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A Determiner of the Centrality of a Trait in Forming Impressions of Others

Joseph G. Hill

A Determiner of the Centrality of a Trait in Forming Impressions of Others

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Presented to

the Faculty of the Department of Psychology

The University of New Mexico

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

---

by

Joseph G. Hill

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This thesis, directed and approved by the candidate's committee, has been accepted by the Graduate Committee of the University of New Mexico in partial fulfillment of the requirements for the degree of

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Introduction

This paper will present experimental findings in connection with a certain aspect of the perception of others. A survey of the literature, to be presented in this section, will lead up to a formal statement of the problem.

Literature dealing with the perception of others may be classified into four general categories with subsections as follows.

Characteristics of the Judge

The Ability to Judge Others as a Personality Trait. According to Taft (28) the cornerstones of the ability to judge others are (1) appropriate judgmental norms (judge and subject background similarity), (2) judging ability (general and social intelligence), and (3) motivation (to make accurate judgments), which is probably the most important. By means of an experiment Adams (1) arrived at the paradoxical finding that the one who is the most interested in others understands himself best and that the one who is most interested in himself best understands others. Estes (6) gave more concrete information: judges who have strong interests in either the dramatic or graphic arts are more successful than those whose dominant interests are in the

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sciences and philosophy. He noted that some traits are conspicuously well-judged, namely (1) inhibition-impulsion, (2) apathy-intensity, (3) placidity-emotionality, and (4) ascendancy-submission.

The Influence of the Personality of the Judge on the Process of Perceiving Others. Fensterheim and Tresselt (7) investigated the influence of the individual's value system on his perception of another person. The hypothesis that the perceiver's own major values will be projected in his perception of liked pictures was confirmed. In this connection, Scodel and Mussen (24), using the F-scale, found that the high-scoring authoritarian subjects do not perceive the low-scoring subjects as having F-scores significantly different from their own, whereas the low-scoring subjects do ascribe to the high-scoring subjects F-scores that are significantly higher than their own.

Evidence can be cited which holds a warning against overestimating the influence of the personality of the judge. Tresselt and Becker (30) contended that personality is not a primary selective force in judgments of people. Rather the judgmental process is affected primarily by previous habit training in such a way that both a scale of judgment and a method of attack are transferred. It is interesting to note that Pastore (21), nine years ago, held that the now generally accepted postulate that needs determine perception might be correct but had not been proven so in previous experiments. Related to this point, Precker (22) found that perception of other people's values is not entirely a matter of projection,

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although he considered the influence of anxiety upon perception to be fairly well established.

Accuracy and Interobserver Reliability. Kornhauser (15) presented interesting evidence on inter-judge reliability in the judgment of traits of college students. He had different instructors rate college students on seven traits. For a group of 20 graduating seniors fairly well known to the raters the average correlations of five pairs of raters were: .53 for industry, .47 for cooperativeness, .47 for moral trustworthiness, .44 for intelligence, .42 for accuracy, .29 for initiative, and .26 for leadership ability. Kornhauser pointed out that the agreement between judges was greater when the trait was more clearly related to academic performance.

Gage (8) was concerned with explicit forecasting of strangers' interests from expressive behavior. She found that the predictive accuracy was greater than one would expect by chance, and that the ability of the judges to predict the strangers' responses was consistent from one stranger to the next and from one bit of expressive behavior to the next. Gage concluded that in this situation the social perception of the judges was more a function of their internal frames of reference than of the specific external stimuli.

Characteristics of the Judged Person

Although the attributes of the judged persons would seem to be major variables to be investigated in connection with the process of social perception, literature on this topic is rare.

Rice (23), in an experiment in which he used pictures of

prominent people, showed that the rating of intelligence and craftiness from photographs is influenced by the knowledge of the social status of the portrayed person.

Secord and Muthard (25) had 140 college students rate 24 photographs of young women on a series of physiognomic and personality attributes. Their evidence suggested the following conclusion. Certain combinations of physiognomic traits were significantly related to certain patterns of personality impressions.

Stritch and Secord (27) found that artist-produced changes in the pictures of persons to be rated markedly affected the perception of physiognomic characteristics which had not been altered by the artist.

Thornton (29) had subjects judge six personality traits of pictured persons who were wearing glasses. He found that the persons were rated more intelligent, more industrious, more honest and more dependable with glasses than without.

However, when these same persons appeared in person they were judged more intelligent and more industrious with glasses than without, but probably not more honest.

Interrelationships between Judge and Judged

Interpersonal Attitudes. Lakin (17) found a "substantial" positive relationship between attitudes towards oneself and attitudes towards others.

McKenna, Hofstaetter and O'Connor (19) conducted an experiment in which they explored the bases for attractions between two people. The congruence between various concepts of the self and

of two friends was investigated in a sample of 90 female college students. Some of their main findings follow: (1) A rise in the congruence between the self-concept and the concept of the friend is accompanied by an increase in the congruence between the self concept and the ideal self-concept. (2) The resemblance between the subject's personality pictures of her friends and the subject's ideal self-concept is greater than the resemblance between the subject's personality pictures of her friends and the subject's self-concept. (3) There is less resemblance between the personality pictures of the two friends than there is between either of these and the subject's ideal self.

Bieri (4) reports experimental confirmation of the hypothesis that in a constructive interaction situation one's perception of another will change in the direction of increased similarity to oneself.

Ichheiser (12) further emphasizes the importance of the self concept in social processes and suggests that the image which a person holds regarding another may be the result, or it may be the cause of his attitudes towards the other.

Rationalization in and Accuracy of Social Perception. Haire and Grunes (11) conducted an experiment on the processes producing an organized perception of another personality. They set out to prove again, as Asch (2) had done before them, that the meaning of a bit of information about another person is partly a function of its relation to other items. They constructed a short list of traits and facts concerning a factory worker including the trait name "intelligent". The subjects were asked to describe

the working man. The attribute "intelligent" did not fit with the factory worker. Two main lines of approach were taken by the subjects in integrating this attribute with the rest of the description: (a) Distortion, which involved explaining away the basic conflict by joining the intelligence with some item which the subject himself supplied. (b) Denial of the attribute "intelligent".

Gage (9) obtained the following experimental finding in connection with accuracy of social perception. If two individuals have positive mutual feelings toward each other, their impressions of each other are more likely to be accurate.

The Halo Effect. Kornhauser and McMurray (16) experimentally proved the existence of the tendency to ascribe all good and all bad qualities to an individual because of certain favorable or unfavorable general impressions. They had their subjects rate a group of salesmen on intelligence and selling ability and obtained an average correlation between component estimates of selling ability and intelligence of .87 while the true correlation coefficient was -.48.

The Lenient Tendency in Rating. Kneeland's (14) results illustrate this phenomenon. Although he made special efforts to have the midpoints of his scale describe true, average performance, his subjects, shoppers and executives, rated sales people on various items well above the midpoints of the scale.

The Honi Phenomenon. Wittreich (31) did an experiment on person perception where the observer described both his marital partner and a stranger as he watched them in the Ames' distorted

room. The marital partner was consistently seen as significantly less distorted than the stranger, although all but one of the subjects had been married less than one year.

The Work of Asch

Two of Asch's experiments dealing with forming impressions of others, and some of the literature and research they generated will now be described in some detail, as this work is the immediate background of the present writer's experiment.

Asch (2) proposed that not all of a person's traits are of equal importance in the formation of our impression of him. The following experiment by Asch, which is part of a longer series of experiments dealing with different aspects of the process of forming an impression, supports this assertion. Under experimental condition A 90 subjects were given the following instructions: "I shall read to you a number of characteristics that belong to a particular person. Please listen to them carefully and try to form an impression of the kind of person described. You will later be asked to give a brief characterization of the person in just a few sentences. I will read the list slowly and will repeat it once." They were then read the following list of traits:

intelligent-skillful-industrious-warm-determined-practical-cautious.

