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CONFORMITY BEHAVIOR IN SCHIZOPHRENICS

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CONFORMITY BEHAVIOR IN SCHIZOPHRENICS

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## ABSTRACT

The present study addressed the question of conformity behavior in schizophrenia. Fenichel (1945), Cameron (1947), and Mowrer (1950) theorized that schizophrenia entails reduced monitoring of the external world. As conformity behavior is based largely upon awareness of the external world, it follows that schizophrenia should be accompanied by reduced conformity behavior. A number of studies researching the above hypothesis were examined. These studies reported mixed results. The methodologies used in these studies were compared and contrasted in an attempt to explain their inconsistent results. Many inconsistencies were found, but no single pattern appeared that could account for the varied, past results. Thus, the present study selected and examined one promising variable, confederate status, and incorporated a previously neglected matching dimension, verbal intelligence. It was hoped that matching on verbal intelligence would yield more equitable groups. In sum, the present study sought to re-examine the hypothesis that schizophrenia entails a significant diminution in responsiveness to social pressure (resulting in reduced conformity behavior). Also tested was the hypothesis that substantial differences would be found between high confederate status conditions (greater conformity) and low confederate status (lowered conformity) conditions.

A 2 x 2 design, (n = 20 per cell) with two classifications (schizophrenic and normal) and two treatment levels (high and low confederate status) was employed. Groups were matched on age, sex, race,

education, and verbal intelligence. Control group subjects were members of an urban community in a medium-sized southern city. Experimental subjects were chronic patients in residence at a North Carolina state mental hospital. Only paranoid and chronic undifferentiated schizophrenics were used. A new method for eliciting conformity behavior was utilized in this study. The Asch (1956) method (line length comparisons, 6 neutral trials and 12 critical trials, unanimous confederate opinions) was duplicated in this study with the exception of in vivo confederates. The present study used initials placed on the answer sheets to represent the choices of previous respondents. Subjects in this study gave their responses by placing their initials on an answer sheet, rather than orally (as in the Asch studies). Also used in this study was a subjective rating of experimental subjects orientation status. This rating was later correlated with conformity behavior.

The primary hypothesis of this study was supported as schizophrenics ( $\bar{x} = 1.00$ ) were found to conform significantly less than were normals ( $\bar{x} = 1.68$ ) ( $F(1,76) = 4.405, P < .05$ ). Further analysis revealed that subjects responded differentially to the low status and high status conditions with schizophrenics differing significantly from normals ( $\bar{x} = 1.65$ ) for the low status condition ( $F(1, 76) = 4.37, P < .05$ ) but not for the high status condition (schizophrenics  $\bar{x} = 1.30$ ), ( $F(1,76) = .774, P > .05$ ). Mean scores for the high confederate status ( $\bar{x} = 1.5$ ) and low confederate status ( $\bar{x} = 1.175$ ), comparison failed to yield results differing beyond chance expectations ( $F(1,76) = .914, P > .05$ ). A correlation of  $r_{xy} = -.33$  was found for experimental subject orientation status and conformity behavior.

These results were compared with past studies and discussed in terms of control subjects, experimental subjects, matching variables, and conformity eliciting procedures. It was concluded that the subject selection and matching procedures of this study compared favorably with those of past studies. The conformity eliciting procedure, of the present study, was recommended only for applications where high conforming behavior is expected. The orientation status and conformity behavior correlation of  $r_{xy} = -.33$  was interpreted in terms of moderator variables, but it was noted that, to some extent, this correlation reflected the limited range of variability in the rating scale. Future directions for research were suggested.



## INTRODUCTION

Deviation from normal conformity behavior is associated with a number of patterns of psychopathology, including schizophrenia. Several theorists cite a diminution of responsiveness to social pressure as central to the concept of schizophrenia. Their positions will be presented in this paper, followed by a critical review of the empirical examinations of their common viewpoint.

Fenichel (1945), a psychoanalytic theorist, asserts that schizophrenia results from a combination of constitutional and psychological factors. In an effort to resolve the conflicts resulting from a weakened ego (typically worsened by a traumatic event), an overactive superego, and a demanding id, the ego capitulates and the schizophrenic regresses to the state of primary process and primary narcissism. In this stage, the individual removes the libidinal energy he has invested in external, objective reality, and thus suffers a greatly impaired ability to differentiate himself from the external world. He reverts to an infantile state of "oceanic unity." Put simply, the schizophrenic deals with the conflict between id and reality by virtually negating the ego, the faculty for contacting and interacting with reality.

As the schizophrenic withdraws the libidinal energy he has invested in the external world, internal psychological forces acquire predominance in his awareness accompanied by diminished responsiveness to objective reality. The schizophrenic appears less swayed by

social pressure and less likely to conform.

Cameron (1947) describes personality as a biosocial system of responses and attitudes. The social component of personality permeates language, thought and behavior and is acquired by 1) an acceptance of language structure in systematizing one's own thought, and 2) by role-taking. One acquires a social identity by taking on the behaviors and attitudes of other members of society.

In schizophrenia, however, a disorganization of the normal role-taking process occurs. Roles are no longer derived from society in the normal manner. There is insufficient environmental input for the individual to behave according to conforming, socially approved roles. Rather, there is a focusing upon private mental activity and fantasy.

According to Cameron, individuals who are deficient in social skills, or who are not predisposed towards healthy social interaction have a marked tendency to withdraw and fantasize under stress. "Role-taking" is minimized and the attitudes and behaviors of these individuals become less and less representative of those of the normal world. The ultimate endpoint of this process is schizophrenia.

Unlike Fenichel and other proponents of the psychoanalytic viewpoint, Cameron contends that the schizophrenic mind results from mental disorganization or "primitivation" rather than an historical regression to an earlier developmental stage. However, both Cameron and Fenichel agree that the net result of the schizophrenic process, whether historically or ahistorically based, is reduced monitoring of external reality and a subsequent diminution of responsiveness to social stimuli.



Mowrer (1950), in an attempt to translate the Freudian understanding of schizophrenia, particularly regression, into his own learning theory format, performed an experimental analogue of regression with rats. In this manner he hoped to demonstrate the usefulness of a "habit dynamics" model in clarifying traditional psychoanalytic postulations.

Mowrer focused upon regression as the essential process of schizophrenia. Regression was further defined as the result of "fixation" and "frustration." Fixation, according to Freud, occurs when an individual experiences an overinvestment, or damming up of libidinal energy during a psychological stage. Mowrer broadens this concept for his purposes. He understands fixation as a situation in which an organism learns a coping behavior or habit, then later learns a better coping behavior, yet returns to the initial inefficient habit when faced with frustration. Thus Mowrer characterizes regression as a situation in which an inefficient coping behavior is chosen over a frustrated coping behavior to the exclusion of seeking out and learning entirely adequate coping behaviors.

In his experiment with rats, Mowrer taught habit "A" (which consisted of minimizing shock by sitting passively on a charged grid) to the experimental group, then provided an opportunity for the experimental group and control group to learn habit "B" (bar pressing to eliminate shock). Then both groups were presented with frustration (a slight shock upon contact with the bar). Mowrer found that 80% of the experimental group rats regressed to the fixated habit A in the face of frustration whereas the control group rats

learned to press the bar quickly, thereby experiencing only a minimal, temporary shock from the bar and eliminating the grid chock.

