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CONFORMITY BEHAVIOR IN ACUTE PARANOID  
AND NON-PARANOID SCHIZOPHRENICS

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1965

CONFORMITY BEHAVIOR IN ACUTE PARANOID  
AND NON-PARANOID SCHIZOPHRENICS

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CONFORMITY BEHAVIOR IN ACUTE PARANOID  
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CHAPTER I

INTRODUCTION

Schizophrenia has been described as the most perplexing and challenging condition in human psychopathology (Arieti, 1955). Its incidence is from one to three per cent of the general population, and schizophrenics occupy one quarter of the hospital beds in the United States (Jackson, 1960).

Schizophrenia has been the focus of experimental and clinical study for at least fifty years. Jackson (1960) reported that between 1940 and 1960, roughly five hundred papers appeared in the medical literature regarding the etiology of schizophrenia. Many studies have been concerned with such diverse aspects as blood chemistry, ocular functioning, oxygen changes, liver function and testicular changes, as well as the psychology of schizophrenia. Indeed, Jackson (1960) pointed out that labeling schizophrenia as a "disease" produced the questionable assumption that it is amenable to a single physiological or psychological explanation. Attempts at such explanations have been abundant (Bellak, 1958), even though many investigators have reasoned that schizophrenia may not be, after

all, a single clinical entity (Jackson, 1960; Kety, 1959; Rabin & King, 1958).

### Theoretical Background

B. A. Morel (1860) originated the term Dementia Praecox to refer to patients in whom he observed "a tendency toward solitariness." Emil Kraepelin (1902) used Dementia Praecox as a label for several disorders having common characteristics. He included catatonia, hebephrenia and paranoia as having the common trait of "progression to a state of dementia." He regarded Dementia Praecox as biologically based and leading to irreversible organic deterioration.

Eugene Bleuler (1950) applied the term schizophrenia to Dementia Praecox after describing two outstanding features: a) disturbances in association and affect, and b) autism. In addition, Bleuler was first to suggest that motivational variables played a part in schizophrenic symptomatology.

It was Adolph Meyer (1948), however, who first advocated longitudinal study of schizophrenia. Meyer posited a history of personal failures leading to substitutive reactions such as day-dreaming, rumination, decrease of interests, etc. Meyer did not, however, specify the nature of "failure" experiences, nor report how these might cause behavioral manifestations regarded as schizophrenic.

Sigmund Freud (1938) viewed schizophrenia as a withdrawal from external reality. Freud, and his student Abraham (1927), considered schizophrenia to be the result of a withdrawal of

libido from external objects onto the self; that is, as a state of primary narcissism.

Sullivan (1946, 1953) emphasized social withdrawal and isolation from personal contacts as typical of the schizophrenic; regarding schizophrenia as resulting from poor interpersonal relationships, beginning in early childhood. Noyes (1948) included "withdrawal into an autistic state" as a part of his definition of schizophrenia. Hendrickson (1952), Kelly (1955), Lidz and Fleck (1960), and Polatin and Hoch (1947) also regarded social withdrawal as a necessary but not sufficient condition for schizophrenia.

Norman Cameron (1947) considered social withdrawal in schizophrenia to be the result of inadequate training in role-taking skills. As a result of this deficit, the schizophrenic finds it difficult to fit into his culture and seeks refuge in a world of fantasy.

Arieti viewed schizophrenia as "a specific reaction to an extremely severe state of anxiety, originated in childhood and re-activated later in life" (Arieti, 1955, p. 43). He stressed interpersonal conflicts as an integral aspect of the problem, and described the schizophrenic as having rejected the attitudes, roles and symbols common to his culture.

The process of desocialization of the schizophrenic does not operate only in the sense of a loss of common symbols. There is also a tendency to reject or to divest the self of these attitudes, roles and tendencies which become part of the self, and which were reflected from others. In other words, a great deal of what was introjected in the process of the development of the self, is not only rejected, but also projected or given back to the persons who originally gave it to the

self (Arieti, 1955, p. 299).

Thus, the schizophrenic operates on a level of highly personalized perceptions so that he does not accept the experience of others as applicable to himself. Instead, he retreats to his own paleosymbolic world. This view is consistent with that of Lidz and Fleck (1960) who have characterized the schizophrenic as attempting to alter the world autistically, thus abandoning the logic and perception of his culture.

Bateson, Jackson, Haley and Weakland (1956) offered a theory of schizophrenia based on a study of early communications in the life of the schizophrenic. These authors referred to a "double bind" as an early and persistent breakdown in communication between the schizophrenic and persons significant to him, especially his mother.

Bateson, et al. have suggested that persistence of such double bind situations can lead the person to distrust the meaning of all communication, and to defend against it by various means, including suspiciousness of everything said; laughing off all attempts by others to communicate; and, withdrawal from all interpersonal relationships. In each case, the person's reactions, when extreme, can be regarded as schizophrenic. These observations seem consistent with Winder's (1960) hypothesis that schizophrenic "withdrawal" is a bipolar phenomenon, varying from a very aloof reaction to a very busy and energetic one; in either case, the purpose being to avoid anxiety generated by interpersonal relationships.

McReynolds (1960) has offered a view of schizophrenia in which perception and anxiety play central roles. He suggests that the individual attempts to assimilate or integrate perceptual experience "harmoniously and congruently into systematic conjunction with percepts which were experienced previously and have been incorporated into the apperceptive mass" (McReynolds, 1960, p. 253). Anxiety is considered to be the result of an accumulation of unassimilated percepts. Although the theory is traced rather superficially, McReynolds offered hypotheses leading to the conclusion that persistent anxiety, resulting from massed unassimilated percepts, results in schizophrenia.

McReynolds suggested two major reactions to the accumulation of unassimilated percepts: a) to keep the quantity from becoming greater by means of avoidance, or, b) to attempt assimilation by forcing percepts to fit a rigid and idiosyncratic scheme. In the case of schizophrenia, McReynolds related the first reaction to selective avoidance, withdrawal and apathy; while the second was related to delusions and thinking disorders.

It seems evident from the above that different theoretical positions emphasize interpersonal difficulties in the development of schizophrenia. In almost every functional theory, significance has been given to the schizophrenic's apparent inability to maintain lasting and satisfying relationships with other people.

#### Empirical Tests of Schizophrenic Reactions to Interpersonal Stimuli

In spite of the agreement among theorists that schizophrenia

is an interpersonal difficulty, little experimental study has been given to the question of interpersonal reactions in schizophrenia (Arieti, 1955). Jackson, as late as 1960, made the following observation:

. . . additional methods must be devised and employed to test the proposition that interpersonal relationships have contributed to the patient's becoming schizophrenic, or have contributed to the particular manifestations which characterize the patient's schizophrenia, or have effects in determining the outcome of the psychosis, or combinations of these (Jackson, 1960, p. 234).

Psychological tests have been used to a limited extent. Shneidman (1948) found that schizophrenics told stories on the Make-A-Picture-Story Test which reflected extreme self-interest and social isolation, and regarded his findings as corroboration of Sullivan's hypothesis that "the schizophrenic lacks security among his fellow men" (Shneidman, 1948, p. 220).

Studies using the TAT have also reflected social withdrawal in schizophrenia. Goldman and Greenblatt (1955) found an inverse relationship between severity of disturbance and the subject's ability, a) to describe people and their identity; b) to decrease psychological distance between people perceived; and c) to tell stories relating to "me; here-now" rather than "they-there-then."

Davison (1953) reported that catatonic and hebephrenic patients told significantly fewer stories involving relationships between people than normal subjects. He failed, however, to find similar difference between paranoid subjects and normals.

