PSYCHIATRIC WARD ENVIRONMENT AND PATIENT BEHAVIOR

by

Claire G. Silverman

A dissertation submitted to the
Graduate Faculty in Psychology in
partial fulfillment of the requirements
for the degree of Doctor of Philosophy,
The City University of New York.

1970

This manuscript has been read and accepted for the Graduate Faculty in Psychology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

April 23 1970 Harold Wilensky
date Chairman of Examining Committee

date Executive Officer

Peter T Adler
Leslie Berger
Supervisory Committee

The City University of New York

ACKNOWLEDGMENTS

I wish to express my gratitude to the members of my Doctoral Committee: Dr. Harold Wilensky, Chairman of the Committee, Dr. Leslie Berger, and Dr. Peter Adler for their invaluable advice, support, encouragement, and patience throughout the preparation of this dissertation. I also wish to thank the nursing staff of Metropolitan Hospital who assisted in the collection of data and the patients who served as subjects. Finally, my special thanks goes to Burt Silverman for his understanding.

TABLE OF CONTENTS

Chapter Page

LIST OF TABLES

APPENDICES

CHAPTER I

INTRODUCTION

The Socio-Psychological Theory of Behavior

The past decade has witnessed the reemergence of an environmentalist approach to the study of behavior reformulated in terms of a socio-psychological conceptualization. This approach emphasizes present social determinants of behavior as well as the sociological context of an act rather than intra-psychic factors based on past experience stressed in the traditional psychoanalytic approach. Its basic assumption is that all behavior is the result of the interaction of the individual and his environment and that much of behavior is situational. This formulation places heavy emphasis on the role of social learning with interest focused on the specific situational qualities of the environment serving as cues or reinforcers of behavior such as roles, values, attitudes, expectations, and other environmental elicitors of behavior.

Ullmann and Krasner (1969) represent this point of view in their belief that all behavior must be studied in the context of a given time, place, and person. Regarding pathology, no behavior is seen as intrinsically abnormal. Rather, social determinants are viewed as playing the singular crucial role in any designation of abnormality. The specific behavior termed abnormal is seen as part of the continuum

of normal behavior and also as bred, maintained and altered in the same manner as normal behavior. Normal behavior is seen as an adjustment resulting from a particular history of reinforcement. Regarding methods of altering behavior, attention is focused on the reinforcement contingencies which might be manipulated in a particular situation. In psychiatric treatment hospitals, the social milieu is of primary interest for its potential in eliciting adaptive behavior.

Historical Background

The socio-psychological approach to treatment traces its roots to the moral treatment offered during the first half of the nineteenth century. According to Bockoven (1956) moral treatment has been the "forgotten success in the history of psychiatry." This treatment consisted of "organized group living in which "work, play and social activities produce a meaningful total life experience in which growth of individual capacity to enjoy life has maximum opportunity." (pp. 302-303). This was an effort to create a favorable environment in which recovery could take place. A social therapeutic form of treatment was administered although it was not conceptualized as such.

The decline of the moral treatment hospital during the second half of the nineteenth century was primarily the result of rapid population growth, immigration, and pauperism which "forced the metamorphosis of mental hospitals from home-like havens of moral treatment to huge custodial asylums" (Bockoven, 1956, p. 40). Concurrently, interest in treatment was replaced by interest in diagnosis and pathology. Hospitals began post mortum studies in search of physical lesions in the etiology of mental diseases and "treated the mentally ill patient as physically

ill with emphasis on rest, diet, proper room temperature and ventilation" (Bockoven, 1956, p. 40).

With the advent of the "disease concept of mental illness, custodial care was advocated while awaiting the discovery of a cure. After the impact of Freudian theory, psychotherapy was added to the somatic treatments; however, the concept of "disease" as a frame of reference still held its place in this medical conceptualization.

The assumptions implicit in the medical model were conducive to structuring mental hospitals and developing staff attitudes that were least likely to serve therapeutic ends due to the minimizing of positive social influences that it had as its end product. Most patients accepted the role of the passive, "sick" patient awaiting cure and obliged by withdrawing in response to the social deprivations experienced. Their eventual deterioration was also a response to the expectation by staff of inevitable regression. This custodial hospital with its built in self-fulfilling prophesy resulted in large storehouses of hopelessly hospitalized patients.

Contemporary Socio-Psychological Approach to Treatment

The interaction between hospital structure, staff, and patients has been a recent area of socio-psychological investigation. Stanton and Schwartz (1954) were among the pioneers who studied the internal organization of the mental hospital to see how patient behavior related to institutional practices. They viewed the mental hospital as a social system with its own norms, status systems, and role requirements and were able to document evidence of patient behavior which emerged from the social context of the patient's life on the ward.

A parallel development was the development of a therapeutic community by Maxwell Jones (1953) in which he advocated the open hospital, adult status for patients, and the transformation of the hospital to a community which met the needs of patients rather than having patients conform to hospital policy.

Another outgrowth of the socio-psychological point of view was field studies using the hospital ward as the unit of investigation which is experimentally manipulated and contrasted with another method of operating a ward (Fairweather, 1964).

In other studies of the effects of ward environments, Moos (1967, 1968a) and Moos and Daniels (1967) have shown that ward settings elicit a particular hierarchy of reactions regardless of the individuals involved in them.

The socio-psychological formulation of mental illness is currently related to the care of hospitalized psychiatric patients by Robert Ellsworth (1968) who emphasizes the importance of the social milieu of a mental hospital as the single factor that has therapeutic effects. Psychotic behavior is seen as maladaptive behavior and the treatment of choice is a social rehabilitative program.

Current interpretations regarding the effects of this approach differ regarding the degree of its efficacy. Some theoreticians view the resocialization process not as a method of curing patnology but as a method of improving behavior so the patient may function better in the community (Myerson, 1969; Pace, 1957; Forrer, 1958). Others disagree with this limited vision of its effects and regard social deficit as the primary disability and therefore the only possible cure

(Pawnez, 1954; Unterberger, 1959; Fairweather, 1964; Ullmann and Krasner, 1969).

Whether regarded as an approach to total cure or a primary rehabilitative treatment, there is agreement that social treatment is invaluable and perhaps the newest and most hopeful development in the care of the mentally ill. Greenblatt (1955) notes a statement by the Expert Committee on Mental Health of the World Health Organization which is pertinent (p. 421):

> The most important single factor in the efficacy of the treatment given in a mental hospital appears to the committee to be an intangible element which can only be described as its atmosphere. (italics mine)

This committee further suggests that research focus on an assessment of the strengths and weaknesses in the social environments of mental hospitals to uncover the degree to which they effect behavior patterns. The present study was undertaken to identify and measure such an effect. One feature of ward atmosphere, clarity of the environmental demands, was selected and an assessment of its effects on aspects of patient behavior was investigated.

Research on the Effects of Environment on Patient Behavior

Relative Clarity of the Environment and Behavior

In the recent history of investigations into the effects of the environment, the relative clarity or ambiguity of the environmental "press" of a milieu or setting has been identified as a significant characteristic.

Cameron and Margaret (1954) listed situational complexity as one

of the conditions favoring disorganization. The situational complexity to which they referred was that of new or conflicting demands which were overwhelming and therefore were perceived as ambiguous. Bateson (1958) referred to ambiguous communication by parents as central in the etiology and development of schizophrenia in his identification of the double-bind interaction where words and action communicate conflicting messages.

A directly relevant study carried out by Dibner (1956) related to the effects of clarity or ambiguity on patient behavior. Dibner presented the thesis that anxiety was directly related to the degree of ambiguity in the situation to which the individual must make some adjustive reaction. He hypothesized that it was the condition of uncertainty of perception, expectation, prediction or control which was the essence of anxiety. The probability of uncertainty occurring is greater whenever external conditions are ambiguous. Since the ambiguous field permits a variety of possible structures, the individual is offered a complex array of choices together with a lessened probability of anticipating the results of his decisions because of lack of definitive cues.

