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A THEORY OF SOCIAL COMPARISON PROCESSES

LEON FESTINGER †

In this paper we shall present a further development of a previously published theory concerning opinion influence processes in social groups (7). This further development has enabled us to extend the theory to deal with other areas, in addition to opinion formation, in which social comparison is important. Specifically, we shall develop below how the theory applies to the appraisal and evaluation of abilities as well as opinions.

Such theories and hypotheses in the area of social psychology are frequently viewed in terms of how “plausible” they seem. “Plausibility” usually means whether or not the theory or hypothesis fits one’s intuition or one’s common sense. In this meaning much of the theory which is to be presented here is not “plausible”. The theory does, however, explain a considerable amount of data and leads to testable derivations. Three experiments, specifically designed to test predictions from this extension of the theory, have now been completed (5, 12, 19). They all provide good corroboration. We will in the following pages develop the theory and present the relevant data.

Hypothesis I: There exists, in the human organism, a drive to evaluate his opinions and his abilities.

While opinions and abilities may, at first glance, seem to be quite different things, there is a close functional tie between them. They act together in the manner in which they affect behavior. A person’s cognition (his opinions and beliefs) about the situation in which he exists and his appraisals of what he is capable of doing (his evaluation of his abilities) will together have bearing on his behavior. The holding of incorrect opinions and/or inaccurate appraisals of one’s abilities can be punishing or even fatal in many situations.

It is necessary, before we proceed, to clarify the distinction between

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opinions and evaluations of abilities since at first glance it may seem that one's evaluation of one's own ability is an opinion about it. Abilities are of course manifested only through performance which is assumed to depend upon the particular ability. The clarity of the manifestation or performance can vary from instances where there is no clear ordering criterion of the ability to instances where the performance which reflects the ability can be clearly ordered. In the former case, the evaluation of the ability does function like other opinions which are not directly testable in "objective reality". For example, a person's evaluation of his ability to write poetry will depend to a large extent on the opinions which others have of his ability to write poetry. In cases where the criterion is unambiguous and can be clearly ordered, this furnishes an objective reality for the evaluation of one's ability so that it depends less on the opinions of other persons and depends more on actual comparison of one's performance with the performance of others. Thus, if a person evaluates his running ability, he will do so by comparing his time to run some distance with the times that other persons have taken.

In the following pages, when we talk about evaluating an ability, we shall mean specifically the evaluation of that ability in situations where the performance is unambiguous and is known. Most situations in real life will, of course, present situations which are a mixture of opinion and ability evaluation.

In a previous article (7) the author posited the existence of a drive to determine whether or not one's opinions were "correct". We are here stating that this same drive also produces behavior in people oriented toward obtaining an accurate appraisal of their abilities.

The behavioral implication of the existence of such a drive is that we would expect to observe behaviour on the part of persons which enables them to ascertain whether or not their opinions are correct and also behavior which enables them accurately to evaluate their abilities. It is consequently necessary to answer the question as to how persons go about evaluating their opinions and their abilities.

Hypothesis II: To the extent that objective, non-social means are not available, people evaluate their opinions and abilities by comparison respectively with the opinions and abilities of others.

In many instances, perhaps most, whether or not an opinion is correct cannot be immediately determined by reference to the physical world. Similarly it is frequently not possible to assess accurately one's ability by reference to the physical world. One could, of course, test the opinion that an object was fragile by hitting it with a hammer, but how is one to test the opinion that a certain political candidate is better than another, or that war is inevitable? Even when there is a possible immediate physical referent for an opinion, it is frequently not likely to be employed. The belief, for example, that tomatoes are poisonous to humans (which was widely held at one time)

is unlikely to be tested. The situation is similar with respect to the evaluation of one's abilities. If the only use to which, say, jumping ability was put was to jump across a particular brook, it would be simple to obtain an accurate evaluation of one's ability in this respect. However, the unavailability of the opportunity for such clear testing and the vague and multipurpose use of various abilities generally make such a clear objective test not feasible or not useful. For example, how does one decide how intelligent one is? Also, one might find out how many seconds it takes a person to run a certain distance, but what does this mean with respect to his ability—is it adequate or not? For both opinions and abilities, to the extent that objective physical bases for evaluation are not available, subjective judgments of correct or incorrect opinion and subjectively accurate assessments of one's ability depend upon how one compares with other persons.

Corollary II A: In the absence of both a physical and a social comparison, subjective evaluations of opinions and abilities are unstable.

There exists evidence from studies on "level of aspiration" which shows clearly the instability of evaluations of abilities in the absence of comparison with other persons (13, 15, 20, 21, 23). The typical situation in an experiment designed to study "level of aspiration" is as follows: a person is given a task to perform which is serial in nature. This may be a series of trials of throwing darts at a target or a series of information tests or a series of puzzles or the like. After each trial the person is told what he scored (how many points he made or how many correct answers or how long it took) and is asked to state what score he expects to get or will try for on the next trial. These experiments have previously been interpreted in terms of goal directed behavior. If we examine the situation closely, however, it is apparent that the individual's stated "level of aspiration" is actually a statement of what he considers a good performance to be. In other words, it is his evaluation, at that time, of what score he should get, that is, his evaluation of his ability. The data show clearly that if the person scores as well as he said he expected to do, he feels he has done well (experiences success) and if he scores less than his "aspirations" he feels he has done poorly (experiences failure) (17).

Let us examine, then, the stability of these evaluations in a situation where the person performing the task has no opportunity for comparison with others. The data from these studies show that the "level of aspiration" fluctuates markedly as performance fluctuates. If the person makes a score better than his previous one, then what was formerly considered a good performance is no longer good and his "level of aspiration" goes up. If his performance drops, his "level of aspiration" drops. Even after a person has had a good deal of experience at a task, the evaluation of what is good performance continues to fluctuate.

Similar instability is found in the case of opinions. When, using the autokinetic effect, persons are asked to make judgments of how far the point

of light moves, these judgments continue to fluctuate before there are any comparison persons.¹

To the extent, then, that there are relevant data available, they tend to confirm *Corollary II A* concerning the instability of evaluations in the absence of comparisons.

Corollary II B: When an objective, non-social basis for the evaluation of one's ability or opinion is readily available persons will not evaluate their opinions or abilities by comparison with others.