Diamond (1956) found schizophrenics to be deficient in conformity to cultural norms. Using a modified Picture Frustration Test and the autokinetic phenomenon, his schizophrenic sub-

jects were inept in predicting the responses of other subjects, even when supplied with normative data.

Two studies have been reported which tested schizophrenics' responses to immediate social pressures. Although originating from similar theoretical bases and using similar techniques, these studies led to discrepant conclusions.

In one study, Schooler and Spohn (1960) duplicated the Asch (1956) technique of social pressure using chronic schizophrenics as subjects. In the Asch design, the subject matches comparison lines with a standard in the presence of instructed confederates who make unanimous but incorrect judgments of the same stimuli. The subject is thus faced with a marked discrepancy between his perceptions and the verbalized perceptions of a majority of his fellows. The extent of a subject's reaction to group influence is inferred from the number of trials in which he makes the same incorrect judgment as that made by the confederates.

Schooler and Spohn's schizophrenic subjects were divided into two groups, one of which was considered "regressed" while the other was regarded as being "in partial remission." Hospitalized tubercular patients were used as controls. The authors predicted less conformity among regressed schizophrenics than those in partial remission who, in turn, would conform less than normals. The results failed to support either prediction. In fact, Schooler and Spohn found little evidence of conformity within any of their groups; in marked contrast to previous studies using this design

(Asch, 1956; Blake & Mouton, 1961; Milgram, 1964).

Schooler and Spohn did find, however, that regressed subjects made a significant number of unusual errors; non-conforming errors, which increased under conditions designed to stimulate conformity. A non-conforming error was said to occur when a subject matched the standard with a comparison line which was neither physically correct nor which conformed to the judgment of the majority, when the length of the third line was not between that of the other two alternatives. The authors concluded that such responses occurred as a direct result of social pressure and suggested that the regressed group, in making such errors, was more reactive to social influence than either the normal or the partially remitted groups. They offered several hypotheses to account for this unexpected result.

. . . one may postulate that the non-conforming errors occurred as a part of a random pattern of responses reflecting disruption in the subject's cognitive functioning due to the stress of the experimental situation.

. . . on the other hand, it is possible that non-conforming errors represent the subject's explicit choice of an alternative which conforms to neither physical nor social reality. It is possible that the subjects who chose such an alternative did so as a means of insulating themselves from the social environment of the test situation by abstaining from taking action that could be considered relevant by the others present. It can be hypothesized that this abstention functions to inform the others that the subject cannot be judged according to the rules of the game because he is not a participant (Schooler & Spohn, 1960, pp. 352-353).

Schooler and Spohn suggested a third alternative, that non-conforming errors might be explained on the basis "that both agreeing with the majority and going against the majority to give the correct answer are psychologically painful" (Schooler

& Spohn, 1960, p. 353).

On the basis of this unexpected result, it seemed of value to investigate the schizophrenic's response to group pressure when non-conforming errors were impossible. This would, in effect, force the schizophrenic to "play by the rules." The question would then be answered whether the schizophrenic would tend more toward physical reality, thus going against the majority, or toward the majority response, thus contradicting physical reality.

It is of significance that Schooler and Spohn found a notable lack of conformity among all subjects. Of possible importance was the fact that, unlike Asch (1956) their subjects were given pre-experimental trials with test stimuli in order to control for possible differences in discrimination ability. No differences between groups were found which corroborates previous evidence (Freeman, 1958) that schizophrenics, as a rule, are capable of fine perceptual discriminations. Such pre-exposure to test stimuli, however, did provide additional structure to the situation; a factor which has been shown to reduce conformity to social influence (Sherif & Sherif, 1948), and which may account for the lack of conformity in Schooler and Spohn's study. While a pre-test of discrimination ability may be necessary, it seems of equal importance that this be achieved with stimuli comparable to, but not identical with, those used in the experimental situation.

A related study by Gill (1963) led to conclusions quite

different from those of Schooler and Spohn. Gill compared chronic schizophrenics and college students in a group pressure situation similar to the Asch technique. Using illusions as stimuli, the subject's task was to judge which of two lines was longer. Group influence was measured by comparing the subject's judgment under private conditions, with that made under conditions of group pressure in which a majority of two contradicted the subject's judgment previously made in private.

Gill found that schizophrenic subjects gave significantly less conforming judgments than did normal controls. He concluded that his results "lent support to the theory that the schizophrenic process involves a withdrawal from social interaction" (Gill, 1963, p. 505).

It is possible that differences in procedure between the Gill and the Schooler and Spohn studies led to these discrepant results. First, the fact that Gill used ambiguous stimuli may have maximized the effects of social pressure, thus increasing possible differences between normal and schizophrenic subjects. Second, Gill used a forced-choice procedure involving only two alternatives which, unlike Schooler and Spohn's study, prohibited non-conforming errors. It was considered that schizophrenics might select a non-conforming response when this was possible but would choose a physically correct response under forced-choice conditions.

Differences in the methods of stimulus presentation may also have contributed to discrepancies in results. Schooler and

Spohn presented the standard and comparison lines in full view of the subject as each person's judgment was made. Gill's method, on the other hand, involved passing a card containing the stimuli from person to person, so that subjects were able to view the stimuli only after the majority had made their judgments. Again, Gill's method provided less structure than that of Schooler and Spohn, a factor which could effect response to social pressure.

Finally, differences in control subjects could have led to differences in results. Gill used college student controls while Schooler and Spohn used hospitalized tubercular patients. It may have been that use of college students contributed to differences between schizophrenic subjects and controls which did not occur in the Schooler and Spohn study.

Thus, there is contrasting evidence regarding the schizophrenic's reaction to pressure from interpersonal contact. One finding suggested greater reaction on the part of chronic patients as compared to normals, although the level of conformity for chronics was not different from that of controls (Schooler & Spohn, 1960). The other study suggested that schizophrenics were far less reactive than normals and "withdrew from social interaction" (Gill, 1963). Since differences between these studies existed on several counts, including methodology and control subjects, further study of the schizophrenic's reaction to social pressure seemed indicated.

Effects of hospitalization. Previous studies mentioned above, have not given adequate consideration to the effect of hos-

pitalization on conformity behavior of schizophrenics. Schooler and Spohn (1960) described their subjects as chronic schizophrenics with "at least two years of continuous hospitalization" (Schooler & Spohn, 1960, p. 349). Gill, on the other hand, used chronic subjects who had been hospitalized for an average of 3.63 years.

Long-term hospitalization has been considered capable of producing behavior, regarded as schizophrenic, but difficult to distinguish from non-institutional schizophrenic reactions (McReynolds, 1960; Stanton & Schwartz, 1954; Weakland, 1960).

McReynolds has noted, in regard to depersonalization in schizophrenic patients, that hospitalization "may actually enhance these effects and thus contribute to the worsening of the psychosis" (McReynolds, 1960, p. 286). Winder has made the following observation regarding chronic and acute schizophrenics

What research has been done suggests that acute and chronic groups differ from each other in psychomotor performances, perception, thinking, learning, intellectual efficiency and physiological functioning, as well as in adequacy of pre-morbid adjustment. This dichotomy does not necessarily indicate that there are two "types" of schizophrenia, but it certainly does indicate that the variable of pre-morbid adjustment and heterogeneity of manifestations during psychosis must be taken into account if tests of hypotheses are to be maximally sensitive (Winder, 1960, p. 239).

The most effective means to control for the effects of hospitalization seemed to be to use only acute schizophrenics whose confinement had been as brief as possible. In this way the gross effects of institutional living could be minimized and the factor of schizophrenia more carefully delineated.