After an interval of five seconds the list was repeated. Following the reading each subject wrote a brief sketch.

Under Condition B a different group of 76 subjects, after being given the same instructions as had been given under Condition A, was read the following list of traits:

intelligent-skillful-industrious-cold-determined-practical-cautious. The list was repeated and brief sketches were written.

To obtain quantified results, Asch had constructed a list of traits, which is reproduced in Table 1. From each pair of terms in this list the subject was instructed to select the one that was most in accordance with the impression he had formed. Asch noted that two outcomes were possible. The impressions formed by groups A and B might be identical except that one had the added quality of "warm," the other of "cold". Another possible outcome might be that the single differentiating quality imparted a general positive or negative direction to the general impression. That neither of these possibilities materialized may be seen in Table 2, columns 1 and 2 of which were taken from Asch (2). For the sake of brevity of presentation results are stated for the more desirable term in each trait-pair, hereafter referred to as the "positive" term. The reader may determine the percentage of choices for the other term in each pair by subtracting the given from 100. To illustrate, under condition A 91% of the subjects chose the designation "generous;" the remaining 9% selected the designation "ungenerous". From his data, (columns 1 and 2 of Table 2), Asch concluded the following. (1) There are marked differences between the percentages of subjects choosing traits under the two conditions. For example, under condition A, where the person was described as "warm," 91% of the subjects called him "generous". However, under condition B, where the person was described as "cold," only 8% of the subjects called him "generous". (2) Not all qualities or traits are deflected by

Table 1

Asch's (2) Check List of Traits

1.	generous	- ungenerous
2.	shrewd	- wise
3.	unhappy	- happy
4.	irritable	- good-natured
5.	humorous	- humorless
6.	sociable	- unsociable
7.	popular	- unpopular
8.	unreliable	- reliable
9.	important	- insignificant
10.	ruthless	- humane
11.	good-looking	- unattractive
12.	persistent	- unstable
13.	frivolous	- serious
14.	restrained	- talkative
15.	self-centered	- altruistic
16.	imaginative	- hard-headed
17.	strong	- weak
18.	dishonest	- honest

Table 2

Percentages of Subjects Attributing Traits under Six Different Experimental Conditions

	Exp.I - Asch(2) (1) Warm (N=90)	(2) Cold (N=76)	Pilot - Hill (3) Sociable (N=20)	(4) Unsociable (N=20)	Exp.II - Asch(2) (5) Polite (N=20)	(6) Blunt (N=26)
1. generous	91	8	75	50	56	58
2. wise	65	25	55	40	30	50
3. happy	90	34	80	44	90	34
4. good-natured	94	17	80	32	87	56
5. humorous	77	13	70	21	71	48
6. sociable	91	38	-	-	83	68
7. popular	84	28	95	10	94	56
8. reliable	94	99	100	90	95	100
9. important	88	99	90	65	94	96
10. humane	86	31	60	89	59	77
11. good-looking	77	69	85	53	93	79
12. persistent	100	97	100	90	100	100
13. serious	100	99	100	100	100	100
14. restrained	77	89	65	89	82	77
15. altruistic	69	18	61	30	29	46
16. imaginative	51	19	75	55	33	31
17. strong	98	95	95	89	100	100
18. honest	98	94	85	95	87	100
Means	85.0	54.0	80.65	61.29	76.83	72.61

Note: T tests between means of columns 1 and 2, 3 and 4, 5 and 6 were computed by the present writer.

[a]Value of t for columns 1 & 2 was 4.11, significant at the .01 level
[b]Value of t for columns 3 & 4 was 2.85, significant at the .01 level
[c]Value of t for columns 5 & 6 was 0.91, insignificant (P = .40)

the transition from "warm" to "cold". For example, 100% of the subjects under condition A and 99% of the subjects under condition B called the person "serious".

In summary, it may be seen that some, but not all, traits are affected by the "warm-cold" variable.

The second experiment performed by Asch involved the same procedure as the first one, except that in the initial series of traits describing the hypothetical person "warm" was replaced by "polite" and "cold" by "blunt". As may be seen from Table 2, columns 5 and 6, there were no extreme differences between the percentages of subjects attributing positive traits under the two experimental conditions. Asch concluded that "polite" and "blunt" are not "central" qualities like "warm" and "cold," i.e., they did not produce striking differences in the manner in which the traits were checked by the two groups.

In summary, these two experiments by Asch show that some traits, specifically "warm" and "cold," when given as preinformation about a person, markedly influence the attribution of other traits to that same person, while other traits, such as "polite" and "blunt" do not have this effect.

Luchins (18) repeated one of Asch's experiments, using the list of trait names and the set of instructions employed by Asch. Luchins reported results which differed from those which Asch had found, and wrote a critique of Asch's work. His main criticism concerned Asch's experimental design, which was considered to be too unlike real life to be of any value. Further comments will be made on Luchins' critique in the discussion section.

Kelley (13) answered Luchins' main criticism of Asch by conducting a life-like experiment in which a group of students met a strange instructor in a classroom. Before meeting the instructor one half of the students were given information sheets on which the teacher was described as "cold;" to the other half he was described as "warm". Next, subjects and instructor participated in a discussion, after which the subjects were asked to write a sketch of the teacher and to rate him on a set of 15 rating scales. The results were very similar to those of Asch and it was concluded that such "central" qualities as warmth and coldness can greatly influence the total impression of a personality.

Mensh and Wishner (20) have repeated a number of Asch's experiments, including the present ones, with variations in the sex and geographic distribution of subjects. Their data also substantiated Asch's very closely.

The Problem

The present problem grew directly out of Asch's demonstration that some traits, such as "warm" and "cold," are "central," i.e., they markedly influence the choice of other fitting qualities when the central trait is given as preinformation about a person. At the same time, other traits, like "polite" and "blunt," are apparently "peripheral," i.e., they do not play an important part in the choice of other fitting qualities.

The purpose of this study was threefold: (a) To shed light on the factors determining the centrality of a trait; (b) to determine if a trait-dimension other than "warm-cold" proves to

central; (c) to provide for sharper quantification than was present in Asch's study, including a quantified measure of centrality.

Hypotheses

The present study hypothesizes that differences in the strength of a central trait in the raters themselves will be accompanied by differential centrality when they are judging others. The formal hypothesis thus becomes: The centrality of a trait is a function of the strength of that trait in the rater. As tested with groups of subjects who differ in the extent to which they possess the central trait, the null hypothesis is that such groups will not differ with respect to the centrality of that trait.

Method

Research Design

The experimental design called for (a) the location of an objectively measurable trait, high in centrality; (b) the measurement of this trait in a large number of subjects, who could thus be classified as high, average, and low with respect to that trait; (c) the administration of the Asch procedure to these groups, experimentally varying the new central trait; (d) the determination of group differences in centrality, if any.

As no objective measure of "warm-cold" was available, a pilot study was performed to determine if the trait dimension "sociable-unsociable," a measure of which is available in the Gordon Personal Profile (10), is sufficiently high in centrality.

Method of Pilot Study

Asch's method of determining centrality, as described in the Introduction, was used, with the following exceptions: (1) When preinformation about the hypothetical person was given, the trait "warm" was replaced by "sociable," and "cold" by "unsociable". (2) The trait pair, sociable-unsociable, was left out of the check list of traits used after the preinformation episode. A group of 40 psychology students was randomly split into two halves. One half was given:

intelligent-skillful-industrious-sociable-determined-practical-cautious.