Hochbaum (18) reports an experiment concerning the effect of knowledge of others' opinions on one's own opinion which corroborates *Corollary II B*. Half of the subjects in this experiment were persuaded by the experimenter that they were extremely good at being able to make correct judgments concerning things like the issue they were to discuss. The other half of the subjects were made to feel that they were extremely poor in making such judgments. They were then asked to write their opinions down and were handed back a slip of paper presumably reporting to them the opinions of each other person in the group. In this way the subjects were made to feel that most of the others in the group disagreed with them. Those subjects who were given an objective basis for feeling that their opinion was likely to be correct did not change their opinions very often in spite of the disagreement with others in the group. Those who had an objective basis for feeling their judgments were likely to be poor changed their opinion very frequently upon discovering that others disagreed with them.

Hypothesis III: The tendency to compare oneself with some other specific person decreases as the difference between his opinion or ability and one's own increases.

A person does not tend to evaluate his opinions or his abilities by comparison with others who are too divergent from himself. If some other person's ability is too far from his own, either above or below, it is not possible to evaluate his own ability *accurately* by comparison with this other person. There is then a tendency not to make the comparison. Thus, a college student, for example, does not compare himself to inmates of an institution for the feeble minded to evaluate his own intelligence. Nor does a person who is just beginning to learn the game of chess compare himself to the recognized masters of the game.

The situation is identical with respect to the evaluation of opinions. One does not evaluate the correctness or incorrectness of an opinion by comparison with others whose opinions are extremely divergent from one's own. Thus, a person who believes that Negroes are the intellectual equals of whites

1. Although published material on the autokinetic effect does not present the data in this form, it is clearly shown in special analysis of data from an experiment by Brehm, J. W., "A quantitative approach to the measurement of social influence", Honors thesis, Harvard University, 1952.

does not evaluate his opinion by comparison with the opinion of a person who belongs to some very anti-Negro group. In other words, there is a self-imposed restriction in the range of opinion or ability with which a person compares himself.

Corollary III A: Given a range of possible persons for comparison, someone close to one's own ability or opinion will be chosen for comparison.

There is some evidence relevant to this corollary from an experiment by Whittemore (24). The purpose of the study was to examine the relation between performance and competition. Subjects were seated around a table and given tasks to work on. There was ample opportunity to observe how the others were progressing. After the experimental session, in introspective reports, the subjects stated that they had almost always spontaneously selected someone whose performance was close to their own to compete against.

Corollary III B: If the only comparison available is a very divergent one, the person will not be able to make a subjectively precise evaluation of his opinion or ability.

There is evidence supporting this corollary with respect to abilities but no relevant evidence in connection with opinions has been found.

Hoppe (20) in his experiment on level of aspiration reports that when subjects made a score very far above or very far below their level of aspiration they did not experience success or failure respectively. In other words, this extremely divergent score presented no grounds for self evaluation. Dreyer (5) performed an experiment in which high school children were made to score either: very far above the reported average for boys like themselves; at the reported average; or very far below the reported average. After a series of trials they were asked, "How well do you feel you did on the test?" There were five possible categories of response. The top two were good or very good; the bottom two were poor or very poor. In the middle was a noncommittal response of fair. Both those who scored very far below and those who scored very far above the reported group average gave the response "fair" significantly more often than did those who scored at the reported group average. Also, on the average, the persons who had scored at the reported average felt they had done better than did those scoring far above the group. Again the data support the hypothesis.

We may then conclude that there is selectivity in comparison on abilities and opinions and that one major factor governing the selectivity is simply the discrepancy between the person's own opinion or ability and that of another person. Phenomenologically, the appearance of this process is different for opinions and for abilities but conceptually it is exactly the same process. In dealing with opinions one feels that those with whom one does not compare oneself are different kinds of people or members of different groups or people with different backgrounds. Frequently this allegation of difference, to

support the non-comparability, is made together with some derogation. In the case of abilities, the phenomenal process is that of designation of status inferior or superior to those persons who are noncomparable to oneself. We will elaborate on this later.

Derivation A (from I, II, III): Subjective evaluations of opinions or of abilities are stable when comparison is available with others who are judged to be close to one's opinions or abilities.

Derivation B (from I, II, III): The availability of comparison with others whose opinions or abilities are somewhat different from one's own will produce tendencies to change one's evaluation of the opinion or ability in question.

There are also data to show the effect which knowledge of group opinions or group abilities have on the person's evaluations which were initially formed privately. If the evaluation of an opinion or an ability formed in the absence of the possibility of comparison with others is indeed unstable, as we have presumed, then we would expect that, given an opportunity to make a comparison with others, the opportunity would be taken and the comparison would have a considerable impact on the self evaluation. This is found to be true for both abilities and opinions. "Level of aspiration" experiments have been performed where, after a series of trials in which the person is unable to compare his performance with others, there occurs a series of trials in which the person has available to him the knowledge of how others *like himself* performed on each trial (1, 4, 6, 17). When the "others like himself" have scores different from his own, his stated "level of aspiration" (his statement of what he considers is good performance) almost always moves close to the level of the performance of others. It is also found that under these conditions the level of aspiration changes less with fluctuations in performance, in other words, is more stable. When the reported performance of others is about equal to his own score, the stability of his evaluation of his ability is increased and, thus, his level of aspiration shows very little variability. Dreyer, in an experiment specifically designed to test part of this theory (5), showed clearly that the variance of the level of aspiration was smaller when the subject scored close to the group than when he scored far above or far below them. In short, comparison with the performance of others specifies what his ability should be and gives stability to the evaluation.

Festinger, Gerard, *et al.* (10) find a similar situation with respect to opinions. When a person is asked to form an opinion privately and then has made available to him the consensus of opinion in the group of which he is a member, those who discover that most others in the group disagree with them become relatively less confident that their opinion is correct and a goodly proportion change their opinion. Those who discover that most others in the group agree with them become highly confident in their opinion and it is extremely rare to find one of them changing his opinion. Again,

comparison with others has tended to define what is a correct opinion and has given stability to the evaluation. This result is also obtained by Hochbaum (18).

We may then conclude that *Derivations A* and *B* tend to be supported by the available data.

Derivation C (from I, III B): A person will be less attracted to situations where others are very divergent from him than to situations where others are close to him for both abilities and opinions.

This follows from a consideration of *Hypothesis I* and *Corollary III B*. If there is a drive toward evaluation of abilities and opinions, and if this evaluation is possible only with others who are close enough, then there should be some attraction to groups where others are relatively close with respect to opinions and/or abilities. There are data confirming this for both opinions and abilities.