The term "ambiguity" was used by Dibner to describe both objective properties of the stimulus field and psychological or subjective interpretations of the field. His study used five measures of anxiety to test patients' reactions to psychological interviews which varied in the degree of ambiguity or clarity provided by the interviewers. Four out of the five anxiety measures showed significant relationships with objectively measured clarity, and two out of the

five measures showed significant relationships with clarity of the interview as the patient perceived it. Another finding was a greater amount of disorganization in the ambiguous situation.

Just as interviews may vary in their relative clarity or ambiguity, psychiatric hospital wards may vary in the amount of clarity of their environmental demands. Since ambiguity frequently results in anxiety and disorganized behavior, poorer social adjustment is expected in that situation than where there is relative clarity. The first phase of this study undertook the assessment of the effect of clarity of psychiatric ward milieus on patient social adjustment.

Relative Clarity of the Environment and Accuracy of Perception

The relationship between clarity of a field and adjustment is complex, including variables other than anxiety. A process antecedant to adjustment is appraisal of the stimulus. Before an appropriate reaction to the demands of a situation can be made, there must be accurate perception of the demands. At least two factors interact.

Individual differences in potential for accurate perception do exist. While ambiguity permits freedom for idiosyncratic interpretation of a stimulus, some people are not capable of veridical perception even in the presence of a precisely defined stimulus situation. Clarity of the stimulus is thus a necessary but not sufficient condition of accurate perception.

The first phase of this study also undertook an assessment of the relationship between environmental clarity and a particular type of accuracy of perception of that environment -- consensual perception.

This perceptual skill was a reflection of the patients' ability to assess ward atmosphere in agreement with the consensus of his peer group. It was a measure of normative perception.

Accuracy of Perception and Behavior

The second phase of this study investigated the relationship between consensual perception of the environment and adjustment. Empirical evidence supporting the relationship between other forms of accurate perception and behavior is indirect.

Accurate social perception has been linked with a variety of social skills. Its relation to leadership was studied by Chowdhry and Newcomb (1952) who found that group leaders made the most accurate estimates of group opinion. Bell and Hall (1954) found that group leaders showed the greatest amount of socioempathy or ability to perceive the feelings of others.

Accurate perception has also been linked with popularity. Gage (1954) found that high school seniors who were most accurate in predicting the responses of others received the largest percentage of classmates' sociometric choices. Greer, Galanter and Nordlie (1954) found popular members of infantry squads more accurate than less popular members in predicting sociometric positions of men in their squads. Norman (1953) found that graduate students most often rejected by classmates had the least realistic perceptions of others.

Accurate social perception has also been linked with efficient group functioning by Festinger (1950) who found that erroneous social perceptions lead to restricted communication within a group, rejection of members, and lowered group efficiency.

Perceptual ability has also been studied extensively in tests of perceptual functioning in relation to diagnosis, cognitive styles, and development.

Although accurate perception has been recognized as a contributing factor to effective functioning in a variety of situations, it has not been studied in a natural setting among hospitalized psychiatric patients in relation to adjustment to the environment. The second phase of this study undertook this assessment.

Interaction of Environmental Clarity and Perception

The third phase of this study tested the interaction of relative clarity of hospital ward atmosphere and patient consensual perception of that atmosphere. To date there is no reported literature specifically investigating such an interaction. It was anticipated that there are individual differences in the amount of clarity which is needed for adequate adjustment. Patients who manifest poor consensual perception have not learned to evaluate their environment effectively. They are likely to exhibit different behavior in environments differing in clarity since they are more dependent upon the structure of the environment as a guide than are patients who exhibit better consensual perception. Patients with poor consensual perception would have greater difficulty in a relatively unclear environment; patients with better perceptual skills would not be so seriously affected by lack of clarity.

Statement of Hypotheses

On the basis of the foregoing discussion, the following hypotheses were examined in this study.

1. Regarding the effects of clarity of the social milieu on patient behavior:
   a. In a psychiatric ward which is perceived as relatively clear in its demands on patients, there will be better social adjustment than where the environment is perceived as less clear.
   b. In a ward which is perceived as relatively clear in its demands on patients, there will also be more agreement among patients in assessing the environmental press (more consensual or normative perception) than in a less clear ward.
2. Regarding the effect of perception on overt behavior, there will be better social adjustment among patients showing high consensual perception than among those low in consensual perception.
3. There will be an interaction between ward clarity and consensual perception in influencing social adjustment. Patients low in consensual perception will be more dependent on the environment for structure than those high in consensual perception; patients high in consensual perception will be less affected by differences in ward structure.
   a. Patients low in consensual perception will show poorer social adjustment on a less clear ward than on a relatively clear ward.
   b. Patients high in consensual perception will show no difference in adjustment on a relatively clear or less clear ward.

CHAPTER II

METHOD

Subjects

The subjects in this study consisted of 120 patients on two psychiatric wards (60 patients per ward) of Metropolitan Hospital in New York City. There were 54 male and 66 female patients whose ages ranged from 17-78 years with the median age at 34 years. The major ethnic groupings consisted of 54% Caucasian, 26% Negro, and 18% Puerto Rican. Based on Hollingshead's Two Factor Index of Social Position (1957) almost two thirds of the patients (65%) were at the lowest socio-economic level. Major diagnoses were Paranoid Schizophrenia, 35.0%; Chronic Undifferentiated Schizophrenia, 20.8%; Organic Brain Syndrome, 0.8%; Psychotic Other, 18.3%; Non-Psychotic Disorders, 25.0%. More than half of the patients had one or more previous admissions to psychiatric hospitals (57.4%).

Comparisons of the patient population of the two wards revealed no differences between wards for any of the demographic variables and diagnostic categories. For description and comparisons of demographic variables, see Table I through 7 of Appendix I.

During the period of time of data collection, 88 patients were admitted to the wards who could not participate and were excluded from the study (37 patients from Ward A and 51 from Ward B). Reasons for exclusion were as follows: (a) discharged in less than 10 days,

the time set as the beginning of testing and evaluation (12 patients on Ward A and 20 patients on Ward B where maximum stay was 15 days); (b) inability to read English (12 patients on Ward A and 13 on Ward B); (c) refused or were too confused to participate (13 patients on Ward A and 18 on Ward B). Descriptions of the excluded subjects are presented in Table 8 of Appendix I.

Wards

Patients were assigned to the wards depending upon the availability of beds. Male and female patients were alternatively assigned to the wards to assure an even distribution of men and women. These were routine ward procedures.

In order to assess the feasibility of differentiating among Metropolitan Hospital's three psychiatric wards regarding environmental press, a pilot study was conducted using the Ward Atmosphere Scale (Moos, 1968b). This scale consists of 130 dichotomous questions which are scores as twelve subscales, each of which measures a factor identified as a relatively independent dimension of ward atmosphere. A copy of this scale is included in Appendix II.

The two wards which were selected for this investigation differed significantly on the Clarity factor and did not differ on the other subscales of ward atmosphere. Ward A was the relatively clear ward and Ward B the less clear ward. A description of the pilot research is presented in Appendix II.

The ward structures and routines were essentially the same on both wards with one major exception. As part of an experimental

project, Ward B was a brief hospitalization ward and had as its maximum stay for patients 15 days. Median length of hospitalization on Ward B was 10 days.

On Ward A, there was no official time limit for patient stay. However, the practical upper limit was 30 days. When patients stayed longer, the chief psychiatrist had to submit in writing to an administrator the reason for the longer hospitalization. The median length of patient stay on this ward was 16 days.

The full time staff for the two wards were similar. Total staff on Ward A was 24; total staff on Ward B was 26. Breakdown of staff by discipline is listed in Table 9 of Appendix I.

Procedures

Patients were rated up to 3 days after admission for initial measures of severity of pathology. Ten to twelve days post admission was set as the interval for collection of all other measures. The decision to use this 10-12 day interval for evaluation was determined by three factors.

The lower time limit was determined by the estimate of the minimum number of days required for the ward environments to have an effect on patients. Since patients are frequently heavily medicated during the first seven days after admission, this was considered the absolute lower time limit of testing, and an additional three to five days was added for patients to become oriented to the ward routines.

Also considered was the need for sufficient time to have lapsed for patients to recover from the acute trauma of hospitalization and the crises which precipitated hospitalization. It is difficult to

test patients during the first week of hospitalization.