The other half was given preinformation indicating that the hypothetical person was:

intelligent-skillful-industrious-unsociable-determined-practical-cautious.

Results of Pilot Study

Reference is made to Table 2, page 10, in which the findings of the pilot study are presented in columns 3 and 4. For example, 75% of the subjects to whom the hypothetical person had been described as sociable called this person generous. Only 50% of the subjects who had been told that the person was unsociable called him generous. A *t* test was run on each of the three sets of results, represented by the six columns in Table 2, in order to compare the degrees of centrality quantitatively. As is evident from Table 2, the P value for the warm-cold variable was .01, for the polite-blunt variable .40, and for the sociable-unsociable variable .02.

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The other half was given preinformation indicating that the hypothetical person was:

intelligent-skillful-industrious-practical-cold-rational-cautious.

Results of Pilot Study

Reference is made to Table 2, page 15, in which the findings of the pilot study are presented in columns 3 and 4. For example, 75% of the subjects in which the hypothetical person was described as sociable called this person generous. Only 50% of the subjects who had been told that the person was unsociable called him generous. A t test was run on each of the three sets of results, represented by the six columns in Table 2, to compare the degree of centrality quantitatively. As is evident from Table 2, the P value for the warm-cold variable was .01, for the polite-blunt variable .05, and for the sociable-unsociable variable .02.

Conclusions from Pilot Study

It was concluded that sociable and unsociable are central traits, i.e., when given as preinformation about a hypothetical person, these traits markedly influence the choice of other qualities fitting the person.

Trait-pairs 2, 9, and 13 were thought not to warrant further use, on the following grounds. Shrewd and wise were not thought to be opposites. Important and insignificant refer more to a social judgment rather than to traits possessed by the individual. Serious and frivolous did not yield any difference between the two groups in the pilot study and only one difference point in Asch's "warm-cold" experiment.

This left 14 traits in the list. In order to provide a wider range, six new trait-pairs were selected from the sketches written by the subjects in the pilot study. The resulting check list is reproduced in Table 3, the last six items of which are the new traits.

Determining the Sociability of Subjects

Members of two general psychology classes served as subjects, one class with 144 students and the other with 88, to all of whom the Gordon Personal Profile (10) was administered. This test yields scores for ascendancy, responsibility, emotional stability, and sociability. Since the four sections of the profile are highly integrated the whole test was administered and scores determined not only for sociability but also for the other three traits in order to provide for an accuracy check on the scoring of the sociability scale.

Table 3

Revised Trait Check List Used in the Main Experiment

1.	generous	- ungenerous
2.	unhappy	- happy
3.	irritable	- good-natured
4.	humorous	- humorless
5.	popular	- unpopular
6.	unreliable	- reliable
7.	ruthless	- humane
8.	good-looking	- unattractive
9.	persistent	- unstable
10.	restrained	- talkative
11.	self-centered	- altruistic
12.	imaginative	- hard-headed
13.	strong	- weak
14.	honest	- dishonest
15.	timid	- bold
16.	immature	- mature
17.	relaxed	- tense
18.	indecisive	- decisive
19.	broad-minded	- narrow-minded
20.	insecure	- secure

The sociability scores of the 232 subjects were arranged in order from the highest to the lowest, as may be seen in Table 4. The whole group of subjects was then divided into three groups as follows: (a) A high-sociability group of 77 subjects, representing the upper third with scores ranging from 73 to 99; (b) a middle-sociability group of 78 subjects with scores ranging from 40 to 73; (c) a low-sociability group of 77 subjects with scores ranging from 0 to 37.

Procedure

Subjects. Since the subjects in the General Psychology lecture classes also attended the General Psychology laboratory classes, the rest of the experiment was conducted in the latter classes, of which there were ten, with an average of 23 subjects per class. The use of the two experimental conditions, describing the hypothetical person as sociable or unsociable, was varied in such a way that one half of the group scoring high on the sociability scale heard the person described as sociable; the other half as unsociable. The same method was followed for the group scoring middle and low on the sociability scale.

Although there might be a number of possible outcomes the writer considered the following three to be the most likely ones: (1) The high-sociability group might produce the greatest centrality, the group average in sociability might show an average centrality, and the group low on the sociability scale a low centrality. (2) Another possibility would be like the first one described except that the group low in sociability would make the trait as central as the high-sociability group. (3) All three

Table 4

Distribution of Sociability Scores on the Gordon Personal Profile of 232 Subjects

Percentile Score	f	cf	Percentile Score	f	cf
99+	1	1	43	4	150
99	1	2	40	5	155
98	2	4	37	2	157
97	3	7	35	7	164
95	13	20	31	4	168
93	3	23	30	9	177
92	6	29	28	1	178
91	7	36	26	5	183
89	1	37	22	5	188
88	11	48	19	3	191
84	11	59	16	4	195
79	8	67	15	4	199
74	7	74	13	8	207
73	12	86	11	5	212
68	6	92	10	2	214
66	9	101	9	4	218
62	5	106	7	3	221
59	11	117	6	2	223
56	4	121	4	2	225
53	9	130	2	2	227
49	7	137	1	2	229
46	9	146	0	3	232

Percentile Score	f
99+	1
99	1
98	2
97	3
95	13
93	3
92	6
91	7
89	1
88	11
84	11
79	6
74	7
73	12
68	6
66	9
62	5
59	11
56	4
53	9
49	7
46	9

groups would make the trait equally central. Fig. 1 graphically portrays these three possible outcomes.

Instructions. "I shall read to you a number of characteristics that belong to a particular person. Please listen to them carefully and try to form an impression of the person described. You will later be asked to give a brief characterization of the person in just a few sentences. I will read the list slowly and will repeat it once. Are there any questions?" The subjects were not allowed to write down the characteristics of the described person. Each of the six subgroups heard read a series of character qualities, identical except for one term. The lists follow:

intelligent-skillful-industrious-sociable-determined-practical-cautious.

intelligent-skillful-industrious-unsociable-determined-practical-cautious.

One half of each of the three main groups heard the person described as sociable; the other half, as unsociable. After an interval of five seconds the same list was read again. Following this reading the subjects were instructed to write a brief description of the person in just a few sentences. Approximately five minutes later the sketches were collected and these instructions given: "I will now hand out lists to you on which you will find a number of pairs of opposite traits. Please underline the one trait in each pair which best fits the impression you have formed of the person described to you." When the lists were collected,