Through this experiment, Mowrer demonstrated regression within the framework of the habit dynamics model. Although he did not expect this rat research to prove or disprove the Freudian concept of regression as a function of predisposing fixation and precipitating frustration, Mowrer does conclude that the results are definitely supportive of the Freudian position.

Assuming this behavioral tendency does generalize to humans, schizophrenic regression, then, may be seen as a situation in which behavior is determined largely by past fixations, or habits. Minimal energy is expended in contact and interaction with external reality and maximal energy is channeled into the maintenance of the fixated behavior. In regressed schizophrenics the result is minimal awareness or concern for coping information in the environment and an acceptance of the consequences of fixated habits.

Because a large portion of typical human life, problems, and coping attempts is in the social arena, it is reasonable to assume that schizophrenic social behavior will reflect the non-learning disposition characteristic of schizophrenic regression. This conclusion is clearly stated by Mowrer as he says "Human regressions are commonly in a direction opposite to that of the educational, socializing forces of the group..." (p. 380). Although Fenichel, Cameron and Mowrer reason from different theoretical orientations, all contend that schizophrenia does involve a condition of reduced responsiveness to social stimuli.

While the consequences and manifestations of social stimulation are not limited to conformity, much of the influence exerted by society upon its members is geared towards the creation or maintenance of homogeneity. By achieving "sameness" in society, interpersonal interactions are rendered predictable. Predictability in the social world enhances security and success in interpersonal interactions. Since conformity is one of the paramount goals of social influence, it is reasonable to conclude that the diminished responsiveness of schizophrenics to social stimulation will be accompanied by reduced responsiveness to conformity pressures.

In the past thirty years, a moderate number of studies have been performed in an effort to test the hypothesis that schizophrenics exhibit reduced social responsiveness and conformity. These studies will be reviewed then discussed in terms of disparate results and methodological considerations.

Gill (1963), in his conformity study, equated a group of 28 hospitalized, male schizophrenics with a group of 28 male members of the community on the dimensions of education and age. Controls had no psychiatric histories. Mean education was 13.25 years for the normal group and 12.57 for the schizophrenic group. Mean age was 28.57 for the normal group and 27.76 for the schizophrenic group. Mean number of hospitalizations for the schizophrenic group was 1.96 and average duration of hospitalization was 3.63 years. No subtype differentiations were made. The task items were preceptual in nature and were taken from the Miller-Lyer Illusion and the Sander Parallelogram tests.



All experimental and control subjects were pretested with the test items, then retested two weeks later with the same items in a group situation. The group situation involved the use of two peer group confederates, who responded verbally and unanimously to erroneous response choices, thereby exerting social influence. The conformity score in this situation was the number of instances individuals abandoned their pretest choices in favor of the erroneous choices espoused by confederates. Results suggested that schizophrenics are less susceptible to social pressure for conformity than are normals ( $p < .01$ ).

In a study yielding similar results, Gill (1965) performed a study comparing thirty schizophrenics with thirty normals on the dimension of susceptibility to attitude change in unanimous and near-unanimous social influence situations. Subjects were all male and ranged in age from 19 to 69. The schizophrenic group included twelve paranoid types, seven catatonics, ten undifferentiated types and one simple type. Average number of admissions for this group was 2.23, average age of onset was 21.87, and average duration of hospitalization was 5.32 years. Schizophrenics were in-patients at a state hospital, whereas normals were introductory psychology students. Groups were matched on age, education, and ethnocentrism. Individuals from both groups were subjected to social influence by means of four confederates who verbally expressed unanimous and near-unanimous response choices prior to the naive subjects' turn to respond. Task items were from a Likert-format ethnocentrism scale. These items were presented in a pretest prior to the group situation,

then during the group situation itself. Results suggested that schizophrenics were significantly less susceptible to social influence pressures than were normals ( $p < .02$ ). Unlike normals, schizophrenics showed no significant differences from unanimous to near-unanimous influence situations.

In a third study, yielding similar results, Marsella (1975) compared 22 professional Caucasian normals with 22 Caucasian paranoid schizophrenics. Groups were matched on the dimensions of sex, age, and education. Mean age was 40.4 for normals and 42.5 for paranoid schizophrenics. Duration of hospitalization was less than three years. No mention was made of mean number of hospitalizations.

The confederates for this study were male professional colleagues of the experimenter and were presented as professionals. The experimental task of this study consisted of a replication of the original Asch (1956) type procedure. This procedure consists of the presentation of eighteen line length judgement tasks, twelve of which are "critical" and six of which are neutral. One naive subject responds to the task items after hearing the responses of the three confederates. On "neutral" trials confederates unanimously respond with the correct answer. On "critical" trials confederates unanimously respond with incorrect answers. Results of this study suggest that schizophrenics are less susceptible to conformity pressures than are normals ( $p < .03$ ).

In a similar study, yielding different results, Schooler and Spohn (1960) compared 48 regressed schizophrenics and 48 partially remitted schizophrenics with a control group of 48 TB patients.

Groups were matched for age and education and had a combined mean age of 33.9 years and mean education of 10.2 years. The schizophrenic subjects were in-patients at a state hospital whereas the control group resided at a Veteran's Administration Hospital.

Experimental group confederates were presented as hospital patients. This deception was accomplished through manipulations of dress, introduction, and manner of behavior. In reality, the confederates were dietary workers. Control group confederates were presented as students.

The test procedure replicated the 1956 Asch experiment. Eighteen trials (12 critical, 6 neutral) of a perceptual line-comparison task were presented. Each subject responded after hearing the erroneous, unanimous responses of three confederates.

Results revealed that regressed schizophrenics failed to differ beyond chance expectations from partially remitted schizophrenics on a dimension of susceptibility to conformity pressure, and both groups failed to differ from normals (hospitalized TB patients).

Whitman (1961) also utilized the Asch (1956) procedure in comparing 22 hospitalized chronic schizophrenic patients with 22 patients hospitalized for tuberculosis. The groups were matched for age and education levels (mean and S.D. unknown), but not for sex, vocation, or race. No mention was made of frequency or duration of hospitalization or schizophrenic subtype differentiation.

Confederates were not described but it is assumed that they were presented in three's in accordance with the Asch (1956)

procedure. The same is assumed for the number, sequence and makeup of the task trials.

Analysis of results of this study revealed no differences beyond chance expectations; however, a strong trend in the direction of diminished responsiveness to social conformity pressure in schizophrenics was noted.

Bishop and Beckman (1969) compared 28 male hospitalized paranoid schizophrenics with 25 normal male college students on an Asch-type task with similar results. The paranoid schizophrenics had a mean age of 40.3 and mean education level of 11.25 years. The normal control group had a mean age of 20.5 and a mean education level of 13.33 years. No mention was made of duration or frequency of hospitalization.

Confederates were male members of the subjects' peer groups (students for students, patients for patients) and were presented in threes. Responses were given orally by the confederates in an erroneous, unanimous fashion. The procedure differed from the original Asch procedure in that eight trials were critical and four were neutral trials. Task items were Asch-type comparison lines; however it is not known whether the sequence or dimensions utilized were identical to those used by Asch (1956). Subjects responded both orally and by writing their choices on an answer sheet.

Analysis revealed no significant differences between paranoid schizophrenics and college students on the dimension of susceptibility to conformity pressure, however, a strong trend in the hypothesized direction was noted.



