

A STUDY OF CHANGES IN  
COGNITIVE STRUCTURE AND MEASURES OF ADJUSTMENT  
AMONG MEMBERS OF A REHABILITATION LIVING UNIT

by

149

DUMONT KERMIT SCHMIDT

B. A., Bethel College, 1965

---

A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

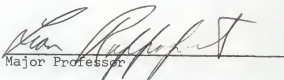
MASTER OF SCIENCE

Department of Psychology

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

1967

Approved by:

  
Major Professor

LD  
2665  
74  
1967  
5344  
C.2  
Chapter

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION . . . . .	1
Adaptation of Halfway House Principles . . . . .	1
Structure of the Living Unit . . . . .	4
Purposes of This Study . . . . .	4
II. BACKGROUND AND THEORY. . . . .	6
The Halfway House Concept. . . . .	6
Self Insight in Group Therapy. . . . .	9
Changes in Perceptions of Others During Group Therapy . . . . .	11
Relationship of $D_s$ to $D_o$ . . . . .	14
Adjustment Criteria . . . . .	15
III. PROCEDURES AND DESIGN . . . . .	18
Major Variables: Techniques of Measurement . . . . .	18
Design . . . . .	27
IV. RESULTS . . . . .	31
Analysis of $D_s$ . . . . .	31
Analysis of $D_o$ . . . . .	37
Analysis of Adjustment Criteria. . . . .	47
V. DISCUSSION AND CONCLUSIONS . . . . .	53
Differentiation of Self ( $D_s$ ) . . . . .	54
Differentiation of Others ( $D_o$ ) . . . . .	58
Relationship of $D_s$ to $D_o$ . . . . .	59
The Adjustment Criteria . . . . .	60
Conclusions . . . . .	64

	Page
ACKNOWLEDGMENTS . . . . .	66
REFERENCES . . . . .	67
Appendix 1 . . . . .	70
Appendix 2 . . . . .	86
Appendix 3 . . . . .	87
Appendix 4 . . . . .	89
Appendix 5 . . . . .	90
Appendix 6 . . . . .	91
Appendix 7 . . . . .	92
Appendix 8 . . . . .	93

## LIST OF TABLES

Table	Page
1 Ratings Given by Subject #23 on the Scott Self Instrument . . .	19
2 Intercorrelations Among Roles for Subject # 23 . . . . .	20
3 Friendship Choices of Unit Members (Sept., 1966) . . . . .	23
4 Unit Members Observed with S #22 at $T_1$ (Sept., 1966) . . .	25
5 Product-moment Correlations of Lounge and Dining Room Observations . . . . .	26
6 Data Collection Schedule . . . . .	28
7 Sex, Classification, Age, and Residence of Subjects . . .	30
8 Relationship of $D_s$ to Adjustment Criteria at $T_3$ for all Members ( $N = 19$ ) . . . . .	33
9 Relationship of $D_s$ to Adjustment Criteria at $T_1$ , $T_2$ , and $T_3$ for all Unit Members ( $N = 19$ ) . . . . .	35
10 Ranking of Unit Members on Differentiation of Self ( $D_s$ ) $N = 19$ . . . . .	36
11 Relationship of $D_o$ to Adjustment Criteria at $T_3$ for all Unit Members ( $N = 19$ ) . . . . .	41
12 Ranking of Unit Members on Differentiation of Others ( $D_o$ ) $N = 19$ . . . . .	42
13 Mean and Variance of $D_o$ at $T_1$ and $T_3$ . . . . .	44
14 Relationship of $D_o$ to Adjustment Criteria at $T_1$ , $T_2$ , and $T_3$ for all Unit Members ( $N = 19$ ) . . . . .	45
15 Relationship of $D_s$ to $D_o$ as Indicated by Chi-square and rho correlations . . . . .	46
16 Analysis of Variance Summary for Friendship Choices Received (PCR) . . . . .	48

Table	Page
17 Analysis of Variance Summary for Different Members Observed With (MOW) . . . . .	49
18 Analysis of Variance Summary for Percent of Time Spent Alone (TSA) . . . . .	49
19 Analysis of Variance Summary for Participant-observer Ratings on Outgoing vs. Withdrawn . . . . .	50

## LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1 Scatter diagram illustrating curvilinearity in the relationship of differentiation of self ( $D_s$ ) to participant-observer ratings on outgoing vs. withdrawn (POR). Eta = .42 (N.S.) . . . . .	38
2 Scatter diagram illustrating distribution of scores in the two variables $D_s$ and Percent of Time Spent Alone ( $\rho = .45$ ) . . . . .	39
3 Plotting of means for clients and volunteers on number of friendship choices received (FCR) . . . . .	50
4 Plotting of means for clients and volunteers on number of members observed with in lounge and dining room (MOW) . . . . .	51
5 Plotting of means for clients and volunteers on percent of time spent alone (TSA) . . . . .	51
6 Plotting of means for participant-observer ratings on withdrawn vs. outgoing . . . . .	52

## INTRODUCTION

A recent innovation in mental health and rehabilitation which began in response to inadequacies of current university counseling center resources is the adaptation of the halfway house principle to the university setting. The purpose of this study is to examine some of the psychological effects of living in a university halfway house. However, it is first necessary to discuss the rationale behind this approach.

### Adaptation of Halfway House Principles

According to Sinnott, Wiesner and Friesen (1967), the emotionally disturbed student has several alternatives open to him. He may seek help from the existing university resources (which typically include counseling or psychotherapy, chemotherapy, or brief inpatient care in Student Health Services), or drop out of school entirely to either return home or seek inpatient hospital treatment. The counselors, working as part of a loosely organized team, often feel apprehensive in dealing with severely disturbed students. Yet, sending them home or recommending inpatient treatment involves considerable risks for the students who otherwise have potential for scholastic work of high quality. Such interruption may prolong or terminate the client's education. Returning home often means returning to the source of his problems for the client, and inpatient treatment may result in the loss of positive self regard. Furthermore, according to Sinnott et. al. (1967), emotional crises are often transitory in nature

for clients of the late adolescent age group. Such clients tend to respond to treatment well.

Taken together, these considerations indicate a need for intervention which is more effective than that provided by conventional facilities available to the college student. At the same time, it seems clear that major interruption of the educational program is not desirable. Adaptation of halfway house concepts to the university setting seemed to offer a possible solution to this problem in the sense that it would provide a facility whereby the emotionally disturbed student could continue to function as a student while living in a specialized environment (in addition to receiving counseling and psychotherapy). Consequently, an experimental living unit was established in existing residence hall facilities at Kansas State University (Sinnott, et. al., 1967).

The living unit was organized so that approximately half of the members were "volunteers" and half were clients. The volunteers were interviewed by the staff and chosen on the basis of their judged ability to cope with problems and relate effectively to others. According to Sinnott and Niedenthal (1967), no specific selection criteria (such as grade point average, class, or major) were imposed in the selection of volunteers. The clients were selected by a random procedure from a pool of candidates, all of whom had been referred by their counselors as persons who would need more than the conventional services in order to function effectively as students. Self selection was of predominant importance in the choice of both volunteers and clients. Generally speaking, a client or



volunteer wanting to become a member of the living unit could do so because openings were available. With this sort of arrangement, it was hoped that a cohesive social unit would develop in which the students themselves would be the principle source of help.

Since the establishment of such a unit, the investigators have found that a direct translation of halfway house principles to the university setting is not feasible without certain modifications (Sinnott, 1967). Whereas halfway houses are generally separate, autonomous units within the community, the maintenance of such a unit within the university setting involves dealing with the peculiar regulations and social structures of such an institution, such as the residence hall staff, the housing office personnel, the Dean of Students personnel, and other social systems unique to the university. Thus, it has been necessary for the unit to function as one among many social units, which is not generally true of halfway houses.

The central purpose of the treatment program has been to establish a "therapeutic community" or milieu by encouraging daily confrontation and support among unit members. It was felt that the most effective way of bringing this about was to place a number of indigenous "well adjusted" volunteers in the unit to provide role models, or positive sources of identification. The differences between "helper" and "helped", however, were minimized, assuming that all unit members could both give and receive help.

### Structure of the Living Unit

The experimental living unit being studied is situated on the Kansas State University campus. The unit consisted of ten emotionally disturbed student clients living in one wing of a large dormitory with eleven other student volunteers.