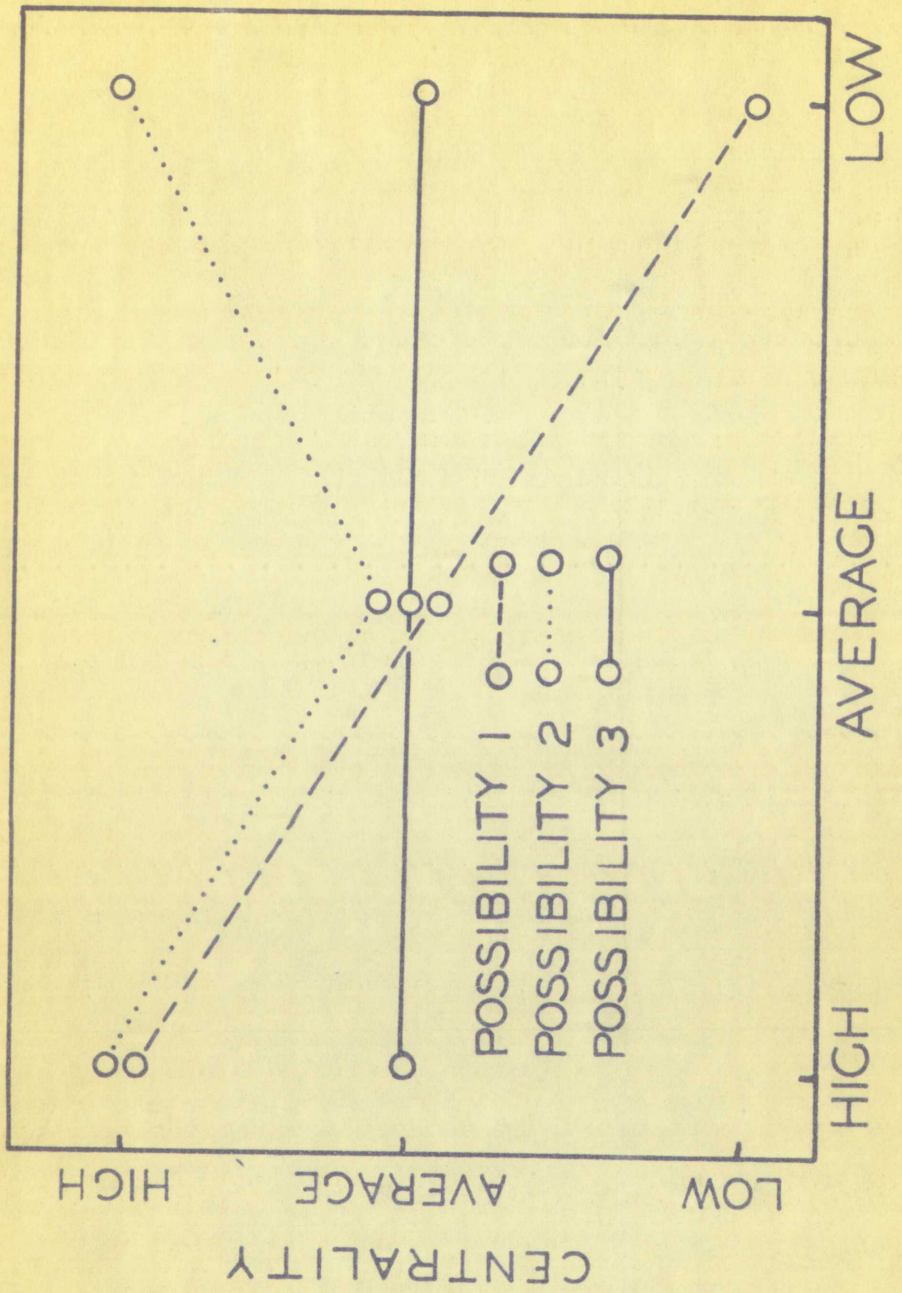

Fig. 1. The three main possible outcomes of the experiment.

each one was checked to make sure that one trait out of each pair had been underlined.

Scoring. Because of student absences in the lecture classes, where the writer tested for sociability, and in the laboratory classes, where the experiment proper was performed, the final number of subjects in each of the three main groups was 68, i.e., 34 under the sociable condition and 34 under the unsociable condition. All trait check lists were divided into six stacks of 34 each, representing the high-sociability group under the sociable and unsociable conditions, the middle sociability-group under the two conditions, and the low sociability group under the two conditions. The number of subjects in each group of 34 subjects checking each positive trait was counted.

Results

The scoring results are summarized in Table 5, which shows the numbers of subjects in the three groups attributing the positive term in each trait-pair under the two experimental conditions.

The results are stated for the positive term in each pair of traits. The reader may determine the number of subjects attributing the other term in each pair by subtracting the given figure from 34, the number of Ss under each experimental condition.

To appraise the results statistically, difference scores were used. A difference score was the difference between the numbers of subjects attributing the positive term in each trait-pair under the sociable and unsociable experimental conditions.

Striking differences of impression are evidenced by the difference scores for trait 1, generous; trait 2, happy; trait 3,

Table 5

Numbers of Subjects in the High-, Middle-, and Low-Sociability Groups Attributing Traits under the Sociable and Unsociable Conditions, with Difference Scores

Traits	High			Middle			Low		
	(1) Soc (N=34)	(2) Uns (N=34)	(3) D	(4) Soc (N=34)	(5) Uns (N=34)	(6) D	(7) Soc (N=34)	(8) Uns (N=34)	(9) D
1. Generous	33	5	28	32	6	26	32	15	17
2. Happy	32	6	26	31	6	25	32	22	10
3. Good-natured	32	5	27	33	9	24	31	15	16
4. Humorous	31	4	27	30	5	25	30	3	27
5. Popular	33	3	30	32	4	28	33	6	27
6. Reliable	34	33	1	34	33	1	33	34	1
7. Humane	31	10	21	32	17	15	30	27	3
8. Good-looking	32	4	28	30	10	20	30	15	15
9. Persistent	34	30	4	34	31	3	34	34	0
10. Talkative	32	9	23	33	15	18	32	20	12
11. Altruistic	31	4	27	19	13	6	20	14	6
12. Imaginative	29	6	23	25	13	12	27	22	25
13. Strong	34	28	6	32	25	7	30	26	4
14. Honest	33	34	1	34	34	0	33	34	1
15. Bold	30	5	25	32	11	21	29	21	8
16. Mature	34	10	24	33	30	3	32	32	0
17. Relaxed	32	6	26	27	9	18	24	10	14
18. Decisive	34	29	5	32	31	1	31	34	3
19. Broad-minded	33	5	28	31	19	12	31	21	10
20. Secure	33	10	23	29	19	10	31	27	4
Totals	647	246	403	615	340	275	605	432	183
Means	32.35	12.3	20.15	30.75	17.0	13.75	30.25	21.6	9.15

good-natured; trait 4, humorous; trait 5, popular; trait 7, humane; trait 8, good-looking; trait 10, talkative; trait 11, altruistic; trait 12, imaginative; trait 15, bold; trait 16, mature; trait 17, relaxed; trait 19, broad-minded; and trait 20, secure.

Certain other traits, however, did not show such marked differences. These were trait number 6, reliable; number 9, persistent; number 13, strong; number 14, honest; number 18, decisive.

In the case of trait number 1, generous, Table 5 shows that the vast majority of subjects, e.g., 33 in the high-sociability group under the sociable condition, called the person generous. Yet only a small minority, namely 5, in the same group perceived the person as generous when told beforehand that the person was unsociable.

For trait 6, Table 5 shows that practically all subjects chose the designation reliable, regardless of preinformation describing the person as sociable or unsociable. The first major finding may be summarized as follows:

(1) Description of the hypothetical person as sociable or unsociable influenced the manner in which the majority, but not all, of the traits were checked. This confirms Asch's (2) results.

This trend, quantified in Table 5, was confirmed by the sketches which each subject wrote. A few representative examples will be given. Two examples from the high-sociability group follow:

(a) "The person described is intelligent, skillful, industrious

and determined; therefore, he does well in his work. He is practical; and therefore, he probably does not squander his earnings but spends his money well. Even though he is intelligent and industrious, he is also sociable, which implies that he gets along with others. All in all, he is a well-rounded person."

The subject who wrote this was a female, in the high-sociability group under the sociable condition. When checking traits she called the person generous, happy, good-natured, humorous, popular, reliable, humane, good-looking, persistent, talkative, altruistic, imaginative, strong, honest, bold, mature, tense, decisive, broad-minded and secure.

(b) "This seems to be a description of a hard-headed business man or woman whose work means everything to him or her. This person spends most of his time in the office, but occasionally comes home to get some sleep. His friends are few, but he has many business associates who look up to him as an intelligent business man or woman as I have stated."

