

# THE WARM-COLD VARIABLE IN FIRST IMPRESSIONS OF PERSONS

HAROLD H KELLEY

*Research Center for Group Dynamics, University of Michigan\**

This experiment is one of several studies of first impressions (3), the purpose of the series being to investigate the stability of early judgments, their determinants, and the relation of such judgments to the behavior of the person making them. In interpreting the data from several nonexperimental studies on the stability of first impressions, it proved to be necessary to postulate inner-observer variables which contribute to the impression and which remain relatively constant through time. Also some evidence was obtained which directly demonstrated the existence of these variables and their nature. The present experiment was designed to determine the effects of one kind of inner-observer variable, specifically, *expectations* about the stimulus person which the observer brings to the exposure situation.

That prior information or labels attached to a stimulus person make a difference in observers' first impressions is almost too obvious to require demonstration. The expectations resulting from such preinformation may restrict, modify, or accentuate the impressions he will have. The crucial question is: What changes in perception will accompany a given expectation? Studies of stereotyping, for example, that of Katz and Braly (2), indicate that from an ethnic label such as "German" or "Negro," a number of perceptions follow which are culturally determined. The present study finds its main significance in relation to a study by Asch (1) which demonstrates that certain crucial labels can transform the entire impression of the person, leading to attributions which are related to the label on a broad cultural basis or even, perhaps, on an autochthonous basis.

Asch read to his subjects a list of adjectives which purportedly described a particular person. He then asked them to characterize that person. He found that the inclusion in the list of what he called *central* qualities, such as "warm" as opposed to "cold," produced a

\* The writer acknowledges the constructive advice of Professor Dorwin Cartwright, University of Michigan.

widespread change in the entire impression. This effect was not adequately explained by the halo effect since it did not extend indiscriminately in a positive or negative direction to all characteristics. Rather, it differentially transformed the other qualities, for example, by changing their relative importance in the total impression. Peripheral qualities (such as "polite" versus "blunt") did not produce effects as strong as those produced by the central qualities.<sup>1</sup>

The present study tested the effects of such central qualities upon the early impressions of *real* persons, the same qualities, "warm" vs "cold," being used. They were introduced as preinformation about the stimulus person before his actual appearance, so presumably they operated as expectations rather than as part of the stimulus pattern during the exposure period. In addition, information was obtained about the effects of the expectations upon the observers' behavior toward the stimulus person. An earlier study in this series has indicated that the more incompatible the observer initially perceived the stimulus person to be, the less the observer initiated interaction with him thereafter. The second purpose of the present experiment, then, was to provide a better controlled study of this relationship.

No previous studies reported in the literature have dealt with the importance of first impressions for behavior. The most relevant data are found in the sociometric literature, where there are scattered studies of the relation between choices among children having some prior acquaintance and their interaction behavior. For an example, see the study by Newstetter, Feldstein, and Newcomb (8).

#### PROCEDURE

The experiment was performed in three sections of a psychology course (Economics 70) at the Massachusetts Institute of Technology.<sup>2</sup> The three sections provided 23, 16, and 16 subjects respectively. All 55 subjects were men, most of them in their third college year. In each class the stimulus person (also a male) was

<sup>1</sup> Since the present experiment was carried out, Mensch and Wishner (6) have repeated a number of Asch's experiments because of dissatisfaction with his sex and geographic distribution. Their data substantiate Asch's very closely. Also, Luchins (5) has criticized Asch's experiments for their artificial methodology, repeated some of them, and challenged some of the kinds of interpretations Asch made from his data. Luchins also briefly reports some tantalizing conclusions from a number of studies of first impressions of actual persons.