Supportive interaction among unit members was encouraged as a therapeutic technique. Other therapeutic techniques were also employed. These were as follows: 1) The unit members resided in one general area of the dormitory in order to encourage as much contact as possible. 2) The members were assigned rooms so that there was a maximum of volunteers and clients living together and a maximum of members per room. 3) A relatively isolated, but accessible, lounge area was set aside specifically for unit members in order to encourage interaction. 4) Quasi-therapeutic group meetings were held once a week for unit members in order to encourage group discussion of personal problems.

Preliminary investigation (Sinnott, et.al, 1967) has revealed that in such a unit much group cohesiveness develops. A sociometric analysis shows relationships within the unit cutting across the volunteer-client dimension. Furthermore, the members perceive interaction among themselves as their main source of support. Observations and participant-observer reports indicate that such support and confrontation occurred frequently.

### Purposes of This Study

The main purposes of this study are as follows: 1) to evaluate what kinds of changes may be taking place in the self concept

and concept of others among unit members, 2) to evaluate changes in the social behavior of the unit members, and 3) to relate the concept of self and the concept of others to social behavior, and explore the possible theoretical significance of such relationships.

This study is largely exploratory in nature. No concrete hypotheses will be advanced because prior investigation of comparable living units has not yielded sufficient evidence on which to base such hypotheses. The problem will be examined in terms of therapeutic impact on the concept of self and others on the basis of previous studies (Rogers and Dymond, 1954; Wylie, 1960; Kelly, 1955; Shore, Massimo, and Mack, 1965; and Bieri, 1953 & 1957), which tend to support the centrality of such conceptual variables to social behavior and adjustment. Although such studies are not in agreement as to precisely what kind of change would be therapeutic or desirable, they generally reflect the notion that perceiving formerly unperceived aspects of the self and others is desirable. Consequently, the kind of change considered desirable will, in this case, be stated in terms of a change toward greater cognitive complexity in the domain of self and others.

Specifically, the purposes can be outlined as follows:

- 1) To determine impact of the living unit on cognitive differentiation in the domains of "self" and "others".
- 2) To determine the relationship of cognitive differentiation of self and others to behaviors used as adjustment criteria.

## BACKGROUND AND THEORY

### The Halfway House Concept

#### Background

The roots of the halfway house concept are generally recognized as going back several centuries to Belgium (Moore, 1961) where the town of Gheel was opened to people too disturbed to live in other communities. Written records of cases received and treated at Gheel go back over 500 years. Hostels were established in England in the 1870's for the insane poor (Wechsler, 1960). In the United States early halfway houses established on a self-sufficient basis were the Gould Farm in 1910 (Infield, 1955), and the Spring Lake Ranch in 1932 (Rothwell, 1966). These pioneering enterprises were established as places of residence for people with emotional problems who might otherwise be hospitalized. Gould Farm and Spring Lake Ranch were rural communities. As such, they were self-sufficient and provided work for the people in them.

During the 1950's, the halfway house idea received added impetus from the trend away from closed door institutional care towards preventive aftercare. The halfway houses opened during the 1950's were typically located in cities and town and were not intended to be self-sufficient (Rothwell, 1966). One of the first articles describing a halfway house defined it as "a residential institution designed to meet the needs of the ex-mental patient during the difficult transition from the sheltered environment of the mental hospital to the more rigorous life of the community" (Huseth, 1958, p. 117).

According to Maeda and Rothwell (1963) differing criteria of admission, modes of sponsorship, and physical structures have emerged with the development of halfway houses. However, what halfway houses have in common is that patients are encouraged to assume responsibility for their lives rather than being passive recipients of medical care. They are given the opportunity of living relatively normal lives. This includes the maintenance of friends, jobs, and other contacts. What the halfway house provides is a way for patients to avoid the extreme anxieties that go with full release. Thus, the halfway house is, as its name implies, a facility mediating between the mental hospital with its disadvantageous effects of ward living and the community with its responsibilities. It is a transitional facility to serve as an intermediate step between the hospital and the community.

The number of halfway houses has mushroomed over the past few years. Wechsler (1960) reported seven professionally-oriented psychiatric halfway houses, all of which have been founded since 1954. According to Raush (1963), who made a comprehensive survey of existing halfway houses in 1963, there were at least fifty halfway houses at that time, eight of which were founded in 1962.

Rutman (1964) estimates that there are at least 100 "transitional centers" in the United States operating under the direction of at least one professionally trained person and Rusk (1964) states that there are probably another 100 centers with semi-professional or volunteer leadership. The discrepancy among these sources concerning the number of halfway houses in operation reflects the lack of an accepted explicit definition for a halfway house.

### Prior Research

Previous research on the effectiveness of halfway houses or similar rehabilitation units has been rather scanty, usually consisting of general descriptions of behavior in the unit and follow-up studies investigating criteria such as readjustment to community and family life, occupational adjustment, and subjective happiness (Rothwell, 1966; Berger, 1964; and Landy & Greenblatt, 1965).

Despite the absence in the literature of research in this particular setting, research in other areas, however, may be relevant. The nature of the confrontation and support occurring within the unit resembles that of group therapy in many ways, particularly since weekly meetings of the unit are deliberately structured after the group therapy and T-group models (Sinnott, 1967).

Review of the group therapy literature suggests that there may be at least two ways to describe therapeutic impact of a group: 1) as changes in self insight and self acceptance, and 2) as changes in one's perceptions of others.

Although various theories differ in their interpretation of the dynamics of group therapy, most are in agreement that the advantages of this approach is the fact that the patient is confronted in the here-and-now with other human beings to whom he must respond (Bach, 1954). In this environment a good deal of self probing and analysis take place, as in individual therapy. However, the individual's relationships with others is the focal point. In gaining self insight he also must learn how to respond to others (McDavid, 1964). This unique interpersonal experience may lead him to realize that his problems stem in large part from the way he perceives and reacts to others, and that it would be desirable for him to change in this respect.

### Self Insight in Group Therapy

There is very little empirical evidence in the group therapy literature to support the notion that group therapy has a significant effect on self insight. However, there are numerous clinical descriptions, mainly psychoanalytic or phenomenological in orientation, which describe group therapy in these terms.

Many psychoanalytically trained group psychotherapists do not consider the impact of group therapy to be far different than that of individual analysis (Wolf and Schwartz, 1962; Slavson, 1943; Bach, 1954). Group therapy is seen primarily as a process of insight. Through self probing and self exposing, the purpose is to detect and discover that which was previously unconscious. The assumptions underlying group therapy are essentially like those of individual psychoanalysis. The basic elements are transference, catharsis, and insight (Slavson, 1963). In addition, however, group therapy can supply reality testing and sublimation, which are not possible in individual analysis.

Various self theorists have made the concept of self a central theoretical construct. For example, Rogers (1951) argues that man's basic motive is self actualization and enhancement. Hobbs (in Rogers, 1951) applies this concept directly to group therapy, maintaining that a change toward greater self acceptance during group therapy would be indicative of therapeutic impact. According to Hobbs, analysis of group therapy protocols does indeed show an increase in positive, self accepting statements and self understanding as a function of time in group therapy. Hobbs refers to an earlier study (Peres, 1947) in which similar results were reported. Hobbs also reports behavioral changes

such as increased social contacts, better employment record, and improved academic performance concurrent with therapy.

Rogers and Dymond (1954), among others, have studied therapeutic impact intensively in terms of congruence of the real self (the way the individual sees himself) and the ideal self (the way the individual would like to be). Their basic hypothesis is that a convergence of self and ideal self indicates therapeutic effect. For a summary of the research in this area dealing with the general issue of therapeutic impact, the reader is referred to Wylie (1960).

From the foregoing, it is apparent that although most would agree that the term "self insight" involves incorporation of formerly unperceived aspects of the self, it can be construed in various ways; dynamically in terms of psychoanalytic concepts, and phenomenologically as acceptance and insight into the "phenomena of the self."

For the purposes of this study, it is assumed that self insight can also be construed in terms of a system of cognitive constructs. Assuming that therapeutic impact can be meaningfully described as a process of self insight, it is inferred that such insight involves the incorporating of formerly unperceived aspects of the self concept, making the self concept more complex and differentiated.

Support for such a notion comes from Scott (1967), who describes cognitive differentiation as both a process and a structural property. As a process, it refers to the acquisition of attributes which the person uses to describe himself. As a structural property, it refers to the degree to which an individual has made distinctions in the domain of the self. For example, if one brings a large variety of attributes



to bear in describing himself, he can be characterized as highly differentiated in the domain of the self. (This characteristic could theoretically apply to any domain, or class of objects in the individual's awareness.)