The subject was a female, in the high-sociability group, under the unsociable condition. She checked the following traits: ungenerous, happy, irritable, humorless, unpopular, reliable, humane, unattractive, persistent, talkative, self-centered, imaginative, strong, honest, bold, mature, relaxed, decisive, broad-minded and secure.

The following two examples are from the middle-sociability group, under the two conditions:

(c) "This person is ambitious and determined to bring himself

to a higher level in society by use of all his natural resources. He will apply his skill and intelligence practically in a manner which will leave little room for criticism. He is cautious to the point of assurance in himself and his work, thus he goes ahead and attains his goal."

The subject was a male from the middle sociability group, under the sociable condition. Traits checked were: generous, happy, good-natured, humorous, popular, reliable, humane, good-looking, persistent, restrained, altruistic, imaginative, strong, honest, bold, mature, relaxed, decisive, broad-minded, secure.

(d) "The person would be a typical graduate assistant at a medium sized university. He would be unmarried. He would wear conservative clothing and tend to be close with the American dollar. He would have a goal set for a Doctor's degree and would sacrifice almost anything to get it. He might even end up being a professor. He might get side-tracked by the possibility of marrying the boss' daughter and become a research lab. boss in the old man's plant."

The subject was in the middle sociability group, a male and under the unsociable condition. The following traits were checked: ungenerous, unhappy, irritable, humorless, unpopular, reliable, ruthless, unattractive, persistent, restrained, self-centered, hard-headed, weak, honest, timid, mature, tense, decisive, narrow-minded, secure.

Finally, two examples will be given of subjects from the low-sociability group under the sociable and unsociable conditions.

(e) "The person is a good student in all subjects in his college

but not a deep thinker in any of them. He is a typical product of American education. He has a broad, general knowledge of many things but knows no one subject in great detail. He is conservative in his outlook on life, reflecting the accepted views of his social group. He will probably go into his father's business, make it more prosperous than ever, marry an acceptable wife, and, to be trie, live happily ever after."

The subject was male out of the low-sociability group, under the sociable condition. Traits checked were the following: generous, happy, good-natured, humorous, popular, unreliable, humane, good-looking, persistent, talkative, self-centered, hard-headed, weak, honest, timid, mature, relaxed, decisive, broad-minded and secure.

(f) "This person has red hair and wears heavy black glasses. He is very athletic and is usually leader in everything he does. He always attempts to think his problems through to their most solvable form. He doesn't care about anyone who is different than or the same as himself. He occasionally shuts himself alone in a small room and ponders with himself."

The subject who wrote this sketch was in the low-sociability group, a male, and under the unsociable condition. He checked the following traits: ungenerous, unhappy, irritable, humorless, popular, reliable, ruthless, good-looking, persistent, restrained, self-centered, imaginative, strong, honest, bold, mature, tense, decisive, narrow-minded, and insecure.

It should be noted that a change in the sociable-unsociable variable did not affect the results indiscriminately. For

instance, it did not establish a halo effect tending towards consistently desirable or undesirable evaluations. This contention was checked by a two-way analysis of variance computed on the difference scores in Table 5. This analysis, presented in Table 6, yielded a between-traits F of 9.89, (df 9 and 38) significant beyond the .01 level. Apparently, not all trait-pairs in the trait check list were equally affected by manipulation of the sociable-unsociable variable. An illustration of this is contained in Table 7, which shows the traits arranged in order of magnitude of their average difference scores for all subjects regardless of their sociability. Fig. 2 presents a graphic portrayal of this.

The next aspect to be examined concerns the differences between the high-, middle-, and low-sociability groups with respect to the centrality of the trait of sociability, as measured by the difference scores presented in Table 5: 403 for the high-sociability group; 275 for the middle-sociability group; 183 for the low-sociability group. The two-way analysis of variance on these difference scores, presented in Table 6, yielded (between groups) an F of 27.81, (df = 2 and 38) significant beyond the .01 level of confidence. This second major finding confirmed the experimental hypothesis and may be stated as follows:

(2) With three groups of subjects who themselves possess the central trait of sociability to varying extents this trait is found to be differentially central in these subjects' impressions of another person: the centrality of a trait is a function of

Table 6

Two-way Analysis of Variance on the Difference Scores in Table 5

Source	df	Mean Square	F
Groups	2	610.40	27.81*
Traits	19	217.20	9.89*
G x T	38	21.95	
Total	59		

*Significant beyond .01 level

Table 7

The Average Difference Scores for All Subjects, for each Trait, in Order of Magnitude

Trait	Mean Difference
5. popular	28.33
4. humorous	26.33
1. generous	23.67
3. good-natured	22.33
8. good-looking	21.00
2. happy	20.33
17. relaxed	19.33
15. bold	18.00
10. restrained	17.67
19. broad-minded	16.67
12. imaginative	13.33
7. humane	13.00
11. altruistic	13.00
20. secure	12.33
16. mature	9.00
13. strong	5.67
18. decisive	3.00
9. persistent	2.33
6. reliable	1.00
14. honest	0.67