Cull (1971) found contradictory results in his comparison of 32 hospitalized male schizophrenics with 32 male Airman Basics randomly selected from Lackland Air Force Base. All subjects were required to be under thirty years of age, to be capable of speaking and understanding English, and to be above IQ 70 (assessed on the Otis Self-Administering Test of Mental Ability, Form A). In addition, patients were required to have resided in the hospital for a minimum of six consecutive months.

As in the Asch (1956) procedure, Cull assessed the mean error of the Asch format (without conformity pressure), but with a psychiatric/schizophrenic population. Cull found a mean error of .54, a finding which compares favorably with the Asch reported mean error of .55 with a normal population.

Confederates were selected from the same groups as were the experimental and control subjects and were matched on sex, age, and prestige. They were presented in three's and as in past studies, presented their erroneous unanimous responses prior to the naive subjects'. Task items were twelve of the Asch comparison lines, however all trials were critical with no neutral trials for discouraging subject suspicions.

Analysis of the results of this study contradict the hypothesis that schizophrenics are less susceptible to social conformity pressure than normals. In fact, schizophrenics were found to be significantly more susceptible ( $p < .001$ ) to conformity pressures than normals in this instance (see Table 2).

Scrutiny of these studies (summarized in Table 1) reveals



many methodological inconsistencies and an equal number of possible explanatory hypotheses for the disparate results. One might reasonably explain some of the discrepant results on the basis of subject age, sex, history, subtype specificity (or a lack of specificity) or chronicity, to name the more obvious subject variables. In terms of controls, one might easily argue that none of the studies (with the possible exception of Gill 1965) used a truly normal and representative control group. One might further argue that diminished social responsiveness to conformity pressure is merely a function of hospitalization. This hypothesis arises when one compares the non-significant results of the Schooler and Spohn (1960) and Whitman (1961) studies (using institutionalized controls) with the Gill (1963), Gill (1965) and Marsella (1975) (non-institutionalized controls) studies. One might also question the schizophrenic confederate's functional capacity to be consistent and precise and the normal confederate's qualitative ability to present himself as a genuine peer of the schizophrenic.

While each of the above hypotheses offer plausible explanations for the differences found between certain of the studies' results, none is capable of explaining all of the disparate results. For example, males and females are found in both supportive and non-supportive studies. No age pattern exists and information concerning duration/frequency of hospitalization is too incomplete to allow one to draw inferences. On the basis of this information it is logical to suspect that there may be a crucial difference between experimental groups and control groups which has not been controlled

in these studies.

This contention is supported when one views the results summarized in Table 2. Comparing the studies which used the Asch-type format, one finds that the mean conformity scores for the schizophrenic groups are comparable, whereas the mean conformity scores for the control groups are inconsistent. This suggests that controls were different in some crucial way and were not carefully matched with experimental subjects. An example of the results of violating this rule may be seen in the Cull (1971) study. No neutral trials were presented, and Airman Basics were used as controls. The result of this particular combination was extremely low control conformity scores. In the case of this study, one might best conclude that either the experimental deception was transparent or that Airman Basics conform less than schizophrenics, rather than schizophrenics conform more than normals.

Also, a review of the literature concerning conformity behavior in normals reveals that intelligence is a strong correlate of conformity behavior. Berenda (1950), and others report negative correlations between intelligence and conformity. When this relationship is considered in light of the subnormal mean intelligence of institutionalized schizophrenics, one sees that all the studies summarized in Table 1 have been systematically biased. All controls were chosen from normal populations and should be expected to possess average or greater mean intelligence. Thus the reduction of conformity expected in schizophrenic subjects may well have been countered by reduced conformity in the more intelligent controls

(this failure may have been somewhat mitigated in studies that matched on education). This is an across the board criticism and does not explain all the differences between studies. It does, however, suggest that some of the differences may have been larger than reported.

A variable which does offer some explanation of between study differences is that of confederate status. Marsella (1975) used hospital professionals as confederates, and found significant results whereas all the studies which found results which failed to support the diminished schizophrenic responsiveness hypothesis used either peers or non-peers represented as peers. Although Gill (1965) and Gill (1963) found significant results in the hypothesized direction using peer status confederates, one might object to including these studies in the comparison. The Gill (1965) study was attitudinal rather than perceptual and neither Gill study utilized the Asch procedure.

The problems of using confederates in this type study not only include status choice, but also, as mentioned earlier, hinge upon the questionable ability of true schizophrenics to be convincing confederates, and the uncertain ability of normals to be convincing schizophrenics. In an attempt to deal with this problem, conformity eliciting procedures which do not require the use of live confederates were examined.

In an attempt to exert social influence without using live confederates, Stang (1976), utilized a procedure outlined and demonstrated in Swingle (1968). Stang investigated influence source

size effects in 300 naive, randomly selected individuals who were approached on Queens College campus and randomly assigned to one of four treatment conditions.

Three hundred innocuous petitions suggesting the planting of additional shrubbery on Queens College campus were presented by 33 student experimenters to 300 randomly approached pedestrians on campus. 75 petitions, each containing 0, 4, 8 or 12 signatures were randomly given to each of the 33 experimenters. Results were recorded in terms of signing or not signing the petition.

Results revealed substantial differences between the 0 group and the 4, 8, and 12 groups, but the 4, 8, and 12 signature groups were roughly equivalent. These findings (peak conformity with an influence source of 4) were consistent with those of Asch (1951), Tannenbaum (1962), Gerard, Wilhelmy and Conelley (1968), and Milgram (1969) and lend strong supportive evidence to the Stang and Swingle procedure.

Bearing in mind the difficulty of constructing confederate groups of appropriate and equitable socio-economic, educational, vocational, age and sex status, use of the Stang procedure appears to afford a more reliable and parsimonious means of exerting social influence. Although there may possibly be quantitative differences in the live confederate procedure and the Stang procedure, qualitatively this procedure is believed to bring to bear, in subjects, the same forces elicited in everyday social conformity situations.

The reviewed studies have been inconsistent and non-generalizable for the following reasons: 1) failure to consider



confederate status differences; 2) failure to use truly normal, representative controls; 3) failure to adequately match controls and schizophrenics, particularly on the dimension of intelligence; 4) violation of the Asch procedure (no neutral trials, fewer critical trials, non-Asch stimuli) and; 5) failure to insure against confederate incompetency.

#### STATEMENT OF THE PROBLEM

Based upon the theory of Fenichel, Cameron, and Mowrer, and educated by the efforts of the reviewed research, this experiment reexamined the issue of diminished responsiveness to social influence pressures on schizophrenics. The questions examined in this study were: 1) do institutionalized schizophrenics differ from matched normals on the dimension of social stimuli responsiveness as measured on a conformity task in a group situation? and 2) what differences result with low status as compared with high status confederates? Many of the criticisms of the previous paragraph were addressed in this research effort. Confederate status differences were examined, normal, matched controls were used and the Asch procedure was used with the Stang (1976) modification.

Based upon the theory of Fenichel, Cameron and Mowrer and the experimental results of Gill (1963), Gill (1965), and Marsella (1975), it was projected that (considered pooled or independently) the schizophrenic groups would achieve significantly lower conformity scores than would the normal groups. It was further hypothesized based upon the pattern of results of the reviewed studies, that the schizophrenic and normal groups would exhibit significantly less

conformity when presented with low status confederates as compared with the high status confederate situations. This hypothesis suggested the use of Planned Orthogonal Comparison Analysis. The above hypotheses were examined in the following study.