Festinger, Gerard, *et al.* (10) report an experiment in which after each person had written down his opinion on an issue he was handed back a slip of paper presumably containing a tabulation of the opinions in the group. Some in each group were thus given the impression that most of the others in the group held opinions close to their own. The rest were given the impression that most others in the group held opinions quite different from their own. After the experiment they were each asked how well they liked the others in the group. In each of the eight different experimental conditions those who thought that the others held divergent opinions were less attracted to the group.²

The previously mentioned experiment by Dreyer (5) has as one of its main purposes the testing of this derivation in connection with abilities. He used a "level of aspiration" situation and falsified the scores he reported to the subjects so that some thought they were scoring very far above the group, some thought they were scoring very far below the group, while others thought they were scoring about at the same level as the average of others like them. After each trial they were asked whether they wanted to continue for another trial or whether they would prefer to stop. The reasoning was that if those scoring well above or well below the group average were not able to evaluate their ability accurately, the situation would be less attractive to them and they would stop sooner. On the average, those scoring very much above the group stop after the fifth trial, while those scoring below or at the average of the group stop after the ninth trial.³ There is no difference between those scoring at and those scoring well below the average of the group. The derivation in the case of abilities seems confirmed for deviation from the group in one

2. This result is not reported in the article cited. It was obtained by analyzing the data for this particular purpose.

3. It is interesting to note that on this point, the usual theory of level of aspiration (21) would lead to a quite different prediction, namely, that those scoring consistently below the group would stop earliest.

direction then but not in the other. This is probably due to the presence of another pressure which we shall discuss in detail later, namely, the value placed in our culture on being better and better with the result that the subjects scoring below the group wanted to, and felt that they might, improve and achieve comparability with the group average.

This result from the experiment by Dreyer (5) is also corroborated in the previously mentioned experiment by Hochbaum (18). It will be recalled that half the subjects were made to feel that their ability in judging situations of the kind they were to discuss was extremely good and very superior to the abilities of the others in the group. The other half of the subjects were made to feel that their ability was poor and considerably worse than the ability of the others in the group. At the end of the experiment all the subjects were asked whether, if they returned for another session they would like to be in the same group or a different group. Of those who felt they were very much above the others in the group, only 38 per cent wanted to return to the same group. Of those who felt that they were considerably inferior to the others, 68 per cent wanted to return to the same group.

With the qualification concerning the asymmetry with regard to abilities the derivation may be regarded as confirmed. We will discuss the unidirectional drive upwards for abilities, which produces the asymmetry, in more detail later.

Derivation D (from I, II, III): The existence of a discrepancy in a group with respect to opinions or abilities will lead to action on the part of members of that group to reduce the discrepancy.

We have stated in *Hypotheses I, II and III* and in the corollaries to these hypotheses that there is a drive to evaluate accurately one's opinions and abilities, that this evaluation is frequently only possible by comparison with others and that the comparison tends to be made with others who are close to oneself on the particular ability or opinion in question. This implies that the drive to evaluate one's ability or opinion will lead to behavior which will produce for the person a situation where those with whom he compares himself are reasonably close to him, in other words, there will be action to reduce discrepancies which exist between himself and others with whom he compares himself.

Before we can discuss the data relevant to this derivation it is necessary to point out two important differences between opinions and abilities which affect the behavioral manifestations of the action to reduce discrepancies. We will state these differences in the form of hypotheses.

Hypothesis IV: There is a unidirectional drive upward in the case of abilities which is largely absent in opinions.

With respect to abilities, different performances have intrinsically different values. In Western culture, at any rate, there is a value set on doing better and

better which means that the higher the score on performance, the more desirable it is. Whether or not this is culturally determined, and hence culturally variable, is an important question but one with which we will not occupy ourselves here.⁴

With respect to most opinions, on the other hand, in the absence of comparison there is no inherent, intrinsic basis for preferring one opinion over another. If we thought of opinions on some specific issue as ranging along a continuum, then no opinion in and of itself has any greater value than any other opinion. The value comes from the subjective feeling that the opinion is correct and valid.

Hypothesis V: There are non-social restraints which make it difficult or even impossible to change one's ability. These non-social restraints are largely absent for opinions.

If a person changes his mind about something, deserts one belief in favor of another, there is no further difficulty in the way of consummating the change. It is true that there are sometimes considerable difficulties in getting someone to change his mind concerning an opinion or belief. Such resistance may arise because of consistency with other opinions and beliefs, personality characteristics that make a person lean in one direction or another and the like. But the point to be stressed here is that once these resistances are overcome, there is no further restraint which would make it difficult for the change to become effective.

There are generally strong non-social restraints, however, against changing one's ability, or changing one's performance which reflects this ability. Even if a person is convinced that he should be able to run faster or should be more intelligent, and even if he is highly motivated to improve his ability in this respect, there are great difficulties in the way of consummating the change.

We may now examine the implications of *Derivation D*. Considering *Hypothesis IV* it is clear that the action to reduce the discrepancy which exists is, in the case of opinions, a relatively uncomplicated pressure towards uniformity. When and if uniformity of opinion is achieved there is a state of social quiescence. In the case of abilities, however, the action to reduce discrepancies interacts with the unidirectional push to do better and better. The resolution of these two pressures, which act simultaneously, is a state of affairs where all the members are relatively close together with respect to some specific ability, but not completely uniform. The pressures cease acting on a person if he is just slightly better than the others. It is obvious that not everyone in a group can be slightly better than everyone else. The implication is that, with respect to the evaluation of abilities, a state of social quiescence is never reached.

4. There is some evidence, for example, that among the Hopi Indians this preference for better performance is absent (2).

Competitive behavior, action to protect one's superiority, and even some kinds of behavior that might be called cooperative, are manifestations in the social process of these pressures which do not reach quiescence. We shall now elaborate this further in considering the specific nature of the social action arising from pressures toward uniformity. There are three major manifestations of pressure toward uniformity which we shall list below together with the relevant data.

Derivation D₁: When a discrepancy exists with respect to opinions or abilities there will be tendencies to change one's own position so as to move closer to others in the group.

Derivation D₂: When a discrepancy exists with respect to opinions or abilities there will be tendencies to change others in the group to bring them closer to oneself.

Considering *Hypothesis V* in relation to the above two subderivations we can see that a difference is implied between the resulting process for opinions and for abilities. Since opinions are relatively free to change, the process of changing the positions of members of a group relative to one another is expressed in action which is predominantly socially oriented. When differences of opinion exist, and pressures toward uniformity arise, these pressures are manifested in an influence process. Members attempt to influence one another, existing opinions become less stable and change occurs. This process of social influence, as we have mentioned before, ceases if and when uniformity of opinion exists in the group.

