# A STUDY OF NORMATIVE AND INFORMATIONAL SOCIAL INFLUENCES UPON INDIVIDUAL JUDGMENT

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Y Now, many experimental studies (e.g., 1, 3, 6) have demonstrated that individual psychological processes are subject to social influences. Most investigators, however, have not distinguished among different kinds of social influences; rather, they have carelessly used the term "group" influence to characterize the impact of many different kinds of social factors. In fact, a review of the major experiments in this area-e.g., those by Sherif (6), Asch (1), Bovard (3)—would indicate that the subjects (Ss) in these experiments as they made their judgments were not functioning as members of a group in any simple or obvious manner. The S, in the usual experiment in this area, made perceptual judgments in the physical presence of others after hearing their judgments. Typically, the S was not given experimental instructions which made him feel that he was a member of a group faced with a common task requiring cooperative effort for its most effective solution. If "group" influences were at work in the foregoing experiments, they were subtly and indirectly created rather than purposefully created by the experimenter.

## HYPOTHESES

The purpose of this paper is to consider two types of social influence, "normative" and "informational," which we believe were operative in the experiments mentioned above, and to report the results of an experiment bearing upon hypotheses that are particularly relevant to the former influence. We shall define a normative social influence as an influence to conform with the positive expectations<sup>2</sup> of another.<sup>3</sup> An informational social influence may

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<sup>2</sup> By positive expectations we mean to refer to those expectations whose fulfillment by another leads to or reinforces positive rather than negative feelings, and whose nonfulfillment leads to the opposite, to alienation rather than solidarity; conformity to negative expectations, on the other hand, leads to or reinforces negative rather than positive feelings.

The term another is being used inclusively to refer

be defined as an influence to accept information obtained from another as evidence about reality. Commonly these two types of influence are found together. However, it is possible to conform behaviorally with the expectations of others and say things which one disbelieves but which agree with the beliefs of others. Also, it is possible that one will accept an opponent's beliefs as evidence about reality even though one has no motivation to agree with him, per se.

Our hypotheses are particularly relevant to normative social influence upon individual judgment. We shall not elaborate the theoretical rationales for the hypotheses, since they are for the most part obvious and they follow from other theoretical writings (e.g., 4, 5).

Hypothesis I. Normative social influence upon individual judgments will be greater among individuals forming a group than among an aggregation of individuals who do not compose a group.<sup>4</sup>

That is, even when susceptibility to informational social influence is equated, we would predict that the greater susceptibility to normative social influence among group members would be reflected in the greater group influence upon individual judgment. This is not to say that individuals, even when they are not group members, may not have some motiva-

to "another person," to a "group," or to one's "self." Thus, a normative social influence can result from the expectations of oneself, or of a group, or of another person.

Generally one would also expect that group members would be more likely to take the judgments of other group members as trustworthy evidence for forming judgments about reality and, hence, they would be more susceptible to informational social influence than would nongroup members. The greater trustworthiness usually reflects more experience of the reliability of the judgments of other members and more confidence in the benevolence of their motivations. However, when group members have had no prior experience together and when it is apparent in both the group and nongroup situations that the others are motivated and in a position to report correct judgments, there is no reason to expect differential susceptibility to informational social influence among group and nongroup members.

tion to conform to the expectations of others—e.g., so as to ingratiate themselves or so as to avoid ridicule.

Hypothesis II. Normative social influence upon individual judgment will be reduced when the individual perceives that his judgment cannot be identified or, more generally, when the individual perceives no pressure to conform directed at him from others.

Hypothesis III. Normative social influence to conform to one's own judgment will reduce the impact of the normative social influence to conform to the judgment of others.

Hypothesis IV. Normative social influence to conform to one's own judgment from another as well as from oneself will be stronger than normative social influence from oneself.

Normative social influence from oneself to conform to one's own judgment may be thought of as an internalized social process in which the individual holds expectations with regard to his own behavior; conforming to positive self-expectations leads to feelings of self-esteem or self-approval while nonconformity leads to feelings of anxiety or guilt. In general, one would expect that the strength of these internalized self-expectations would reflect the individual's prior experiences with them as sources of need satisfaction—e.g., by conforming to his own judgments or by selfreliance he has won approval from such significant others as his parents. As Hypothesis IV indicates, we believe that contemporaneous social pressure to conform to one's own judgment may supplement, and perhaps be even stronger than, the individual's internalized pressure to conform to his own judgment.