The upper time limit was set below the fifteen day maximum length of hospitalization and close to the actual median length of hospitalization on Ward B.

Measures

Ward Clarity.-- The Ward Atmosphere Scale was administered to the staff members and patients from both wards to determine whether there were ward differences in on the Clarity factor as was found in the pilot study on this scale. Staff completed the scale independently. All patients were administered the scale individually by the same tester in an office on the ward. The following instructions were read to patients;

> There are 130 statements in this booklet. They are statements about hospital wards. As part of research being done in this hospital, we want to understand what this ward is like for the patients. You are to decide which statements are true of this ward and which are not. Circle the "T" when you think the statement is mostly true of this ward. Circle the "F" when you think the statement is mostly false of this ward. Please be sure to answer every item. Do you understand?

Instructions were repeated if necessary. When patients were unable to complete the questionaire at one sitting, they were recalled to finish the scale if possible. Patients were considered untestable if they could not complete the scale after three attempts. Those patients who obtained scores above the limits set by the authors on the Halo or Inconsistency factor were considered untestable and form part of the group of patients excluded from the study.

Consensual perception.--This was a measure of patient agreement with his peer group in evaluating ward atmosphere. This measure was

calculated for an individual as the sum of deviations from the mean patient score on his ward for the twelve factors of the Ward Atmosphere Scale. High consensual perception reflected high agreement with the patient norm; low consensual perception reflected wide deviation from the patient norm. Split half reliability measures were calculated for consensual perception scores. On Ward A, r=.80; on Ward B, r=.85.

Ratings of patient pathology.--The Ward Behavior Inventory (Burdock and Hardesty, 1968) was used to measure severity of patient pathology. This scale was designed to provide a quantitative record of the psychopathological behavior of hospitalized patients on a ward. It is applicable to newly admitted and resident patients. This Inventory consists of 138 dichotomous items for recording observations of appearance and bearing, verbal behavior and adaptation to ward routine.

In a pilot study, patient ratings by 18 trained nurses and an independent rater were obtained to assess the reliability of this scale and to test for rater bias. The report by the authors of the scale of high reliability was consistent with this pilot research (r=.86 on Ward A, and r=.83 on Ward B). Details of this pilot study are given in Appendix II.

In the experimental study, patients were rated 0-3 days after admission to determine initial levels of pathology and to compare the wards on this variable. Patients were rated a second time 10-12 days post admission to determine the relation between levels of pathology and levels of social adjustment.

Patient social adjustment.--The MACC Hospital Social Adjustment Scale, Form II (Ellsworth, 1962) ratings were used for this measure.

This scale was designed to assess the behavioral adjustment of hospitalized psychotic patients regardless of extent of pathology. During the pilot study, two nurses on each ward were trained in using this scale. An Intraclass correlation (McNemar, 1962) was calculated to determine the reliability among raters, which yielded an r of .85. (See Appendix II.)

Intellectual Awareness of Environment,--Patients were tested on four subscales of the Wechsler Adult Intelligence Test (WAIS) (Wechsler, 1958): Picture Completion, Information, Comprehension, and Picture Arrangement. This combined WAIS measures in non-ward related types of intellectual awareness of the environment were obtained in order to assess the relationship between consensual perception and these relatively stable mental abilities, which focus on understanding of social situations.

The rationale for the use of these subscales as a measure of intellectual awareness of the environment was based on factor analytic and clinical use of the WAIS. Regarding the Comprehension Subtest, Wechsler reported that on the basis of clinical experience, this subtest may be influenced by "social stereotypy" or awareness of accepted social norms (1958, p. 130). Picture Completion was identified as a unique factor called "relevance" which is often used to measure the individual's ability to assess essential from non-essential details of the environment in perceiving missing elements of the environment (Cohen, 1951). Picture Arrangement is used clinically to assess social understanding. It calls for identifying key details in a related sequence of events involving people in an activity. This subtest also had a relatively high loading on the "relevance" factor (Cohen, 1951).

These four subtests of the WAIS were administered to each patient individually by the same tester in an office on the ward.

CHAPTER III

RESULTS

Ward Differences

Relative Ward Clarity

Mean factor scores for the Ward Atmosphere Scale were calculated for patients and staff on each of the wards. Both patients and staff on Ward A rated Ward Clarity as higher (means=5.65 and 5.83 respectively) than patients and staff on Ward B (means=5.00 and 4.57 respectively). None of the other categories of Ward Atmosphere significantyl differentiated the wards. This finding was a replication of the pilot study finding. Mean subscale scores, SDs and t tests of ward differences are presented in Table I.

Measures of Patient Pathology

Ward Behavior Inventory ratings were obtained 0-3 days after admission to determine whether there were initial differences in the patient populations on the two wards in severity of pathology. The pathology ratings for Ward A (mean=17.40; SD=9.67) did not differ significantly from the pathology ratings for Ward B (mean=16.90; SD=10.42). (t=0.28.)

TABLE 1

MEANS, SDs, AND t TESTS OF WARD ATMOSPHERE SCALE SUBSCALES FOR PATIENTS AND STAFF OF WARDS A AND B

	Patients					Staff				
	Ward A (N=60)		Ward B (N=60)			Ward A (N=24)		Ward B (N=26)		
Subscale	Mean	S.D.	Mean	S.D.	t	Mean	S.D.	Mean	S.D.	t
Spontaneity	4.85	1.73	5.11	2.21	0.69	5.25	1.40	5.50	1.60	0.88
Support	6.31	1.82	6.16	1.85	0.09	6.41	1.23	[illegible]	[illegible]	1.10
Practicality	5.01	1.95	4.83	2.27	0.42	5.20	1.29	5.80	1.57	1.50
Submission	5.15	1.78	4.98	2.34	0.44	[illegible]	1.54	4.73	1.32	1.50
Affiliation	5.35	1.97	5.00	1.79	1.01	5.20	1.32	4.80	1.27	1.10
Order	4.95	1.50	4.70	2.08	0.74	5.13	1.75	4.34	2.10	1.40
Insight	5.95	1.62	5.80	1.54	0.51	6.16	1.02	[illegible]	[illegible]	[illegible]
Involvement	[illegible]	[illegible]	5.13	[illegible]	1.26	5.41	1.75	4.92	1.84	0.95
Aggression	5.98	2.39	6.55	2.85	1.18	7.37	1.77	7.84	1.85	0.94
Variety	6.48	1.25	6.30	1.30	0.71	[illegible]	1.28	5.96	1.32	1.29
Clarity	5.65	1.92	5.00	1.55	2.02*	5.83	1.83	4.57	1.39	2.75**
Autonomy	5.80	2.20	5.96	1.76	0.44	7.35	1.45	7.50	1.76	0.54

*Difference is significant at .05 level.
**Difference is significant at .01 level.

Unless otherwise specified all p levels are for 2-tail tests.

Tests of Hypotheses

The Effects of Social Milieu on Patient Behavior

Relative Clarity of Environmental Demands and Social Adjustment

It was hypothesized that in Ward A (perceived as relatively clear in its demands on patients) there would be better social adjustment (MACC) than on Ward B (perceived as less clear). The Ward A mean adjustment score (65.45; SD of 9.82) was slightly higher than the mean for Ward B (63.15; SD of 11.94).

A 2x2 Analysis of Variance was calculated for differences in adjustment scores (MACC) related to Ward Clarity (Wards A vs. B) and Consensual Perception (high vs. low). The main effect for differences between wards (Clarity variable) yielded an F of 1.48 which was not significant. (See Table 2.) The hypothesis that patients on Ward A would show better adjustment than patients on Ward B was not supported.