When pressures toward uniformity exist with respect to abilities, these pressures are manifested less in a social process and more in action against the environment which restrains movement. Thus, a person who runs more slowly than others with whom he compares himself, and for whom this ability is important, may spend considerable time practising running. In a similar situation where the ability in question is intelligence, the person may study harder. But, needless to say, movement toward uniformity may or may not occur. Even if it occurs, it will take much, much longer than in the case of opinions.

This process would, of course, not be competitive if it were not for the simultaneous operation of the unidirectional push upward which is stated in *Hypothesis IV*. Because of this unidirectional push and the pressure toward uniformity, the individual is oriented toward some point on the ability continuum slightly better than his own performance or the performance of those with whom he is comparing himself. If uniformity concerning an ability were reached this would not lead to a cessation of competition as long as the unidirectional push upward is operating.

There are data which corroborate the two derivations with regard to both abilities and opinions. Back (3), Festinger and Thibaut (9), Festinger, Gerard,

et al. (10) and Gerard (14) have shown clearly that the presence of disagreement in a group concerning some opinion leads to attempts to influence others who disagree with them and also to tendencies to change own opinion to agree more with the others in the group. The effect of this process is to have the group move closer and closer to agreement. In groups where uniformity concerning some issue is reached the influence process on that issue ceases.

In the case of abilities the evidence is less direct for a number of reasons. First, there have been fewer studies conducted relevant to this point. Second, since the process resulting from pressure to reduce discrepancies concerning abilities is not clearly shown in a social process, and since it is complicated by the drive to do better and better, it is harder to identify. Some evidence is available from the literature on level of aspiration (21). It has been shown that in most situations, an individual's level of aspiration is placed slightly above his performance. When told the average performance of others like himself, the level of aspiration is generally set slightly above this reported group average. These results are what we would expect if the resolution of the simultaneous unidirectional drive upward and the pressure towards uniformity is indeed a drive to be slightly better than the others with whom one compares oneself. These data can then be viewed as an indication of the desire to change one's position relative to others.

An experiment by Hoffman, Festinger, and Lawrence (19) specifically designed to test parts of the present theory, shows this competitive process clearly. In a performance situation where one of three persons is scoring considerably above the other two, these two can and do act so as to prevent the high scorer from getting additional points. Thus, when the situation is arranged such that the performance of each person is controllable by the others in the group, action is taken to change the position of the members to reduce the discrepancies which exist.

Let us also examine what we would expect of the behavior of someone whose performance is considerably higher than the other members of the group and who has no other possible comparison group to turn to for his evaluation of this ability. Since the others are considerably poorer, they will not effectively serve as a comparison for his own evaluation. The pressure acting on him toward comparability can manifest itself in two ways. It is possible that under these conditions his performance will actually deteriorate slightly over a period of time. It is also possible that he will devote considerable time and effort to trying to improve the performance of the others in the group to a point where at least some of them are close to, but not equal to, him. This could take the form of helping them practice, coaching them, motivating them to improve and the like. Once comparability has been achieved, however, the process should change to the familiar competitive one.

There is some indirect corroboration of this from experimental evidence.

Greenberg (16) reports a study in competition in which pairs of children, seated together at a table, were to construct things out of "stones" (blocks) which were initially all in one common pile. Grabbing blocks from the pile was one of the indications of competition while giving blocks to the others was taken as one indication of lack of competition. The author reports the case of two friends, E. K. and H. At a time when E. K.'s construction was clearly superior to that of H., H. asked for "stones" and was freely given such by E. K. Subsequently E. K. asked H. whether or not she wanted more "stones". At the end of the session, although privately the experimenter judged both constructions to be nearly equal, when the children were asked "whose is better?" E. K. said "mine" and H., after a moment, agreed.

From many such pairs the author summarizes as follows: "Sometimes when a child gave another a 'stone', it was not at all an act of disinterested generosity, but a display of friendly competition and superior skill."

Derivation D₃: When a discrepancy exists with respect to opinions or abilities there will be tendencies to cease comparing oneself with those in the group who are very different from oneself.

Just as comparability can be achieved by changing the position of the members with respect to one another, so can it also be achieved by changing the composition of the comparison group. Thus, for example, if pressures toward uniformity exist in a group concerning some opinion on which there is a relatively wide discrepancy, there is a tendency to redefine the comparison group so as to exclude those members whose opinions are most divergent from one's own. In other words, one merely ceases to compare oneself with those persons.

Here again we would expect the behavioral manifestation of the tendency to stop comparing oneself with those who are very divergent to be different for opinions and for abilities. This difference arises because of the nature of the evaluation of opinions and abilities and because of the asymmetry introduced by the unidirectional push upward for abilities. We will consider these in order.

It will be recalled that opinions are evaluated in terms of whether or not subjectively they are correct while abilities are evaluated in terms of how good they seem. In other words, the existence of someone whose ability is very divergent from one's own, while it does not help to evaluate one's ability, does not make, in itself, for discomfort or unpleasantness. In the case of opinions, however, the existence of a discrepant opinion threatens one's own opinion since it implies the possibility that one's own opinion may not be correct. *Hypothesis VI*, which we will state below, leads us then to expect that the process of making others incomparable (ceasing to compare oneself with others) will be accompanied by hostility or derogation in the case of opinions but will not, generally, in the case of abilities.

Hypothesis VI: The cessation of comparison with others is accompanied by hostility or derogation to the extent that continued comparison with those persons implies unpleasant consequences.

Thus, in the case of opinions we expect the process of making others incomparable to be associated with rejection from the group. In the case of abilities, this may or may not be the case. It would be plausible to expect that there would rarely be derogation in making those below oneself incomparable. When making those above oneself incomparable, the presence of unidirectional push upward might lead to derogation in some instances.

The asymmetry introduced in the case of abilities is another difference we may expect to find. While in the case of opinions, deviation on either side of one's own opinion would lead to the same consequences, in the case of abilities there is a difference. The process of making others incomparable results in a "status stratification" where some are clearly inferior and others are clearly superior.

Corollary VI A: Cessation of comparison with others will be accompanied by hostility or derogation in the case of opinions. In the case of abilities this will not generally be true.