Two additional hypotheses, dealing with the effect of difficulty of judgment, are relevant to one of the experimental variations. They follow:

Hypothesis V. The more uncertain the individual is about the correctness of his judgment, the more likely he is to be susceptible to both normative and informational social influences in making his judgment.

Hypothesis VI. The more uncertain the individual is about the correctness of the judgment of others, the less likely he is to be susceptible to informational social influence in making his judgment.<sup>5</sup>

<sup>5</sup> Although we have no data relevant to this hypothesis, we present it to qualify Hypothesis V and to

## METHOD

Subjects. One hundred and one college students from psychology courses at New York University were employed as Ss. The study was defined for the Ss as an experimental study of perception.

Procedure. We employed the experimental situation developed by Asch (1) with certain modifications and variations which are specified below. For detailed description of the procedures utilized by Asch and replicated in this experiment, Asch's publication should be consulted. The basic features of the Asch situation are: (a) the Ss are instructed that they are participating in a perceptual experiment, wherein they have to match accurately the length of a given line with one of three lines; (b) correct judgments are easy to make; (c) in each experimental session there is only one naive S. the other participants, while ostensively Ss, are in fact "stooges" who carry out the experimenter's instructions; (d) each participant (i.e., the naive S and the stooges) has to indicate his judgments publicly; (e) on 12 of the 18 perceptual judgments the stooges announce wrong and unanimous judgments, the errors of the stooges are large and clearly in error; (f) the naive S and the stooges are in a face-to-face relationship and have been previously acquainted with one another.6

counteract an assumption in some of the current social psychological literature. Thus, Festinger (5) has written that where no physical reality basis exists for the establishment of the validity of one's belief, one is dependent upon social reality (i.e., upon the beliefs of others). Similarly, Asch (2) has indicated that group influence grows stronger as the judgmental situation diminishes in clarity. The implication of Hypothesis VI is that if an individual perceives that a situation is objectively difficult to judge—that others as well as he experience the situation in the same way (i.e., as being difficult and as having uncertainty about their judgments)—he will not trust their judgments any more than he trusts his own. It is only as his confidence in their judgments increases (e.g., because he deems that agreement among three uncertain judges provides more reliable evidence than one uncertain judge) that the judgments of others will have informational social influence. However (at any particular level of confidence in the judgment of others), one can predict that as his confidence in his own judgment decreases he will be more susceptible to normative social influence. With decreasing self-confidence there is likely to be less of a commitment to one's own judgment and, hence, less influence not to conform to the judgments of others.

<sup>6</sup> Inspection of the Asch situation would suggest that informational social influence would be strongly operative. As Asch has put it (2, p. 461):

The subject knows (a) that the issue is one of fact; (b) that a correct result is possible; (c) that only one result is correct; (d) that the others and he are oriented to and reporting about the same objectively given relations; (e) that the group is in unanimous opposition at certain points with him.

He further, perceives that the others are motivated to report a correct judgment. In such a situation, the subject's accumulated past experience would lead him To test the hypotheses set forth in the foregoing section, the following experimental variations upon Asch's situation were employed:

- 1. The face-to-face situation. This was an exact replication of Asch's situation except for the following minor modifications: (a) Only three stooges, rather than eight, were employed: (b) the S and the stooges were unacquainted prior to the experiment; and (c) two series of 18 judgments were employed. In one series (the visual series), the lines were physically present when the S and the stooges announced their judgments; in the other series (the memory series), the lines were removed before any one announced his judgment. In the memory series, approximately three seconds after the lines were removed the first stooge was asked to announce his judgment. The sequences of visual and memory series were alternated so that approximately half the Ss had the memory series first and half had the visual series first.
- 2. The anonymous situation. This situation was identical with the face-to-face situation except for the following differences: (a) Instead of sitting in the visual presence of each other, the Ss were separated by partitions which prevented them from talking to each other or seeing one another; (b) Instead of announcing their judgments by voice, the Ss indicated their judgments by pressing a button; (c) No stooges were employed. Each S was led to believe he was Subject No. 3, and the others were No. 1, No. 2, and No. 4. He was told that when the experimenter called out "Subject No. 3" he was to indicate his judgment by pressing one of three buttons (A, B, or C) which corresponded to what he thought the correct line was. When an S pressed a given button, a corresponding bulb lit on his own panel and on a hidden master panel. Presumably the appropriate bulb also lit on the panels of each of the other Ss, but, in fact, the bulbs on any S's panel were not connected to the buttons of the other Ss. When the experimenter called for the judgments