#### METHOD

##### Subjects

Experimental subjects were forty schizophrenic members of the patient population in residence at a North Carolina state hospital. These patients were selected on the basis of; a) chronicity-- only patients with one or more previous admission and a stable diagnosis were accepted; b) subtype classification -- only paranoid types and chronic undifferentiated types were accepted (these types comprised 95% of the population); c) organicity -- all individuals with known organic impairment were rejected; d) visual acuity -- only those who possess corrected or uncorrected 20/20 vision were selected; e) remission -- individuals who were considered remitted were disallowed; and f) only those patients who were receiving anti-psychotic medication were selected. Experimental subjects were from the Eastern Admission Unit of John Umstead Hospital in Butner, North Carolina.

Upon receiving approval of the research committee at the hospital, the experimenter acquired a comprehensive list of potential subjects from the hospital administration. Upon acquiring this potential subject pool, the experimenter reviewed each candidate's hospital records. Patients who were found to have had (according to hospital records) fewer than one previous admission were rejected.

Patients were also rejected if previous admissions were for an illness other than the present diagnosis. Remission was determined by the experimenter's subjective evaluation of daily progress notes (from the patient's hospital records), projected discharge dates, and the interview. Those who met the above requirements and the specifications delineated under "subjects," above were interviewed.

During the interview sessions, the patients were first asked general questions such as "How are you today?", and "Where are you from?". The purposes of this approach were: 1) to provide the patients with an open-ended stimulus so that the experimenter might sample the patients unstructured, spontaneous behavior; 2) to demonstrate the experimenter's interest in the patients as people, and; 3) to give the patients an opportunity to vent emotions, frustrations or anxieties which might subsequently interfere with their task performance. Also, subjects were routinely offered cigarettes. This gesture was intended to illustrate the experimenter's willingness to give to the patients as well as to make demands of them. This approach may have been partially responsible for the high participation rate; only one interviewed patient refused to participate in this study.

Following the "get acquainted" period of the interview, as much as possible of the experiment was explained to patients. Examples of the perception task were administered as were examples of the verbal portion of the Shipley Institute of Living Scale. Then the experimenter explained his status as a student and the long range goal of research of this type (as stated in the "Informed Consent



Form", Appendix 1). The informed consent form was then read and explained to the patient. Patients were then informed that approximately 30 minutes of their time would be required for their participation in this study. They were then encouraged to sign the "Informed Consent Form" as it was designed for their protection. Patients typically signed the form at this time. Those who agreed to participate were required to read and explain the test directions of the Shipley-Hartford Institute of Living Scale and to demonstrate their visual acuity on a simple eye test. Those who failed either of these tasks were dismissed at this time.

Control subjects were forty members of Durham and surrounding communities. These subjects were selected on the basis of: a) organicity -- no individuals of known organic impairment were allowed; b) visual acuity -- only those who possessed corrected or uncorrected 20/20 vision were selected; c) those subjects with previous psychiatric histories were disallowed and; d) those subjects who were receiving psychotropic medication were disallowed. The above factors were determined in a pre-task interview. Control group subjects were employees of John Umstead Hospital, members of the experimenter's residential community, and employees of a Durham newspaper.

The control group was comprised of individuals from the three following sources; 1) Health Care Technicians and blue-collar employees of John Umstead Hospital (approximately 50%); 2) blue-collar employees of a local newspaper (approximately 10%) and; 3) members of the experimenter's residential community in Hillsborough, North Carolina (approximately 40%). Hospital employees were tested



in the same setting as were patients. These individuals were quite willing to participate, but most expressed some concern about the effects of the results on their job status at the hospital or about what might be learned about their own mental health. When these individuals were informed that the study had no relevance or consequence to either issue, most agreed to participate. The experimenter found it helpful to inform the potential control subjects that the purpose of the study was to learn more about hospitalized schizophrenics, but that it was necessary to learn how "normals" performed in the task situation in order to interpret the performance of the schizophrenics. This was intended to take the apparent focus of this study off the controls and make them appear to be contributors, rather than objects of examination.

Most of the remaining subjects were acquired by knocking on doors in a residential community in Hillsborough, North Carolina. The experimenter introduced himself as a member of this community and explained his status as a student researcher. This portion of the subject selection and acquisition process was least successful. Many of these individuals either refused to participate, for one reason or another, or failed to meet the matching requirements. Of those who agreed to participate, several were quite enthusiastic and introduced the experimenter to other potential subjects. The remaining subjects (employees of a Durham newspaper) were approached in a manner similar to that described above. In general, the experimenter found that greater subject cooperation resulted when subjects were approached individually, rather than in groups.

### Apparatus

The conformity testing instrument utilized in this study was a multiple-choice test (incorporating live stimuli presentation and written response), comprised of 18 Asch-type informational/perceptual tasks (see Appendix 2). Sufficient space accompanied each possible choice to allow for the placement of 4 sets of initials which were described to the subjects as the choices of previous respondents. The location (A, B, or C) of initials was varied according to the procedure specified by Asch (1956) (See Table 4). Excepting the influence source, the method of administering this instrument duplicated the Asch procedure.

The use of this instrument is expected to have elicited in the subjects, the same forces, though to a lesser degree, elicited in live confederate situations (see Stang 1976 for previous use of this type procedure).

In order to determine the difficulty of this instrument with a schizophrenic population, (matched to the experimental groups), a non-influence (no initials) group administration ( $n = 10$ ) was performed. Mean error was found to be .60 per 18 task trials. This is comparable to the .55 mean error found by Asch (1951) for normals and the .54 mean error found by Cull (1971) for a schizophrenic population. In the matching procedure, the verbal portion of the Shipley Institute of Living Scale was administered (See Appendix 3) in order to assess subject intelligence. Only the verbal portion was used as schizophrenia is believed to entail a reduction in performance I.Q. This test was standardized on 1046 individuals, and

has a reliability coefficient of .87 for the vocabulary section. A Shipley/WAIS coefficient of .90 has been found.

Visual acuity was assessed on a Snellen Eye Chart.

### Design

The 2 x 2 experimental design of this study featured two treatment levels and two classifications (see Table 3). The two treatment levels were: 1) high confederate status, represented as Doctors and 2) low confederate status represented as Health Care Technicians. The two classifications were schizophrenic and normal. Eighteen trials of an Asch-type perceptual judgement task were administered to each subject individually. Twenty subjects were assigned to each cell.

### Procedure

Following selection, subjects were administered the verbal portion of the Shipley Scale. Subjects (N = 20 per treatment condition) were assigned to treatment conditions, equated on the variables of sex, race, age, education, and, for experimental subjects, sub-type classification (see Table 5 for mean values). As in one variation of the Asch procedure, task trials 1, 2, 5, 10, 11 and 14 were neutral trials (with 4 sets of initials unanimously placed by the correct response choice). On trials 3, 4, 7, 8, 9, 12, 13, 15, 16, 17, and 18 ("critical trials"), 4 sets of initials were unanimously placed by erroneous response choices. Instances of subject response agreement with confederate responses on trials 3, 4, 7, 8, 9, 12, 13, 15, 16, 17, and 18 were termed "erroneous

conformity responses." Four sets of initials were used because Asch (1951) decided this was the number that optimized conformity.

Experimental subjects were placed at a desk in a room with typical hospital decor and free from distractions. Control subjects were tested in three settings; 50% in the same office used for experimental subjects; 35% in the experimenter's home, in a comfortable room free from distractions; and 15% in their own homes, in a room free of distractions.