Schizophrenic sub-groups. Previous research has suggested that schizophrenic sub-groups differ in response to the same

stimulus situations. For example, separate studies of autokinesis (Hahn, 1956; Voth, 1947) have found non-paranoid schizophrenics to perceive significantly more apparent movement than paranoid subjects. Winder (1960) suggested that a person's tendency to perceive movement was positively associated with his ability to relate interpersonally.

Studies involving size constancy have also reported differences between paranoid and non-paranoid subjects. Raush (1952) found paranoid schizophrenics to perceive greater size constancy than either normal subjects or non-paranoid schizophrenics. He concluded that paranoid subjects were more rigid in their perceptions than non-paranoid schizophrenics.

Payne (1961, 1964) suggested that "overinclusive thinking" was more characteristic of paranoid schizophrenics than non-paranoids. Cameron (1938) described overinclusive thinking as a characteristic of schizophrenia involving an inability to maintain conceptual boundaries so that irrelevant or distant elements were incorporated into the conceptual structure. Payne administered a series of conceptual tasks aimed at measuring overinclusive thinking and reported "a significant relationship between the presence or absence of delusions, and overinclusive thinking. Overinclusive patients tend to have paranoid delusions" (Payne, Caird, & Laverty, 1964, p. 562).

It was apparent from the above that paranoid and non-paranoid schizophrenics seemed to differ in their perception of, and response to, both perceptual and interpersonal stimuli. For

that reason, when reactions of schizophrenic patients to both stimuli were to be studied, it seemed necessary that a control for paranoid thinking be provided.

While there was no strong rationale for predicting specific responses to social pressure, there were clinical impressions of paranoid and non-paranoid schizophrenics which suggested differences between these groups. The paranoid schizophrenic has frequently been described as reacting to interpersonal situations with more sensitivity and suspiciousness than the non-paranoid (Arieti, 1955; Bateson, et al., 1956). Another characteristic, typically regarded as differentiating the paranoid from the non-paranoid schizophrenic, is the tendency to interpret stimuli in a highly idiosyncratic and rigid fashion (McReynolds, 1960); an impression which seems consistent with previous experimental findings (Hahn, 1956; Raush, 1952; Voth, 1947; Winder, 1960).

It was the general impression, therefore, that paranoid subjects would tend to distort perceptual reality when faced with a conflicting interpersonal situation. In other words, they would, more than non-paranoids, "overinclude," bringing in unnecessary elements and rigidly imposing their own perceptions which might distort both physical reality and interpersonal cues. Such reactions, if found, would be similar to the non-conforming errors reported by Schooler and Spohn (1960).

Non-paranoid schizophrenics, on the other hand, while sensitive to interpersonal cues, have been considered less prone to impose their own idiosyncratic interpretations than paranoids.

Non-paranoids seem to disregard interpersonal conflicts in favor of more perceptual cues without inclusion of extraneous details. Such "withdrawal from interpersonal conflict" might, in fact, reduce the need for a strong delusional system, typically associated with paranoids.

On the basis of the above impressions, the non-paranoid schizophrenic was expected to respond more in terms of perceptual cues than to the context of the interpersonal situation. In other words, he would disregard stimuli of social pressure in favor of cues from physical reality. Such reactions would be similar to results reported by Gill (1963) in which chronic schizophrenics were found to reject socially relevant cues in favor of physically correct stimuli. This study was designed to test the validity of these impressions.

Techniques for Measuring Response to Group Pressure. A technique frequently used to measure the effect of social influence is that designed by Asch (1956). Milgram has described this technique as possessing "simplicity, clarity and (it) reconstructs in the laboratory, powerful and socially relevant psychological processes" (Milgram, 1964, p. 137). From its initial use by Asch, results with normal subjects have consistently shown the effective influence of social pressure on perceptual and other behavior (Blake & Mouton, 1961; Milgram, 1964; Tuddenham & McBride, 1959; Willis & Hollander, 1964). Therefore, the technique provides not only simplicity, clarity and power, but also, a wide background of comparable data from normal subjects.

For these reasons, Asch's three-line technique was used to investigate the schizophrenic's response to social influence.

In addition to the three-line technique, a forced-choice method was used. In the latter method, the subject was forced to choose between the physically correct line and the incorrect line chosen by the majority, thus eliminating non-conforming errors.

## CHAPTER II

### PROBLEM

Empirical and theoretical data (Bateson, et al., 1956; Hahn, 1956; McReynolds, 1960; Payne, 1961; Payne, et al., 1964; Raush, 1952; Voth, 1947; Winder, 1960) have suggested differences between schizophrenics and normals, and between paranoid and non-paranoid schizophrenics in their response to perceptual and interpersonal situations. It was suggested that paranoid schizophrenics would react to conflict by imposing personal interpretations which fit neither physical nor social reality.

Non-paranoid schizophrenics, on the other hand, have been hypothesized to withdraw from interpersonal situations. It seemed indicated that these subjects would respond in terms of perceptual cues, despite influence from interpersonal sources.

In order to investigate these questions, groups of paranoid and non-paranoid schizophrenics were compared with each other and with normal, non-hospitalized controls. The experimental method involved use of the Asch (1956) three-line technique of social pressure plus a forced-choice, two-line variation of the Asch design.

It was hypothesized:

1. Schizophrenic subjects would conform less to social pressure than non-schizophrenic controls in the three-line and forced-choice conditions.

2. In the three-line condition, paranoid schizophrenics would produce more non-conforming errors than non-paranoid schizophrenics and controls.

## CHAPTER III

### METHOD

Subjects. Subjects were 20 paranoid schizophrenics; 20 non-paranoid schizophrenics and 20 non-psychotic controls. All schizophrenics were male inpatients selected from the population of Central State Griffin Memorial Hospital, Norman, Oklahoma. Control subjects were male employees of the same institution.

The criterion for diagnosis of schizophrenia, as well as for the presence or absence of paranoid delusions, was the independent judgment, following psychiatric evaluation, by the ward psychiatrist and chief of service. All subjects were free of known organic damage and without history of electric shock. Subjects ranged in age from 19 to 59 years and had between 8 and 16 years of formal education.

Procedure. The experimental procedure consisted of a three-line discrimination, following Asch (1956), plus a modification of the Asch procedure in which the number of stimuli was reduced from three to two lines, thus creating a forced-choice procedure. Ten subjects from each group were randomly assigned to one of the two experimental conditions. Each experiment is described in detail below.

Three-line procedure. This procedure replicated that of Asch (1956). The task was to match the length of a given line, the standard, with one of three comparison lines. As in the Asch experiment, one of the three comparison lines was equal to the standard while the other two lengths differed by amounts ranging from  $3/4$  to  $1\ 3/4$  in. Comparison lines were numbered 1, 2, 3, from left to right, which allowed subjects to state their choices by calling out the appropriate number. Figure 1 contains the lengths of the standard and comparison lines.

