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**THE RELATION OF
OPEN HEARTH FOREMEN'S INTERPERSONAL PERCEPTIONS
TO STEEL PRODUCTION**

WALTER A. CLEVEN and FRED E. FIEDLER

TECHNICAL REPORT NO. 11

**A NOTE ON PSYCHOLOGICAL ATTRIBUTES
RELATED TO THE SCORE ASSUMED SIMILARITY
BETWEEN OPPOSITES (AS_0)**

EILEEN F. GOLB and FRED E. FIEDLER

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**Studies performed under Contract N6-ori-07135
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**PROJECT ON
SOCIAL PERCEPTION AND GROUP EFFECTIVENESS**

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SCORE ASSUMED SIMILARITY BETWEEN OPPOSITES (ASo)

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A Note on Psychological Attributes Related to the Score Assumed
Similarity between Opposites (ASo)¹

Eileen F. Golb and Fred E. Fiedler


The present study investigates some personality correlates of the interpersonal perception score Assumed Similarity between Opposites (ASo). This score is obtained when we compute the similarity or difference with which a person describes his most and least preferred co-workers on a personality questionnaire.

The score, Assumed Similarity between Opposites, as well as other AS scores are related to a number of interpersonal and small group phenomena. Thus, Fiedler has reported studies on basketball and surveying teams (6) where the leader's ASo is highly related to the group's effectiveness. Leaders who perceive large differences between good and poor co-workers (low ASo) have better teams than do leaders who see their best and poorest co-workers as similar (high ASo). A study on military combat crews (7) showed a relationship between bomber and tank crew criteria and sociometrically accepted leaders' ASo. Havron, Lybrand and Cohen, in a study of infantry squads (10), also found accepted squad leaders' ASo scores related to squad effectiveness. Yet, it has been very difficult to relate Assumed Similarity between Opposites to any other rating or personality test variable. Rudin and Fiedler,² for example, found no relationship between ROTC cadets' ASo and officers' ratings of their leadership. Cleven, McBride, and Fiedler,³ and McBride and Dodge,⁴ attempted to relate Thurstone's personality traits and Cattell's 16 PF test factors to ASo without success.

This lack of correlation between ASo and personality trait scales is not due to low reliability. Rudin, Lazar, Ehart and Cronbach (13), and Cronbach, Hartmann, and Ehart (2) report split-half reliabilities for ASo of .90 and above. Cronbach, Hartmann, and Ehart (2) also point out that ASo seems to be almost

¹We are indebted to Drs. C. E. Wrigley, Dorothy McBride, Joan Dodge, and Mr. W. A. Cleven for their criticisms and suggestions.

^{2, 3, 4}Unpublished research.



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completely independent of the content of test items. These authors interpret this finding to mean that ASo may be primarily a measure of a test response set. This, of course, still leaves unanswered the question as to the differences in personality between the people who have and those who do not have these response sets, and how these response sets relate to group effectiveness.

Fiedler has made some inferences as to the nature of ASo (5, 6, 7, 8). He bases his interpretation of this score on a number of studies. In the first investigation of Assumed Similarity, he found that reputedly good therapists assume more similarity between themselves and their patients than do reputedly poorer therapists (4). A further study showed that persons will assume more similarity between themselves and those whom they like than with others whom they like less well (9), a finding which was confirmed in a study on children by Davitz (3).

High Assumed Similarity to a person is therefore interpreted as indicative of feelings of psychological closeness and acceptance toward him; low Assumed Similarity is seen as indicative of psychological distance and a more analytic-critical attitude.⁵ Since all Assumed Similarity scores are highly intercorrelated (2), this interpretation can also be applied to the score, Assumed Similarity between Opposites.

This study attempts to test whether the current interpretation of ASo as measuring analytic-critical vs. accepting attitudes is tenable. Because of the possibility that ASo might measure attitudes of which the individual is unaware, this study attempts to relate this score to other perceptual tendencies from which we may then infer the nature of ASo.