The original Asch-type (Asch, 1956) comparison cards were placed at the front of the room, approximately eight feet from the subject. Each subject was provided with a pencil and the appropriate answer form with written and verbal instructions (see Appendix 2). Verbal instructions were as follows: "You see the card on the left? Notice the length of the line on this card, then try to find the line of the same size, the same length, on the card on your right. Which line do you think is the same size?" The experimenter continued to explain until it was apparent that the subject understood the task. Then, the following additional verbal explanation was given: "We have 18 of these for you to do. For each one, if you believe the correct response is line 1, place your initials under column one here on the answer sheet. If you believe the correct answer is line 2, place your initials under column 2 on the answer sheet. If you think line 3 is the right choice, place your initials under column 3 on the answer sheet. I have only a few of these answer sheets and you will find that \_\_\_\_\_" (Doctors or Health Care Technicians, depending upon the treatment condition) "from a local



hospital have taken this test before you and used this answer sheet. Please tell me as you finish each item and I will change the cards." The bogus initials that were placed on the test forms were randomly constructed from letters of the alphabet. Initials were written by different people to lend authenticity to their appearance.

After the completion of testing, the experimental subjects were questioned concerning orientation ("Do you know where you are?", "What time is it?", "What day of the week is it?") in order to aid the experimenter in forming a judgement about patient reality contact. This judgement was based upon the patient's orientation to person, place, time and situation as well as the degree of thought process disorder. The latter judgement was based mainly on the verbal and non-verbal behavior of the subject during the interview, during the task period, and in the post-task questioning session. Also taken into account were the presence or absence of hallucinations or delusions. All these considerations were subjectively fused into a judgement of orientation status and reality contact. Judgements were recorded in a 1-5 fashion, with 1 being least oriented, and 5 being most oriented.

Following the recommendation of the research committee at the hospital, the patients were not debriefed until after the termination of the experiment.

## RESULTS

Results of this study were in the form of erroneous conformity response scores. These scores represent the number of occasions subjects selected erroneous responses on a perceptual, line-length

comparison task where others had been represented as unanimously selecting the same erroneous response. Results revealed relatively low overall conformity scores for all groups. Highest mean conformity scores were found in the normal, high-status confederate group ( $\bar{x} = 1.70$ ) and normal, low-status confederate group ( $\bar{x} = 1.65$ ). Moderate mean conformity scores were found for the schizophrenic, high-status confederate group ( $\bar{x} = 1.30$ ), and lowest mean conformity scores were found for the schizophrenic, low-status confederate group ( $\bar{x} = .70$ ). Table 6 displays the means and standard deviations of the erroneous conformity scores of schizophrenic and normal subjects in high status (confederates represented as Doctors) and low status (confederates represented as Health Care Technicians) treatment conditions.

Univariate, two-factor, fixed effects analysis of variance (Glass and Stanley, 1970) was employed for hypothesis testing and is shown in Table 7. Mean conformity scores for the main effect of the schizophrenic subjects and normal subjects comparison yielded results which differed beyond chance expectations ( $F(1,76) = 4.405$ ,  $P < .05$ ). Thus, the primary hypothesis of this study was supported. Mean conformity scores for the comparison between the high-status (Doctors as confederates) group and low-status (Health Care Technicians as confederates) group comparison failed to yield results differing beyond chance expectations ( $F(1,76) = .914$ ,  $P > .05$ ). Mean conformity scores for the interaction failed to yield results differing beyond chance expectations ( $F(1,76) = .839$ ,  $P > .05$ ).

With respect to the underlying assumptions of ANOVA, Levene's

homogeneity of variance test failed to indicate that homogeneity had been violated. Also, a chi-square goodness of fit test of the normality of error failed to demonstrate any deviance from error normality.

In summary, the above analyses were not invalidated by violations of the basic assumptions of ANOVA; thus it may be concluded that analysis of the overall main effects and interactions supported the hypothesis of decreased conformity for schizophrenics. No significant effects were found for confederate status or the interaction between mental health status and confederate status.

Pairwise Planned Orthogonal Comparison Analysis (Myers, 1972), shown in Table 8, was performed for two contrasts suggested by theory. The mean conformity score ( $\bar{x} = .70$ ) of the schizophrenic, low confederate status group was found to differ beyond chance expectations from the mean conformity score ( $\bar{x} = 1.65$ ) of the control, low confederate status group ( $F(1,76) = 4.37, p < .05$ ). The mean conformity score ( $\bar{x} = 1.30$ ) of the schizophrenic, high confederate status group was found not to differ beyond chance expectations from the mean conformity score ( $\bar{x} = 1.70$ ) of the control, high confederate status group ( $F(1,76) = .774, p > .05$ ). This analysis indicates that the majority of the schizophrenic/normal main effect difference is a product of differential response to the low status condition. Although these group differences might have been expected to cause significant results for the ANOVA test of interaction effects, none were found. The present experimenter is unable to explain the apparently inconsistent results yielded by the ANOVA and POC analysis.



Results of both schizophrenic groups erroneous conformity scores were analyzed in relation to the researcher's subjective impression of subject orientation status. Data were submitted to Pearson product-moment correlation analysis. Results revealed a relationship of  $r_{xy} = -.33$  (Glass and Stanley, 1970). This result suggests that, contrary to expectations, the schizophrenics of the present study exhibited a decrease in conformity behavior as orientation and reality contact increased.

#### DISCUSSION

The results of this study support the contentions of those theorists who describe schizophrenia as related to reduced responsiveness to social conformity pressures. Although this study failed to find significance on several of the examined hypotheses, the primary hypothesis of reduced conformity in schizophrenia was supported. This result was in agreement with those reported by Gill (1963), Gill (1965), and Marsella (1975); however, it conflicts with those reported by Schooler and Spohn (1960), Whitman (1961), Bishop and Beckman (1969), and Cull (1971). This pattern is explained in terms of methodological similarities and differences.

The present study was the first to match on I.Q. Berenda (1950), and others report a negative correlation between intelligence and conformity. As schizophrenia is generally held to entail a diminution in performance I.Q. (Himelstein, 1957, Shipley 1940), careful assessment and matching are necessary to insure between-group equivalence on this dimension. Failure to consider the I.Q. variable may have biased previous studies in the direction of non-



significant findings.

While many previous studies matched groups on education, this variable reflects socio-economic factors. Thus it may be logically argued that situational conditions and factors of little present importance may be reflected in an individual's level of education. On the other hand, a measure of verbal intelligence should be significantly more accurate and useful. Also, matching solely on verbal intelligence, rather than total intelligence, is an attempt to equate groups without eliminating group differences which are believed to be the result of schizophrenia. In sum, it is believed that the failure of previous studies to match on verbal intelligence may have biased results in a manner inconsistent with theory.

The "control groups" utilized in the present study were somewhat unique. This uniqueness may have contributed to the particular results reported in this study. The control group of this study was composed of a more heterogeneous selection of individuals than were previous control groups. Controls in the present study included a variety of occupational types with a large number being selected from lower status hospital personnel. Others were typically blue collar workers from the local community. This group was also heterogeneous with respect to race and sex.

Previous studies failed to address occupational diversity (with the exception of Gill, 1965). Also, controlled representation of both Caucasians (50%), and Negroes (50%) was unique to the present study. In fact, only the Marsella (1975) study matched groups on the basis of race. With respect to sex, Gill (1963), Gill (1965),

Bishop and Beckman (1960), and Cull (1971) used all male subjects and only Marsella (1975) and the present study used matched groups of equal numbers of males and females.