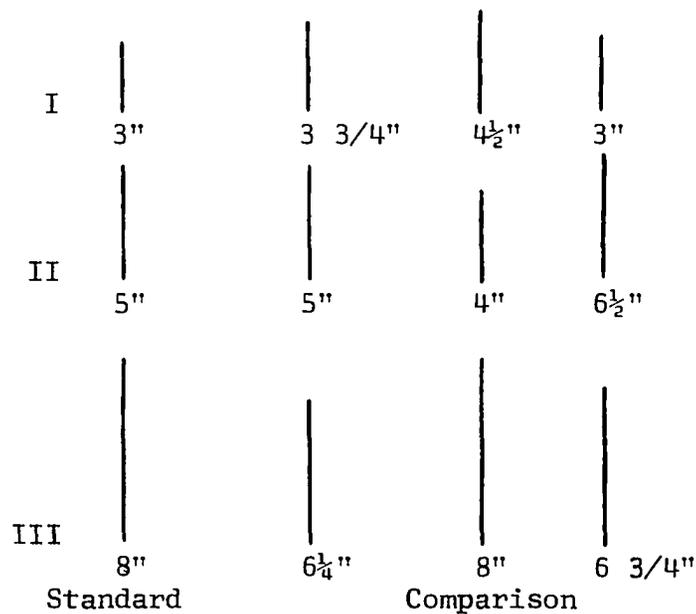


Fig. 1. Critical Comparisons

The lines were vertical black strips  $3/8$  in. wide, pasted on white cardboards which were  $17\ 1/2$  by 6 in. One card contained the standard line while the other card carried the three comparison lines. All lines started at the same level, their lower ends being  $2\ 1/2$  in. from the lower edge of the cards. The standard line appeared in the center of the card while the comparison lines were

separated by a distance of  $1 \frac{3}{4}$  in. The standard and its matched comparison line were always separated by 40 in. The cards were placed upright on a platform approximately 10 ft. in front of the subjects.

The lengths of the lines, their order of presentation and the responses of the majority are given in Table 1. The series consisted of nine comparisons presented twice without a pause for a total of eighteen comparisons. The instructed majority responded incorrectly to 12 of the eighteen comparisons, and correctly in 6 of the eighteen comparisons. These correct judgments were included to add an air of credibility to the procedure.

As in the Asch procedure, a systematic and constant difference was introduced on each trial between the two unequal comparison lines. In each case, one of the comparison lines deviated from the standard more than the other; this difference in all cases being  $\frac{1}{2}$  in. On 8 of the twelve critical trials the length of the third alternative, i.e., that line which was neither correct nor the one chosen by the majority, was not between that of the other two alternatives. On these trials, a so-called non-conforming error was possible.

Each subject was tested in the presence of three confederates since studies by Asch (1956) revealed a maximum effect with a majority of that size. The majority members were graduate students in psychology. They were given a pre-test training session in which the general purpose of the experiment and their role in it was explained. They were instructed to announce their judgments

Table 1

Majority Responses to Standard and Comparison  
Lines on Successive Trials  
for Three-line Condition

Trial	Length of standard (in inches)	Length of Comparison Lines (in inches)			Majority Error (in inches)
a*	10	8 3/4	10	8	0
b*	2	2	1	1 1/2	0
1	3	3 3/4#	4 1/4	3	+ 3/4
2	5	5	4#	6 1/2	-1
c*	4	3	5	4	0
3	3	3 3/4	4 1/4#	3	+1 1/4
4	8	6 1/4	8	6 3/4#	-1 1/4
5	5	5	4	6 1/2#	+1 1/2
6	8	6 1/4#	8	6 3/4	-1 3/4
d*	10	8 3/4	10	8	0
e*	2	2	1	1 1/2	0
7	3	3 3/4#	4 1/4	3	+ 3/4
8	5	5	4#	6 1/2	-1
f*	4	3	5	4	0
9	3	3 3/4	4 1/4#	3	+1 1/4
10	8	6 1/4	8	6 3/4#	-1 1/4
11	5	5	4	6 1/2#	+1 1/2
12	8	6 1/4#	8	6 3/4	-1 3/4

\*Letters of the first column designate "neutral trials, or trials to which the majority responded correctly. The numbered trials are "critical," i.e., the majority responded incorrectly.

#Designates the incorrect majority response.

Trials d to 12 are identical with trials a to 6; they followed each other without pause (Asch, 1956, p. 6).

clearly and firmly, but not to take issue with the critical subject. They were advised not to look directly at him and to refrain from feigning surprise at his answers. During all experimental trials, each confederate was dressed, depending on the subject to be tested,

either in state clothes typically worn by male patients, or in the white uniform of male hospital attendants.

Subjects were given appointments of one-half hour duration. This allowed sufficient time for testing and dismissal of subjects before arrival of a subsequent subject. Each subject was instructed to remain in a waiting room until called by the experimenter who escorted him to the testing room. On the way to the testing room, the experimenter explained that several subjects were to be tested at once in order to save time. Prior to reaching the testing room, the experimenter stopped briefly at a third room to invite the waiting confederates who were introduced as the other subjects to be tested. The confederates moved to the front and entered the testing room first, taking the first three chairs. The following instructions were then read.

This is a task involving the discrimination of lengths of lines. Before you is a pair of cards. On the left is a card with one line; the card at the right has three lines differing in length; they are numbered 1, 2, 3, in order. One of the three lines at the right is equal to the standard line at the left - you will decide in each case which is the equal line. You will state your judgments in terms of the number of the line. There will be eighteen comparisons in all.

I shall record your judgments on a prepared form. Please be as accurate as possible.

As the number of comparisons is few and the group small, I will call upon each of you in turn to announce your judgments. Suppose you give me your estimates in order, from left to right.

Following the last trial, subjects were asked to complete a questionnaire which asked for their name, age, education, home town and their position among the four subjects, i.e., subject a, b, c, or d. The critical subject was always subject d, and, without making him feel conspicuous, was asked to fill out the question-

naire first. This was not difficult since the table containing the questionnaires was placed closest to the critical subject.

Following its completion, the experimenter thanked the subject for his cooperation, and, as one of the confederates pretended to complete the questionnaire, the critical subject was escorted from the testing room and through a locked door at the end of a corridor leading to the patient wards. In this manner, it was possible for the subject to be taken from the experimental room without drawing attention to the fact that the confederates were not also leaving.

Forced-choice Condition. This procedure duplicated the three-line condition with the exception that two comparison lines were used instead of three. The standard lines were the same as those used in the three-line experiment and the comparison lines consisted of the matching line plus the one chosen by the majority in the three-line condition. Thus, one of the comparison lines was equal to the standard while the second differed by amounts ranging from  $3/4$  to  $1\ 3/4$  in. For the six neutral trials, the matching line was used along with that comparison line which deviated most from the standard.

The standard and comparison lengths, and the order in which they were presented are included in Table 2. Also included in Table 2 are the responses of the majority and the magnitude of their incorrect judgments. As in the three-line condition, the series consisted of nine comparisons presented twice without a pause for a total of eighteen comparisons.

Table 2

Majority Responses to Standard and Comparison  
Lines on Successive Trials for  
Forced-choice Condition

Trial	Length of Standard (in inches)	Length of Comparison Lines (in inches)		Majority Error (in inches)
a*	10	10	8	0
b*	2	2	1	0
1	3	3 3/4#	3	+ 3/4
2	5	5	4#	-1
c*	4	5	4	0
3	3	4 1/4#	3	+1 1/4
4	8	8	6 3/4#	-1 1/4
5	5	5	6 1/2#	+1 1/2
6	8	6 1/4#	8	-1 3/4
d*	10	8	10	0
e*	2	1	2	0
7	3	3 3/4#	3	- 3/4
8	5	5	4#	-1
f*	4	4	3	0
9	3	4 1/4#	3	+1 1/4
10	8	8	6 3/4#	-1 1/4
11	5	5	6 1/2#	+1 1/2
12	8	6 1/4#	8	-1 3/4

\*Letters of the first column designate "neutral" trials, or trials to which the majority responded correctly. The numbered trials were "critical," i.e., the majority responded incorrectly.

#Designates the incorrect majority response.