Festinger, Schachter, and Back (8) and Schachter (22) have shown that when there is a range of opinion in a group there is a tendency to reject those members of the group whose opinions are very divergent from one's own. This rejection tends to be accompanied by a relative cessation of communication to those who are rejected. This is undoubtedly another evidence of the cessation of comparison with those persons.

There are data relevant to this point in connection with abilities from the experiment by Hoffman, Festinger, and Lawrence (19). In this experiment, one out of a group of three persons were made to score very much higher than the other two on a test of intelligence. When the nature of the situation allowed, the two low scoring subjects ceased to compete against the high scorer and began to compete against each other. When they did this they also rated the intelligence of the high scorer as considerably higher than their own, thus acknowledging his superiority. In those conditions where they continued to compete against the high scorer they did not rate his intelligence as higher than their own. In other words, when the situation allowed it they stopped comparing their scores with the score of someone considerably higher than themselves. This cessation of comparison was accompanied by an acknowledgment of the others' superiority. A number of sociometric questions showed no hostility toward or derogation of the high scorer.

Having discussed the manifestations of the "pressure toward uniformity" which arises from the drive to evaluate opinions and abilities, we will now raise the question as to the factors which determine the strength of these pressures.

Derivation E (from I, II and III): Any factors which increase the strength of the drive to evaluate some particular ability or opinion will increase the "pressure toward uniformity" concerning that ability or opinion.

Hypothesis VII: Any factors which increase the importance of some particular group as a comparison group for some particular opinion or ability will increase the pressure toward uniformity concerning that ability or opinion within that group.

To make the above statements relevant to empirical data we must of course specify the factors involved. The corollaries stated below will specify some of these factors. We will then present the data relevant to these corollaries.

Corollary to Derivation E: An increase in the importance of an ability or an opinion, or an increase in its relevance to immediate behavior, will increase the pressure toward reducing discrepancies concerning that opinion or ability.

If an opinion or ability is of no importance to a person there will be no drive to evaluate that ability or opinion. In general, the more important the opinion or ability is to the person, the more related to behavior, social behavior in particular, and the more immediate the behavior is, the greater will be the drive for evaluation. Thus, in an election year, influence processes concerning political opinions are much more current than in other years. Likewise, a person's drive to evaluate his intellectual ability will be stronger when he must decide between going to graduate school or taking a job.

The previously mentioned experiment by Hoffman, Festinger, and Lawrence (19) corroborates the Corollary to *Derivation E* with respect to abilities. It will be recalled that this experiment involved groups of three persons who took an "intelligence test". The situation was arranged so that one of the subjects (a paid participant) started out with a higher score than the other two. From then on the two subjects could completely control how many points the paid participant scored. The degree to which they prevented him from scoring points was taken as a measure of the extent to which they were competing against him and hence as an indication of the strength of the pressure toward uniformity acting on them. Half of the groups were told that this test which they were to take was an extremely valid test and hence a good measure of intelligence, an ability which these subjects considered important. The other half of the groups were told that it was a very poor test and the research was being done to demonstrate conclusively that the test was no good. For these subjects their performance was consequently not important. The results showed that the competition with the high scorer was significantly greater for the high importance than for the low importance condition.

Unfortunately there are no relevant data from experiments concerning opinions. The Corollary to *Derivation E* applies to opinions also, however, and is testable.

The data which we have presented refer to changing the position of members in the group. As the pressure toward uniformity increases there should also be observed an increase in the tendency to cease comparison with those who are too different from oneself. Specifically, this would mean that the range within which appreciable comparison with others is made should contract as the pressure toward uniformity increases. This leads to an interesting prediction concerning abilities which can be tested. The more important an ability is to a person and, hence, the stronger the pressures toward uniformity concerning this ability, the stronger will be the competition about it and also the greater the readiness with which the individuals involved will recognize and acknowledge that someone else is clearly superior to them. And just as in influence processes, where, once rejection has taken place there tends to be a cessation of communication and influence attempts toward those who have been made incomparable (10, 22), so we may expect that once inferior or superior status has been conferred, there will be a cessation of competition with respect to those who have been thus rendered incomparable.

Thus, for example, let us imagine two individuals who are identical with respect to some particular ability but differ markedly in how important this ability is to them personally. The prediction from the above theory would say that the person for whom the ability is more important would be more competitive about it than the other; would be more ready to allocate "inferior status" to those considerably less good than he; and would be more ready to allocate "superior status" to those considerably better than he. In other words, he would be more competitive within a narrower range.

Corollary VII A: The stronger the attraction to the group the stronger will be the pressure toward uniformity concerning abilities and opinions within that group.

The more attractive a group is to a member, the more important that group will be as a comparison group for him. Thus the pressure to reduce discrepancies which operate on him when differences of ability or opinion exist will be stronger. We would expect these stronger pressures toward uniformity to show themselves in all three ways, increased tendency to change own position, increased effort to change the position of others and greater restriction of the range within which appreciable comparison is made.

There are a number of studies which corroborate *Corollary VII A* with regard to opinions. Back (3) showed that in groups to which the members were highly attracted there were more attempts to influence others than in groups to which the members were less attracted. This greater exertion of influence was accompanied by more change of opinion in the highly attractive groups. Festinger, Gerard, *et al.* (10) showed a tendency for members of highly attractive groups to change their opinions more frequently than members of less attractive groups upon discovering that most others in the group disagreed with them. This change of opinion was before any influence

had actually been exerted on them by other members of the group. They also found that there was more communication attempting to influence others in the high than in the low attractive groups.

Schachter (22) showed that this same factor, attraction to the group, also increased the tendency to cease comparison with those who differed too much. Members of his highly attractive groups rejected the deviate significantly more than did members of the less attractive groups.

Festinger, Torrey, and Willerman (12) report an experiment specifically designed to test *Corollary VII A* with respect to abilities. If, given a range of performance reflecting some ability, the comparison, and hence the competition, in highly attractive groups would be stronger than in less attractive groups, then this should be reflected in the feelings of having done well or poorly after taking the tests. If *Corollary VII A* is correct we would expect those scoring slightly below others to feel more inadequate in the high than in the low attractive groups. Similarly we would expect those scoring equal to or better than most others to feel more adequate in the high than in the low attractive groups. Groups of four persons were given a series of tests supposed to measure an ability that these persons considered important. One of the subjects was caused to score consistently slightly below the others. The other three were made to score equally well. Those members who were highly attracted to the group, and scored below the others, felt they had done worse than similar persons who were not attracted to the group. Those who were attracted to the group and had scored equal to the others felt that they had done better than did similar persons who were not attracted to the group. Thus the results of the experiment corroborate the corollary for abilities.