In addition, all previous control groups (with the exception of Gill, 1963) were selected solely from single, pre-existing groups (see Table 1).

This information suggests that the control group of the present study was more heterogeneous and consequently more normal than were any previous control groups.

On the other hand, it may be argued that the hospitalized, TB patient control groups of the Schooler and Spohn (1960) and Whitman (1961) studies were more closely matched to the experimental groups than were those of the present study, particularly on the variable of institutionalization. Selecting a non-normal, but more closely matched control group may yield more definitive results about schizophrenia per se; however, results of this type study yield fewer answers about the differences between institutionalized schizophrenics and normals. Further, it may be argued that, in contemporary society, schizophrenia is a disorder which entails institutionalization. Information regarding schizophrenia, apart from institutionalization, is then of primarily theoretical, not clinical utility. In this area of study, with few consistent patterns, it is interesting to note that both studies utilizing institutionalized controls found similar, non-supportive results.

At this point, it is impossible to quantify the impact of all the procedural and methodological differences which result in the

composition of the various studies' control groups; however, the control group of the present study appears to compare favorably with all others in "normalcy", heterogeneity, and experimental group equivalence.

The "experimental" subjects of the present study, like those of the Whitman (1961), Gill (1963), Gill (1965), and Cull (1971) studies included more than one sub-type. The present study selected only chronic undifferentiated types (75%), and paranoid types (25%) as these two groups comprised approximately 95% of the schizophrenic population of John Umstead Hospital. Other studies used all sub-types. Catatonics were not selected, in the present study, for two reasons; 1) catatonics are relatively rare at John Umstead Hospital and; 2) the catatonic sub-type exhibits behaviors, such as echolalia, echopraxia and physical immobility which make them very difficult subjects to assess. Also, the present study took into account the possible qualitative differences across sub-types and sought results that would be highly generalizable to specific populations. Generalizability has been a perennial problem of all schizophrenic research.

Bishop and Beckman (1969), and Marsella (1975) selected only paranoid schizophrenic experimental subjects. Also, Gill (1965) and possibly others who selected mixed sub-types, chose subjects primarily from the paranoid sub-group. This tack was not chosen for the present study for two reasons; 1) this make-up does not represent the naturally occurring contemporary incidence of paranoid types (at John Umstead Hospital) and; 2) the present study sought to minimize the effects of subjective paranoid individuals to a deceptive situation.



Studies with experimental groups composed of primarily paranoid sub-types risk finding results more indicative of the effects of paranoia than schizophrenia.

Other differences which exist between the experimental groups of the present study and those of past studies involve the use of both Caucasians and Negroes, as well as males and females. The various selection procedures (with regard to race and sex) for past and present studies are delineated in the "control group" discussion. The present study also differed from past studies in that; 1) only patients currently receiving anti-psychotic medication (standard hospital procedure) were selected and; 2) remitted individuals were disallowed (only 4 failed to qualify on this basis). Most reviewed studies, like the present study, required all subjects to demonstrate a reasonable level of visual acuity.

The present study sought to achieve heterogeneity, representativeness, and normalcy in the control group with respect to all variables. This goal was modified with respect to heterogeneity and sub-types in order; 1) to minimize the risks of confounds from using catatonics and over-representing paranoids and; 2) to maximize generalizability. The present studies' experimental groups compare favorably with past studies' control groups on the dimensions discussed above.

With the exception of the instrument employed in this study, and the manner of its administration, the method of this study duplicated that of Asch (1956). Of the past studies, Schooler and Spohn (1960), Whitman (1961), Bishop and Beckman (1969), and Marsella (1975) used the Asch procedure. Others used substantially



different formats. The present study utilized an instrument for eliciting conformity which did not require the use of live confederates. The disadvantages resulting from this procedure include an apparent, across-the-board decrease in conformity behavior elicited in subjects. The very definite quantitative decreases found in the mean conformity scores in this study are attributed to the lack of face-to-face conformity pressure. Excepting the reservations expressed above, the instrument employed in this study for eliciting conformity behavior appears to be qualitatively equivalent to in vivo procedures. This conclusion is based upon the main effects results which yield a pattern which corresponds to theory. In addition, methodological gains are expected to have resulted from this procedure in that it affords the opportunity for greater control of the testing situation. Studies that rely upon live confederates are more subject to human error. Perhaps the greatest gains to be realized from this instrument are practical; the requirement of four full-time, trained confederates was eliminated by this procedure. In sum, the lack of face to face conformity pressure in the method of this study is believed to be responsible for the overall reduction in conformity; however, the pattern of results is attributed to subject variables and non-instrument situational variables.

In addition, to replicating past efforts at assessing the "reduced conformity in schizophrenia" hypothesis, the present study incorporated procedures for assessing the effects of confederate status differences on conformity behavior. Contrary to expectations, significant differences were not found between the low and high

status treatment conditions, for the schizophrenic group; however, a moderately strong trend in the hypothesized direction was noted. As in the case of reduced mean conformity scores, it is hypothesized here that the procedure of representing status in an indirect, in absentia manner is responsible for the non-significant findings of this comparison. In short, if schizophrenics had been faced with live Health Care Technician and Doctor confederates, conformity levels may well have differed significantly.

As reported, with respect to the major hypothesis of this study, significant differences were found for the schizophrenic low-status group, normal low-status group comparison, but not for the schizophrenic high-status group, normal high-status group comparison. Also, group mean scores for the normal high-status group were essentially equal to those of the normal low-status groups (see Table 6). These results suggest that the procedure utilized in this study to create apparent status differences possibly failed in the following ways; 1) Health Care Technicians and Doctors may have appeared near equal in status to controls or; 2) apparent status is less consequential when presented in absentia or; 3) choice of Health Care Technicians as low-status confederates may have influenced schizophrenic subjects to decrease conformity due to the negative, controlling role of the Health Care Technicians or; 4) selection of Doctors may have influenced schizophrenic patients to increase conformity due to the intense, positive relationship which often exists in Doctor/chronic patient situations.

While it is impossible to say with certainty, at this point,

the precise extent to which each of the above possibilities influenced the results of this study, it seems likely that each was influential to some degree. This study could have eliminated certain of these problems if; 1) confederates were described as individuals of no special importance to either experimental or control subjects; 2) confederates were described to subjects to an extent which would guarantee subject awareness of confederate status and; 3) a procedure had been implemented to enhance the reality of the in absentia confederates.

Analysis of the relationship between the erroneous conformity responses of the schizophrenic groups and the experimenter's subjective orientation status ratings of the subjects yielded a correlation coefficient of  $r_{xy} = -.33$  (see Figure 1). It was also determined in this analysis that near equivalent orientation ratings existed for the two experimental groups with means of 3.0 for the low status group and 2.8 for the high status group. This suggests that the groups were near equivalent in terms of the degree of their pathology.

The correlation result of  $r_{xy} = -.33$  appears to conflict with the theoretical contentions that increased regression results in decreased investment in the external world. If this were indeed the case, the correlation between orientation and conformity behavior should be moderately strong and positive in direction. Assuming the researcher's subjective ratings have some basis in reality, there appears to be a decrease in conformity as regressive dis-orientation decreases. This paradoxical finding points to the possible



existence of significant moderator variables in the schizophrenia/conformity picture. While moderator variables are widely held to be essential to the understanding of conformity behavior in normals, conformity behavior in schizophrenics has been insufficiently examined to warrant conclusive, far-reaching statements concerning moderator variables.