Since trials c and f in the three-line experiment involved comparisons of different lengths but of equal deviation from the standard, the longer length was used in one trial (c) and the shorter in the other trial (f).

Instructions for this experiment were similar to those for the three-line procedure with appropriate modifications consistent with the reduction in number of comparison lines.

In order to provide additional refinement in measurement,

all responses by critical subjects were timed. This was facilitated by the instructions that each subject should respond only after his letter was called by the experimenter. This was explained as a means to facilitate accurate recording of individual responses, but served to provide a base for precise timing.

In order to insure that all subjects were capable of making the necessary visual discriminations, a pre-test of discrimination ability was made approximately two weeks prior to the experimental session. Each subject was required to make correct discriminations between the lengths of three pairs of circles differing by  $3/4$  in. in circumference. No subject was selected who failed to make three correct judgments.

## CHAPTER IV

### RESULTS

The raw score for each subject was the number of errors made on critical trials. These raw scores were averaged for each group receiving the three-line and forced-choice conditions. Table 3 presents the resulting mean error scores and the proportion of subjects in each group who made at least one error.

Table 3  
Mean Error Scores and Proportion of Subjects  
Making at Least One Error

Group	Three-Line		Forced-Choice	
	Mean	Proportion	Mean	Proportion
Paranoid Schiz.	1.80	.60	.80	.30
Non-paranoid Schiz.	.60	.40	1.90	.30
Controls	.70	.50	2.00	.50

The results reported in Table 3 reflect less conformity than that reported by Asch (1956), both in terms of the number of errors and in the proportion of subjects who made at least one error. Since the differences applied to control subjects as well as schizophrenics, the question was raised whether the total popu-

lation of subjects used in this study might have differed from those of Asch in ways which could relate to the discrepancies in results.

Based on the fact that Asch used college student subjects, it was assumed that each had completed at least twelve years of formal schooling and was of average college age, that is, within late adolescence or early twenties. In contrast, the average age of subjects in this study was 34.1 years and they had an average of 10.8 years of formal education.

In order to evaluate the effect of differences in age and education on conformity behavior, conforming subjects in this study were compared to non-conforming subjects on these two factors. Table 4 presents the average age and education of conforming and non-conforming subjects in each group.

Table 4 shows that subjects in every group of this study

Table 4  
Average Age and Education of Conformers  
and Non-Conformers

Group	Conformers		Non-Conformers	
	Mean Age (years)	Mean Educ. (years)	Mean Age (years)	Mean Educ. (years)
Paranoid Schiz.	31.44	10.78	34.09	10.27
Non-paranoid Schiz.	35.40	9.57	32.23	11.84
Controls	35.50	10.90	36.60	11.00
Combined Groups	34.07	10.30	33.08	11.20

had less formal education than those of Asch and, apparently, were somewhat older. Analyses of variance were computed on these means, the summaries of which are presented in Table 5.

It can be seen from Table 5 that differences in age and education, between conformers and non-conformers, as well as between subject groups and the interaction, were not significant. It is apparent, therefore, if age and education were related to differences in conformity between this study and that of Asch, the effect was not reflected between conformers and non-conformers in this study.

Table 5

Analyses of Variance for Mean Age and Education  
between Conformers and Non-Conformers

Source	Mean square		df	F	
	Age	Educ.		Age	Educ.
Conformers - Non-Conformers	.23	2.80	2	.01	.52
Subject Groups	108.88	1.74	1	.71	.32
Interaction	43.94	10.29	2	.29	1.90 <sup>a</sup>
Error	153.14	5.41	54		

<sup>a</sup>F at  $p = .05$  is 4.02

The next step in analyzing results of this study was to determine whether conformity demonstrated by subjects in any group, differed significantly from zero. Since the stimulus lines within both conditions differed in length from trial to trial, a transformation was employed, in which raw error scores were transformed to errors-in-inches, which enabled assessment of the interaction

between groups and conditions.

Regression equations were computed separately for the three-line and forced-choice conditions, reducing raw error scores to the common metric of quarters of an inch. This transformation eliminated mean differences between conditions and provided a more sensitive measure of differences between groups. Table 6 presents the mean error scores, expressed here in inches, together with the mean transformed data for the six groups. In addition, t-tests were computed for each of the groups to test whether mean errors were significantly greater than zero, which would indicate conformity. Results of these t-tests are also included in Table 6.

As Table 6 shows, the mean error score for every group, with the exception of the non-paranoid - forced-choice group, was significantly greater than zero. That for the non-paranoid - forced-choice group, although not statistically significant, showed a trend toward significance, as it reached the .10 level. In interpreting these results, however, it should be kept in mind that the error score for each group was accounted for by a relatively small proportion of subjects within that group.

On a qualitative level, however, nearly every subject in every group made spontaneous reactions to the responses by the majority. Although no attempt was made to control or measure such reactions, most subjects gave verbal and non-verbal confirmation that they recognized their position as a minority of one. Such comments as "I always seem to disagree," or "I'm sorry, but I don't see it that way," were common at one time or another for

Table 6

Mean Error Scores in Inches; Mean Transformed  
Error Scores; and  $\bar{t}$ -tests of Differences  
from Zero Conformity

Group	Three-line			Forced-choice		
	Mean (inches)	Mean (trsfmd) <sup>a</sup>	$\bar{t}$ <sup>c</sup>	Mean (inches)	Mean (trsfmd) <sup>b</sup>	$\bar{t}$ <sup>c</sup>
Paranoid Schiz.	1.88	54.5	2.75	1.50	47.2	1.87
Non-paranoid Sch.	.78	47.8	1.91	2.48	51.4	1.72
Controls	.80	48.0	2.13	2.53	51.5	2.35

<sup>a</sup>Regression equation for this group =  $1.53X + 42.94$

<sup>b</sup>Regression equation for this group =  $.74X + 44.02$

<sup>c</sup> $\bar{t}$  at  $p = .05$  is 1.81

conformers and non-conformers alike. Thus, the impact of the majority was apparent in the vast majority of subjects, regardless of their conformity scores. The fact that some subjects conformed, despite such reactions, while others did not, suggests that methods of handling discrepancies in their experience were much more an individual matter among subjects.

The next step in analysis of the data was to compare differences in extent of conformity between groups and between conditions. A summary of the analysis of variance performed on the transformed error scores is presented in Table 7, where it can be seen that differences between groups and conditions, as well as the interaction, were not significant. Thus, hypothesis 1, that schizophrenics would conform less than normals, was not supported.

Table 7  
 Analysis of Variance for Transformed  
 Error Scores

Source	Mean square	Item	
		<u>df</u>	<u>F</u>
Experimental Conditions	.01	1	.00
Subject Groups	8.55	2	.08
Interaction	192.62	2	1.94 <sup>a</sup>
Error	99.15	54	

<sup>a</sup>F at p = .05 is 4.02

Next, non-conforming errors were considered. A non-conforming error could occur within the three-line condition, when the subject chose a line which was neither physically correct nor conformed to the incorrect majority response when the length of the third alternative did not lie between that of the other two lines. This type of error could occur on eight of the twelve critical trials within the three-line condition.

Schooler and Spohn (1960) reported a preponderance of non-conforming errors by chronic schizophrenic subjects. Since these errors are in the opposite direction from the majority response, Schooler and Spohn took issue with Asch (1956) who interpreted non-conforming errors as tendencies to conform. Rather, Schooler and Spohn regarded non-conforming errors as movement away from, or in opposition to the majority. It was predicted that paranoid schizophrenics in this study would produce more non-conforming errors than non-paranoid psychotics.