to expect that he could rely on the judgments of others, especially if they all agreed. That is, even if his eyes were closed he might feel that he could safely risk his life on the assumption that the unanimous judgments of the others were correct. This is a strong informational social influence and one would expect it to be overriding except for the fact that the subject has his eyes open and receives information from a source which he also feels to be completely trustworthy—i.e., from his own perceptual apparatus. The subject is placed in strong conflict because the evidences from two sources of trustworthy information are in opposition.

In the Asch situation, it is apparent that, in addition to informational social influence, normative social influence is likely to be operating. The naive S is in a face-to-face situation with acquaintances and he may be motivated to conform to their judgments in order to avoid being ridiculed, or being negatively evaluated, or even possibly out of a sense of obligation. While it may be impossible to remove completely the impact of normative social influence upon any socialized being, it is evident that the Asch situation allows much opportunity for this type of influence to operate.

<sup>7</sup> Asch found that three stooges were about as effective in influencing the Ss as eight.

of Subject No. 1, of Subject No. 2, and of Subject No. 4, a concealed accomplice manipulated master switches which lit bulbs on each of the S's panels that corresponded to judgments presumably being made by these respective Ss. Subjects No. 1, No. 2, and No. 4 were, in effect, "electrical stooges" whose judgments were indicated on the panels of the four naive Ss (all of whom were Subject No. 3) by an accomplice of the experimenter who manipulated master switches controlling the lights on the panels of the naive Ss. The pattern of judgments followed by the "electrical stooges" was the same as that followed by the "live stooges" in the face-to-face situation. (d) In providing a rationale for being labeled Subject No. 3 for each of the naive Ss, we explained that due to the complicated wiring setup, the S's number had no relation to his seating position. Implicitly, we assumed that each S would realize that it would be impossible for the others to identify that a judgment was being made by him rather than by any of two others. However, it is apparent from postexperiment questionnaires that many of the Ss did not realize this. It seems likely that if we had made the anonymous character of the judgments clear and explicit to the Ss, the effects of this experimental variation would have been even more marked.

3. The group situation. This situation was identical to the anonymous situation except that the subjects were instructed as follows:

This group is one of twenty similar groups who are participating in this experiment. We want to see how accurately you can make judgments. We are going to give a reward to the five best groups—the five groups that make the fewest errors on the series of judgments that you are given. The reward will be a pair of tickets to a Broadway play of your own choosing for each member of the winning group. An error will be counted any time one of you makes an incorrect judgment. That is, on any given card the group can make as many as four errors if you each judge incorrectly or you can make no errors if you each judge correctly. The five groups that make the best scores will be rewarded.

4. The self-commitment variation. This variation was employed in both the face-to-face and anonymous situations. In it, each S was given a sheet of paper on which to write down his judgment before he was exposed to the judgments of the others. He was told not to sign the sheet of paper and that it would not be collected at the end of the experiment. After the first series of 18 judgments, the Ss threw away their sheets. The Ss did not erase their recorded judgments after each trial as they did in the Magic Pad self-commitment variation.

4A. The Magic Pad self-commitment variation. This variation was employed in the anonymous situation. In it, each S was given a Magic Writing Pad on which to write down his judgment before he was exposed to the judgments of the others. After each S had been exposed to the judgment of the others and had indicated his own judgment, he erased his judgment on the Magic Writing Pad by lifting up the plastic covering. It was made convincingly clear to the S that only he would ever know what he had written down on the pad.

5. The public commitment variation. This variation

was employed in both the face-to-face situation and in the anonymous situation. In it, the Ss followed the same procedure as in the self-commitment variation except that they wrote down their initial judgments on sheets of paper which they signed and which they knew were to be handed to the experimenter after each series of 18 judgments.