If one infers that it is meaningful to speak of self insight in these terms, it is possible to test the hypothesis that therapeutic impact involves a change toward greater self differentiation ( $D_s$ ), and consequently, self insight. One purpose of this study is to explore such a possibility by inferring possible changes in  $D_s$  by means of correlations with other variables across time.

#### Changes in Perceptions of Others During Group Therapy

One primary emphasis in the group psychotherapy literature is its applicability to interpersonal situations. In this sense, it is generally thought of as contributing to individual psychotherapy by providing an environment where one can test the appropriateness of his interpersonal behavior. The effectiveness of group therapy in this respect is empirically verified by the work of McDavid (1964), who found that the group functions most effectively in stimulating the unlearning of faulty responses in interpersonal situations and the learning of appropriate ones. According to McDavid, this involves a more accurate perception of interpersonal events and behavior.

Shore, et.al. (1965) conclude from a study of juvenile delinquents in therapy, that the perception of people may be considered a basic and general aspect of psychotherapeutic change. They found that successful therapy resulted in greater sensitivity and awareness to others. Vague, stereotyped perceptions of others gave way during psycho-

therapy to a more complex and differentiated view of people in their roles and interactions. Shore speculates that such changes may arise secondarily from feelings about the self.

If therapeutic impact involves such changes in perceptions of others, one could infer that these changes are also related to structural characteristics of the concept of other. Therapeutic impact may involve the acquisition of attributes with which to describe others. In this sense, it could be characterized as a change toward greater cognitive complexity, or differentiation in the domain of others.

Research related to such a notion has been done by Bieri (1953, 1955, 1961). Bieri took as his theoretical framework the personal construct theory of G. A. Kelly.

The central postulate of Kelly's theory says that one's psychological processes are "channelized" by the way he anticipates (tries to predict) events (Kelly, 1955). These anticipations take place by means of personal constructs which are cognitive in nature. This principle is elaborated upon in eleven corollaries. According to Kelly, one's constructs have various structural characteristics such as being dichotomous, being hierarchically organized, and, in general, having various degrees of complexity.

Bieri (1953) has attempted to describe changes in cognitive constructs as applied to others using Kelly's Role Construct Repertory Test. He demonstrated that social interaction leads to a change in the way in which the persons construe each other. Ss were asked to predict the answers of a partner to a personality questionnaire before and after social interaction having to do with common experiences.

According to Bieri, the effect of such interaction was a significant shift in the direction of construing the partner more similarly to the self.

Lundy (in Maher, 1965) performed an experiment similar to Bieri's. His subjects were six patients who were engaged in a four-week group therapy session. These patients predicted the responses of all group members on a questionnaire administered before and after the first session, and once a week for the remaining three weeks. Lundy hypothesized that with some interaction, the perceptions of others would become more similar to one's self (as in Bieri's experiment), but with more extensive interaction, the individual would gain enough information to venture a differential prediction. Lundy found significant support for this theory.

Bonarius (in Maher, 1965) summarizes these and other studies which show that social interaction does influence one's construct of others. The effect it has depends on the length and intensity of the interaction, tending at first to be convergent to the self; with time being followed by divergence from the self. Bonarius concludes that such research has important implications for studies of therapeutic impact, and that behavior changes during psychotherapy may themselves be subsumed under constructs such as insight.

It therefore seems clear that group therapy changes the way in which the self and others are perceived. This change apparently involves increased structural complexity, or differentiation in the constructs influencing one's perception. This study will

explore the possibility of change in complexity of such constructs (henceforth referred to as differentiations of self, or  $D_s$ ; and differentiation of others, or  $D_o$ ) as a function of prolonged exposure to interpersonal interaction in the experimental living unit.

Relationship of  $D_s$  to  $D_o$

It is not immediately apparent how  $D_s$  and  $D_o$  should be related. Previous research (Wylie, 1961; Stock, 1949; Sheerer, 1949; Phillips, 1951) generally supports the hypothesis that attitudes and perceptions of others are positively related to attitudes and perceptions of the self. However, this line of research states the problem in terms of acceptance (high regard towards the self and others), and does not bear directly on the structural properties of the self concept and concept of others.

If  $D_s$  and  $D_o$  are systems of cognitive constructs, or domains, within a person's total cognitive field (total constructs available to him), it can be hypothesized that the magnitude of their correlation would be a function of the degree to which structural characteristics generalize across domains. According to Scott (1966) and Kelly (1955), constructs relating to different domains do not necessarily have characteristics in common. A given individual may be extremely well differentiated in a particular domain and be rather cognitively simple in others. Consequently, there is no firm evidence to support the notion that  $D_s$  and  $D_o$  are positively related.

It is hypothesized, however, that the impact of the living unit studied will be such that  $D_s$  and  $D_o$  will be effected similarly. As discussed previously, it would be plausible to expect changes toward increased differentiation in both the domains of self and others.

#### Adjustment Criteria

Another important concern has to do with what kinds of interpersonal behavior in the halfway house setting are indicators of social adjustment. One purpose of this research will be to study the possibility of using various interpersonal behavior patterns as criteria of adjustment. Two aspects of this problem will be investigated: 1) The validity of behavioral criteria of adjustment will be assessed by means of group comparisons of those who are presumably poorly adjusted socially (clients) with those who are presumably better adjusted (volunteers). 2) Behavioral measures of adjustment will be compared to the variables  $D_s$  and  $D_o$  in an attempt to describe correlates of  $D_s$  and  $D_o$ .

Criteria of adjustment in previous research has generally reflected the assumption that the ability to initiate and maintain meaningful relationships is an indication of social adjustment. Thus, criteria such as extent of community involvement, and ratings of interpersonal behavior have been used.

The measures of adjustment in this study were chosen on the basis of the assumption that: 1) Social adjustment can be defined

as the ability to form and maintain meaningful relationships with others, and 2) If a person reports being with or is observed with a greater number of persons, he is indicating an ability to maintain relationships and consequently, his state of social adjustment is better than one who reports being with few people. Although an individual may overextend himself to others to the extent that social adjustment is contraindicated, it is postulated that the number of persons observed with or reported as being associated with an individual can provide an operational definition of social adjustment.

With this in mind, the following behavioral measures were chosen as criteria of adjustment:

1) The number of friendship choices received on a sociometric questionnaire. All unit members were asked to indicate all other unit members whom they regarded as their close friends. From this data, it could be determined how many choices each member received from others. A high number of friendship choices received was initially defined as an indication of better adjustment.

2) The percent of total time awake which was spent alone. Each unit member was interviewed to determine how he spent the previous day. From this data, the percent of time spent alone was derived. A high percent of time spent alone was initially defined as a indication of poorer adjustment.

3) The number of different unit members observed with. A composite score for each member on this variable was derived from observations of the members in two settings: the unit lounge and the dining room. A high number of different unit members observed with was initially interpreted as indicating better adjustment.

4) Participant - observer ratings. Participant - observer ratings were made weekly on each unit member in the dimension outgoing vs. withdrawn. A high rating (on a scale from 1 to 7) indicated more withdrawn; a low rating, more outgoing. Later, for the purposes of analysis, the scale was reversed so that a high score in the results indicates more outgoing.

In summary, purposes of this study can be stated as follows:

1) To explore changes in  $D_s$  and  $D_o$  which may be taking place as a function of time spent in an experimental living unit, and examine the relationship between  $D_s$  and  $D_o$ .

2) To relate  $D_s$  and  $D_o$  to adjustment criteria and to describe meaningful correlates of adjustment criteria.

3) To describe in general changes taking place among the adjustment criteria as a function of living in a therapeutic milieu.

## PROCEDURES AND DESIGN

### Major Variables: Techniques of Measurement

#### Differentiation of Self ( $D_s$ )

$D_s$  was measured by means of an instrument developed by Swanson and Scott (1966). Ss were given a questionnaire in which they rated themselves on fifteen self roles according to fifteen attributes for each self role. (See Appendix 1).

For example, S would rate himself as a student (on a 7-point scale) on each of the fifteen attributes beginning with selfish vs. unselfish and ending with patient vs. impatient. Then he would rate himself as a helper on the same fifteen attributes, and so on for each of the fifteen self roles (See Table 1).

The distributions of ratings under the fifteen self roles were intercorrelated, from which a fifteen by fifteen correlation matrix was derived for each member (See Table 2). From this matrix the  $\Sigma r^2$  was obtained, and a score on  $D_s$  was derived from the following formula:

$$D_s = \frac{k^2}{2(\Sigma r^2) + k}$$

where  $k$  = number of attributes.

For example, the calculation of  $D_s$  for S #23 is as follows:

$$D_s = \frac{225}{2(42.40) + 15}$$

where  $k = 15$ ;  $k^2 = 225$ ; and  $r^2 = 42.40$ .