In contrast to Schooler and Spohn's findings, no non-conforming errors occurred within any of the three groups receiving the three-line condition. Thus, hypothesis 2 was not confirmed. Instead, whenever subjects chose the third alternative line, they did so only on trials in which its length was between that of the correct line and the incorrect line chosen by the majority. For this reason, and, consistent with Asch's interpretation, choice of the third alternative was considered a tendency to conform, and all errors were combined to give the total scores reported above.

The next step in analysis of the results was to compare response times of conformers and non-conformers. Table 8 presents the mean time per response for subjects who conformed as opposed to those who did not.

An analysis of variance was performed on these mean response times, a summary of which is presented in Table 9.

Table 8  
Mean Response Times (in seconds) for Conformers  
versus Non-Conformers

Group	Conformers	Non-Conformers
Paranoid Schiz.	1.48	1.30
Non-Paranoid Schiz.	1.11	1.09
Controls	1.20	1.18
Combined Groups	1.27	1.18

Table 9

Analysis of Variance of Response Times  
between Conformers and Non-Conformers

Source	Mean square	Item	
		<u>df</u>	<u>F</u>
Conformers - Non-Conformers	11.51	1	1.23
Subject Groups	63.24	2	6.76 <sup>a</sup>
Interaction	11.31	2	1.21
Error	9.36	54	

<sup>a</sup>Significant at .01 level of confidence

As Table 9 shows, differences in response times between conformers and non-conformers were not significant. On the other hand, differences in response times between subject populations were significant at the .01 level of confidence. A further analysis of this difference showed that 91 per cent of the between-group variance was accounted for by the paranoid group. Thus, paranoid subjects, regardless of the extent to which they conformed, had longer reaction times, on the average, than non-paranoid schizophrenics and control subjects. Non-paranoid schizophrenics had the shortest reaction times, with control subjects falling in between.

The fact that subjects within every group differed widely in the extent to which they conformed, led to post hoc speculation as to factors which might underlie these individual differences. As indicated earlier in this section, age and education did not differentiate conformers from non-conformers in any of the subject

populations. It was speculated, however, that within the schizophrenic groups, length of hospitalization might be related to conformity scores. Table 10 presents the mean length of hospitalization for conformers and non-conformers in both schizophrenic populations. Since no differences in conformity occurred between experimental conditions, schizophrenic subjects from both conditions were combined in making this analysis.

Table 10  
Mean Length of Hospitalization of Schizophrenic  
Conformers and Non-Conformers

Group	Means (months)	
	Conformers	Non-Conformers
Paranoid Schiz.	5.44	2.72
Non-Paranoid Schiz.	4.71	3.07
Combined Groups	5.12	2.91

An analysis of variance was performed on the means in Table 10, a summary of which is presented in Table 11. It is clear from Table 11 that significant differences in mean length of hospitalization existed between schizophrenic subjects who conformed and those who did not. Although the difference is more obvious within the paranoid group, conformers in both schizophrenic groups had longer periods of hospitalization than non-conforming subjects.

Based on the relationship between length of hospitalization and conformity for schizophrenic subjects, it was speculated that an analogous relationship between conformity and length of

Table 11

Analysis of Variance of Mean Lengths of  
Hospitalization between Schizophrenic  
Conformers and Non-Conformers

Source	Mean square	Item	
		<u>df</u>	<u>F</u>
Conformers - Non-Conformers	45.22	1	4.61 <sup>a</sup>
Paranoid - Non-Paranoid	.38	1	.03
Interaction	2.76	1	.28
Error	9.91	36	

<sup>a</sup>Significant at .05 level of confidence

employment within the institution might hold for the control subjects. Table 12 presents the mean length of hospital employment, expressed in months, for conformers and non-conformers within both control groups.

Table 12

Mean Length of Hospital Employment for  
Conforming and Non-Conforming Controls

	Means (months)	
	Conformers	Non-Conformers
Three-Line	60.40	25.40
Forced-Choice	85.60	10.40
Combined Groups	73.00	17.90

An analysis of variance was performed on the means in Table 12, a summary of which is presented in Table 13. It is clear from Table 13 that the mean length of hospital employment for control subjects who conformed was significantly longer than that for controls who did not conform.

Table 13

Analysis of Variance of Mean Lengths of Hospital  
Employment between Conforming and  
Non-Conforming Controls

Source	Mean square	Item	
		<u>df</u>	<u>F</u>
Conformers - Non-Conformers	15,180.05	1	7.02 <sup>a</sup>
Three-Line - Forced-Choice	130.05	1	.06
Interaction	2,020.05	1	.93
Error	2,160.92	16	

<sup>a</sup>Significant at .05 level of confidence

## CHAPTER V

### DISCUSSION

Conformity was demonstrated at a level significantly greater than zero in both schizophrenic groups as well as normal controls. The impact of this finding was lessened somewhat by the fact that the total conformity score within each group was accounted for by a relatively small proportion of subjects. In addition, the proportion of subjects who made errors and the mean number of errors in both experimental conditions were less than those reported by Asch (1956) in previous research with normal subjects.

Whereas Asch reported a mean of 4.41 errors with 75 per cent of his subjects making at least one error, this experiment yielded an over-all mean of 1.30 errors with 44 per cent of all subjects making at least one error.

Schooler and Spohn (1960), who failed to find conformity in chronic schizophrenics as well as non-schizophrenic controls, made several post hoc suggestions to account for their discrepancy from Asch's results. They included differences in experimental procedure and in the background of subjects tested. While Schooler and Spohn's procedure differed from Asch on several counts, this was not the case here, where Asch's procedure was carefully

replicated in the three-line condition. Differences in the background of subjects, however, did seem to apply.

In the first place, Asch's subjects were college students who, presumably, were studying for a higher academic degree. Based on this fact, it was assumed that they had at least twelve years of education and, on the average, were in their late adolescence or early twenties. In contrast, none of the subjects in this study were currently in school; their average age was 34.6 years and their average level of education was 10.8 years. On this basis, and without data with which to make exact comparisons, our subjects appear to have been older by approximately ten years and to have had less formal education, on the average, than those of Asch.

It was speculated that differences in age and education might have been related to discrepancies in level of conformity between this study and Asch. It was clear from Table 4, however, that neither factor differentiated conformers from non-conformers in this study. It is possible, of course, that certain age ranges are more prone to conform than others. It is possible, also, that college students are more apt to conform than non-students. That is, they may be more prone to seek social approval for their behavior.

Two lines of research seem to give credence to the above inference. Previous studies have shown that first-born individuals make up a higher proportion of college admissions and, on the other hand, tend to be more conforming, than persons of other

ordinal positions (Becker & Carroll, 1962; Becker, Lerner & Carroll, 1964; Schachter, 1959).

The fact that an individual seeks personal advancement by entering college may assume, or even stimulate, a desire to conform to social standards. Entrance into college may assume an appeal to authority and at least tentative acceptance of the social norms required in order to achieve advancement in college. Bass (1961) has described those who yield to simulated group pressure as more likely to be conventional, nurturant and conscientious. Related to this is the finding by Given suggesting a significant relationship between conformity and adherence to "the upward mobility syndrome" in college students (Given, 1961, p. 368).

It is possible, also, that differences in educational level are related to differences in socio-economic standing. Thus, the college student subjects in the Asch studies may have been of higher socio-economic standing than subjects in this study; a possibility which seems rather apparent in regard to the control subjects who were non-professional employees of a state mental hospital. While controlled studies seem to be lacking regarding the effect of socio-economic status, it might be speculated that social class values could influence conformity behavior. Wechesler has commented in this regard, that social status is used primarily to maintain a privileged position and one of its main instruments is the "insistence of conformity of the group in power to its own ideology" (Wechesler, 1961, p. 423).