Corollary VII B: The greater the relevance of the opinion or ability to the group, the stronger will be the pressure toward uniformity concerning that opinion or ability.

The conceptual definition of relevance of an opinion or an ability to a group is not completely clear. There are, however, some things one can state. Where the opinion or ability involved is necessary or important for the life of the group or for the attainment of the satisfactions that push the members into the group, the need for evaluation in that group will be strong. Groups will thus differ on what one may call their "realm of relevance". A group of men who meet every Friday night to play poker, and do only this together, will probably have a narrow "realm of relevance". The abilities and opinions for which this group serves as a comparison will be very restricted. The members of a college fraternity, on the other hand, where the group satisfies a wider variety of the members' needs will have a wider "realm of relevance".

In spite of the conceptual unclarity which is involved it is possible to create differences in relevance of an issue to a group which are clear and unambiguous. Thus Schachter (22) created high and low relevance conditions in the following manner. Groups which were to discuss an issue relevant to

the group were recruited specifically for that purpose. Other groups were recruited ostensibly for very different kinds of things and on a pretext were asked to discuss the particular issue in question. They were promised this would never happen again in the life of the group thus making this issue of low relevance to that particular group. Schachter found, confirming *Corollary VII B*, that the tendency to reject deviates was stronger in the high relevance condition than in the low relevance condition.

No other evidence bearing on *Corollary VII B* has been located.

Thus far we have discussed only factors which, in affecting the pressure toward uniformity, affect all three manifestations of this pressure in the same direction. There are also factors which affect the manifestations of pressure toward uniformity differentially. We will discuss two such factors.

Hypothesis VIII: If persons who are very divergent from one's own opinion or ability are perceived as different from oneself on *attributes consistent with the divergence*, the tendency to narrow the range of comparability becomes stronger.

There is evidence supporting this hypothesis with respect to both abilities and opinions. In the previously mentioned experiment by Hoffman, Festinger, and Lawrence (19) half the groups were told that the three persons in the group had been selected to take the test together because, as far as could be determined, they were about equal in intelligence. The other groups were told that one of the three was very superior to the others. This was reported in a manner which made it impossible for either of the subjects to suppose that he himself was the superior one. In the "homogeneous" condition the subjects continued to compete against the paid participant who was scoring considerably above them. In the condition where they thought one of the others was clearly superior they competed considerably less with the paid participant and tended to compete with each other. In other words, when there was the perception of a difference consistent with the fact that the paid participant was scoring above them, they ceased comparison with him.

There is additional evidence on this point from level of aspiration experiments. Festinger (6) reports an experiment where, on an intellectual task, subjects (college students) were told they were scoring considerably above another group which they ordinarily considered inferior to themselves (high school students) or were told they were scoring considerably below a group which they considered superior to themselves (graduate students). In these circumstances there is practically no effect on the level of aspiration. Thus, the knowledge of this other group's being divergent in a direction consistent with the label of the group had no effect on their evaluation. It is interesting to note in this same experiment that if the reported direction of difference is inconsistent with the level of the group this destroys the incomparability and the effect on the level of aspiration is very great.

The evidence concerning opinions relating to *Hypothesis VIII* comes from

experiments reported by Gerard (14) and Festinger and Thibaut (9). In both of these experiments discussions were carried on in a group of persons with a considerable range of opinion on the issue in question. In each experiment, half of the groups were given the impression that the group was homogeneous. All the members of the group had about equal interest in and knowledge about the issue. The other half of the groups were given the impression that they were heterogeneously composed. There was considerable variation among them in interest in and knowledge about the problem. In both experiments there was less communication directed toward those holding extremely divergent opinions in the heterogeneous than in the homogeneous condition. In other words, the perception of heterogeneity on matters related to the issue enabled the members of the groups to narrow their range within which they actively compared themselves with others.

It is interesting, at this point, to look at the data from these two experiments in relation to *Hypothesis III* which stated that the tendency to compare oneself with others decreased as the divergence in opinion or ability increased. In both the Gerard experiment (14) and the Festinger and Thibaut experiment (9) it was found that most communication was directed toward those whose opinions were most different from the others. Since we have just interpreted a reduction in communication to indicate a reduction in comparison with others, it is necessary to explain the over-all tendency to communicate most with those holding divergent opinions in the light of *Hypothesis III*.

From *Hypothesis III* we would expect comparison to be made mainly with those closest to oneself. This is indeed true. The support one gets for one's opinion is derived from those close to one's own. However, it will be recalled that, in the case of opinions, comparison with others who are divergent represents a threat to one's own opinion. It is for this reason that communication is directed mainly toward those most divergent but still within the limits where comparison is made. This communication represents attempts to influence them. Reduction in communication to these extreme opinions indicates that the existence of these extreme opinions is less of a threat to one's own opinion. In other words, one is comparing oneself less with them. In the case of abilities we would not expect to find any such orientation toward very divergent persons. Comparison behavior in the case of abilities would follow very closely the simple relation stated in *Hypothesis III*.

Hypothesis IX: When there is a range of opinion or ability in a group, the relative strength of the three manifestations of pressures toward uniformity will be different for those who are close to the mode of the group than for those who are distant from the mode. Specifically, those close to the mode of the group will have stronger tendencies to change the positions of others, relatively weaker tendencies to narrow the range of comparison and much weaker tendencies to change their

own position compared to those who are distant from the mode of the group.

Some data are available to support this hypothesis, with reference to opinions, from experiments by Festinger, Gerard, *et al.* (10) and by Hochbaum (18). In both of these experiments some persons in each group were given the impression that the rest of the group disagreed with them while others were given the impression that most of the group agreed with them. In both experiments there was considerably more change of opinion among the "deviates" than among the conformers. In both experiments there were considerably more attempts to influence others made by the conformers than by the deviates. While there exist no adequate data relevant to the tendency to narrow the range of comparison, corroboration is suggested in the experiment by Festinger, Gerard, *et al.* (10). In this experiment it was found that the deviates actually communicated less to those holding most divergent opinions than to those somewhat closer to their own position. The conformers showed the more familiar pattern of communicating most to those with extremely divergent opinions in the group.