Table 1  
 Ratings Given by Subject #23 on the  
 Scott Self Instrument

Attributes	Roles														
	Student	Helper	Roommate	Date	Friend	Leader	Newcomer	Group Member	Unit Member	Being Helped	Follower	Conversationalist	Companion	Employee	Acquaintance
Selfish	3	3	1	6	5	5	6	2	2	2	2	7	6	1	7
Tactful	5	3	6	2	3	3	3	7	4	6	6	2	3	6	4
Confident	1	2	1	1	1	1	3	6	1	5	2	1	1	1	1
Popular	1	3	3	1	2	1	2	1	1	7	1	1	1	1	1
Similar to others	5	6	4	7	6	6	6	6	6	5	6	7	6	7	6
Kind	1	2	3	1	3	3	2	4	2	5	2	1	1	1	1
Tense	7	5	6	6	7	6	4	5	6	3	6	7	7	6	7
Involved	1	1	1	1	1	3	3	6	2	3	2	1	1	1	2
Perceptive	3	3	1	2	2	3	2	5	4	3	1	3	1	1	2
Helpful	3	1	1	1	2	2	3	6	4	6	2	3	1	4	3
Helpless	7	6	6	4	6	7	3	3	5	6	6	7	6	7	6
Cooperative	2	1	2	2	2	2	4	6	3	5	3	2	1	5	1
Outgoing	1	1	2	1	1	2	3	5	3	3	2	1	1	1	1
Stimulating	2	2	3	2	2	3	1	5	1	3	2	1	2	1	2
Patient	3	3	3	3	1	3	5	7	3	5	5	2	4	5	4

Table 2  
Intercorrelations Among Roles  
for Subject #23\*

ROLE	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. Student		82	77	76	83	83	44	16	82	09	82	81	83	81	84
2. Helper		70	82	84	82	47-13	59	15	68	80	84	58	76		
3. Roomate			47	64	59	13	06	51	33	81	42	61	67	52	
4. Date				88	89	77-10	59-	22	64	94	95	54	92		
5. Friend					90	52-23	64	06	62	92	88	56	85		
6. Leader						56-06	65-	22	66	89	90	59	88		
7. Newcomer to a group							16	45-	09	56	71	72	53	72	
8. Group member								39	07	45-15-08	49-03				
9. Unit member									10	69	69	57	81	63	
10. Being helped										24-16-15	41-17				
11. Follower											56	72	91	66	
12. Conversationalist												90	56	92	
13. Companion													59	96	
14. Employee															60
15. Acquaintance															

$$*\Sigma r^2 = 42.40$$

Swanson and Scott (1966) used several procedures, including that used in the present study, to measure cognitive differentiation in four domains; the "self", "nations", "celebrities", and "acquaintances". They present cross-instrument correlations which indicate that the procedure used in this study has promise as a measure of cognitive differentiation.

#### Differentiation of Others ( $D_0$ )

$D_0$  was measured by means of a content analysis of TAT protocols. Thematic stories were obtained from ten pictures administered at the beginning and the end of the semester. These pictures were obtained from the standard TAT battery and are numbered as follows: 1, 2, 3BM, 4, 6EM 6GF, 7BM, 12 BM, 13MF, and 18BM. For Ss #33, #37, #39, and #40, pictures 3GF, 7GF, and 18 GF were substituted for 3BM, 7BM, and 18BM. The pictures were administered at  $T_1$  and  $T_3$ . All Ss received the same pictures at  $T_3$  that they received at  $T_1$ .

The Ss were read the following instructions:

This test consists of 10 cards with pictures on them. What we want you to do is write a very short story about each picture as you come to it.

There are no right or wrong answers about the pictures, and we want you to use your imagination to tell your story about what is going on in the picture. Try to tell what the situation is which the picture suggest to you. Also, include something about the feelings of the people in your story, either about each other or about the situation. Finally, please give your stories a definite ending. In other words, what is the outcome of the situation.

We aren't interested in the stories from a literary point of view; so don't worry about your spelling, punctuation, and so forth. You may now begin.

The protocols were scored by summing the attributes of others mentioned as well as different qualities of relationships mentioned in the stories (See Appendix 2 for a sample score sheet, and Appendix 3 for a scoring manual, including examples). The inter-rater reliability coefficient obtained using this procedure was .96.

#### Criteria of Adjustment

The criteria of adjustment were obtained and scored as follows:

- 1) Number of friendship choices on sociometric questionnaire (FCR). Ss were given sociometric questionnaires (See Appendix 4) in which they were asked, among other things, to indicate other unit members whom they regarded as close friends. For purposes of analysis, friendship choices were summarized in a matrix (See Table 3) in such a way that checkmarks indicate friendship choices made by Ss listed on the left margin. The number of friendship choices received by each S was obtained by summing the columns of the matrix.
  - 2) The percent of time spent alone (TSA). Fifteen-minute interviews were conducted in which each S carefully recounted the previous day's activities. The interviewer noted in sequence each setting S reported, what the activity in that setting was, and how many persons were reported present in each setting. Activity record forms were constructed for this purpose (see Appendix 5).
- The percent of time alone for each S was derived from those settings in which he reported no other persons present. For example, in the example given in Appendix 5, S spent 175 minutes alone and 990 minutes awake. The percent of time spent alone is thus  $175/990$ , or 17.6%.

Table 7  
 Friendship Choices of  
 Unit Members (Sept., 1966)

Mem. #	Member #																			
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
21			X	X	X				X	X										
22					X			X												X
23					X		X	X							X					X
24	X		X	X	X	X				X										X
25	X				X	X														X
26	X		X	X																
27			X					X												
28				X												X		X		
29	X																			
30	X					X	X													
31	X	X							X											
32				X																X
33	X						X	X	X	X					X				X	X
34			X	X															X	X
35															X					X
36	X							X	X	X	X								X	X
37	X							X												
38		X																		X
39	X			X				X				X								
40						X						X	X	X						
	0	10	2	6	9	2	2	4	9	3	3	1	1	2	2	4	1	0	10	4
	Total choices received																			

3) The number of different unit members observed with (MOW).

A score on this variable was derived from observations in the unit lounges and the dining room. (The unit lounges were used by unit members only, but the dining room was in a large food center serving two dormitories.) The procedure was as follows: At fifteen-minute intervals an observer would note which unit members were sitting together (see Appendices 6 and 7). In the dining room, those sitting at the same table were considered as sitting together. In the lounges, which were quite small, everyone present was considered as being together unless sub-groups, such as card-playing groups, were clearly indicated.

The MOW score was obtained by summing observations made in the dining room and the lounge for a given time period. The observations from these two settings (dining room and lounge) were then combined.

For example, a score of 34 for S #22 was arrived at by the procedure indicated in Table 4. (See Table 4)

The dining room and lounge observations were combined because they represented observations in two settings, yet were correlated rather highly, as indicated in Table 5. (See Table 5)

4) Participant-observer ratings on withdrawn vs. outgoing (POR).

Two of the volunteers in the living unit (one male and one female) were selected and trained to serve as participant-observers. Part of

Table 4

Unit Members Observed  
with S #22 at  $T_1$  (Sept., 1966)

Ss Observed with in Dining Room	Frequency	Ss Observed with in Lounge	Frequency
#24	2	#23	2
25	1	25	1
26	3	26	1
27	2	32	2
28	2	28	2
29	3	29	2
30	3		
31	1		
33	2		
35	2		
36	1		
37	1		
40	<u>1</u>		
Total Frequency:	24	Total Frequency:	<u>10</u>

---

Score on MOW:  $24 + 10 = 34$

Table 5  
Product-moment Correlations of  
Lounge and Dining Room Observations

	Dining Room T <sub>1</sub>	Dining Room T <sub>2</sub>	Dining Room T <sub>3</sub>
Lounge T <sub>1</sub>	.53*	.46*	.45
Lounge T <sub>2</sub>	.31	.53*	.51*
Lounge T <sub>3</sub>	.30	.31	.38

\*p ≤ .05



their task was to make weekly ratings for all unit members in four dimensions. These were as follows: 1) In contact vs. out of contact, 2) Calm vs. excited, 3) Accepted vs. rejected by group, and 4) Socially outgoing vs. socially withdrawn (see Appendix 8).

The dimension which yielded the highest reliability coefficient between the observers was that of outgoing vs. withdrawn ( $\rho = .57$ ). Consequently, ratings made in this dimension were used as a measure of adjustment.