TABLE 2

SUMMARY ANALYSIS OF VARIANCE OF ADJUSTMENT (MACC) RELATED TO WARD CLARITY, TWO LEVELS OF CONSENSUAL PERCEPTION, AND CPxWARD INTERACTION FOR WARDS A AND B

	d.f.	M.S.	F	p
Ward Clarity (Ward A vs. Ward B)	1	159	1.48	n.s.
Consensual Perception (high vs. low)	1	1524	14.24	.005
Consensual Perception x Ward Clarity	1	371	3.47	.10
Error	116	107		

Consensual Perception and Relative Clarity of Environmental Demands

Before testing the hypothesis relating consensual perception and environmental clarity, the accuracy of patient perception in non-ward related situations was estimated from the measure of intellectual awareness of the environment (the sum of four WAIS subscales). Ward comparisons were made on this variable to determine whether the patient populations were different. The mean weighted WAIS subscale scores for each ward are presented in Table 3. There were no significant differences between wards on the means of any of the individual WAIS subtests nor for the means of the total measure of intellectual awareness of the environment. The estimated IQs based on these subtests were 90 for Ward A and 89 for Ward B.

TABLE 3

MEANS, SDs and t TESTS FOR WAIS SUBTESTS

	Ward A (N=60)		Ward B (N=60)		
	Mean	S.D.	Mean	S.D.	t
Information	8.98	4.13	9.40	3.43	0.63
Comprehension	8.93	4.09	8.82	3.82	0.15
Picture Completion	8.28	2.67	7.72	2.77	1.12
Picture Arrangement	7.98	2.86	7.67	3.44	0.53
Total (Intellectual Awareness of Environment)	34.17	12.10	33.61	11.55	0.26

The second hypothesis regarding the effects of the social milieu on patient behavior stated that there would be a greater amount

of consensual perception manifested by the patients in Ward A (clear) than in Ward B. Individual consensual perception scores were calculated as the sum of deviations from the ward mean for each of the twelve factors on the Ward Atmosphere Scale. Mean scores for the two wards were obtained. Comparison of the difference between mean consensual perception scores on Wards A and B (17.84, SD of 5.55 and 19.64, SD of 5.34 respectively) yielded a t of 1.81 in support of the hypothesis ($p < .10$, 2-tail test).

Consensual Perception and Social Adjustment

It was hypothesized that there would be better social adjustment among patients high in consensual perception than among those low in consensual perception. Patients were divided into two groups across wards by a median split. The hypothesis was tested by examining the main effect of levels of consensual perception on adjustment in the 2x2 analysis of variance presented in Table 2. The mean adjustment score on the MACC for those patients with high consensual perception (67.90) was significantly higher than for those with low consensual perception (60.20) confirming the hypothesis ($F=14.24$, $p < .01$).

Interaction of Consensual Perception and Social Adjustment

The third hypothesis specifying an interaction effect between consensual perception and Ward Clarity yielded an F of 3.47, which was significant at the .10 level (2-tail test). (See Table 2.) The specific directions reflected by the interaction effect had been hypothesized and therefore the means of the four subgroups were analyzed. (See Table 4.)

TABLE 4

DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO MEAN ADJUSTMENT SCORES FOR TWO LEVELS OF CONSENSUAL PERCEPTION FOR WARDS A AND B

Ward	Level of Consensual Perception	Means (N=30)	63.53	67.37	68.43
B	Low	57.87	5.66**	9.50**	10.56***
A	Low	63.53	--	3.84	4.90*
B	High	67.37	--	--	1.06
A	High	68.43	--	--	--

*Difference is significant at .10 level.
**Difference is significant at .05 level.
***Difference is significant at .01 level.

Low consensual perception and adjustment.--In part, the interaction hypothesis specified that patients low in consensual perception would show poorer social adjustment on a less clear ward than on a relatively clear ward. Duncan's New Multiple Range Test (Edwards, 1965) applied to the differences between the means revealed that patients low in consensual perception on Ward B showed significantly poorer adjustment than low consensual perception Ward A patients (57.87 and 63.53 respectively) confirming the hypothesis. (See Table 4.)

High consensual perception and adjustment.--The second part of the interaction hypothesis specified that patients high in consensual perception would show no differences in adjustment regardless of Ward Clarity. The means for the high consensual perception patients on Wards A and B did not differ significantly (68.43 and 67.37 respectively) confirming the hypothesis. (See Table 4.)

Intercorrelations Among Variables

Intercorrelations among the variables studied were obtained in order to determine the relationship among the variables. The correlation matrices are presented in Table 5. Adjustment and pathology were highly correlated on both Wards A and B (r=.65 and r=.67 respectively). Intellectual awareness of the environment (WAIS subtests) and consensual perception were moderately correlated on Wards A and B (r=.52 and r=.49 respectively). All intercorrelations on Ward B were significant. On Ward A, all correlations were significant except that of the WAIS measures and adjustment.

TABLE 5

CORRELATION MATRICES FOR PATHOLOGY, CONSENSUAL PERCEPTION, INTELLECTUAL AWARENESS OF THE ENVIRONMENT (WAIS SUBTESTS) AND ADJUSTMENT (MACC) FOR WARDS A AND B AND ACROSS WARDS

Ward	Item	Consensual Perception	WAIS	Adjustment
A (N=60)	Pathology	-.25	-.29	-.67
	Consensual Perception	--	-.52	.27
	WAIS	--	--	.17
B (N=60)	Pathology	-.34	-.43	-.65
	Consensual Perception	--	.49	.55
	WAIS	--	--	.49
A + B (N=120)	Pathology	-.30	-.33	-.67
	Consensual Perception	--	.50	.34
	WAIS	--	--	.32

For N=60, p. of .05=.21; p. of .01=.30
For N=120, p. of .01=.23

Comparison of Patients Not Included in the Study and the Sample Group

Pathology Ratings on Admission

A comparison of initial pathology ratings for the untested patients and the patients included in the study was done in order to determine the limitations on generalizability of findings for the entire patient population. There were differences in severity of pathology between these two groups. The mean pathology rating for the excluded patients (20.37; SD of 10.68) was higher than the means for those included in the study (17.15; SD of 10.12) and reached significance at the .05 level (t=2.19). The patients who were not evaluated at the 10-12 day period had been rated significantly higher in pathology on admission.

A ward comparison of initial ratings of pathology of the excluded patients was calculated to determine whether these were different populations. The difference between ward A pathology ratings (mean=20.47; SD=10.29) was not significant (t=0.15). The patients on the two wards who were excluded from the study therefore did not show significant differences in severity of pathology on admission.

Disposition

Ward comparisons were calculated for the number of patients transferred to a State Hospital. There were no significant differences in this disposition between wards for patients included in the study (Ward A=15 patients, 25%; Ward B=20 patients, 33.3%; χ^2=1.05).

However, ward comparisons of the disposition to a State Hospital for the total number of patients admitted to the wards during the

period of data collection (the sample group plus those excluded from the major part of the study) revealed that a significantly greater number of patients from Ward B (45 patients, 38.46%) were sent to a State Hospital than from Ward A (23 patients, 23.71%). ($\underline{X}^2$=4.05; $\underline{p}$ <.05.)

CHAPTER IV

DISCUSSION

Major Findings

One of the major findings of this investigation was that patients high in consensual perception showed better social adjustment than those low in consensual perception. It was assumed that this perceptual ability was needed for evaluation of environmental demands before an adjustment appropriate to the demands could be made. Thus, consensual perception was viewed as a necessary antecedant to adjustment. Behavior in relation to the environmental demands depended upon perception of that environment; and, where there was higher consensual perception, good social adjustment was more likely. This finding is consistent with research linking other forms of veridical perception to a variety of social skills (Chowdhry and Newcomb, 1952; Bell and Hall, 1954; Gage, 1954; Greer, Galanter and Nordlie, 1954; Norman, 1953; Festinger, 1950).

Another major finding was a higher level of consensual perception among patients on the relatively clear ward. Patient perception was closer to the peer-group consensus in the milieu where the environmental demands were clear. These patients therefore exhibited more normative perception in evaluating their surroundings. These levels of consensual perception were not merely reflections of the environment but had functional value since consensual perception was significantly related to adjustment.

Regarding the relationship between environmental clarity and perception, the direct effect of ambiguity of stimulation is to elicit need related perception. This observation has been the basis of projective tests which are designed to elicit this type of perception. However, ambiguity also provokes anxiety (Dibner, 1956) which has been shown to lead to raised perceptual threshholds (Blum, 1954; Bruner and Postman, 1949). Lower consensual perception on a less clear ward may be explained as the result of the lower clarity of the environment in addition to the raised perceptual threshhold resulting from anxiety related to the need to adapt to an ambiguous environment. Theories of perception which overemphasize intra-psychic determinants of behavior may neglect these situationally determined aspects of perception. This could lead to ward conditions which do not elicit reality related perceptual processes among patients.