The question may also be raised as to the determinants of the extent to which the group actually does move closer toward uniformity when pressures in this direction exist. In part, the degree of such movement toward uniformity will be dependent upon the strength of the pressures. In part they will be dependent upon other things. In the case of opinions it will be dependent upon the resistances to changing opinions, and upon the power of the group to successfully influence its members. The theory concerning the determinants of the power of the group to influence its members is set forth elsewhere (7). We will not repeat it here since the power of the group to influence its members is relatively unimportant with regard to abilities. The social process itself, no matter how much power the group has, cannot achieve movement toward uniformity on abilities. The power of the group successfully to influence its members will be effective only insofar as changing members' values concerning a given ability and increasing motivations can be effective. With respect to values and motivations concerning the ability the situation is identical with the social process that goes on concerning opinions.

IMPLICATIONS FOR GROUP FORMATION AND SOCIETAL STRUCTURE

The drive for self evaluation concerning one's opinions and abilities has implications not only for the behavior of persons in groups but also for the processes of formation of groups and changing membership of groups. To the extent that self evaluation can only be accomplished by means of comparison with other persons, the drive for self evaluation is a force acting on persons to belong to groups, to associate with others. And the subjective feelings of correctness in one's opinions and the subjective evaluation of adequacy of one's performance on important abilities are some of the

satisfactions that persons attain in the course of these associations with other people. How strong the drives and satisfactions stemming from these sources are compared to the other needs which people satisfy in groups is impossible to say, but it seems clear that the drive for self evaluation is an important factor contributing to making the human being "gregarious".

People, then, tend to move into groups which, in their judgment, hold opinions which agree with their own and whose abilities are near their own. And they tend to move out of groups in which they are unable to satisfy their drive for self evaluation. Such movement in and out of groups is, of course, not a completely fluid affair. The attractiveness to a group may be strong enough for other reasons so that a person cannot move out of it. Or there may be restraints, for one or another reason, against leaving. In both of these circumstances, mobility from one group to another is hindered. We will elaborate in the next section on the effects of so hindering movement into and out of groups.

These selective tendencies to join some and leave other associations, together with the influence process and competitive activity which arise when there is discrepancy in a group, will guarantee that we will find relative similarity in opinions and abilities among persons who associate with one another (at least on those opinions and abilities which are relevant to that association). Among different groups, we may well expect to find relative dissimilarity. It may very well be that the segmentation into groups is what allows a society to maintain a variety of opinions within it and to accommodate persons with a wide range of abilities. A society or town which was not large enough or flexible enough to permit such segmentation might not be able to accommodate the same variety.

The segmentation into groups which are relatively alike with respect to abilities also gives rise to status in a society. And it seems clear that when such status distinctions are firmly maintained, it is not only members of the higher status who maintain them. It is also important to the members of the lower status to maintain them for it is in this way that they can relatively ignore the differences and compare themselves with their own group. Comparisons with members of a different status group, either higher or lower, may sometimes be made on a phantasy level, but very rarely in reality.

It is also important to consider whether or not the incomparability consequent upon group segmentation is a relatively complete affair. The conferring of status in the case of abilities or the allegation of "different kind of people" in the case of opinions may markedly lower the comparability but may not completely eliminate it. The latter is probably the more accurate statement. People are certainly aware, to some extent, of the opinions of those in incomparable groups. To the extent that perfect incomparability is not achieved, this has important bearing on differences in behavior to be expected from members of minority groups. Members of minority groups, if they are unable to achieve complete incomparability with other groups, should be

somewhat less secure in their self evaluations. One might expect from this that within a minority group, the pressures toward uniformity would be correspondingly stronger than in a majority group. The minority group would seek stronger support within itself and be less well able to tolerate differences of opinion or ability which were relevant to that group.

In connection with opinion formation, there is experimental evidence that this is the case (14). Subgroups which were in the minority within larger experimental groups showed evidence of stronger pressures toward uniformity within the subgroup than did the majority subgroups. In minority groups where particular abilities were relevant, we would, by the same line of reasoning, also expect stronger pressures toward uniformity and hence fiercer competition with respect to that ability than in majority groups.

We may recall that stronger pressure toward uniformity also implies the existence of stronger tendencies to regard as incomparable those who deviate markedly. Since others are made incomparable with respect to opinions by means of rejection from the group, this gives us a possible explanation of the persistent splitting into smaller and smaller factions which is frequently found to occur in minority groups which are under strong pressure from the majority segments of the population.

CONSEQUENCES OF PREVENTING INCOMPARABILITY

There are predominantly two kinds of situations in which comparability is forced despite the usual tendencies not to compare oneself with those who deviate markedly. One such situation occurs when the attraction of the group is so strong, for other reasons, that the member continues to wish to remain in the group in spite of the fact that he differs markedly from the group on some opinion or ability. If, together with this state of affairs, he has no other comparison group for this opinion or ability, or if the opinion or ability is highly relevant to that group, then comparability is forced to a great extent. The psychological tendencies to make incomparable those who differ most will still be present but would not be as effective as they might otherwise be.

Under these circumstances where the attraction to the group remains high, the group has power to influence the member effectively and, in the case of opinion difference, we would expect an influence process to ensue which would be effective enough to eliminate the difference of opinion. In short, there would be movement toward uniformity. But what happens in the case of an ability? Here, while the group will probably succeed in motivating the member concerning this ability it is quite likely that the ability itself may not be changeable. We have then created a situation where a person's values and strivings are quite out of line with his performance and we would expect, if he is below others, deep experiences of failure and feelings of inadequacy with respect to this ability. This is certainly not an unusual condition to find.

The other major situation in which comparability is forced upon a person

is one in which he is prevented from leaving the group. The theory concerning the effect of this situation on opinion formation is spelt out elsewhere (11). We will touch on the main points here in order to extend the theory to ability evaluation. In circumstances where a person is restrained from leaving a group either physically or psychologically, but otherwise his attraction to the group is zero or even negative, the group does not have the power to influence him effectively. Uniformity can, however, be forced, in a sense, if the group exerts threats or punishment for non-compliance. In the case of opinions, we may here expect to find overt compliance or overt conformity without any private acceptance on the part of the member. Thus a boy who is forced to play with some children whom he does not particularly like would, in such circumstances, where threat was employed, agree with the other children publicly while privately maintaining his disagreement.