A score on POR was obtained for each S by averaging the ratings of the participant-observers made during a two-week period (see Table 6). A high rating by the participant-observer indicated more withdrawn. For purposes of analysis, the scale was reversed, so that a high score on POR indicated more outgoing.

5) Clinician's rank of adjustment (CRA). All unit members were ranked on adjustment by two staff psychologists at the end of the semester studied. (The  $\rho$  correlation between these rankings was  $.84$ ). The average rank was taken as a measure of adjustment. A high rank indicated better adjustment.

### Design

#### Data Collection

The schedule of collection for each category of data is presented in Table 6.

The data were analyzed on the basis of the three time periods shown in Table 6. All the data gathered during weeks 1 through 5 of the semester (with the exception of the TAT) fall within  $T_1$ .

Table 6  
Data Collection Schedule

DATA	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>
I. Scott Instrument (D <sub>s</sub> )	No Measurement	No Measurement	Jan. 10-15, 1967
II. TAT Analysis (D <sub>o</sub> )	9 members: Mar., '66 1 member: Jul., '66 9 members: Sep., '66 Total: 19*	No Measurement	Jan. 12-16, 1967
III. Adjustment Criteria			
1) FCR <sup>1</sup>	Sept. 28, 1966	Nov. 15, 1966	Jan. 10, 1967
2) TSA <sup>2</sup>	Sept. 25-Oct. 1, '66	Nov. 13-19, 1966	Jan. 8-14, 1967
3) MOW <sup>3</sup>	Sept. 25-Oct. 12, '66	Nov. 1-Dec. 16, '66	Jan. 8-27, 1967
4) POR <sup>4</sup>	Oct. 10 & 17, 1966	Nov. 21 & 28, '66	Jan. 9 & 16, 1967

\*All members were given the TAT at time of admission to the unit. Consequently, T<sub>1</sub> represents time of admission rather than the beginning of the semester for this variable.

<sup>1</sup> Friendship choices received on sociometric.

<sup>2</sup> Percent of time spent alone.

<sup>3</sup> Different members observed within unit settings.

<sup>4</sup> Participant-observer on outgoing vs. withdrawn.

Data gathered during weeks 10 through 14 represent  $T_2$ ; and data gathered during weeks 18 and 19 represent  $T_3$ .

### Subjects

Since one purpose of this research was the study of change, only those unit members who remained in the unit from  $T_1$  to  $T_3$  inclusively were included in the analysis. The total number of such Ss was 19. Of these 19, 11 were volunteers and 8 were clients. Other characteristics are presented in Table 7. As shown in Table 7, over half the Ss were male. There was a disproportionate number of sophomores, and nearly all Ss came from Kansas or nearby states.

Table 7  
Sex, Classification, Age,  
and Residence of Subjects

<u>Sex</u>	<u>No.</u>
Male	11
Female	8

---

<u>Classification</u>	
Freshman	3
Sophomore	8
Junior	3
Senior	2
Special	3

---

<u>Age</u>	<u>Years</u>
Range	17-24
Mean	19.5

---

<u>Residence</u>	<u>No.</u>
Kansas	15
Missouri	2
Iowa	1
New Jersey	1

## RESULTS

In order to study the problems described in Chapter 2, the following analyses were conducted: 1) Analysis of  $D_s$ ; including relationship to adjustment criteria, changes in  $D_s$ , and client-volunteer differences; 2) Analysis of  $D_o$ ; including relationship to adjustment criteria and changes in  $D_o$ ; 3) Analysis of the relationship between  $D_s$  and  $D_o$ ; and 4) Analysis of the adjustment criteria, including changes across time among unit members, and client-volunteer differences.

### Analysis of $D_s$

#### Relationship of $D_s$ to Adjustment Criteria

The adjustment criteria, defined in chapter two, were as follows:

1) The number of friendship choices received on a sociometric questionnaire (PCR); 2) The percent of time spent alone as reported on activity records (TSA); 3) The number of different unit members observed with in the unit lounge and dining room (MOW); and 4) Participant-observer ratings on outgoing vs. withdrawn (POR).

The relationship of  $D_s$  to each of the adjustment criteria at each time period was determined by using the following statistical procedures: 1) Spearman rho correlations, and 2) Chi-square analyses, in which the unit members were dichotomized according to whether they fell above or below the median rank. These procedures were used because most of the data are ordinal, and therefore do not meet the assumptions required by parametric procedures.

Since  $D_s$  was measured at  $T_3$ , the relationship of  $D_s$  to the adjustment criteria in this period are of particular importance. Here measures on all the relevant instruments were taken within two weeks. With respect to  $T_3$  only, the results can be summarized as follows (see Table 8):

1) Concerning the relationship of  $D_s$  to FCR, the chi-square analysis indicates borderline significance ( $X^2 = 2.804$ ,  $p < .10$ ). The rho correlation indicates no significant relationship ( $\rho = .12$ ).

2) With respect to TSA, the chi-square is low and nonsignificant ( $X^2 = .074$ ). The rho correlation, however, is positive and significant ( $\rho = .45$ ,  $p < .05$ ).

3) Similar to FCR, the chi-square for MOW is of borderline significance ( $X^2 = 2.804$ ,  $p < .10$ ), but the rho correlation is nonsignificant ( $\rho = .12$ ).

4) Both the chi-squares and rho correlations are low and nonsignificant for POR, indicating no relationship of  $D_s$  to POR at  $T_3$ .

Briefly, the analyses indicate that Ss with more highly differentiated self concepts tend to receive more friendship choices, associate with more unit members, and spend more time alone.

#### Changes in the Relations Between $D_s$ and Adjustment Criteria

Quite surprisingly, the adjustment measures do not show the strongest relationship to  $D_s$  at  $T_3$ . Rather, the relationships are

Table 8  
 Relationship of  $D_6$  to Adjustment Criteria at  $T_3$   
 for all Unit Members ( $N = 19$ )

Adjustment Criteria	$X^2$ (d.f. = 1)	rho
FCR ( $T_3$ ) <sup>1</sup>	2.804 <sup>+</sup>	.12
TSA ( $T_3$ ) <sup>2</sup>	.074	.45*
MOW ( $T_3$ ) <sup>3</sup>	2.804 <sup>+</sup>	.12
POR ( $T_3$ ) <sup>4</sup>	.360	-.12

\* $p \leq .05$

<sup>+</sup>  $p \leq$

<sup>1</sup>Friendship choices received on sociometric.

<sup>2</sup>Percent of time spent alone.

<sup>3</sup>Different members observed with in unit settings.

<sup>4</sup>Participant-observer ratings on outgoing vs. withdrawn.

highest at  $T_2$ . The results of correlations and the chi-square tests of the relationship between  $D_s$  and the adjustment criteria are compared across  $T_1$ ,  $T_2$ , and  $T_3$  in Table 9. (see Table 9)

A further characteristic of the relationship of  $D_s$  with the adjustment criteria is that all the rho correlations are positive, with the one exception of POR at  $T_3$  (see Table 9).

#### Client-volunteer Differences in $D_s$

Client-volunteer differences on  $D_s$  were analyzed by rank-ordering the  $D_s$  scores of all unit members and calculating the sum of ranks for clients for volunteers (see Table 10). According to the Wilcoxon two-tailed test (Snedecor, 1956), there is a significant difference in sum of ranks between clients and volunteers [ $ER_c = 51.5$ ,  $ER_v = 138.5$ ,  $p(ER_c = ER_v) < .05$ ]. The clients are significantly more differentiated in the domain of self than the volunteers.

#### Clinician's Ranking on Adjustment (CRA) in Relation to $D_s$

All unit members were ranked on adjustment (at  $T_3$  only) by two staff psychologists. The chi-square and rho correlation for  $D_s$  and this ranking were calculated. The rho correlation is negative ( $\rho = -.32$ ) and approaching significance, indicating a slight tendency for those high on  $D_s$  to be low on adjustment ranking. The chi-square, however, indicated essentially no relationship ( $\chi^2 = .360$ ).



Table 9  
 Relationship of  $D_s$  to Adjustment Criteria  
 at  $T_1$ ,  $T_2$ , and  $T_3$  for all Unit Members ( $N = 19$ )

Adjustment Criteria	$T_1$	$T_2$	$T_3$	
FCR <sup>1</sup>	$X^2$ (d.f.= 1)	2.329	.360	2.804 <sup>+</sup>
	rho	.13	.02	.12
TSA <sup>2</sup>	$X^2$ (d.f.= 1)	1.563	1.563	.074
	rho	.39 <sup>+</sup>	.49 <sup>*</sup>	.45 <sup>*</sup>
MOW <sup>3</sup>	$X^2$ (d.f.= 1)	4.478 <sup>*</sup>	6.781 <sup>*</sup>	2.804 <sup>*</sup>
	rho	.38 <sup>+</sup>	.53 <sup>*</sup>	.12
POR <sup>4</sup>	$X^2$ (d.f.= 1)	.032	9.612 <sup>*</sup>	.360
	rho	.05	.36	-.12

\*  $p \leq .05$ .