The hypothesized interaction effect of ward clarity and consensual perception was also supported in this investigation. Ward Clarity was related to adjustment differentially for patients high and low in consensual perception. Patients low in consensual perception showed poorer adjustment on a less clear ward than on a clear ward; patients high in consensual perception showed no differences in adjustment on either ward. The effect of relative clarity of the wards on adjustment therefore depended upon individual differences in consensual perception. The adjustment of high consensual perception patients was relatively unaffected by Ward Clarity, whereas Lack of Ward Clarity impaired the adjustment of low consensual perception patients.

This interaction effect suggests that there are individual differences in the amount of structure needed for adjustment. Ambiguity

tends to elicit more need related processes among people with greater perceptual difficulty. This is demonstrated on psychometric tests where patients with severe ego deficits generally show least disorganization on structured tests and the most deviant responses on projective or unstructured tests (Weiner, 1966). There is greater need for clarity for stimulus recognition among those who are functionally impaired in order to compensate for this deficit; and, these patients are especially dependent upon guides for behavior.

The anxiety level of psychiatric patients is generally high, and any increment is likely to be disorganizing. An ambiguous environment raises this anxiety (Dibner, 1956). In a relatively clear milieu, there is less need for a high level of consensual perception and less anxiety aroused than where there are demands for adjustment which cannot be deciphered. For maximum adjustment, ward clarity should be sufficiently high that it may be adequately perceived by all patients regardless of level of consensual perception. Where the environment is more ambiguous, it seems that more organization from within the patient is required in order to assess the demands of his surroundings with sufficient accuracy to make an adequate adjustment.

Although adjustment was related to Ward Clarity for patients low in consensual perception, the hypothesis that there would be better overall adjustment on the clear ward than on the less clear ward was not confirmed. Patient adjustment on the clear ward appeared to be somewhat better than on the less clear ward; however, this difference did not attain statistical significance. Patient social adjustment was high correlated with pathology, which was a major influence on this

aspect of patient behavior.

The hypothesized relation between Ward Clarity and adjustment may have been obscured by the elimination of a sizable percentage (43.1%) of patients from the major part of this investigation. Measures on two variables for which there were data for the excluded patients -- disposition and level of pathology on admission -- suggest that this inference may be justified.

One variable which has been related to adjustment is patient disposition. In studies on the validity of the MACC Hospital Social Adjustment Scale, Ellsworth and Clayton (1959) found that high MACC scores were related to hospital release. In this investigation, patients who were sent to a State Hospital for further treatment were therefore likely to have shown poorer adjustment than those returned to the community. For the experimental group where there were no significant differences in adjustment between the wards, ward comparisons on disposition also yielded no significant differences. However, there were significant differences in disposition for ward comparisons which included the patients who were untestable after admission. Proportionately more of this total group of patients on the unclear ward were sent to a State Hospital than from the clear ward. Since this disposition may reflect poor adjustment, the ward adjustment mean score for the selected testable experimental sample may have obscured real ward differences in adjustment.

Further support for this speculation comes from a comparison of pathology ratings on admission for the excluded patients and the selected patients. Those patients who were excluded showed greater

pathology than did the selected experimental sample. For the selected patients, high pathology was related to low consensual perception; and low consensual perception was related to poor adjustment on the unclear ward. If these findings were to be generalized to the untested patients their high pathology ratings suggest that they would have been poorer in adjustment on the less clear ward. Again, the limitation set by the experimental design may have eliminated from the study the patient population whose adjustment would be most sensitive to environmental clarity. In future research dealing with the effects of clarity on adjustment, efforts should be made to include severely disorganized patients.

The findings of this study of the relationship between ward environment and patient behavior provides support for the socio-psychological theory of behavior, which attends to the importance of the role of situational determinants of behavior. This approach may be viewed as a supplement to the more psychoanalytic theories which emphasize intra-psychic factors and past experience to the exclusion of situational factors. It is clear that situational factors affect both overt behavior (adjustment) and intra-psychic factors (consensual perception).

Until the recent reemergence of an environmentalist approach to the study of behavior, minimal attention was directed to the nature of the stimulus properties of hospital surroundings and its behavioral effects. The results of this study regarding the role of the environment in patient behavior is in line with Ellsworth's (1968) approach to the care of hospitalized psychiatric patients and his belief that the social milieu is paramount in its potential therapeutic effects on patients.

pathology than did the selected experimental sample. For the selected patients, high pathology was related to low consensual perception; and low consensual perception was related to poor adjustment on the unclear ward. If these findings were to be generalized to the untested patients their high pathology ratings suggest that they would have been poorer in adjustment on the less clear ward. Again, the limitation set by the experimental design may have eliminated from the study the patient population whose adjustment would be most sensitive to environmental clarity. In future research dealing with the effects of clarity on adjustment, efforts should be made to include severely disorganized patients.

The findings of this study of the relationship between ward environment and patient behavior provides support for the socio-psychological theory of behavior, which attends to the importance of the role of situational determinants of behavior. This approach may be viewed as a supplement to the more psychoanalytic theories which emphasize intra-psychic factors and past experience to the exclusion of situational factors. It is clear that situational factors affect both overt behavior (adjustment) and intra-psychic factors (consensual perception).

Until the recent reemergence of an environmentalist approach to the study of behavior, minimal attention was directed to the nature of the stimulus properties of hospital surroundings and its behavioral effects. The results of this study regarding the role of the environment in patient behavior is in line with Ellsworth's (1968) approach to the care of hospitalized psychiatric patients and his belief that the social milieu is paramount in its potential therapeutic effects on patients.

The extreme proponents of the environmentalist school view social determinants as playing the singular crucial role in behavior (Ellsworth, 1968; Pawnez, 1954; Unterberger, 1959; Fairweather, 1964; Ullmann and Krasner, 1969). This extreme view is not supported by this investigation. The relation between the environment, intra-individual factors and behavior were complex. Pathology and adjustment were highly correlated; and the measure of intellectual awareness of the environment and consensual perception were moderately correlated. The relationship between these stable intra-psychic factors and behavior points to the need to take into consideration organismic variables in addition to situational variables in studying behavior. A major limitation of the extreme socio-psychological approach is that these organismic factors tend to be overlooked.

Implications

The most direct implication of the findings of this investigation concerns hospital care. Two of the major goals of patient rehabilitation are adjustment appropriate to the demands of the environment and veridical perception. The importance of the hospital milieu in effecting these aspects of behavior points to the need to identify and evaluate the nature of the environment in which patients are treated. Environmental clarity has been identified as one of the variables leading to more efficacous perception. The finding that patients low in consensual perception show poorer adjustment on a less clear ward emphasizes the greater need for a clear environment for these patients.

A suggestion for further research is to examine critically the nature of specific ward environmental demands as well as their clarity to both patients and staff and to measure ward differences in patient behavior after programmatically structuring a ward to maximize environmental clarity. Other features of ward atmosphere need also be studied to determine the role of hospital environment in patient behavior and to then alter the milieu so that disabling social conditions are minimized and the ingredients which enhance recovery are emphasized.

One of the limitations in interpreting Ward Clarity in this investigation is that it was a global measure of a subjectively perceived aspect of the environment. Relative Ward Clarity did not exist as an objective stimulus property in isolation. Rather, it was a functional percept in that acknowledgment of the environmental press defined the goals for action in that environment. However, the nature of the differences in Ward Clarity which led to differences in adjustment and consensual perception was not explored. Lack of clarity may have been the result of absent cues, vague cues, cues which were inconsistent, or those which were contradictory. In order to assess the therapeutic potential of any ward environment, it would be important to be aware of all possible forms of ambiguity.