<sup>2</sup> Professor Mason Haire, now of the University of California, provided valuable advice and help in executing the experiment.

completely unknown to the subjects before the experimental period. One person served as stimulus person in two sections, and a second person took this role in the third section. In each case the stimulus person was introduced by the experimenter, who posed as a representative of the course instructors and who gave the following statement:

Your regular instructor is out of town today, and since we of Economics 70 are interested in the general problem of how various classes react to different instructors, we're going to have an instructor today you've never had before, Mr ———. Then, at the end of the period, I want you to fill out some forms about him. In order to give you some idea of what he's like, we've had a person who knows him write up a little biographical note about him. I'll pass this out to you now and you can read it before he arrives. *Please read these to yourselves and don't talk about this among yourselves until the class is over so that he won't get wind of what's going on.*

Two kinds of these notes were distributed, the two being identical except that in one the stimulus person was described among other things as being "rather cold" whereas in the other form the phrase "very warm" was substituted. The content of the "rather cold" version is as follows:

Mr ——— is a graduate student in the Department of Economics and Social Science here at M I T. He has had three semesters of teaching experience in psychology at another college. This is his first semester teaching Ec 70. He is 26 years old, a veteran, and married. People who know him consider him to be a rather cold person, industrious, critical, practical, and determined.

The two types of preinformation were distributed randomly within each of the three classes and in such a manner that the students were not aware that two kinds of information were being given out. The stimulus person then appeared and led the class in a twenty-minute discussion. During this time the experimenter kept a record of how often each student participated in the discussion. Since the discussion was almost totally leader-centered, this participation record indicates the number of times each student initiated verbal interaction with the instructor. After the discussion period, the stimulus person left the room, and the experimenter gave the following instructions:

Now, I'd like to get your impression of Mr ———. This is not a test of you and can in no way affect your grade in this course. This material will not be identified as belonging to particular persons and will be kept strictly

confidential It will be of most value to us if you are completely honest in your evaluation of Mr ——— Also, please understand that what you put down will not be used against him or cause him to lose his job or anything like that. This is not a test of him but merely a study of how different classes react to different instructors

The subjects then wrote free descriptions of the stimulus person and finally rated him on a set of 15 rating scales

### RESULTS AND DISCUSSION

1 *Influence of warm-cold variable on first impressions* The differences in the ratings produced by the warm-cold variable were consistent from one section to another even where different stimulus persons were used Consequently, the data from the three sections were combined by equating means (the S D's were approximately equal) and the results for the total group are presented in Table I Also in this table is presented that part of Asch's data which refers

TABLE I  
COMPARISON OF "WARM" AND "COLD" OBSERVERS IN TERMS OF AVERAGE RATINGS GIVEN STIMULUS PERSONS

Item	Low End of Rating Scale	High End of Rating Scale	Average Rating		Level of Significance of Warm-Cold Difference	Asch's Data Per Cent of Group Assigning Quality at Low End of Our Rating Scale*	
			Warm N=27	Cold N=28		Warm	Cold
1	Knows his stuff	Doesn't know his stuff	3 5	4 6			
2	Considerate of others	Self-centered	6 3	9 6	1%		
3†	Informal	Formal	6.3	9 6	1%		
4†	Modest	Proud	9 4	10 6			
5	Sociable	Unsociable	5 6	10 4	1%	91%	38%
6	Self-assured	Uncertain of himself	8 4	9 1			
7	High intelligence	Low intelligence	4 8	5 1			
8	Popular	Unpopular	4 0	7 4	1%	84%	28%
9†	Good natured	Irritable	9 4	12 0	5%	94%	17%
10	Generous	Ungenerous	8 2	9 6		91%	08%
11	Humorous	Humorless	8.3	11 7	1%	77%	13%
12	Important	Insignificant	6 5	8 6		88%	99%
13†	Humane	Ruthless	8 6	11.0	5%	86%	31%
14†	Submissive	Dominant	13 2	14 5			
15	Will go far	Will not get ahead	-				
			4 2	5 8			

\*Given for all qualities common to Asch's list and this set of rating scales  
†These scales were reversed when presented to the subjects

to the qualities included in our rating scales. From this table it is quite clear that those given the "warm" preinformation consistently rated the stimulus person more favorably than do those given the "cold" preinformation. Summarizing the statistically significant differences, the "warm" subjects rated the stimulus person as more considerate of others, more informal, more sociable, more popular, better natured, more humorous, and more humane. These findings are very similar to Asch's for the characteristics common to both studies. He found more frequent attribution to his hypothetical "warm" personalities of sociability, popularity, good naturedness, generosity, humorousness, and humaneness. So these data strongly support his finding that such a central quality as "warmth" can greatly influence the total impression of a personality. This effect is found to be operative in the perception of real persons.