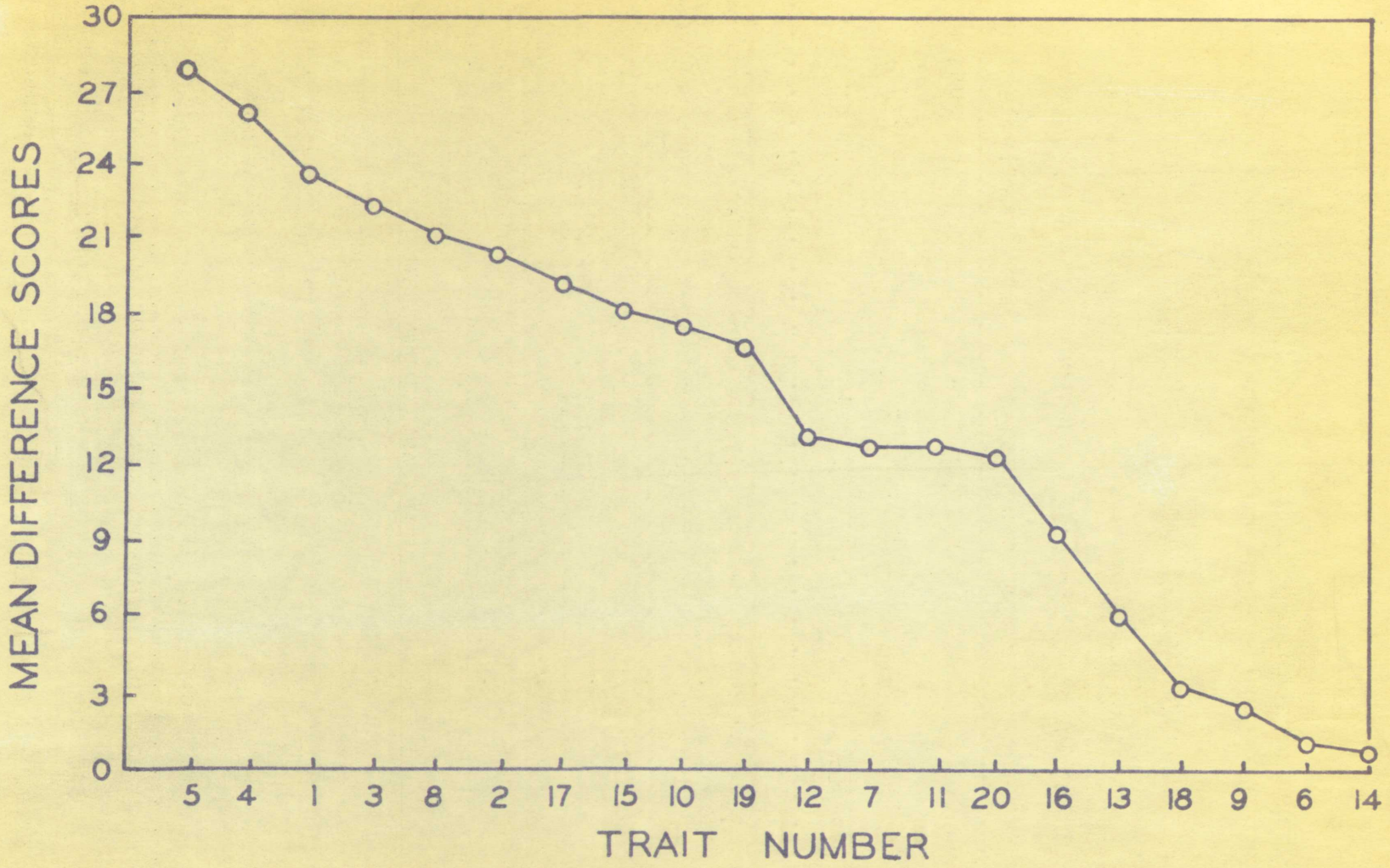

Fig. 2. The mean difference scores for all Subjects on the twenty traits, arranged in order of magnitude.

the strength of that trait in the rater.

Also, a decrease in the strength of the trait of sociability in the raters is accompanied by a decrease in the centrality of this trait in the raters' impressions of another person, as evidenced by the consistent decline in the order of the mean difference scores for the high-, middle-, and low-sociability groups.

In a word, the "sociability status" of the described hypothetical person is more important to the high-sociability group than it is to the middle-sociability group, and carries more weight with the middle-sociability group than it does with the low-sociability group. Fig. 3 provides a clear picture of the second finding and shows how difference scores decline with a decrease in sociability.

Although the analysis of variance had indicated that the total difference scores, shown in Table 5, were significantly different well beyond the .01 level, the significance of the differences between each pair of total difference scores was left to be ascertained. For this purpose the following formula was used for determining the fiducial limits after A/V: $L = (2\ N\ F\ V)^{\frac{1}{2}}$, where N = size of group tested; F = tabled value of F for 1 + df in experimental error term; V = variance of experimental error term. The application of this formula yielded significance at the 5% level or beyond for all three pairs of total difference scores.

Further, the difference between any two of the mean difference scores is significant at or beyond the .05 level.

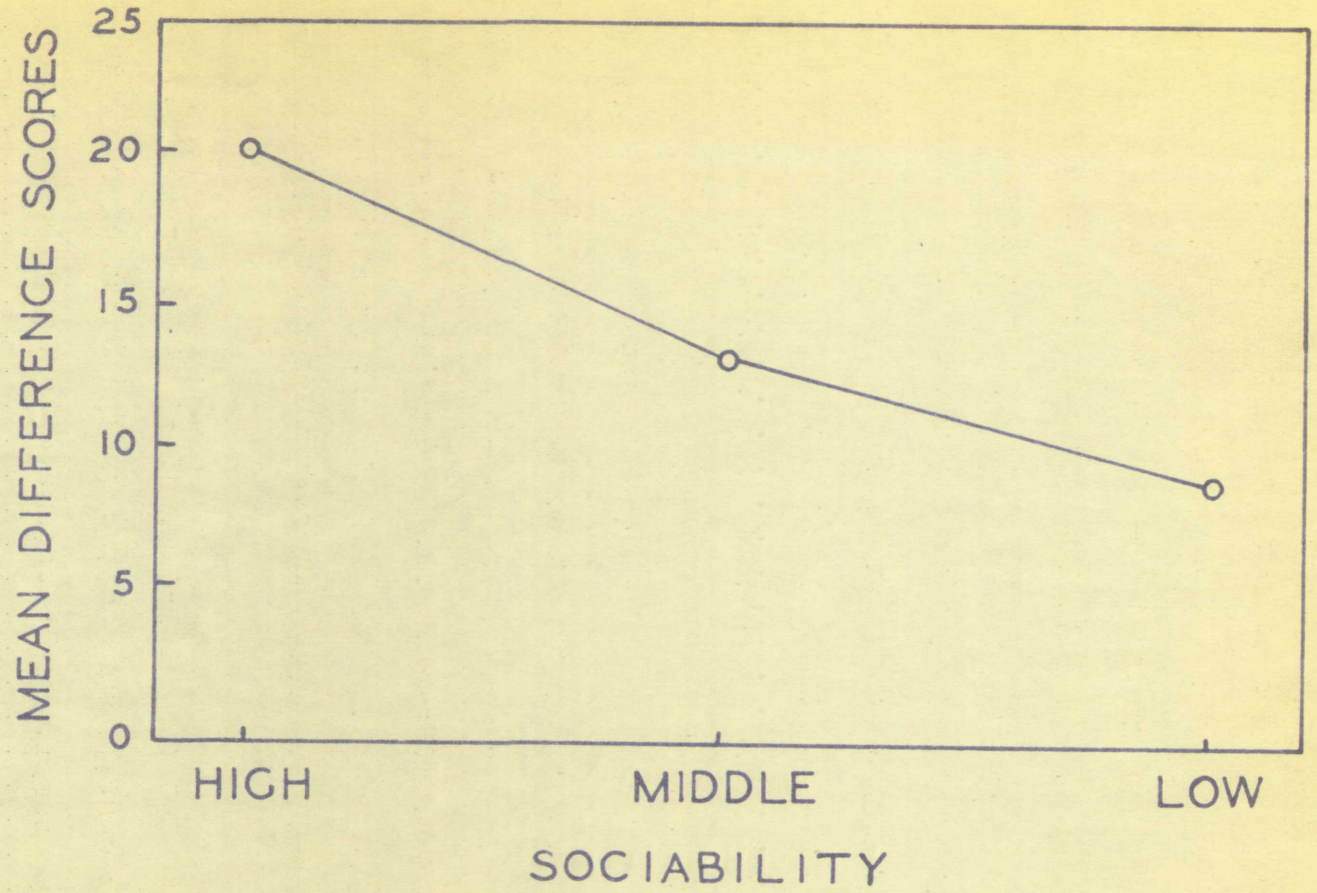

Fig. 3. The mean difference scores for the high-, middle-, and low-sociability groups.

A further study of Table 5, page 22, shows that variations in the difference scores of all three sociability-groups came about mainly because of variations in the numbers of subjects attributing the traits under the unsociable experimental condition and not under the sociable one. For example, trait number 15, bold, showed very little variation between the three sociability-groups under the sociable condition but a considerably greater difference under the unsociable condition, as shown by varying difference scores in the three sociability-groups. In a word, there were only slight differences in the amount of weight which the "sociability" of the hypothetical person carried for the three sociability-groups, while there were striking differences in the perceived "unsociability" of the hypothetical person. This third major finding may be summarized as follows:

(3) Variations in difference scores among the three groups with varying degrees of sociability came about in the unsociable condition of the experiment. Fig. 4 provides an illustration of this finding, using the means for the sociable and unsociable experimental conditions, recorded in the last row of Table 5, page 22.

Further, the average numbers of <u>all</u> subjects attributing the several positive traits showed a greater spread, and were considerably smaller under the unsociable than under the sociable condition. Also the rank order of traits, when viewed from the standpoint of the number of subjects attributing them, differed in the two experimental conditions.