# RESULTS

The primary data used in the analysis of the results are the errors made by the Ss which were in the direction of the errors made by the stooges. We shall present first the data which are relevant to our hypotheses; later we shall present other information.

Hypothesis I. The data relevant to the first hypothesis are presented in Table 1. The table presents a comparison of the anonymous situation in which the individuals were motivated to act as a group with the anonymous situation in which there was no direct attempt to induce membership motivation; in both situations, no self or public commitment was made. The data provide strong support for the prediction that the normative social influence upon individual judgments will be greater among individuals forming a group than among individuals who

TABLE 1

MEAN NUMBER OF SOCIALLY INFLUENCED ERRORS
IN INDIVIDUAL JUDGMENT AMONG GROUP
MEMBERS AND AMONG NONMEMBERS

Experimental Treatment	N	Mem- ory Series	Visual Series	Total
Group, anonymous, no	15	6.87	5.60	12.47
commitment Nongroup, anonymous, no commitment	13	3.15	2.77	5.92
		1	*	
		.01	.05	.001

<sup>\*</sup> Based on a t test, using one tail of the distribution.

do not compose a group. The average member of the group made more than twice as many errors as the comparable individual who did not participate in the task as a member of a group.

Qualitative data from a postexperimental questionnaire, in which we asked the S to describe any feelings he had about himself or about the others during the experiment, also support Hypothesis I. Seven out of the fifteen Ss in the "group" condition spontaneously mentioned a felt obligation to the other group members; none of the individuals in the nongroup condition mentioned any feeling of obligation to go along with the others.

Hypothesis II. To test the second hypothesis, it is necessary to compare the data from the face-to-face and anonymous situations among the individuals who were otherwise exposed to similar experimental treatments. Tables 2 and 3 present the relevant data. It is apparent that there was less social influence upon individual judgment in the anonymous as compared with the face-to-face situation. This lessening of social influence is at the .001 level of statistical confidence even when the comparisons include the "commitment variations" as well as both the visual and the memory series of judgments. The interaction between the commitment variations and the anonymous, face-to-face variations, which is statistically significant, is such as to reduce the over-all differences between the anonymous and face-to-face situation; the differences between the face-to-face and the anonymous situations are most strongly brought out when there is no commitment. Similarly, if we compare the anonymous and face-to-face situations, employing the memory rather than the visual series, the effect of the normative influence upon judgments in the face-to-face situation is increased somewhat, but not significantly. That is, as we eliminate counter-normative influences (i.e.,

TABLE 2

MEAN NUMBER OF SOCIALLY INFLUENCED ERRORS IN INDIVIDUAL JUDGMENT IN THE ANONYMOUS AND IN THE FACE-TO-FACE SITUATIONS

Situation	]	No Commi	tment		Self-Commitment				Public Commitment			
	Visual	Memory	Total	N	Visual	Memory	Total	N	Visual	Memory	Total	N
Face-to-face Anonymous	3.00 2.77	4.08 3.15	7.08 5.92	13 13	.92 .64	.75 .73	~	12 11	1.13 .92	1.39 .46	2.52 1.38	13 13

the "commitment" and as we weaken reality restraints (i.e., employ the "memory" rather than "visual" series), the normative influences in the face-to-face situation operate more freely.

The support for Hypothesis II is particularly striking in light of the fact that, due to faulty

TABLE 3

p Values\* for Various Comparisons of Socially
Influenced Errors in the Anonymous
AND Face-to-Face Situations

Comparison	Total Errors
A vs. F	.001
A vs. F, no commitment	.001
A vs. F, self-commitment	.10
A vs. F, public commitment	.001
Interaction of commitment with A-F	.01

<sup>•</sup> p values are based on t tests, using one tail of distribution, derived from analyses of variation.

Comparison	Total Errors	Errors on Visual Series	Errors on Memory Series
No commitment vs. public commitment, F	.001	.01	.001
No commitment vs. self-commitment,	.001	.01	.001
Self-commitment vs. public commitment, F	.01	NS	NS
No commitment vs. self-commitment,	.001	.01	.01
No commitment vs. public commitment, A	.001	.01	.002
	NS	NS	NS

<sup>\*</sup> p values are based on t tests, using one tail of the distribution, and derived from the analyses of variation.

experimental procedure, the "anonymous" character of the anonymous situation was not sufficiently impressed on some of the Ss. For these Ss, the anonymous situation merely protected them from the immediate, visually accessible pressure to conform arising from the lifted eyebrows and expressions of amazement by the stooges in the face-to-face situation. Complete feeling of anonymity would probably have strengthened the results.