This general favorableness in the perceptions of the "warm" observers as compared with the "cold" ones indicates that something like a halo effect may have been operating in these ratings. Although his data are not completely persuasive on this point, Asch was convinced that such a general effect was *not* operating in his study. Closer inspection of the present data makes it clear that the "warm-cold" effect cannot be explained altogether on the basis of simple halo effect. In Table I it is evident that the "warm-cold" variable produced differential effects from one rating scale to another. The size of this effect seems to depend upon the closeness of relation between the specific dimension of any given rating scale and the central quality of "warmth" or "coldness." Even though the rating of intelligence may be influenced by a halo effect, it is not influenced to the same degree to which considerateness is. It seems to make sense to view such strongly influenced items as considerateness, informality, good naturedness, and humaneness as dynamically more closely related to warmth and hence more perceived in terms of this relation than in terms of a general positive or negative feeling toward the stimulus person. If first impressions are normally made in terms of such general dimensions as "warmth" and "coldness," the power they give the observer in making predictions and specific evaluations about such disparate behavior characteristics as formality and considerateness is considerable (even though these predictions may be incorrect or misleading).

The free report impression data were analyzed for only one of the sections. In general, there were few sizable differences between the "warm" and "cold" observers. The "warm" observers attributed more nervousness, more sincerity, and more industriousness to the stimulus person. Although the frequencies of comparable qualities are very low because of the great variety of descriptions produced by the observers, there is considerable agreement with the rating scale data.

Two important phenomena are illustrated in these free description protocols, the first of them having been noted by Asch. *Firstly*, the characteristics of the stimulus person are interpreted in terms of the precognition of warmth or coldness. For example, a "warm" observer writes about a rather shy and retiring stimulus person as follows: "He makes friends slowly but they are lasting friendships when formed." In another instance, several "cold" observers describe him as being "intolerant, would be angry if you disagree with his views", while several "warm" observers put the same thing this way: "Unyielding in principle, not easily influenced or swayed from his original attitude." *Secondly*, the preinformation about the stimulus person's warmth or coldness is evaluated and interpreted in the light of the direct behavioral data about him. For example, "He has a slight inferiority complex which leads to his coldness," and "His conscientiousness and industriousness might be mistaken for coldness." Examples of these two phenomena occurred rather infrequently, and there was no way to evaluate the relative strengths of these countertendencies. Certainly some such evaluation is necessary to determine the conditions under which behavior which is contrary to a stereotyped label resists distortion and leads to rejection of the label.

A comparison of the data from the two different stimulus persons is pertinent to the last point in so far as it indicates the interaction between the properties of the stimulus person and the label. The fact that the warm-cold variable generally produced differences in the same direction for the two stimulus persons, even though they are very different in personality, behavior, and mannerisms, indicates the strength of this variable. However, there were some exceptions to this tendency as well as marked differences in the *degree* to which the experimental variable was able to produce differences. For ex-

ample, stimulus person A typically appears to be anything but lacking in self-esteem and on rating scale 4 he was generally at the "proud" end of the scale. Although the "warm" observers tended to rate him as they did the other stimulus person (i.e., more "modest"), the difference between the "warm" and "cold" means for stimulus person A is very small and not significant as it is for stimulus person B. Similarly, stimulus person B was seen as "unpopular" and "humorless," which agrees with his typical classroom behavior. Again the "warm" observers rated him more favorably on these items, but their ratings were not significantly different from those of the "cold" observers, as was true for the other stimulus person. Thus we see that the strength or compellingness of various qualities of the stimulus person must be reckoned with. The stimulus is not passive to the forces arising from the label but actively resists distortion and may severely limit the degree of influence exerted by the preinformation.<sup>3</sup>

2 *Influence of warm-cold variable on interaction with the stimulus person.* In the analysis of the frequency with which the various students took part in the discussion led by the stimulus person, a larger proportion of those given the "warm" preinformation participated than of those given the "cold" preinformation. Fifty-six per cent of the "warm" subjects entered the discussion, whereas only 32 per cent of the "cold" subjects did so. Thus the expectation of warmth not only produced more favorable early perceptions of the stimulus person but led to greater initiation of interaction with him. This relation is a low one, significant at between the 5 per cent and 10 per cent level of confidence, but it is in line with the general principle that social perception serves to guide and steer the person's behavior in his social environment.