Factors which may have led to the differences in clarity on the wards in this investigation are varied. However, the most important contribution to the lower clarity on Ward B is likely to have been the effects of the fifteen day maximum stay for patients on this ward. Although the total staff on the two wards were similar, there was more rapid turnover of patients on Ward B. This reduced the patient-staff

ratio per unit of time. Staff on this ward also had more routine administrative work to handle, which reduced patient-staff contact. In addition, since there were a greater number of patients to know within a shorter period of time, staff was less likely to make attempts to become involved with patients, further reducing patient-staff interaction and the opportunity to clarify the nature of the environmental demands.

Staff attitudes on this ward were closer to that of a custodial hospital than on Ward A since contact was limited. Resident psychiatrists were the most vocal staff members who complained of their impotence in treating patients on this ward where there was time only for making diagnostic evaluations and proscribing medication. Other staff members were frustrated by the limited time to deal with vocational planning and family treatment. Also, there were fewer staff meetings where plans and goals for patients were discussed to clarify these demands to the staff. Ward A held six full staff conferences per week; Ward B held three such conferences per week.

The rapid turnover of patients also made for a less stable patient population compared to Ward A where patients who had been on the ward longer help orient the newer patients to the ward routines, procedures and expectations.

Although limited interactions may have been the primary contributor to less environmental clarity, this is not a necessary consequence of brief hospitalization where clarification of demands is considered an important aspect of the environment in patient rehabilitation. Where there is greater patient-staff contact clarification of

the environment may be more likely. However, the quality of these interactions is of importance. Ellsworth (1968) reviewed a series of studies which found that the most therapeutic interactions with psychiatric patients have the qualities of directness, openness and honesty. An effect of such communication would be clarity of the environmental demands. For example, patients frequently ask staff when they may go home. A typical indirect answer is "when you are well," or the patient is referred to his doctor who may offer a similar vague or evasive response. In this situation, an opportunity was presented by the patient for the staff to elicit and then reinforce desirable behavior as well as to clarify environmental demands. An appropriate response would have been one which presented reality to the patient by specifying the behavior exhibited which makes staff feel that the patient is not capable of functioning in the community and presenting alternative forms of behavior which would be more appropriate. It is possible for there to be maximim direct and honest interactions regarding patient behavior and staff expectancies. Further, inconsistency among staff, vague cues, and contradictory cues can be eliminated where patient goals are clear to staff.

Summary

The findings of this investigation suggest that the relationship of the variables contributing to ward adjustment were as follows: Environmental clarity enhanced consensual perception. High consensual perception made adjustment more likely. Therefore, environmental clarity was indirectly related to adjustment through its influence on consensual perception. Although environmental clarity did not lead to ward differences in adjustment for all patients, it was related to

adjustment for those patients with low consensual perception. These patients showed better adjustment on the clear ward than on the unclear ward. These results qualified the finding that Ward Clarity was not related to overall patient adjustment for the sample studied. That is, this environmental factor did not determine patient adjustment independent of the effects of consensual perception. Overall ward differences may have been obscured by the restriction of the sample to the testable patients who showed less pathology.

The general findings were that environmental ambiguity resulted in disrupted perception and disorganized behavior among patients with a limited perceptual ability. These results regarding the role of the environment in affecting patient behavior is consistent with a socio-psychological theory of behavior which stresses the situational determinants of behavior. Although environmental factors are important, both situational and intra-individual factors contribute to behavior. In this investigation, limited patient-staff interaction resulting from shorter hospitalization appears to have been a major reason for less clarity on Ward H.

CHAPTER V

SUMMARY

The effects on patient behavior of relative clarity of environmental demands were investigated by comparing two psychiatric wards which differed in this variable and were similar in other environmental dimensions. These measures were obtained by patient and staff ratings on the Ward Atmosphere Scale (Moos, 1969b) which identifies twelve relatively independent aspects of ward environmental demands. The wards were also similar in measures of patient pathology at admission which was rated by trained nurses using the Ward Behavior Inventory (Burdock and Hardesty, 1968).

Sixty patients on each ward were compared on two aspects of behavior: Patient social adjustment was rated by trained nurses using the MACC Hospital Social Adjustment Scale, Form II (Ellsworth, 1962). Patient consensual perception was a measure of the individual's deviation from his peer group in his perception of Ward atmosphere. It was a measure of normative perception. Measures of intellectual ability in non-ward related understanding of social situations were obtained using four subtests of the WAIS. This variable and ratings of patient pathology 10-12 days after admission served as measures of relatively stable intra-psychic factors which were assessed in relation to the other variables.

The relationship between environmental clarity, social adjustment and consensual perception was complex. Patients high in consensual perception showed better adjustment than those low in consensual perception. Consensual perception was considered an antecedant to adjustment since accurate environmental evaluation must precede adjustment to that environment. Also, there was a greater degree of consensual perception manifested by patients on the relatively clear ward than on the unclear ward.

Ward Clarity and consensual perception interacted to affect adjustment. Patients low in consensual perception showed poorer adjustment on the less clear ward than on the clear ward. Patients high in consensual perception showed no differences in adjustment on the clear or less clear ward. Ward Clarity, therefore, was related to patient adjustment for those patients with low consensual perception. Interpretation of this finding was that patients with poor perceptual ability had greater need for environmental clarity than those with better ability to evaluate their environment.

Although Ward Clarity was related to adjustment for low consensual perception patients, main effect differences between wards were not found in regard to social adjustment. Ward differences in adjustment may have been obscured by the use of testable patients who showed less pathology than those not selected.

The relation of the variables leading to ward adjustment were as follows: Environmental Clarity enhanced consensual perception. High consensual perception made adjustment more likely. Therefore, environmental Clarity was indirectly related to adjustment through its influence

on consensual perception. It was more directly related to adjustment for patients with low consensual perception who showed better adjustment on the relatively clear ward than on the less clear ward.

These findings support the socio-psychological theory of behavior which attends to the situational determinants in behavior. Although the role of the environment was critical in understanding patient behavior, in this investigation, the effects of relatively stable intra-psychic factors on behavior were also important. Consensual perception was dependent upon intellectual awareness of the environment; and adjustment and pathology were found to be highly related. These findings support a moderate socio-psychological theory of behavior which does not focus on situational determinants to the exclusion of organismic variables.

Suggestions for further research focused on identifying and altering aspects of ward environments to maximize social rehabilitation. In this investigation, differences in Ward Clarity appear to have been primarily the result of differences in the amount of patient-staff interactions.

APPENDIX I

DEMOGRAPHIC DATA

TABLE 1

DISTRIBUTION OF PATIENTS BY SEX FOR WARDS A AND B

Sex	Ward A No.	%	Ward B No.	%	Total No.	%
Male	26	43.3	28	46.7	54	45.0
Female	34	56.7	32	53.3	66	55.0

TABLE 2

DISTRIBUTION OF PATIENTS BY AGE FOR WARDS A AND B

Age	Ward A No.	%	Ward B No.	%	Total No.	%
17-19	6	10.0	7	11.7	13	10.8
20-29	19	31.7	15	25.0	34	28.3
30-39	17	28.3	19	31.7	36	30.0
40-49	9	15.0	10	16.7	19	15.8
50-78	9	15.0	9	15.0	18	15.0

TABLE 3

DISTRIBUTION OF PATIENTS BY ETHNIC GROUP FOR WARDS A AND B

	Ward A		Ward B		Total	
	No.	%	No.	%	No.	%
White	34	56.7	31	51.8	65	54.2
Black	14	23.3	17	28.3	31	25.9
Puerto Rican	10	16.7	11	18.3	21	17.5
Other	2	3.3	1	1.7	3	2.5

TABLE 4

DISTRIBUTION OF PATIENTS BY SOCIO-ECONOMIC STATUS FOR WARDS A AND B

Level*	Ward A		Ward B		Total	
	No.	%	No.	%	No.	%
1	0	0	0	0	0	0
2	0	0	2	3.3	2	1.7
3	7	11.7	5	8.3	12	10.0
4	15	25.0	13	21.7	28	23.3
5	38	63.3	40	66.7	78	65.0

*Levels are those used by Hollingshead in his Two Factor Index of Social Position, 1957.