The present study has yielded some credible results, some questionable results, and demonstrated the strengths and weaknesses of a new procedure and instrument for eliciting and measuring conformity.

With respect to the major hypothesis of this study, results are supportive and believable; however, as past studies indicate, no one study is conclusive. Future examinations of the "reduced conformity in schizophrenia" hypothesis are essential. Only through rigorous studies will conclusive answers emerge.

Re-examination of the "status effects" hypothesis of this study is a necessity. Possible sources of error in this type of research have been pointed out by the present study. Future examinations of this variable are encouraged to consider all possible sources of error prior to researching this and other complicated variables. In short, it is impossible to over-emphasize the importance of rigor in this very complicated and difficult line of research.

With regard to the method employed in this study, limited application is suggested. While the ease of administration of the instrument introduced in this study makes it very attractive, it is



best used as a gross measure of conformity. In areas of research where high conformity scores are expected, the procedure employed in this study might well be the procedure of choice; however, in settings where low conformity scores are expected, either the conformity eliciting powers of the procedure and instrument of this study should be enhanced, or in vivo procedures should be considered.

In regard to the trend suggested by the negative correlation between orientation status and conformity behavior, the  $-.33$  correlation may reflect a restricted range of variation on the orientation dimension. For this reason it is not considered exceptionally meaningful; however, moderator variables may also be reflected in this result. It is important to the understanding of this area of research to identify these moderator variables and determine their relative importance. A logical beginning for research in this area would be the careful scrutiny of studies examining crucial moderator variables in conformity behavior in normals.

Table 1

## Summary of Previous Research on Conformity and Schizophrenia

Study	Schooler and Spohn (1960)	Whitman (1961)	Gill (1963)	Gill (1965)
Findings	DSH	DSH	SH	SH
Subject Type	Schiz. (Regressed Remitted)	Schiz. (Mixed)	Schiz. (Mixed)	Schiz. (Mixed)
Sex	N/A	M/F	M	M
N	8/GP	22/GP	28/GP	30/GP
C Status:	pseudo-peer	N/A	peer	peer
C #	3	3	2	4
Control Types	hosp. TB patients	hosp. TB patients	members of community	college students
S Mean Length of Hosp.	2.0	N/A	3.63	5.32
Mean Hosp. #	N/A	N/A	1.96	2.23
Age Mean or Range	33.9	N/A	27.76	19.69
Mean Ed.	10.2	N/A	12.57	11.8

Table 1 (continued)

Study	Bishop and Beckman (1969)	Cull (1971)	Marsella (1975)
Findings	DSH	CH	SH
Subject Type	Schiz. (Paranoid)	Schiz. (Mixed)	Schiz. (Paranoid)
Sex	M	M	M/F
N	28E 25C	32/GP	22/GP
C Status:	peer	peer	professionals
C #	3	3	3
Control Types	college students	Airman Basics	professionals
S Mean Length of Hosp.	N/A	.5	3.0
Mean Hosp. #	N/A.	N/A	N/A
Age Mean or Range	40.3	30	42.5
Mean Ed.	11.25	N/A	8.0

SH = supported hypothesis, DSH = did not support hypothesis, CH = contradicted hypothesis; the hypothesis is that Schizophrenics exhibit a diminished responsiveness to social conformity pressure as compared with normals.

C = confederate, S = subject.

N/A = Not available.

Table 2

## Raw Conformity Means of Comparable Studies

	Marsella 1975	Bishop & Beckman 1969*	Cull 1971**
Schizophrenia	$\bar{x} = 2.12$	$\bar{x} = 1.65$	$\bar{x} = 2.30$
Normal	$\bar{x} = 4.69$	$\bar{x} = 3.0$	$\bar{x} = 4.0$

\*Results extrapolated, only 8 critical trials.

\*\*No neutral trials, may account for reduced conformity in controls.



Table 3

## Research Model

		Mental Health Status	
		Factor A	
		1	2
Confederate 1	Status	Schizophrenic	Normal
		Low-status	Low-status
		N = 20	N = 20
(Factor B) 2		Schizophrenic	Normal
		High-status	high-status
		N = 20	N = 20

Table 4 \*\*

## Majority Responses to Standard and Comparison Lines on Successive Trials

Trial	Length of standard (in inches)	Length of comparison lines (in inches)				Majority error (in inches)	Type of error
1 a*	10	8 3/4	10	8		0	
2 b*	2	2	1	1 1/2		0	
3 1	3	3 3/4	4 1/4	3		+3/4	Moderate
4 2	5	5	4	6 1/2		-1	Moderate
5 c*	4	3	5	4		0	
6 3	3	3 3/4	4 1/4	3		+ 1 1/4	Extreme
7 4	8	6 1/4	8	6 3/4		- 1 1/4	Moderate
8 5	5	5	4	6 1/2		+ 1 1/2	Extreme
9 6	8	6 1/4	8	6 3/4		- 1 3/4	Extreme
10 d*	10	8 3/4	10	8		0	
11 e*	2	2	1	1 1/2		0	
12 7	3	3 3/4	4 1/4	3		+3/4	Moderate
13 8	5	5	4	6 1/2		-1	Moderate
14 f*	4	3	5	4		0	
15 9	3	3 3/4	4 1/4	3		+ 1 1/4	Extreme
16 10	8	6 1/4	8	6 3/4		- 1 1/4	Moderate
17 11	5	5	4	6 1/2		+ 1 1/2	Extreme
18 12	8	6 1/4	8	6 3/4		- 1 3/4	Extreme

\*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.

Bold face figures designate the incorrect majority responses.

Trials d to 12 are identical with trials a to 6; they followed each other without pause.

\*\*From Asch (1957, page 6).

Table 5

## Mean Matching Values

Group	Race*	Sex*	Age	Education	Verbal I.Q.	ECR**
Schizophrenic High-status Confederate n = 20			32.30	10.60	98.7	1.30
Schizophrenic Low-status Confederate n = 20			34.45	10.05	101.9	.70
Normal High-status Confederate n = 20			32.10	10.85	104.2	1.75
Normal Low-status Confederate n = 20			30.80	11.20	104.4	1.65

\*All groups were comprised of five Caucasian males, five Caucasian females, five Negro males and five Negro females

\*\*ECR = Erroneous Conformity Response.

Table 6

Group ECR Means and Standard Deviation

Mental Health Status		
Confederate Status	Schizophrenia Low-Status	Normal Low-Status
	$\bar{x} = .70$ (SD = .657)	$\bar{x} = 1.65$ (SD = 1.73)
	Schizophrenia High-Status	Normal High-Status
	$\bar{x} = 1.30$ (SD = 1.53)	$\bar{x} = 1.70$ (SD = 1.59)



Table 7

## ANOVA Source Table

Source of Variation	DF	SS	MS	F	P
Factor A (Mental Health Status)	1	9.115	9.115	4.410*	$P < .05$
Factor B (Confederate Status)	1	1.89	1.89	.914	$P > .05$
A x B	1	1.735	1.735	.839	$P > .05$
Within Cells	76	157.15	2.067		

\*F-ratio significant at the  $P = .05$  level.