Table 8 will clarify this finding. Here the traits are

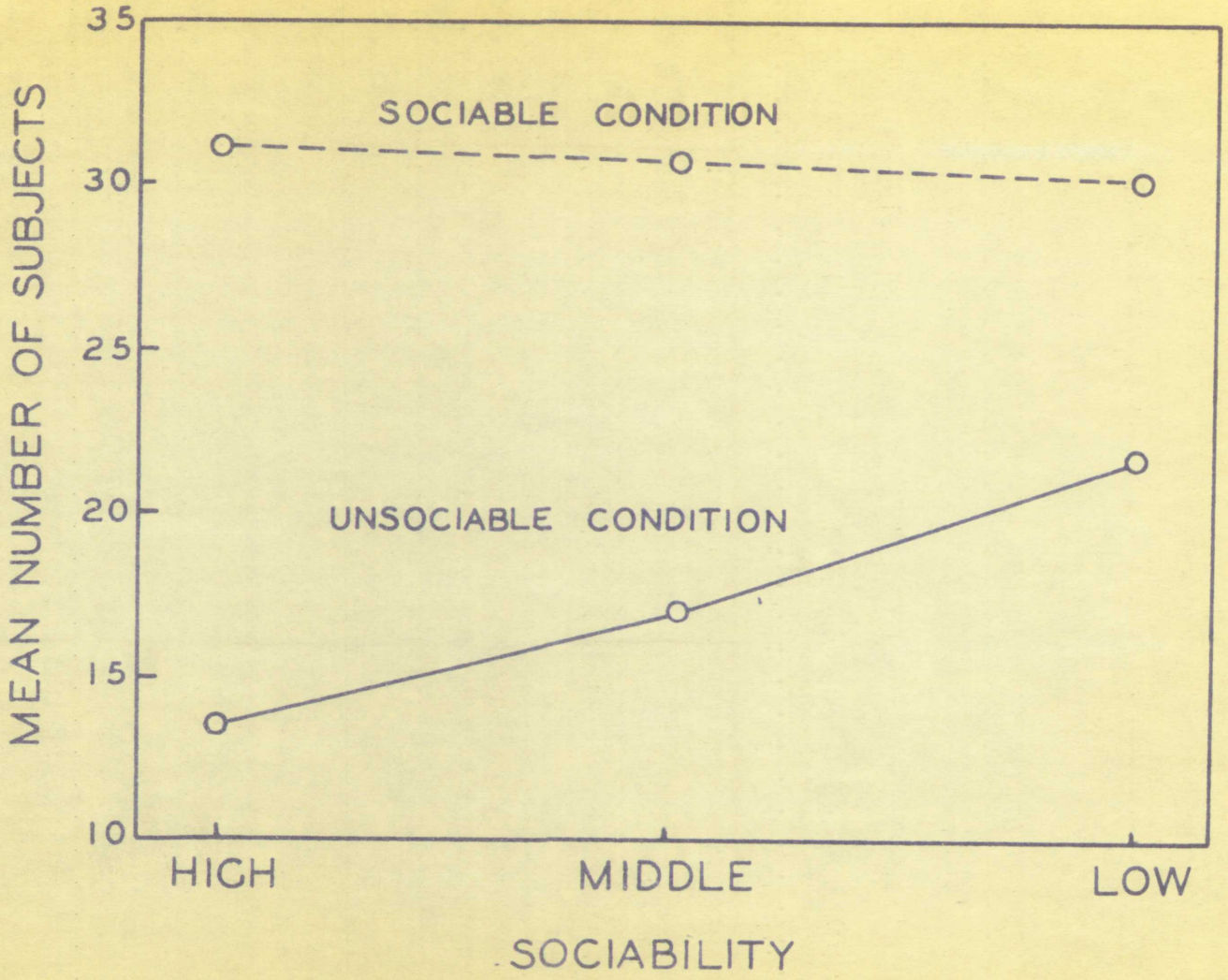

Fig. 4. The mean number of high-, middle-, and low-sociability Subjects attributing traits under the sociable and unsociable conditions.

Table 8

Mean Number of All Subjects Attributing Traits under the Sociable Condition

Trait	Mean No. of Ss
9. persistent	34.00
6. reliable	33.67
14. honest	33.33
16. mature	33.00
5. popular	32.67
1. generous	32.33
10. talkative	32.33
18. decisive	32.33
3. good-natured	32.00
13. strong	32.00
2. happy	31.67
19. broad-minded	31.67
20. secure	31.00
7. humane	31.00
8. good-looking	30.67
4. humorous	30.33
15. bold	30.33
17. relaxed	27.67
12. imaginative	27.00
11. altruistic	23.33
Means	31.12

Mean Number of All Subjects Attributing Traits under the Unsociable Condition

Trait	Mean No. of Ss
14. honest	34.00
6. reliable	33.33
9. persistent	31.67
18. decisive	31.33
13. strong	26.33
16. mature	24.00
20. secure	18.67
7. humane	18.00
19. broad-minded	15.00
10. talkative	14.67
12. imaginative	13.67
15. bold	12.33
2. happy	11.33
11. altruistic	10.33
3. good-natured	9.67
8. good-looking	9.67
1. generous	8.67
17. relaxed	8.33
5. popular	4.33
4. humorous	4.00
	16.97

arranged in the order of decreasing numbers of subjects, regardless of their sociability, attributing the traits under each of the two experimental conditions. For example, under the sociable condition, trait 9, persistent, ranked first because it had the highest average number of subjects attributing it, namely 34. Since there were three experimental subgroups with 34 subjects each under the sociable condition, this means that every one of the 102 subjects under this condition attributed the trait of persistence.

It is interesting to note in Table 8 that the rank order of traits shows considerable variation in the two experimental conditions. Also, the last row of the table shows that the group mean for the unsociable condition is considerably smaller than under the sociable condition. It may thus be said that subjects attributed the positive traits less often under the unsociable condition, regardless of the subjects' own sociability. A graphic illustration of this finding is provided in Fig. 5. This figure makes it clear that the mean numbers of all subjects attributing the positive traits are consistently higher under the sociable condition, and that there are striking differences in the numbers of subjects attributing the same traits under different experimental conditions.

Discussion

Limitations of Findings

Aside from that part of the study which was a repetition of work done by Asch and to which finding 1 is specifically related, the remaining findings should be considered tentative for two