TABLE 5

NUMBER OF PSYCHIATRIC ADMISSIONS FOR PATIENTS OF WARDS A AND B

	Ward A		Ward B		Total	
	No.	%	No.	%	No.	%
None	27	45.0	24	40.0	51	42.6
None at Met. Hosp.	20	33.3	20	33.3	40	33.3
1 or more at Met. Hosp.	13	21.7	16	26.7	29	24.2

TABLE 6

PATIENT DISPOSITION FROM WARDS A AND B

Disposition	Ward A No.	Ward A %	Ward B No.	Ward B %	Total No.	Total %
Community	45	75.0	40	66.7	85	70.8
Manhattan State Hospital	15	25.0	20	33.3	35	29.7

TABLE 7

PATIENT DIAGNOSIS FROM WARDS A AND B

Diagnosis	Ward A No.	Ward A %	Ward B No.	Ward B %	Total No.	Total %
Paranoid Schizophrenia	20	33.3	22	36.7	42	35.0
Chronic Undiff. Schizophrenia	14	23.3	11	18.3	25	20.8
Organic Brain Syndrome	0	0	1	1.7	1	0.8
Psychotic Other	12	20.0	10	16.7	22	18.3
Non-Psychotic Disorders	14	23.3	16	26.7	30	25.0

TABLE 8

PATIENTS EXCLUDED FROM EXPERIMENTAL STUDY FROM WARDS A AND B

Reason for Exclusion	Ward A No.	Ward A %	Ward B No.	Ward B %	Total No.	Total %
Short Stay (under 10 days)	12	12.4	20	18.0	32	15.4
Non English reading	12	12.4	13	11.7	25	12.0
Confused or uncooperative	13	13.4	18	16.2	31	14.9
Total	37	38.2	51	45.9	88	43.1

TABLE 9

FULL-TIME STAFF BY DISCIPLINE ON WARDS A AND B

Title	Ward A	Ward B
Psychiatrist	7	8
Psychologist	1	1
Social Worker	2	4
Nurse	6	6
Nurse's Aide	4	4
Vocational Therapist	2	1
Mental Health Worker	2	2
Total	24	26

APPENDIX II

PILOT STUDY

Ward Clarity

A pilot study was conducted using the Ward Atmosphere Scale (Moos, 1968b) on each of Metropolitan Hospital's three psychiatric wards in order to differentiate among the wards' social atmospheres. Patients were tested after 10-14 days hospitalization. Selection was according to the order of patients' charts in the nursing file which are listed in alphabetic order. Two Spanish speaking patients were unable to complete the scale.

Analysis of variance of the mean scores for each subscale of the Ward Atmosphere Scale showed significant differences among the wards. (See Table 10.)

Duncan's New Multiple Range Test (Edwards, 1969) applied to the differences in the mean scores for each subscale yielded the following ward differences: The mean scores for wards A and C were significantly different for Aggression, Variety, and Practicality. Wards B and C differed significantly for Aggression, Clarity and Practicality. For Wards A and B, however, only the Clarity subscale means showed significant differences, and these wards were selected for further research regarding the role of relative clarity on the wards. Ward A was rated as higher in Clarity than Ward B ($t_{.3}$ and

3.7 respectively). The analyses of mean differences are presented in Tables 11-14.

TABLE 10

SUMMARY OF ANALYSES OF VARIANCE FOR MEAN SCORES ON SUBSCALES OF THE WARD ATMOSPHERE SCALE FOR WARDS A, B, AND C

Subscale	SSb (df=2)	SSw (df=57)	F	P
Spontaneity	15	211	2.02	
Support	8	200	1.14	
Practicality	27	186	4.09	.05
Submission	9	169	1.52	
Affiliation	5	160	.89	
Order	45	231	5.04	
Insight	2	192	.29	
Involvement	16	209	2.16	
Aggression	76	268	8.08	.01
Variety	17	136	3.54	.01
Clarity	73	135	15.20	.01
Autonomy	11	112	2.75	

TABLE 11

DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED TO THE PRACTICALITY SUBSCALE FOR WARDS A, B, AND C

Ward	Means	4.9	5.0	7.4
B	4.9	--	0.1	1.5*
A	5.0	--	--	1.4*
C	7.4	--	--	--

*Difference is significant at .05 level.

TABLE 12

DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED
TO THE AGGRESSION SUBSCALE
FOR WARDS A, B, AND C

Ward	Means	4.2	6.4	6.7	$\underline{P}$
C	4.2	--	2.2**	2.5**	.01
A	6.4	--	--	0.3	
B	6.7	--	--	--	

TABLE 13

DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED
TO THE VARIETY SUBSCALE
FOR WARDS A, B, AND C

Ward	Means	5.3	6.0	6.6	$\underline{P}$
C	5.3	--	0.7	1.3**	.01
B	6.0	--	--	0.6	
A	6.6	--	--	--	

TABLE 14

DUNCAN'S NEW MULTIPLE RANGE TEST APPLIED
TO THE CLARITY SUBSCALE
FOR WARDS A, B, AND C

Ward	Means	3.7	5.6	6.3	$\underline{P}$
B	3.7	--	1.9**	2.6**	.01
C	5.6	--	--	0.7	
A	6.3	--	--	--	

Ratings of Patient Pathology

To assure randomness of the distribution of patient pathology on the wards and to test for rater bias in patient ratings on this variable, measures of patient pathology were obtained by trained nurses and nurse's aides 1-3 days after patient admission using the Ward Behavior Inventory (WBI) (Burdock and Hardesty, 1968).

Eighteen nurses and nurse's aides rated twenty different patients on each ward. These ratings were compared to ratings of the same patients by an independent rater. There were six raters on Ward A and twelve raters on Ward B included in this sample. The correlations among raters for Ward A was .[illegible] and for Ward B, .84. The means and standard deviations for the wards are presented in Table 15.

TABLE 15

MEANS AND S.D.s FOR WBI FOR WARDS A AND B
FOR TWO SETS OF RATERS

	Ward A		Ward B	
Rater	Mean	S.D.	Mean	S.D.
Nurses	17.2	10.5	17.6	11.6
Independant Rater	17.9	9.8	18.0	11.5

Patient Social Adjustment

Two Registered Nurses on each ward were trained in rating patients on the MACC Hospital Social Adjustment Scale, Form II (Ellsworth, 1962) in order to obtain reliable ratings which showed no systematic bias. All the nurses and an independant rater observed

the same twenty patients for a total of a minimum of twenty hours. Ratings were repeated and differences discussed during these meetings. Finally, another twenty patients were assigned for rating after a minimum of twenty hours of observation. The Intraclass Correlation (McNemar, 1962) for this last group of ratings was .85. Means and standard deviations are listed in Table 16.

TABLE 16

MEANS AND S.D.s FOR FIVE RATERS USING THE MACC HOSPITAL ADJUSTMENT SCALE

Rater	Mean	S.D.
Nurse 1	52.40	18.11
Nurse 2	51.50	19.42
Nurse 3	50.85	18.10
Nurse 4	52.60	18.41
Independant Rater	52.10	17.98

WARD ATMOSPHERE SCALE FACTORS*

Spontaneity

Patients can leave the ward whenever they want to.

Patients tend to hide their feelings from one another.

Patients set up their own activities without being prodded by the staff.

When patients disagree with each other, they keep it to themselves.

Patients say anything they want to the doctors.

It is hard to tell how patients are feeling on this ward.

It's OK to ack crazy around here.

Patients tend to hide their feelings from the staff.

Patients are encouraged to show their feelings.

Patients are careful about what they say when staff are around.

Support

Doctors spend more time with some patients than with others.

The healthier patients on this ward help take care of the less healthy ones.

Doctors have very little time to encourage patients.

The staff know what the patients want.

Patients rarely help each other.

Staff are interested in following up patients once they leave the hospital.

Doctors sometimes don't show up for their appointments with patients.

Each patient is treated differently on this ward depending on his problem.

Nurses have very little time to encourage patients.

Staff go out of their way to help patients.

---

*Reproduced with permission of the author (Moos, 1968b).

Order

Most patients follow a regular schedule each day.

Many patients look messy.

Patients' activities are carefully planned.

The patients' rooms are often messy.