Hypotheses III and IV. Tables 4, 5, and 6 present results showing the influence of the different commitment variations. The public and the self-commitment variations markedly reduce the socially influenced errors in both the face-to-face and anonymous situations. In other words, the data provide strong support for Hypothesis III which asserts that normative social influence to conform to one's own judgment will reduce the impact of the normative influence to conform to the judgment of others.

The data with regard to the influence of selfcommitment are ambiguous in implication since the results of the two self-commitment variations-i.e., the "Magic Pad self-commitment" and the "self-commitment"—are not the same. The first self-commitment variation produced results which are essentially the same as the public commitment variation, markedly reducing socially influenced errors. The Magic Pad self-commitment variation produced results which were different from the no commitment variation, reducing the errors to an extent which is statistically significant; however, unlike the first self-commitment variation, the Magic Pad self-commitment was significantly less effective than the public commitment in reducing socially influenced errors.

Our hunch is that the Ss in the first selfcommitment variation perceived the commitment situation as though it were a public commitment and that this is the explanation of the

TABLE 5

MEAN NUMBER OF SOCIALLY INFLUENCED ERRORS IN JUDGMENTS IN THE ANONYMOUS SITUATION AS AFFECTED BY THE COMMITMENT VARIATIONS

Magic Pad No Commitment Self-Commitment					Self-Commitment Public Commitment										
Visual	Memory	Total	N	Visual	Memory	Total	N	Visual	Memory	Total	N	Visual	Memory	Total	N
2.77	3.15	5.92	13	1.63	2.27	3.90	11	.64	.73	1.37	11	.92	.46	1.38	13

TABLE 6

VALUES\* FOR VARIOUS COMPARISONS OF SOCIALLY INFLUENCED ERRORS IN THE DIFFERENT COMMITMENT VARIATIONS

Total Errors	Errors on Visual Series	Errors on Memory Series
.05	NS	NS
.005	NS	.05
.001	NS	.01
	.05 .005	Total Errors Visual Series  .05 NS .005 NS

<sup>•</sup> p values are based on t tests using one tail of the distribution.

lack of differences between these two variations. That is, writing their judgments indelibly supported the belief that "others can see what I have written." The Ss in the Magic Pad self-commitment variation, on the other hand, were literally wiping their initial judgments away in such a manner that they would be inaccessible to anyone. Hence, in the Magic Pad variation, the normative influences to conform to one's own judgment had to be sustained by the S himself. Normative influences from the S's self (to be, in a sense, true to himself) were undoubtedly also operating in the noncommitment variation. What the Magic Pad did was to prevent the S from distorting his recollection of his independent judgment after being exposed to the judgments of the others. Further, there is a theoretical basis for assuming that the commitment to a judgment or decision is increased following the occurrence of behavior based upon it. Hence, the behavior of writing one's judgment down on the Magic Pad makes the original decision less tentative and less subject to change. However, it is apparent that this internally sustained influence to conform with one's own judgment was not as strong as the combination of external and self-motivated influences. These results support our fourth hypothesis.

Hypothesis V. Table 7 presents a comparison of the errors made on the visual and on the memory series of judgments. It is apparent that the Ss were less influenced by the judgments of others when the judgments were made on a visual rather than on a memory basis. It is also evident from the data of Table 2 that the differences between the visual and memory series were reduced or disappeared

TABLE 7
SOCIALLY INFLUENCED ERRORS IN INDIVIDUAL
JUDGMENTS AS AFFECTED BY THE STIMULUS
TO BE JUDGED (VISUAL OR MEMORY)

	N	Mean Number of Errors	"ø" value
Errors on visual series	99	2.20)	0054
Errors on memory series	99	2.60	.003
Total errors when visual series was first	51	4.12	.005
Total errors when memory series was first	48	5.71	.003

<sup>\*</sup> Based on a t test of differences between visual and memory series for each subject.

when the Ss wrote down their initial, independent judgments. These results support our fifth hypothesis which asserts that the more uncertain the individual is about the correctness of his judgment, the more likely he is to be susceptible to social influences in making his judgment. Further support comes from the questionnaire data. Out of the 90 Ss who filled out questionnaires, 51 indicated that they were more certain of their judgment when the lines were visually present, 2 were more certain when they were absent, and 39 were equally certain in both instances.