+  $p \leq .10$

<sup>1</sup>Friendship choices received on sociometric.

<sup>2</sup>Percent of time spent alone.

<sup>3</sup>Different members observed with in unit settings.

<sup>4</sup>Participant-observer ratings on outgoing vs. withdrawn.

Table 10

Ranking of Unit Members on  
Differentiation of Self ( $D_s$ ) N = 19

RANK (R)	SCORE
1	7.1*
2	5.6*
3	5.4
4	5.1*
5	4.4*
6	4.1*
7	3.2*
8	2.9
9.5	2.8
9.5	2.8
11.5	2.7
11.5	2.7*
13	2.6
14	2.3
15	2.1*
16	2.0
17	1.7
18	1.5
19	1.2

\*Clients

$ER_C = 51.5$ .  $ER_V = 138.5$ .  $p (ER_C = R_V) < .05$ .  
(Wilcoxon Two-Tailed test. In Snedecor, 1956.)

### Inconsistencies Between Chi-squares and Rho Correlations

The chi-squares and rho correlations are generally not greatly discrepant from each other (see Table 9). The two exceptions to this are POR at  $T_2$  and TSA at  $T_3$ .

With respect to POR ( $T_2$ ), the chi-square analysis indicates a strong relationship to  $D_s$  ( $X^2 = 1.612$ ,  $p < .05$ ). The rho correlation, however, is nonsignificant ( $\rho = .36$ ). This discrepancy may be accounted for by the fact that the relationship is somewhat curvilinear, as shown in Figure 1 ( $\text{Eta} = .42$ ; N.S.).

The other case in which the chi-squares and correlations are inconsistent is in the relationship of  $D_s$  to TSA at  $T_3$ . (See Table 9). The rho correlation is significant at the .05 level ( $\rho = .45$ ), but the chi-square is nonsignificant ( $X^2 = .074$ ). Again, the inconsistency can be attributed to the general shape of the scatter diagram (Figure 2).

### Analysis of $D_o$

#### Relationship of $D_o$ to the Adjustment Criteria

The relationship of  $D_o$  to the adjustment criteria was determined by a chi-square analysis and rho correlations, similar to that which was performed for  $D_s$ .  $D_o$  and the adjustment criteria were ranked and dichotomized according to median rank. Simple two-way chi-square

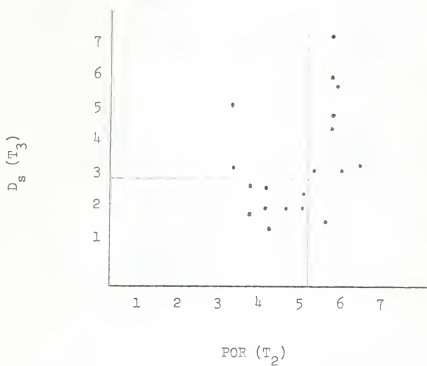


Fig. 1. Scatter diagram illustrating curvilinearity in the relationship of differentiation of self ( $D_s$ ) to participant-observer ratings on outgoing vs. withdrawn (POR).  $\text{Eta} = .42$  (N.S.).

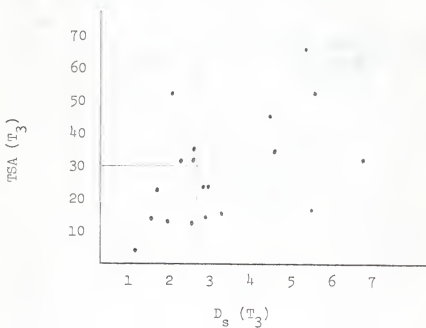


Fig. 2. Scatter diagram illustrating distribution of scores in the two variables  $D_s$  and percent of Time Spent Alone ( $\rho = .45$ ).

analyses and rho correlations were then conducted. The relationships to the adjustment criteria at  $T_3$  are of particular importance because of their close temporal sequence. With respect to  $T_3$  only, the chi-squares indicate no significant relationships to any of the adjustment criteria (see Table 11). The rho correlations, however, indicate relationships of borderline significance to FCR (rho = .38, prob. < .10) and to MOW (rho = .40, p < .10).

#### Client-volunteer Differences on $D_0$

The unit members were ranked as a group with respect to their scores on  $D_0$  (see Table 12). According to the Wilcoxon two-tailed test (Snedecor, 1956), the sum of ranks for clients does not differ significantly from the sum of ranks for volunteers ( $ER_c = 86.5$ ,  $ER_v = 100.5$ ).

#### Relationship of $D_0$ to Clinician's Rank of Adjustment (CHA)

A chi-square analysis and rho correlation both indicate a slightly positive, but nonsignificant relationship of  $D_0$  to Clinician's Rank on Adjustment ( $X^2 = 1.563$ , rho = .28).

#### Changes in $D_0$

Since  $D_0$  was obtained at a time designated as  $T_1$  (see Table 6\*), analysis of change in  $D_0$  could be done by comparing the means and variances of  $D_0$  at  $T_1$  and  $T_3$ . These data are presented in Table 13. The changes are nonsignificant.

---

\*  $T_1$  in this case is not the same for all individuals.

Table 11  
 Relationship of  $D_0$  to Adjustment Criteria at  $T_3$   
 for all Unit Members ( $N = 19$ )

Adjustment Criteria	$\chi^2$ (d.f. = 1)	rho
FCR ( $T_3$ ) <sup>1</sup>	.032	.38 <sup>+</sup>
TSA ( $T_3$ ) <sup>2</sup>	.074	.02
MOW ( $T_3$ ) <sup>3</sup>	1.244	.40 <sup>+</sup>
PCR ( $T_3$ ) <sup>4</sup>	1.563	-.14

<sup>+</sup>  $p \leq .10$

<sup>1</sup>Friendship choices received on sociometric.

<sup>2</sup>Percent of time spent alone.

<sup>3</sup>Different members observed with in unit settings.

<sup>4</sup>Participant-observer ratings on outgoing vs. withdrawn.

Table 12  
 Ranking of Unit Members on  
 Differentiation of Others ( $D_o$ )  $N = 19$

RANK (R)	SCORE
1	44*
2	30
3	27
4	26
6	21*
6	21*
6	21
8.5	16
8.5	16
10	15*
11	14*
13	13
13	13
13	13
15	12*
16.5	11*
16.5	11
18	10
19	6*

\*Clients (all others volunteers)

$ER_c = 86.5$ .  $ER_v = 100.5$ . (Nonsignificant difference in sum of rank)  
 (Wilcoxon Two-Tailed test. In Snedecor, 1956.)



Similar to  $D_s$ ,  $D_o$  shows changes in relationship to the adjustment criteria across time. As shown in Table 14,  $D_o$  relates to FCR significantly at  $T_1$ , but the relationship at  $T_3$  is of borderline significance. But this pattern is not consistent for all the adjustment measures. Moreover, the correlation between  $D_o$  at  $T_1$  and at  $T_3$  is relatively high ( $\rho = .73$ ) Consequently, there is essentially no evidence substantiating a particular pattern of change in  $D_o$ .

Relationship of  $D_s$  to  $D_o$

The relationship of  $D_s$  to  $D_o$  was examined using chi-square and rho statistics in Table 15. As shown in Table 15, the relationship is slightly negative and nonsignificant, both at  $T_1$  and  $T_3$ .

Table 13

Mean and Variance of  $D_0$  at  $T_1$  and  $T_3$ 

	$T_1$	$T_3$
Mean	19.1	17.9
Variance	61.2	80.1

Table 14  
 Relationship of  $D_o$  to Adjustment Criteria  
 at  $T_1$ ,  $T_2$ , and  $T_3$  for all Unit Members ( $N = 19$ )

Adjustment Criteria	$T_1$	$T_2$	$T_3$	
FCR <sup>1</sup>	$\chi^2$ (d.f. = 1)	9.612*	1.563	.032
	rho	.48*	.40 <sup>+</sup>	.38 <sup>+</sup>
TSA <sup>2</sup>	$\chi^2$ (d.f. = 1)	.074	.074	.074
	rho	-.10	.01	.02
MOW <sup>3</sup>	$\chi^2$ (d.f. = 1)	.360	.553	1.244
	rho	.25	.10	.40 <sup>+</sup>
POR <sup>4</sup>	$\chi^2$ (d.f. = 1)	.032	.074	1.563
	rho	.07	-.21	-.14

\* $p \leq .05$ .