Hypotheses

While it is difficult to find operational definitions for terms such as "psychological distance," we can more easily specify "analytic-critical"

⁵Individuals taking the test are as a rule unaware of the similarity which they assume between themselves and others, or between their most and least preferred co-workers. This finding suggests that ASo scores may measure unconscious interpersonal attitudes.

and "accepting" attitudes in operational terms. By "analytic-critical" we mean here a discriminating, evaluative attitude toward others. By "accepting," as Rogers (12) has used the term, for example, we mean a non-judgmental, non-critical attitude toward another individual. An accepting (high ASo) person would thus tend to describe others in a relatively undifferentiated manner, as indicated by the relatively greater halo effect in his ratings. The accepting person should also perceive more similarity not only between a good and a poor co-worker whom he knew in the past but also between his immediate work-companions. Being less critical, the high ASo person would tend to accept them all equally. These considerations lead us to advance two specific hypotheses:

Hypothesis 1. Ss with high Assumed Similarity between Opposites (ASo) will perceive others in a less differentiated manner than will low ASo persons. In other words, given a number of items with which to describe other persons, the descriptions of high ASo Ss will have less variance between ratings from item to item than those of low ASo Ss.

Hypothesis 2. Ss with high ASo scores will perceive less difference than those with low ASo scores between two or more others whom they know. If we ask a group of Ss to describe a number of other individuals, the descriptions made by high ASo persons will have greater similarity to each other than those made by low ASo persons.

As will be recalled, ASo scores measure the difference S perceives between the most and the least preferred co-workers he has known.⁶ In testing Hypothesis 2 we ask whether a person who perceives large differences (or great similarity) between his most and his least preferred

⁶In a previous study Ss were asked to state whom they had chosen as most and least preferred co-workers. None of the Ss chose his least preferred co-worker from among his immediate work companions, and only a few chose them as most preferred. Hence we can assume that the descriptions for ASo in this study similarly are based on persons other than the S's immediate co-workers.

co-worker also perceives correspondingly large differences or similarities between people with whom he has daily contacts.

Procedure

Subjects. For purposes of this study, we selected the 37 Ss with highest and the 37 Ss with the lowest ASo scores.⁷ Our sample was drawn from among members of 40 Army Tank crews. Each of these crews is composed of four enlisted men, viz., a tank commander, a gunner, a leader, and a driver. Hence we obtained data from a total of 160 men. These crews live and work together, and since they are isolated from their families and former friends, they tend to establish relatively close relations with others in their own unit.

We also considered that different crew positions have different status: Thus the tank commander's job carries more prestige than that of other crew members, and the gunner's job more than that of the driver's or loader's, etc. Since interpersonal perception is likely to be influenced by these prestige factors, all Ss were matched by crew position.

Tests. The questionnaires used in this study consisted of twenty pairs of adjectives such as friendly-unfriendly, patient-impatient, and mature-immature. These adjective pairs were separated by a six-point scale. The positive pole of each item was arbitrarily scored 1, while the undesirable end of the scale was scored 6.

Each S was given a set of identical scale sheets. He was instructed to describe (a) himself, (b) the person with whom he was able to work best, (c) the person with whom he had had most difficulty in co-operating. The latter two could be descriptions of persons S had known in the past. Finally, (d) S was to describe each of his three fellow tank crew members.

Treatment of data. An ASo score was obtained for each of our Ss by comparing the similarity of his best and poorest co-worker descriptions.

⁷These are Ss scoring in the upper and lower quartiles of the ASo distribution; however, six of the original 40 Ss who fell into the upper and lower quartiles had to be discarded because of missing data.

The coefficient of profile similarity here used is the generalized distance measure \underline{D} which has been described by Cronbach and Gleser (1), and by Osgood and Suci (11). As we indicated above, a person who describes his most preferred and his least preferred co-workers as very similar has high ASo, and someone who perceives them as greatly different has low ASo.

After matching Ss by crew position, we selected the 37 Ss with highest and the 37 with lowest ASo for this study.

Test of the First Hypothesis

It will be recalled that each of the Ss described his three fellow crew members. We could therefore compute a mean standard deviation based on item variance for each S's descriptions of these three persons. In other words, we obtained a mean score for each S which indicated to what extent on the average he differentiated among various items in his description of another person.