It remains for future research to investigate the effect of differences in these and other factors related to subjects' backgrounds.

Despite the fact that conformity was not found to the extent demonstrated by normal subjects in previous studies (Asch, 1956), all groups in this study showed significant conformity, with one exception: the non-paranoid - forced-choice group. Even in this case, however, a trend toward significance was demonstrated. This fact suggests that acute schizophrenics, as well as non-schizophrenic controls, are influenced by social pressure in a positive direction. That is, their perceptual judgments tend to conform with that of a majority, despite contradiction of physical reality.

While previous research has given ample evidence of this effect in normal subjects, it was not expected in schizophrenics. Theories of schizophrenia, almost universally, have emphasized the schizophrenic's disregard for social norms. Previous research with chronic schizophrenics (Gill, 1963; Schooler & Spohn, 1960), while inconclusive, tended to support this impression.

Schooler and Spohn's report of a significant number of non-conforming errors by chronic schizophrenics suggested a strong reaction to group influence by these subjects, but a response which was in opposition to, rather than conforming to the majority. Gill (1963), whose procedure prevented non-conforming responses, reported significantly less conformity in chronic schizophrenics as compared to college student controls. The

impression, therefore, was that schizophrenics were not only less conforming than normals, but, when the situation permitted, might disregard physical reality as well, by responding in opposition to their fellows.

The results of this study, however, suggest a much different impression of schizophrenics. Acute schizophrenics seem to react no differently than normal controls matched in age and educational level. Even when non-conforming responses were allowed, acute schizophrenics responded in the direction of the majority opinion.

The fact that no significant differences in conformity occurred between the schizophrenic groups and normal controls, suggests the need for a re-appraisal of theoretical positions which emphasize the schizophrenic's lack of regard for social norms.

It has long been accepted that schizophrenia, almost by definition, involves an inability or unwillingness to respond positively to group influence. It now seems reasonable to assume that this may not be the case. Schizophrenics do behave in ways which are unacceptable to the general society, and certainly schizophrenics distort reality in highly personal ways. These data indicate, however, that schizophrenia does not necessarily preclude reacting to social influence by conformity.

As shown in Table 7, there was no difference in the extent of conformity between schizophrenic groups. Thus, paranoid and non-paranoid schizophrenics showed relatively equal tendency

to conform to social pressure. While behavioral differences often exist between schizophrenic sub-groups, there seems to be no significant difference in conformity behavior as measured by this study.

Failure to support the prediction of more non-conforming errors by paranoids as compared to non-paranoids, is further evidence for a lack of distinction between these groups. This finding was surprising in the sense that several sources, both theoretical and empirical, have indicated significantly greater interpersonal difficulties and perceptual rigidity in paranoids as compared to non-paranoid schizophrenics, and that paranoids tend more to bring in extraneous details in interpreting their experience (Bateson, et al., 1956; Hahn, 1956; McReynolds, 1960; Payne, 1961; Payne, et al., 1964; Voth, 1947; Winder, 1960). While the results of this study do not necessarily contradict the above findings, it seems evident that one cannot conclude that paranoid schizophrenics necessarily interpret or respond to social influence in highly specific ways as opposed to other schizophrenics or non-schizophrenics.

It is interesting to note, however, that paranoids tended to have longer reaction times than either non-paranoids or controls. This difference was consistent regardless of level of conformity. If one is permitted a second-order inference, it might be that paranoid subjects experienced greater conflict in the experimental situation than either of the other two groups, and that more time was required to choose a response. Another higher-order inference might be that longer reaction times for

paranoid subjects reflected greater suspiciousness of the proceedings which would fit with most impressions regarding paranoid patients. The results suggest, however, that even though paranoid schizophrenics may be more conflicted and suspicious than others, they eventually seek social approval through conformity with their fellows. Whether in fact, similar motivation prompted conformity in each of the three subject groups would, however, require further investigation. Obviously, further research is needed to test the above inferences.

A most striking result in this study was the fact that wide individual differences in conformity occurred between subjects in every group. While age and education were not shown to be related to conformity, a significant difference in length of institutional affiliation was found between conformers and non-conformers in both schizophrenic groups as well as the control group. As shown in Tables 10 and 11, schizophrenics who conformed had been hospitalized longer than schizophrenics who did not. This difference existed despite the fact that the average length of hospitalization for all schizophrenic subjects was only 3.80 months, and, as shown in Table 10, the difference between conformers and non-conformers of both schizophrenic groups combined, was only 2.21 months. It seems apparent from these results that a rather marked increase in the tendency to conform takes place within a very brief period of hospitalization.

A similar relationship between hospital affiliation and conformity was found for control subjects. Tables 12 and 13 show

that the average length of hospital employment for control subjects who conformed was significantly longer than for those who did not conform.

These striking results indicate that length of institutional affiliation, whether in the role of patient or hospital employee, produces conformity behavior. Stanton and Schwartz have described a mental hospital as a highly structured power-organization where "patients and staff relied heavily on this formal organization of power" (Stanton & Schwartz, 1954, p. 248). These authors further pointed out that most decisions regarding patients' lives are made "quite unconsciously," on the basis of rules and routines, and that most rules are automatically accepted by everyone concerned (Stanton & Schwartz, 1954, p. 251).

On the basis of the above description, it seems that a mental hospital is structured in such a way as to rely heavily upon conformity to rules and routines; a situation not conducive, it seems, to the effective expression of individual choices.

There is a wealth of evidence to indicate that group cohesiveness fosters conformity behavior (Back, 1951; Berkowitz, 1957; Festinger, 1950; Schachter, 1951). Group cohesiveness has been defined as "the resultant forces which are acting on the members to stay in a group" (Back, 1951, p. 9). While the "resultant forces" acting to maintain hospital affiliation would be undeniably different for patients and employees, it seems warranted to infer that length of exposure to the hospital structure for either group, may serve to foster group cohesion and, therefore,

conformity.

In speculating on factors which might relate to length of hospital employment for control subjects, it seems reasonable to relate this to a person's acceptance of the structure within which the mental hospital operates. Based on the description of a mental hospital by Stanton and Schwartz (1954) and following Sherif (1948, 1961), a person who chooses to work within a mental hospital setting, would seem to be one who could accept rules and routines without undue discomfort. This would seem consistent with the extensive data suggesting a close relationship between acceptance of authority and conformity behavior (Adorno, Frenkel-Brunswik & Levinson, 1950; Asch, 1952; Barron, 1953; Jahoda & Cook, 1954). The general inference is drawn, therefore, that those control subjects who had worked for longer periods within the mental hospital, may have done so because they were conforming individuals to begin with, or were prompted to conform by the nature of the hospital structure, or a combination of these factors. It seems quite evident that further research is needed in order to clarify the effects of affiliation with a mental institution, whether it be as a patient or as an employee.

If one was to accept the inference that hospital affiliation fosters conformity, then the question is raised why previous research (Gill, 1963; Schooler & Spohn, 1960) failed to find conformity in chronic schizophrenics, whose incarceration was much longer than that of subjects in this study. In addition to factors

already considered, it may be that the relationship between hospitalization and conformity, like that with age and education, is not a simple, straight-line function. For example, short periods of incarceration may stimulate efforts to conform, whereas longer confinements of months and years, may prompt the person to consider conformity to social norms as no longer useful or desirable. It may be that hospitalization is no longer viewed as a positive source of help, or as an experience requiring conformity in order to gain release. Instead, it may be interpreted as a hopeless state of confinement without hope of reward.

