get things done I could probably depend on him (her)	-.21	-.26	.73*
17. I couldn't get anything accomplished with him (her)	.07	.24	-.66*
18. He (she) would be a poor problem solver	.15	.11	-.65*
Eigenvalue after rotation	4.64	2.76	2.85
Percent of total variance accounted for	26	15	16

TABLE 3

ROTATED FACTOR STRUTURE FOR 12 REPLICATED
INTERPERSONAL ATTRACTION SCALES[a]

N=240	Social Attraction	Physical Attraction	Task Attraction
Social Attraction			
1. Someone who is difficult to talk with and get to know	.69*	-.05	.29
2. A person that I could never establish a personal friendship with	.69*	-.33	.06
3. A friend of mine	.66*	.06	-.10
4. A person that just would not fit into my circle of friends	.59	-.49	-.03
Physical Attraction			
5. A person that I do not consider very good looking	-.21	-.88*	.10
6. A person that is physically attractive	.20	.86*	-.09
7. A person that is quite handsome (pretty)	.25	.89*	.25
8. Someone who is not very sexy looking	.00	-.72*	.11
Task Attraction			
9. A very slow worker	.00	-.01	.74*
10. Someone you can count on to get the job done	.13	.05	-.75*
11. A poor problem solver	-.14	-.09	.69*
12. A typical goof-off when assigned a job to do	-.08	-.16	.65*
Eigenvalue after rotation	1.94	3.16	2.20
Percent of total variance accounted for	16	26	18

[a]Wording of the items was altered slightly for the specific purposes of the Quiggen's study.
*Items with acceptable factor loadings.