Again, when we consider abilities, we find a difference which arises because abilities may be difficult if not impossible to change on short notice. Here the deviating member who is restrained from leaving the group may simply have to suffer punishment. If he deviates toward the higher end of the ability scale, he can again publicly conform without privately accepting the evaluations of the group. If he deviates toward the lower end of the ability scale this may be impossible. Provided he has other comparison groups for self evaluation on this ability he may remain personally and privately quite unaffected by this group situation. While publicly he may strive to perform better, privately his evaluations of his ability may remain unchanged.

SUMMARY

If the foregoing theoretical development is correct, then social influence processes and some kinds of competitive behavior are both manifestations of the same socio-psychological process and can be viewed identically on a conceptual level. Both stem directly from the drive for self evaluation and the necessity for such evaluation being based on comparison with other persons. The differences between the processes with respect to opinions and abilities lie in the unidirectional push upward in the case of abilities, which is absent when considering opinions and in the relative ease of changing one's opinion as compared to changing one's performance.

The theory is tentatively supported by a variety of data and is readily amenable to further empirical testing. One great advantage, assuming the correctness of the theory, is that one can work back and forth between opinions and ability evaluations. Some aspects of the theory may be more easily tested in one context, some in the other. Discoveries in the context of opinions should also hold true, when appropriately operationally defined, in the context of ability evaluation.

BIBLIOGRAPHY

1. ANDERSON, H. H., and BRANDT, H. F. "Study of Motivation Involving Self-Announced Goals of Fifth Grade Children and the Concept of Level of Aspiration", *Journal of Social Psychology*, 1939, 10, 209-232.
2. ASCH, S. E. "Personality Developments of Hopi Children", Unpublished manuscript referred to in Murphy, Murphy and Newcomb, *Experimental Social Psychology*. New York and London: Harper and Brothers, 1931, 1937 (Revised Edition).
3. BACK, K. "The Exertion of Influence Through Social Communication", *Journal of Abnormal and Social Psychology*, 1951, 46, 9-24.
4. CHAPMAN, D. W., and VOLKMANN, J. A. "A Social Determinant of the Level of Aspiration," *Journal of Abnormal and Social Psychology*, 1939, 34, 225-238.
5. DREYER, A. "Behavior in a Level of Aspiration Situation as Affected by Group Comparison". Ph.D. Thesis, 1953, University of Minnesota.
6. FESTINGER, L. "Wish, Expectation and Group Standards as Factors Influencing Level of Aspiration", *Journal of Abnormal and Social Psychology*, 1942, 37, 184-200.
7. FESTINGER, L. "Informal Social Communication", *Psychological Review*, 1950, 57, 271-282.
8. FESTINGER, L., SCHACHTER, S., and BACK, K. *Social Pressures in Informal Groups*, New York: Harper and Brothers, 1950.
9. FESTINGER, L., and THIBAUT, J. "Interpersonal Communications in Small Groups", *Journal of Abnormal and Social Psychology*, 1951, 46, 92-100.
10. FESTINGER, L., GERARD, H., et al. "The Influence Process in the Presence of Extreme Deviates," *Human Relations*, 1952, 5, 327-346.
11. FESTINGER, L. "An Analysis of Compliant Behavior", in *Group Relations at the Crossroads*, edited by M. Sherif, New York: Harper and Brothers, 1953.
12. FESTINGER, L., TORREY, J., and WILLERMAN, B. "Self-Evaluation as a Function of Attraction to the Group", *Human Relations*, 1954, 7, 2.
13. GARDNER, J. W. "Level of Aspiration in Response to a Prearranged Sequence of Scores", *Journal of Experimental Psychology*, 1939, 25, 601-621.
14. GERARD, H. "The Effect of Different Dimensions of Disagreement on the Communication Process in Small Groups", *Human Relations*, 1953, 6, 249-272.
15. GOULD, R. "An Experimental Analysis of 'Level of Aspiration' ", *Genetic Psychology Monographs*, 1939, 21, 1-116.
16. GREENBERG, P. J. "Competition in Children: An Experimental Study", *American Journal of Psychology*, 1932, 44, 221-248.
17. HILGARD, E. R., SAIT, E. M., and MAGARET, G. A. "Level of Aspiration

- as Affected by Relative Standing in an Experimental Social Group", *Journal of Experimental Psychology*, 1940, 27, 411-421.
18. HOCHBAUM, G. M. "Certain Personality Aspects and Pressures to Uniformity in Social Group." Ph.D. Thesis, 1953, University of Minnesota.
 19. HOFFMAN, P. J., FESTINGER, L., and LAWRENCE, D. H. "Tendencies Toward Comparability in Competitive Bargaining", *Human Relations*, 1954, 7, 2.
 20. HOPPE, F. "Erfolg und Misserfolg", *Psychol. Forsch.*, 1930, 14, 1-62.
 21. LEWIN, K., DEMBO, T., FESTINGER, L., and SEARS, P. S. "Level of Aspiration", in *Personality and the Behavior Disorders*, Vol. 1, pp. 333-378. New York: Ronald Press Co., 1944.
 22. SCHACHTER, S. "Deviation, Rejection and Communication", *Journal of Abnormal and Social Psychology*, 1951, 46, 190-208.
 23. SEARS, P. S. "Levels of Aspiration in Academically Successful and Unsuccessful Children", *Journal of Abnormal and Social Psychology*, 1940, 35, 498-536.
 24. WHITTEMORE, I. C. "The Influence of Competition on Performance", *Journal of Abnormal and Social Psychology*, 1925, 20, 17-33.

BIOGRAPHICAL NOTE

LEON FESTINGER, after taking a bachelor's degree at the College of the City of New York, studied at the University of Iowa under the late Professor Kurt Lewin, there completing his master's degree in 1940 and his doctorate in 1942. For the next two years he worked as instructor in the psychology department of Iowa, and as research associate at the Iowa Child Welfare Research Station. For a year and a half, beginning in 1944, Dr. Festinger was senior statistician of the National Research Council's Committee on Selection and Training of Aircraft Pilots, and instructor in the Department of Education of the University of Rochester, New York. From 1945 until his appointment to the University of Minnesota, he was a member of the staff of the Research Center for Group Dynamics, where he was assistant professor of psychology. He is now Professor of Psychology in the University of Minnesota. Leon Festinger has published numerous papers on statistics, on the effect of group standards and group atmospheres on the level of aspiration, on conflict and decision time, and on motivation and preference. His last paper to appear in this journal was on the subject, "The Influence Process in the Presence of Extreme Deviates", Vol. V, No. 4 (1952), and was written in collaboration with Harold B. Gerard, Bernard Hymovitch, Harold H. Kelley, and Bert Raven.