<sup>+</sup> $p \leq .10$ .

<sup>1</sup>Friendship choices received on sociometric

<sup>2</sup>Percent of time spent alone.

<sup>3</sup>Different members observed with in unit settings.

<sup>4</sup>Participant-observer ratings on outgoing vs. withdrawn.

Table 15

Relationships between  $D_s$  and  $D_o$   
 as Indicated by Chi-square and  $\rho$  Correlations

	$D_o (T_1)$		$D_o (T_3)$	
	$X^2$ (d.f. = 1)	$\rho$	$X^2$ (d.f. = 1)	$\rho$
$D_s (T_3)$	1.563*	-.11	.074	-.16

\*p = .12

## Analysis of Adjustment Criteria

### Client-volunteer Differences

The differences between clients and volunteers on the adjustment criteria can be summarized as follows:

1) As shown in Tables 16 and 18, the variance contributed by groups is significant in FCR ( $F = 5.63$ ) and TSA ( $F = 15.60$ ). These results indicate that volunteers received significantly more friendship choices than the clients (see Figure 3); and clients spent significantly more time along (see Figure 5).

2) According to Table 19, the variance contributed by groups on POR is of borderline significance ( $F = 3.85$ ,  $p < .10$ ), indicating a slight tendency for clients and volunteers to differ on POR. Figure 6 shows that the clients were consistently rated as more withdrawn than the volunteers.

### Changes in Adjustment Criteria

Taking unit members as a whole, the changes appearing in the adjustment criteria as a function of time are summarized as follows:

1) As indicated in Table 16, the variance due to time for FCR is of borderline significance ( $F = 2.72$ ,  $p < .10$ ). Figure 3 shows that unit members decreased in the number of choices received.

2) Table 19 indicates an effect of time on POR which is of borderline significance ( $F = 2.94$ ,  $p < .10$ ). As shown in Figure 6, unit members as a whole became more outgoing with time.

3) For the two variables MOW and TSA, the variance due to time is nonsignificant, indicating no significant change in these variables as a function of time (see Tables 17 and 18).

Groups by Time Interaction

As the data in Table 17 indicate, the groups by time interaction is significant for MOW ( $F = 21.95$ ). As shown in Figure 4, the clients appear generally less stable than the volunteers on this variable, indicating that the observed associations with others in the lounge and dining room varied more as a function of time for the clients than for the volunteers.

With respect to the other measures of adjustment, there was no significant interaction effects present. These results suggest that, in general, changes taking place among clients on FCR, TSA, and POR were similar to those taking place among the volunteers.

Table 16

Analysis of Variance Summary for  
Friendship Choices Received (FCR)

Source	Ss	d.f.	MS	F
<u>Between SS</u>		<u>18</u>		
Groups	60.55	1	60.55	5.63*
Ss Within Gr.	182.69	17	10.74	
<u>Within Ss</u>		<u>38</u>		
Time	18.74	2	9.23	2.72 <sup>+</sup>
Gr. X Time	15.23	2	7.61	2.24
Time X Ss W. Gr.	115.48	34	3.39	

\*p &lt; .05

<sup>+</sup>p < .10

Table 17

Analysis of Variance Summary for  
Different Members Observed With (MOW)

Source	SS	d.f.	MS	F
<u>Between Ss</u>		<u>18</u>		
Groups	71.50	1	71.50	.58
Ss Within Gr.	2084.14	17	122.59	
<u>Within Ss</u>		<u>38</u>		
Time	71.97	2	35.98	1.59
Groups X Time	990.56	2	495.28	21.95**
Time X Ss W. Gr.	767.18	34	22.56	

\*\*p &lt; .01

Table 18

Analysis of Variance Summary for  
Percent of Time Spent Alone (TSA)

Source	SS	d.f.	MS	F
<u>Between Ss</u>		<u>18</u>		
Groups	4290.38	1	4290.38	15.60**
Ss Within Gr.	4674.14	17	274.94	
<u>Within Ss</u>		<u>38</u>		
Time	43.93	2	21.95	.20
Groups X Time	25.00	2	12.50	.11
Time X Ss W. Gr.	3707.07	34	109.03	

\*\*p &lt; .01

Table 19

Analysis of Variance Summary for  
Participant-observer Ratings on Outgoing vs. Withdrawn (POR)

Source	SS	d.f.	MS	F
<u>Between Ss</u>		<u>18</u>		
Groups	5.71	1	5.71	3.85 <sup>+</sup>
Ss Within Gr.	25.27	17	1.48	
<u>Within Ss</u>		<u>38</u>		
Time	2.00	2	1.00	2.94 <sup>+</sup>
Groups X Time	.86	2	.43	1.26
Time X Ss W. Gr.	11.65	34	.34	

<sup>+</sup>p ≤ .10

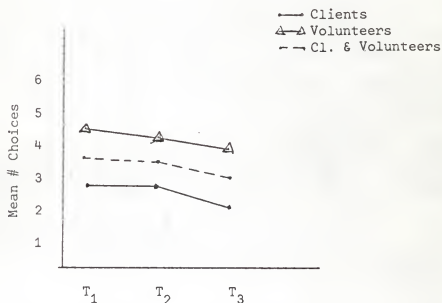


Fig. 3. Plotting of Means for Clients and volunteers on number of friendship choices received (FCR).



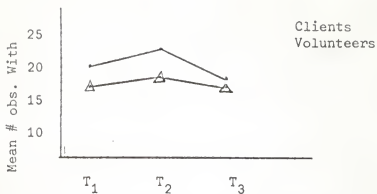


Fig. 4. Plotting of means for clients and volunteers on number of members observed with in lounge and dining room (MOW).

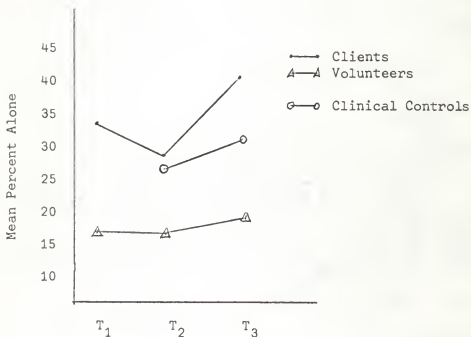


Fig. 5. Plotting of means for clients and volunteers on percent of time spent alone (TSA).

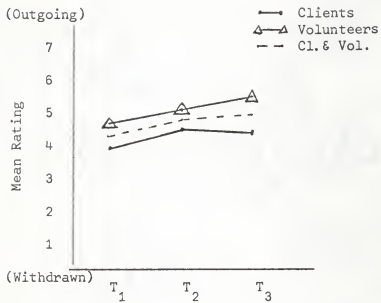


Fig. 6. Plotting of means for participant-observer ratings on withdrawn vs. outgoing (POR).

## DISCUSSION AND CONCLUSIONS

The major purposes of this research were: 1) to study changes in differentiation of self; 2) to study changes in differentiation of others; and 3) to relate differentiation of self and others to measures of adjustment. With respect to these purposes, the results may be summarized as follows:

1) Differentiation of self ( $D_s$ ) is somewhat negatively related to measures of social adjustment, contrary to the initial hypothesis that  $D_s$  and social adjustment are positively related.

2) Measures of adjustment taken in close temporal sequence to  $D_s$  do not relate strongly to  $D_s$ , while measures taken earlier do relate to  $D_s$ . These results may indicate a change among unit members in social behavior and  $D_s$  which is sequential in nature.

3) Differentiation of others ( $D_o$ ) shows essentially no relationship to measures of adjustment, contrary to the initial hypothesis that  $D_o$  and social adjustment are positively related.

4) There is no evidence for change in  $D_o$ , which implies that there was little or no impact of the living unit on cognitive differentiation of others.

5) There is no evidence to support the hypothesized positive relationship of  $D_s$  and  $D_o$ , indicating that differentiation of self may be independent of differentiation of others.

6) Client-volunteer differences in measures used as criteria of adjustment generally show the hypothesized client-volunteer differences.

7) Changes in measures of adjustment criteria are of borderline significance, and can be interpreted as slight indications of therapeutic impact.