On the other hand, the acute and chronic schizophrenic may be as different from each other as either one is from the non-schizophrenic. It is possible that a schizophrenic adjustment of long standing may lead to personal isolation and rejection of others which has not taken place in the acute phases. The inability to make a more satisfying adjustment may lead to a deepening and hardening of defensive structures whereby the only recourse for the chronic schizophrenic is to go away from, or against, the behavior and experience of others.

Such an inference seems consistent with a report by Helfand (1956) that chronic schizophrenics, in a role-taking experiment, were significantly less sensitive to the role of another person than were acute schizophrenic patients.

It seems beneficial, at any rate, that continued importance and attention be given to intensive therapeutic efforts within the early stages of a schizophrenic adjustment. In this way, maximum

use might be made of a social interaction encouraging a more satisfying adjustment, which may be far less effective, should the person assume a more chronic schizophrenic adjustment.

This is by no means meant to suggest that a treatment philosophy should encourage conformity for conformity's sake. This may, in fact, be a disorder as crippling as that of schizophrenia, but possibly more characteristic of non-schizophrenics; conceivably as epitomized by adolescent college students. If a treatment philosophy can make use of group influence, from other patients as well as staff, this may permit an individual to risk an adjustment more satisfying than that of schizophrenia.

#### Some Implications for Future Research

The results of this study give ample evidence that conformity to social influence is a complex phenomenon. One cannot assume, for example, that simple classification as to mental health status is sufficient in itself, to predict extent of conformity behavior. Much more needs to be done in evaluating individual motives and circumstances prompting such behavior.

Further study should be given to the nature and extent to which conformity is influenced by age, education and socio-economic backgrounds of subjects. It may be that certain age groups, or socio-economic levels are more prone to conform than others. It may be that college students conform more than individuals of comparable age, intelligence, and socio-economic levels, who are not seeking advancement by means of a college degree.

Extensive research should be given to understanding the

structure of the mental hospital and its effect upon choice behavior among its patients as well as staff. Are mental hospitals in fact, operating in ways contrary to humanistic principles regarding treatment of the mentally disturbed person? A carefully controlled study of the social atmosphere of a mental institution is needed and might well provide startling results.

Finally, further research is necessary in order to differentiate chronic and acute schizophrenia. Are these two separate phenomena; and what is the role of long-term confinement in producing differences that exist between these groups? Methods are needed whereby chronic schizophrenia and long-term confinement can be distinguished and given comparative study.

## CHAPTER VI

### SUMMARY

This study was designed to evaluate the effect of social influence on the perceptual behavior of acute schizophrenics. It was hypothesized that schizophrenics reject conventional perceptual norms and that paranoid schizophrenics, more frequently than non-paranoids, tend to reject physical reality as well as interpersonal cues, when faced with a conflicting situation.

The experimental design used the Asch procedure for exerting social pressure and a forced-choice modification in which the number of test stimuli was reduced from three to two lines. Both procedures required the subject to match comparison lines with a standard line in the presence of three instructed confederates who made unanimously incorrect judgments on most trials. In the three-line procedure, the naive subject could select the correct line, and thus remain independent of the majority; or, he could select the incorrect line chosen by the majority, thus making a conforming error; or, he could make a non-conforming error, and thus reject both physical reality and interpersonal cues. In the forced-choice condition, the subject was limited to choice of the correct response or a conforming error.

Using as subjects, 20 paranoid schizophrenics, 20 non-paranoid schizophrenics, and 20 hospital employees as controls, it was found that:

1. Subjects in all groups showed significant conformity under both experimental conditions; with no differences between groups.
2. No non-conforming errors occurred in any group.
3. The level of conformity within all groups and both conditions was lower than that previously reported for non-schizophrenic subjects.
4. A relationship was found between conformity and length of hospitalization, for the schizophrenic groups, and length of employment for the control subjects.

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APPENDIX A. AGE AND EDUCATION OF SUBJECTS

## Age and Education of Subjects

Three-line Condition			Forced-choice Condition		
Subject	Age	Educ.	Subject	Age	Educ.
<b>Paranoid Schizophrenics</b>					
1	19	11	1	33	8
2	23	13	2	21	12
3	40	8	3	39	12
4	23	12	4	37	8
5	39	8	5	29	11
6	39	11	6	43	8
7	23	15	7	33	8
8	29	10	8	26	12
9	40	12	9	31	11
10	38	12	10	53	8
<b>Non-Paranoid Schizophrenics</b>					
1	40	10	1	50	16
2	54	8	2	26	12
3	23	8	3	20	14
4	60	14	4	21	8
5	35	8	5	31	8
6	34	9	6	25	8
7	20	15	7	21	12
8	50	8	8	19	10
9	25	14	9	22	15
10	42	12	10	49	12
<b>Controls</b>					
1	51	8	1	56	8
2	19	12	2	33	8
3	31	12	3	27	12
4	59	10	4	20	11
5	43	12	5	51	8
6	32	10	6	22	14
7	21	12	7	44	12
8	47	12	8	44	8
9	27	14	9	51	12
10	18	12	10	25	12

APPENDIX B. RAW ERROR SCORES AND TRANSFORMED  
ERROR SCORES

## Raw Error Scores and Transformed Error Scores

Three-line Condition			Forced-choice Condition		
Subject	Raw Score	Trsfmd. Score	Subject	Raw Score	Trsfmd. Score
<b>Paranoid Schizophrenics</b>					
1	2	58	1	3	56
2	6	84	2	0	44
3	0	43	3	0	44
4	1	51	4	0	44
5	4	63	5	0	44
6	3	61	6	0	44
7	2	55	7	0	44
8	0	43	8	0	44
9	0	43	9	3	57
10	0	43	10	2	51
<b>Non-Paranoid Schizophrenics</b>					
1	1	51	1	0	44
2	0	43	2	2	54
3	0	43	3	0	44
4	0	43	4	8	72
5	1	51	5	0	44
6	1	51	6	9	80
7	0	43	7	0	44
8	3	67	8	0	44
9	0	43	9	0	44
10	0	43	10	0	44
<b>Controls</b>					
1	0	43	1	2	52
2	0	43	2	0	44
3	0	43	3	4	59
4	3	66	4	6	65
5	0	43	5	7	71
6	1	48	6	0	44
7	1	51	7	1	48
8	0	43	8	0	44
9	1	48	9	0	44
10	1	52	10	0	44

APPENDIX C. AVERAGE REACTION TIMES

## Average Reaction Times

Three-line Condition		Forced-choice Condition	
Subject	Reaction Time (in secs.)	Subject	Reaction Time (in secs.)
Paranoid Schizophrenics			
1	1.92	1	1.17
2	2.33	2	1.17
3	1.17	3	1.00
4	1.00	4	1.00
5	1.17	5	1.10
6	1.60	6	1.00
7	1.75	7	1.33
8	1.25	8	2.00
9	1.17	9	1.33
10	2.17	10	1.10
Non-Paranoid Schizophrenics			
1	1.00	1	1.00
2	1.17	2	1.60
3	1.42	3	1.00
4	1.10	4	1.00
5	1.00	5	1.00
6	1.00	6	1.00
7	1.00	7	1.33
8	1.17	8	1.00
9	1.00	9	1.00
10	1.00	10	1.17
Controls			
1	1.00	1	1.00
2	1.00	2	1.17
3	1.25	3	1.42
4	1.00	4	1.10
5	1.17	5	1.60
6	1.00	6	1.25
7	1.33	7	1.42
8	1.42	8	1.00
9	1.17	9	1.50
10	1.00	10	1.00