Table 8

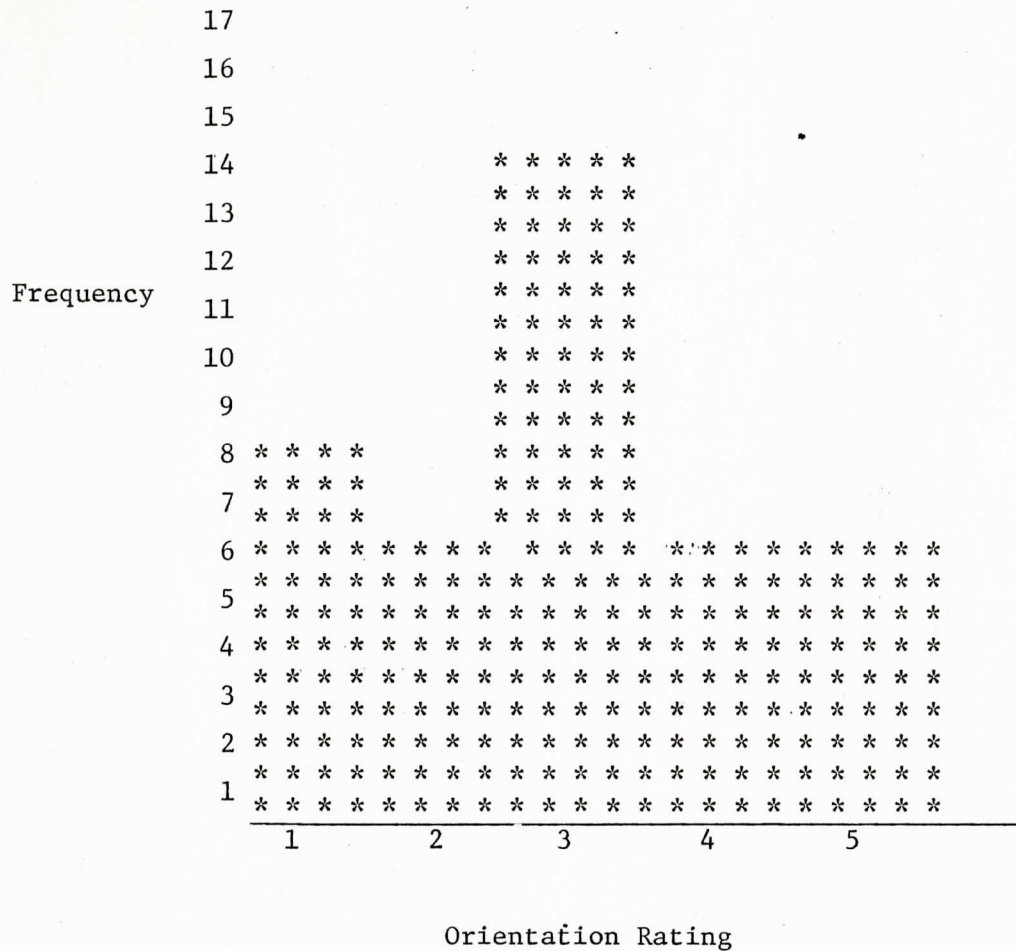
## Planned Orthogonal Comparison Source Table

## POC Weights

	Schizophrenic		Normal		DF	F	P
	HS*	LS**	HS*	LS**			
Comparison #1	0	+1	0	-1	1,76	4.37	$P < .05$
Comparison #2	-1	0	+1	0	1,76	.774	$P > .05$

\*HS = High Status

\*\*LS = Low Status



## Appendix 1

## Informed Consent Form

I, \_\_\_\_\_, agree to take part in a study which requires me to A) take the Shipley Institute of Living Scale, B) take a test of vision and C) to respond to 18 items each of which involves the comparison of the lengths of four lines. I understand that the purpose of this study is to help the experimenter learn more about how people see things and behave in groups. The experimenter agrees to share the results and a full explanation of the study with me when the study is completed. The experimenter agrees that my participation and any knowledge gained about me is confidential. I will be able to refuse to participate in this study or withdraw at any time without any change or denial of services here at the hospital. I have been informed that this study will not interfere with my other hospital activities and that I am free to take advantage of other activities at any time. I understand that the overall goal of this study is for the betterment of people, like myself, in mental hospitals. I, \_\_\_\_\_, hereby state that I have read and explained this document to the above signed patient and agree to carry out all requirements specified herein.

---

Date

---

Thomas M. Garner, Researcher .



## Appendix 2

Please look at the above three lines on the right and decide which is the same length as the line on the left. Give your answer by placing your initials under the number below which is the same as the number beside your choice on the cards above.

## Comparison 1

1	2	3
_____	WAGL	_____
_____	LNR	_____
_____	ODR	_____
_____	PH	_____
_____	_____	_____
_____	_____	_____

## Appendix 3

## SHIPLEY - HARTFORD - BROUGHTON SCALE

NAME \_\_\_\_\_ DATE \_\_\_\_\_

In the test starting on the next page, the first word in each line is printed in capital letters. Opposite it are four other words. DRAW A LINE under the ONE WORD which means the same thing, or most nearly the same thing, as the first word. A sample has been worked out for you. If you don't know, guess. Be sure to underline the ONE WORD in each line that means the same thing as the first word.

SAMPLE

LARGE

red

big

silent

wet

1. TALK	draw	eat	speak	sleep
2. PERMIT	allow	sew	cut	drive
3. PARDON	forgive	pound	divide	tell
4. COUCH	pin	eraser	sofa.	glass
5. REMEMBER	swim	recall	number	defy
6. TUMBLE	drink	dress	fall	think
7. HIDEOUS	silvery	tilted	young	dreadful
8. CORDIAL	swift	muddy	leafy	hearty
9. EVIDENT	green	obvious	sceptical	afraid
10. IMPOSTER	conductor	officer	book	pretender
11. MERIT	deserve	distrust	fight	separate
12. FASCINATE	welcome	fix	stir	enchant
13. INDICATE	defy	excite	signify	bicker
14. IGNORANT	red	sharp	uninformed	precise
15. FORTIFY	submerge	strengthen	vent	deaden
16. RENOWN	length	head	fame	loyalty
17. NARRATE	yield	buy	associate	tell
18. MASSIVE	bright	large	speedy	low
19. HILARITY	laughter	speed	grace	malice
20. SMIRCHED	stolen	pointed	remade	soiled
21. SQUANDER	tease	belittle	cut	waste
22. CAPTION	drum	ballast	heading	ape
23. FACILITATE	help	turn	strip	bewilder
24. JOCOSE	humorous	paltry	fervid	plain
25. APRISE	reduce	strew	inform	delight

DO NOT STOP. GO ON TO THE NEXT PAGE.

26.	RUE	eat	lament	dominate	cure
27.	DENIZEN	senator	inhabitant	fish	atom
28.	DIVEST	dispossess	intrude	rally	pledge
29.	AMULET	charm	orphan	dingo	pond
30.	INEXORABLE	untidy	involatile	rigid	sparse
31.	SERRATED	dried	notched	armed	blunt
32.	LISSOM	moldy	loose	supple	convex
33.	MOLLIFY	mitigate	direct	pertain	abuse
34.	PLAGIARIZE	appropriate	intend	revoke	maintain
35.	ORIFICE	brush	hole	building	lute
36.	QUERULOUS	maniacal	curious	complaining	devout
37.	PARIAH	outcast	priest	lentil	locker
38.	ABET	waken	ensue	incite	placate
39.	TEMERITY	rashness	timidity	desire	kindness
40.	PRISTINE	vain	sound	first	level

STOP, WAIT FOR FURTHER INSTRUCTIONS.



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