This is a very well organized ward.

The ward sometimes gets very messy.

The staff make sure that the ward is always neat.

The day room is often messy.

The staff set an example for neatness and orderliness.

The ward usually looks a little messy.

Insight

Patients talk very little about their pasts.

Patients tell each other about their personal problems.

Patients hardly ever discuss their sexual lives.

Personal problems are openly talked about.

Patients are rarely asked personal questions by the staff.

Staff are mainly interested in learning about patients' feelings.

The patients rarely talk about their personal problems with other patients.

Patients are expected to share their personal problems with each other.

It's not safe for patients to discuss their personal problems around here.

Staff strongly encourage patients to talk about their pasts.

Involvement

Patients put a lot of energy into what they do around here.

A lot of patients just seem to be passing time on the ward.

The patients are proud of this ward.

Very few things around here ever get people excited.

Discussions are pretty interesting on this ward.

Nobody ever volunteers around here.

Patients are pretty busy all of the time.

Patients don't do anything around here unless the staff ask them to.

Patients here really try to improve and get better.

There is very little group spirit on this ward.

Aggression

Patients sometimes play practical jokes on each other.

It's hard to get people to argue around here.

Patients often gripe.

Staff never start arguments in group meetings.

Patients often criticize or joke about the ward staff.

On this ward staff think it is a healthy thing to argue.

Patients on this ward rarely argue.

Patients here rarely become angry.

Staff sometimes argue with each other.

If a patient argues with another patient, he will get into trouble with the staff.

Variety

This is a lively ward.

Most patients dress and act pretty much alike.

New treatment approaches are often tried on this ward.

The ward always stays just about the same.

Nursing staff are always changing on this ward.

There is very little to do around here over the week-ends.

This ward is quite different at night than during the day.

Patients on this ward all have about the same kind of problems.

The ward rules are always changing.

Everyone on the ward has pretty much the same opinions about treatment.

Clarity

Patients never know when a doctor will ask to see them.

The patients know when doctors will be on the ward.

Things are sometimes very disorganized around here.

If a patient breaks a rule, he knows what will happen to him.

People are always changing their minds here.

If a patient's medicine is changed, a nurse or doctor always tells him why.

Patients never know when they will be transferred from this ward.

Staff tell patients when they are getting better.

Doctors don't explain what treatment is about to patients.

Ward rules are clearly understood by the patients.

Submission

Staff don't order the patients around.

Once a schedule is arranged for a patient, the patient must follow it.

The staff very rarely punish patients by restricting them.

In this ward everyone knows who's in charge.

Patients can call nursing staff by their first names.

Patients who break the ward rules are punished for it.

Patients may interrupt a doctor when he is talking.

Patients will be transferred from this ward if they don't obey the rules.

Patients are rarely kept waiting when they have appointments with staff.

It's a good idea to let the doctor know that he is boss.

Autonomy

Patients can wear what they want.

There is no patient government on this ward.

The staff act on patient suggestions.

Very few patients have any responsibility on the ward.

Patients can leave the ward without saying where they are going.

Staff rarely give in to patient pressure.

Patients are expected to take leadership on the ward.

Staff sometimes do things for a patient that he really could do for himself.

Patients here are encouraged to be independent.

The staff discourages criticism.

BIBLIOGRAPHY

Bateson, G. Schizophrenic distortions of communication. In A Whitaker (Ed.) Psychotherapy of schizophrenic patients. Boston: Little Brown & Co., 1958, chap. 2.

Bell, G.R. & Hall, H.E. The relationship between leadership and Sociopathy. J. abnorm. soc. Psychol., 1954, 49, 156-157.

Blum, G.S. An experimental reunion of psychoanalytic theory with perceptual vigilance and defense. J. abnorm. soc. Psychol., 1954, 49, 94-98.

Bockoven, J.S. Moral treatment in American psychiatry. J. nerv. & ment. Dis., 1956, 124, 167-194.

Bruner, J.S. & Postman, L. On the perception of incongruity: A paradigm. J. Personal., 1949, 18, 206-223.

Burdock, E.I., Hardesty, A.S., Hakerem, G., Zubin, J., & Beck, Y.M. Ward Behavior Inventory. New York: Springer Pub. Co., 1968.

Cameron, N.A., & Margaret, A. Behavior pathology. New York: Houghton, 1951.

Chowdhry, K. & Newcomb, T.M. The relative abilities of leaders and non-leaders to estimate opinions of their own groups. J. abnorm. soc. Psychol., 1952, 47, 51-57.

Cohen, J. A factor analytic comparison of intelligence test performance of different neuropsychiatric patients. Amer. Psychol., 1951, 6, 334-335.

Dibner, A.S. Ambiguity and anxiety. J. abnorm. soc. Psychol., 1958, 56, 165-174.

Edwards, A.L. Experimental design in psychological research. New York: Holt, Rinehart & Winston, 1965.

Ellsworth, R.B. The MACC Behavioral Adjustment Scale: Form II. Beverly Hills, California: Western Psychological Services, 1962.

_____. Nonprofessionals in psychiatric rehabilitation. New York: Appleton-Century-Crofts, 1968.

Ellsworth, R.B. & Clayton, W.H. Measures of improvement in mental illness. J. consult. Psychol., 1959, 23, 15-20.

Fairweather, G.W. Social psychology in treating mental illness. New York: Wiley, 1964.

Festinger, L., Gerard, H.B., Hymovitch, B., Kelley, H. & Raben, B. The influence process in the presence of extreme deviates. Hum. Relat., 1952, 5, 327-346.

Forrer, G.R. An ego approach to psychotic behavior. Psychiat. Quart. Suppl., 1958, 2, 1-8.

Gage, N.L. Judging interests from expressive behavior. Psychol. Monogr. 1952, 66, 350.

_____, & Suci, G.J. Social perception and teacher-pupil relationships. J. educ. Psychol., 1951, 42, 144-152.

Greenblatt, M., York, R.H. & Brown, E.L. From custodial to therapeutic care in mental hospitals: Explorations in social treatment. New York: Russell Sage Foundation, 1955.

Greer, F.L., Galanter, C.H. & Nordlie, P.G. Interpersonal knowledge and individual and group effectiveness. J. abnorm. Psychol., 1954, 49, 411-414.

Hollingshead, A.G. Two factor index of social position. New Haven, Conn., 1965 Yale Station, 1957.

Jones, M. The therapeutic community. New York: Basic Books, 1953.

McNemar, Q. Psychological statistics. New York: John Wiley & Sons, 1962.

Moos, R.H. The differential effect of ward settings on psychiatric patients. J. nerv. ment. Dis., 1967, 145, 272-283.

_____. Situational analysis of a therapeutic community milieu. J. abnorm. Psychol., 1968, 73, 49-61. (a)

_____. Ward atmosphere scale, form B. Stanford, Calif.: Dept. of Psychiatry, Stanford Univ. School of Medicine, 1968b.

_____, & Daniels, D.M. The differential effects of ward settings on psychiatric staff. Arch. gen. psychiat. 1967, 17, 75-82.

Myerson, A. Theory and principles of the total push method in the treatment of chronic schizophrenia. Amer. J. Psychiat., 1959, 95, 1197-1204.

Norman, R.D. The interrelationship among acceptance-rejection, self-other identity, insight into self, and realistic perception of others. J. soc. psychol., 1953, 37, 205-235.

Pace, R.E. Situational therapy. J. Per., 1957, 25, 578-588.

Pawnez, A. Theory of the total push program in psychiatry. Amer. J. Psychother., 1954, 8, 11-20.

Stanton, A.H. & Schwartz, M. The mental hospital. New York: Basic Books, 1954.

Ullmann, L.P. & Krasner, L. A psychological approach to abnormal behavior. Englewood Cliffs, N.J.: Prentice Hall, 1969.

Unterberger, H. Psychodynamics and rehabilitation. Mental Hosp., 1959, 10, 18-21.

Wechsler, D. Wechsler bellevue intelligence scale, Form II. New York: Psychological Corp., 1958.

Weiner, I.B. Psychodiagnosis in schizophrenia. New York: John Wiley & Sons, 1966.