Being exposed first to the memory series rather than the visual series had the effect of making the Ss more susceptible to social influence upon their judgments throughout both series of judgments. In other words, an S was more likely to make socially influenced errors on the memory series and, having allowed himself to be influenced by the others on this first series of judgments, he was more likely to be influenced on the visual series than if he had not previously participated in the memory series. It is as though once having given in to the social influence (and it is easier to give in when one is less certain about one's judgment), the S is more susceptible to further social influences.

# DISCUSSION

A central thesis of this experiment has been that prior experiments which have been concerned with "group" influence upon individual judgment have, in fact, only incidentally been concerned with the type of social influence most specifically associated with groups, namely "normative social influence." Our re-

sults indicate that, even when normative social influence in the direction of an incorrect judgment is largely removed (as in the anonymous situation), more errors are made by our Ss than by a control group of Ss making their judgments when alone. It seems reasonable to conclude that the S, even if not normatively influenced, may be influenced by the others in the sense that the judgments of others are taken to be a more or less trustworthy source of information about the objective reality with which he and the others are confronted.

It is not surprising that the judgments of others (particularly when they are perceived to be motivated and competent to judge accurately) should be taken as evidence to be weighed in coming to one's own judgment. From birth on, we learn that the perceptions and judgments of others are frequently reliable sources of evidence about reality. Hence, it is to be expected that if the perceptions by two or more people of the same objective situation are discrepant, each will tend to re-examine his own view and that of the others to see if they can be reconciled. This process of mutual influence does not necessarily indicate the operation of normative social influence as distinct from informational social influence. Essentially the same process (except that the influence is likely to be unilateral) can go on in interaction with a measuring or computing machine. For example, suppose one were to judge which of two lines is longer (as in the Müller-Lyer illusion) and then were given information that a measuring instrument (which past experience had let one to believe was infallible) came up with a different answer; certainly one might be influenced by this information. This influence could hardly be called a normative influence except in the most indirect sense.

While the results of prior experiments of "group" influence upon perception can be largely explained in terms of non-normative social influence, there is little doubt that normative influences were incidentally operative. However, these were the casual normative influences which can not be completely eliminated from any human situation, rather than normative influences deriving from specific

group membership. Our experimental results indicate that when a group situation is created, even when the group situation is as trivial and artificial as it was in our groups, the normative social influences are grossly increased, producing considerably more errors in individual judgment.

The implications of the foregoing result are not particularly optimistic for those who place a high value on the ability of an individual to resist group pressures which run counter to his individual judgment. In the experimental situation we employed, the S, by allowing himself to be influenced by the others, in effect acquiesced in the distortion of his judgment and denied the authenticity of his own immediate experience. The strength of the normative social influences that were generated in the course of our experiment was small; had it been stronger, one would have expected even more distortion and submission.

Our findings, with regard to the commitment variations, do, however, suggest that normative social influences can be utilized to buttress as well as to undermine individual integrity. In other words, normative social influence can be exerted to help make an individual be an individual and not merely a mirror or puppet of the group. Groups can demand of their members that they have self-respect, that they value their own experience, that they be capable of acting without slavish regard for popularity. Unless groups encourage their members to express their own, independent judgments, group consensus is likely to be an empty achievement. Group process which rests on the distortion of individual experience undermines its own potential for creativity and productiveness.

#### SUMMARY AND CONCLUSIONS

Employing modifications of the Asch situation, an experiment was carried out to test hypotheses concerning the effects of normative and informational social influences upon individual judgment. The hypotheses received strong support from the experimental data.

In discussion of our results, the thesis was advanced that prior studies of "group" influence upon individual judgment were only incidentally studies of the type of social influence most specifically associated with groups—

 $<sup>^8</sup>$  Asch (2) reports that his control group of Ss made an average of considerably less than one error per S.

i.e., of normative social influence. The role of normative social influence in buttressing as well as undermining individual experience was considered.

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