The mean standard deviations of high and low ASo groups were then compared. As Table 1 shows, we find a highly significant t of 3.73 which supports the hypothesis that low ASo persons are more discriminating and critical than high ASo persons.

TABLE 1
Average Standard Deviations of Item Scores Derived from Descriptions
of High and Low ASo Subjects

Subjects	N	Average Standard Deviation	Difference in Average Standard Deviations	<u>t</u>	<u>p</u>
High ASo persons	37	.92			
			.34	3.73	.01
Low ASo persons	37	1.26			

Test of the Second Hypothesis

We have found that low Δ So persons perceive more item differences when describing one individual, (i.e., more within individual variance). But this may or may not mean that these Ss will also discriminate more between people.

The Δ So score measures how much S differentiates between the most and least preferred co-workers with whom S has had experience. But does a low Δ So person necessarily differentiate more than a high Δ So person among his immediate co-workers, even though he may perceive all of them as being equally good or poor?

We tested the second hypothesis by computing D scores between each of the three descriptions made by the same S. For example, we determined the similarity a tank commander perceived between his gunner and his driver, between his gunner and his loader, and between his driver and his loader.

Each S's D scores were then averaged and our 37 high Δ So persons were compared with the 37 low Δ So persons.

The t between these two groups was 4.44, again significant at the .01 level, thus supporting Hypothesis 2.

TABLE 2
Average D Scores* between Descriptions of Three Specific Work
Companions by High and Low Δ So Subjects

Subjects	N	Average D Score	Difference in Average D Scores	<u>t</u>	<u>p</u>
High Δ So persons	37	4.78			
			2.53	4.44	.01
Low Δ So persons	37	7.31			

*D scores were computed for measuring this by following the same method used in computing Δ So (1).

Discussion

This study presents evidence that the perceptual tendency to differentiate among people is a fairly generalized trait. Someone who perceives differences among persons whom he considered to be good and poor co-workers is also likely to perceive larger differences among his current work-companions. Perhaps more importantly, such an individual is also more willing or able to see the same person as good in some respects and less good in others. Unlike his high *ASo* counterpart, the low *ASo* person seems to be less prone to an all-or-none reaction. We interpret these response patterns as one indication that low *ASo* persons are more critical and analytic, and that high *ASo* persons tend to be more accepting and less judgmental toward others.

The question obviously arises how such attitudes on the part of a leader may affect group productivity. We may speculate here that the critical, analytic leader, once he is accepted by his group, can make decisions which affect others more quickly and definitively. Since he is more conscious of differences among his co-workers, the low *ASo* person perhaps may feel more secure in selecting and placing his men. Irrespective of the correctness of his judgment, the low *ASo* leader might thus be more decisive and less ambivalent in making work decisions and job assignments.

Summary and Conclusions

A study was conducted to investigate the nature of the interpersonal perception score, Assumed Similarity between Opposites, *ASo*. This score is obtained when we compare the personality descriptions an individual makes of the most and least preferred co-workers he has ever known. A person with high *ASo* perceives his most and least preferred co-workers to be very similar, but a person with low *ASo* assumes considerable difference between them.

The hypothesis was tested that high *ASo* persons tend to be more accepting and undifferentiating in their perceptions of others, while low *ASo*

persons tend to be more analytic and critical, and hence more differentiating in their interpersonal perceptions. Analytic-critical attitudes were operationally defined (a) in terms of relatively large item variances in descriptions of a particular person (low halo effect) and (b) relatively large differences in S's descriptions of several current work-companions.

The hypotheses were tested by comparing 37 high and 37 low ASo persons who were members of Army Tank crews. Each of these Ss described most and least preferred co-workers and his three current fellow tank crew members. Comparisons were made between average item variances in descriptions made by high and low ASo persons, and between profile similarity coefficients based on each S's descriptions of his three fellow crew members.

Both hypotheses were confirmed at the .01 level of confidence, thus supporting the interpretation that ASo is related to analytical-critical vs. accepting, undifferentiating interpersonal attitudes.

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