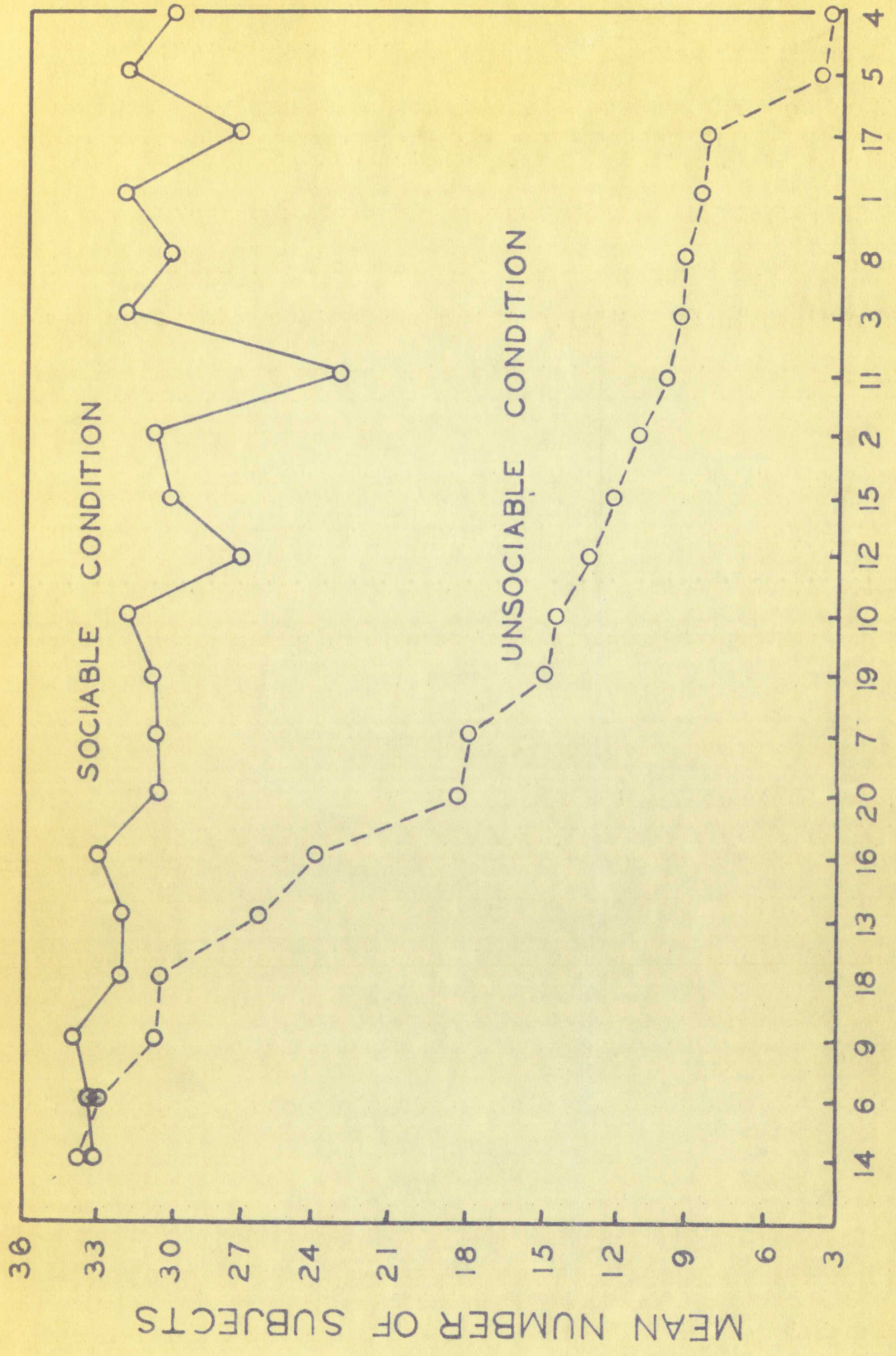

Fig. 5. The mean number of all Subjects attributing traits under the sociable and unsociable conditions.

reasons. First, although the total number of subjects was 204 the fact that each of the six subgroups had only 34 should be considered. Second, the applicability of these findings to a real life situation remains to be checked.

Therefore, it does not seem justified to generalize to the point where all of the findings would seem to be applicable to social perception in real life situations. Nevertheless, in spite of the fact that the experimental situation was removed from a real life one, suggestive evidence of applicability to social perception is present for several reasons.

First, the experimental design of the present experiment was very much like those of Asch's which have been repeated among others by Luchins (18), Kelley (13), and Mensh and Wishner (20). Asch's results were confirmed by all of these authors except Luchins, who claimed to have followed Asch's instructions exactly although less than half of the subjects submitted descriptive sketches. Luchins' quarrel with Asch did not rest on a basis of experimental, objective findings. The only criticism Luchins had which was suggestive of such a basis was his contention that the few sketches his subjects did submit lacked unification of impression which Asch had claimed for the sketches written by his subjects.

Second, the findings from that part of the study which was unlike any work done by Asch or others are in accord with the widely accepted point of view that personality influences perception, as pointed out in the introduction to this paper.

Third, although the sketches are not quantified data, they

provide suggestive evidence for the applicability of the findings to social perception in real life in that a great number of the subjects seemed to be capable of going beyond the scanty pre-information to a life-like perception of the person. Many subjects "perceived" the person at his work, in specific situations, and in certain kinds of clothes.

Implications

Confirmation of Asch's findings has been obtained.

Second, finding 3 showed how differences in centrality occurred with perceived unsociability as opposed to sociability. Future research might be directed, therefore, towards a further investigation of this phenomenon, which is important to the field of social perception.

Finally, the high significance figures obtained seem to warrant providing further evidence for findings 2, 2a, and 2b by means of an experiment using a real-life situation and a larger number of subjects.

Summary

This problem grew directly out of Asch's demonstration that the traits, "warm" and "cold," are "central," i.e., they markedly influence the choice of other fitting qualities when they are given as preinformation about a person.

At the same time Asch demonstrated that other traits, such as "polite" and "blunt" are "peripheral," i.e., they do not carry much weight in determining the overall impression of the person possessing that trait.

This study asked, "What determines the centrality of a trait?"

The hypothesis was that differences in the strength of a central trait in the raters themselves would be accompanied by differential centrality of that trait in the raters' impressions of others.

The trait dimension of "sociable-unsociable" was selected for experimental manipulation in place of Asch's "warm-cold" because the trait of "sociable" had been found to be central in a pilot study and the Gordon Personal Profile was available for measuring sociability.

Three groups of subjects were formed: high, middle and low on the sociability scale. Each group was put through an Asch-type experiment, with one half of each group hearing these trait names as describing the hypothetical person: intelligent, skillful, industrious, sociable, determined, practical, cautious. The other half of each sociability group heard these traits: intelligent, skillful, industrious, unsociable, determined, practical, cautious.

Each subject then wrote a brief sketch of the hypothetical person, and selected from each pair of a list of 20 trait-pairs the trait which best fitted their impression.

Centrality was quantified by means of difference scores. A difference score was the difference in the number of subjects checking the desirable or positive trait in each pair under the two conditions, sociable and unsociable. For example, the trait "generous" yielded a difference score of 28 in the high-sociability group, 26 in the middle-sociability group and 17 in the low-sociability group. The highest possible difference score was 34,

the number of subjects in each sub-group.

The mean D-scores for the high-, middle-, and low-sociability groups on the twenty trait-pairs were 20.15, 13.75 and 9.15, respectively. By means of the analysis of variance these three means were found to be significantly different well beyond the 1% level. A fiducial limits test indicated that the differences between any pair of means were significant beyond the 5% level.

This confirmed the writer's hypothesis that the centrality of a trait will vary with the strength of that trait in the rater.

A related finding was this: The three mean difference scores show a consistent decline from the high- to the low-sociability groups. That is to say, the presence or absence of the central trait of sociability in the described hypothetical person is more important to the high-sociability group than it is to the middle-sociability group, and carries more weight with the middle-sociability group than it does with the low-sociability group.

Another finding may be described as follows. Centrality in all three sociability-groups was produced mainly by variations in the numbers of subjects attributing the traits under the unsociable experimental condition rather than under the sociable condition. In a word, there were only slight differences in the amounts of weight which the sociability of the perceived person carried for the three sociability-groups, while there were striking differences in the perceived unsociability of the hypothetical person, accompanied by differences in centrality.

A final finding may be summarized as follows. The average

numbers of subjects, regardless of their sociability, attributing the several positive traits showed a much greater spread, and were considerably smaller, under the unsociable than the sociable condition.

Evidence gathered in this study supports the following conclusions:

(1) The centrality of the trait of sociability varies with the measured sociability of the subjects forming the impressions. In general, the higher the sociability scores of the subjects, the higher the centrality of that trait.

(2) The sociability scores of subjects are related to the centrality of the trait of sociability only in the case where the hypothetical person is described as "unsociable". Perceived "sociability" does not differentially affect subjects who differ in sociability themselves.

Future research might further explore the finding that differences in centrality occurred with perceived unsociability as opposed to sociability.

Also, a further search for central traits might prove of value to the field of social perception.

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