As would be expected from the foregoing findings, there was also a relation between the favorableness of the impression and whether or not the person participated in the discussion. Although

<sup>3</sup> We must raise an important question here. Would there be a tendency for "warm" observers to distort the perception in the favorable direction regardless of how much the stimulus deviated from the expectation? Future research should test the following hypothesis, which is suggested by Gestalt perception theory (4, pp. 95-96). If the stimulus differs but slightly from the expectation, the perception will tend to be *assimilated* to the expectation, however, if the difference between the stimulus and expectation is too great, the perception will occur by contrast to the expectation and will be distorted in the opposite direction.

any single item yielded only a small and insignificant relation to participation, when a number are combined the trend becomes clear cut. For example, when we combine the seven items which were influenced to a statistically significant degree by the warm-cold variable, the total score bears considerable relation to participation, the relationship being significant as well beyond the 1 per cent level. A larger proportion of those having favorable total impressions participated than of those having unfavorable impressions, the biserial correlation between these variables being .34. Although this relation may be interpreted in several ways, it seems most likely that the unfavorable perception led to a curtailment of interaction. Support for this comes from one of the other studies in this series (3). There it was found that those persons having unfavorable impressions of the instructor at the end of the first class meeting tended less often to initiate interactions with him in the succeeding four meetings than did those having favorable first impressions. There was also some tendency in the same study for those persons who interacted least with the instructor to change least in their judgments of him from the first to later impressions.

It will be noted that these relations lend some support to the autistic hostility hypothesis proposed by Newcomb (7). This hypothesis suggests that the possession of an initially hostile attitude toward a person leads to a restriction of communication and contact with him which in turn serves to preserve the hostile attitude by preventing the acquisition of data which could correct it. The present data indicate that a restriction of interaction is associated with unfavorable preinformation and an unfavorable perception. The data from the other study support this result and also indicate the correctness of the second part of the hypothesis, that restricted interaction reduces the likelihood of change in the attitude.

What makes these findings more significant is that they appear in the context of a discussion class where there are numerous *induced* and *own* forces to enter the discussion and to interact with the instructor. It seems likely that the effects predicted by Newcomb's hypothesis would be much more marked in a setting where such forces were not present.



## SUMMARY

The warm-cold variable had been found by Asch to produce large differences in the impressions of personality formed from a list of adjectives. In this study the same variable was introduced in the form of expectations about a real person and was found to produce similar differences in first impressions of him in a classroom setting. In addition, the differences in first impressions produced by the different expectations were shown to influence the observers' behavior toward the stimulus person. Those observers given the favorable expectation (who, consequently, had a favorable impression of the stimulus person) tended to interact more with him than did those given the unfavorable expectation.

## REFERENCES

- 1 ASCH, S E Forming impressions of personality *J abnorm soc Psychol*, 1946, 41, 258-290
- 2 KATZ, D, AND BRALY, K W Verbal stereotypes and racial prejudice. In Newcomb, T M and Hartley, E L (eds), *Readings in social psychology* New York Holt, 1947 Pp 204-210
- 3 KELLY, H H First impressions in interpersonal relations. Ph D thesis, Massachusetts Institute of Technology, Cambridge, Mass Sept, 1948
- 4 KRECH, D, AND CRUTCHFIELD, R S *Theory and problems of social psychology* New York McGraw-Hill, 1948
- 5 LUCHINS, A S Forming impressions of personality a critique *J abnorm soc Psychol*, 1948, 43, 318-325
- 6 MENSCH, I N, AND WISNER, J Asch on "Forming impressions of personality" further evidence *J Personal*, 1947, 16, 188-191
- 7 NEWCOMB, T M Autistic hostility and social reality *Hum Relations*, 1947, 1, 69-86
- 8 NEWSTETTER, W I, FELDSTEIN, M J, AND NEWCOMB, T M *Group adjustment a study in experimental sociology* Cleveland Western Reserve University, 1938

This document is a scanned copy of a printed document. No warranty is given about the accuracy of the copy. Users should refer to the original published version of the material.