### Differentiation of Self ( $D_s$ )

#### Relationship of $D_s$ to Adjustment

It is apparent that the results run contrary to the expected positive relationship of  $D_s$  to adjustment, and support the notion that  $D_s$  is negatively related to adjustment. These results are as follows:

1)  $D_s$  is positively related to TSA (which significantly differentiates clients from volunteers). 2) Clients rank significantly higher on  $D_s$  than do the volunteers. 3)  $D_s$  is negatively related to clinician's ranking on adjustment (rho approaches significance), such that those ranked high on adjustment tend to rank low on  $D_s$ .

The negative relationship of  $D_s$  to social adjustment is further substantiated by results recently reported by Scott (1967). Using ratings of self as a measure of differentiation as was done in this study, Scott found predominantly negative correlations to measures of adjustment. The adjustment measures used included questionnaires on self esteem and self satisfaction, as well as appearance at the counseling center.

In the light of these results the question arises whether self insight can be operationally described in terms of incorporating unperceived aspects of the self. It does not seem reasonable to describe the clients as having achieved a relatively high degree of self

insight. However, an alternative interpretation could be as follows: The client's reasons for seeking help in the first place may stem from a basic inability to achieve a unified and integrated self concept. Part of his distress may in fact be that he cannot achieve an integrated view of himself. Thus, he would describe himself in a highly differentiated, although fragmented and inconsistent fashion. Such a characteristic may lead to a high  $D_s$  score.

These considerations suggest that self insight cannot be operationally defined in terms of incorporating unperceived aspects of the self. They further suggest that the measure of differentiation used may be in part a measure of psychological integration.

On the level of personality, the concept that integration is an important aspect of adjustment and maturity has been set forth by various personality theorists; in particular Gordon Allport. Allport (1964) maintains that differentiation and integration are both important aspects in the development of the mature, healthy personality. According to Allport, the growing individual must be viewed as progressing in both differentiation and integration. Learning brings about both types of structural change, leading to an organization which is characterized by articulation and refinement of systems (differentiation) and by hierarchical organization of these systems within the total personality (integration).

Although this line of thought may not be directly applicable to structural properties of cognition, which is the major concern here, it would appear that two contradictory theoretical viewpoints exist. On one hand, there is the view that a highly differentiated cognitive

system leads to the ability to function effectively. On the other hand, there is the view that integration of personality is of primary importance in the growth and maturation of the healthy personality. Although each view can be made plausible on a theoretical level, the results of this research suggest that this phenomenon may be somewhat problematic on an empirical level. Measures of differentiation may need to be refined in order to take into account integrative aspects of cognitive structure.

An alternative explanation might be as follows: As a result of regular counseling, the clients develop a greater sensitivity and awareness of themselves than the volunteers. Consequently, they describe themselves in a highly differentiated manner. This hypothesis can to some degree be tested by examining the chi-square relationship between those above vs. those below the median on  $D_s$  and those in counseling vs. those not in counseling. This analysis yields a chi-square of 7.28 (d.f. = 1,  $p < .01$ ), which seems to support the notion that personal counseling is associated with high differentiation of the self concept.

These considerations point out the need for further research dealing with the problem on a theoretical level as well as developing appropriate instruments for measuring differentiation and integration.

#### Changes in the Relationship of $D_s$ to the Adjustment Measures

As indicated in the results,  $D_s$  generally tends to relate most strongly to the adjustment criteria at  $T_2$ . One plausible implication of these results is that changes occurring in  $D_s$  and observable social

behaviors which relate to  $D_s$  do not necessarily occur simultaneously. The fact that  $D_s$  ( $T_3$ ) relates more strongly to social behavior at  $T_2$  than at  $T_3$  suggests that impact of the living unit followed a pattern which could be characterized as involving first, a more immediate impact on overt social behavior, followed by changes in conceptual variables such as the concept of self.

Another possible explanation for these results involves the structure of the living unit. It has been pointed out previously that the living unit functioned largely according to the model of the T-group. As such, there was often more of a concern with concrete behaviors or patterns of behavior. Much of the supportive interaction among unit members had to do with specific problems of living rather than "deeper" problems involving dynamics within the personality. This approach could conceivably result in immediate changes in specific behaviors, while changes in conceptual variables would appear after a certain length of time. For example, upon being confronted about his timidity and lack of aggressiveness, a unit member may not be able to perceive himself as more aggressive for some time, although he may behave in a more aggressive fashion.

In summary, there is no evidence to clearly indicate the nature of changes occurring in  $D_s$ . However, there is evidence indicating changes in the relationship of  $D_s$  to adjustment criteria across time which has implications for the process involved in behavioral and cognitive change.

### Differentiation of Others ( $D_0$ )

Taken together, the results indicate the failure of  $D_0$  to relate meaningfully to other variables, which would cause question as to the usefulness of this instrument.

#### Relationship of $D_0$ to Adjustment

It is not clear from the results how  $D_0$  may relate to social adjustment. Since the strongest relationships at  $T_3$  are only of borderline significance, it may be that  $D_0$  is essentially independent of social behavior. Such a notion is supported by the fact that  $D_0$  is unrelated to TSA and POR, both of which differentiate to some extent between clients and volunteers. Furthermore, clients do not differ from volunteers with respect to their score on  $D_0$ . However, it is also possible that the analysis of the TAT stories does not adequately measure differentiation, and consequently, the relationship of  $D_0$  to social adjustment was not assessable by means of this instrument.

#### Changes in $D_0$

The results generally indicate that  $D_0$  did not change as a function of time. A comparison of means and variances reveals no significant changes from  $T_1$  to  $T_3$ . Furthermore,  $D_0$  at  $T_1$  is correlated highly with  $D_0$  at  $T_3$  (rho correlation = .73).

Correlations and chi-squares between  $D_0$  ( $T_3$ ) and the adjustment measures at  $T_1$  and  $T_2$  indicate essentially no substantial changes in relationship across time, with the exception of FCR, which relates to  $D_0$  ( $T_3$ ) most strongly at  $T_1$ . Such a pattern is suggestive of changes



similar to those appearing in  $D_s$ . However, since this trend does not appear consistently with respect to  $D_o$ , these results are inconclusive in relation to the kinds of changes taking place in  $D_o$ .

#### Relationship of $D_s$ to $D_o$

Chi-square and rho correlations indicate that  $D_s$  and  $D_o$  do not relate significantly to each other ( $\chi^2 = .074$ . rho =  $-.16$ ). The hypothesized positive relationship of  $D_s$  to  $D_o$  is therefore unconfirmed. Possible explanation of these results is as follows:

1) The cognitive domains of self and others are essentially independent from each other, and therefore unrelated. As discussed previously, such a possibility may exist. According to Swanson and Scott (1966), differentiation should be considered as a characteristic, not of a total person, but of a particular cognitive domain. Consequently, those differentiated in the domain of self will not necessarily tend to be differentiated in the domain of others.

2) The lack of relationship between  $D_s$  and  $D_o$  is primarily due to the difference between instruments used. The instrument used to measure  $D_s$  consisted of a series of ratings made by Ss, while  $D_o$  was assessed by means of a content analysis. One or the other of these methods may lack validity, which would result in a nonsignificant correlation.

The method used to measure  $D_o$  is particularly open to question. Although preliminary study indicated considerable variance among unit members on  $D_o$ , the final results suggest that the instrument which was

used may not be appropriate as a measure of differentiation. Consequently, further study of this problem is needed.

### The Adjustment Criteria

#### Client-volunteer Differences

The usefulness of the adjustment criteria as measures of social adjustment can be in part judged with reference to the degree to which they differentiate between clients and volunteers. To the extent that clients differ from volunteers in social adjustment (defined earlier as the ability to form and maintain social relationships), an analysis of client-volunteer differences on the adjustment criteria allows us to estimate the validity of these instruments.

Among the four measures of adjustment, TSA and FCR differentiate between clients and volunteers to a significant degree. These differences are in the direction initially hypothesized; i.e., clients spent more time alone and received fewer friendship choices than volunteers. Another adjustment measure, POR, differentiates clients from volunteers at a borderline level of significance. Here also, the difference is in the expected direction. Clients were rated as more withdrawn than volunteers.

Taken together, these results substantiate the validity of FCR, TSA, and POR as measures of social adjustment. FCR and TSA in particular would seem most promising as adjustment criteria for the following reasons: First, the manner of collecting these data are relatively simple. For FCR, Ss were asked whom they would choose as their close friends. TSA was derived from interviews in which Ss were asked to

relate their previous day's activities. This information was recorded onto forms, from which a simple percentage of time alone was calculated.

Second, data obtained in this way are relatively objective, and do not involve problems such as observer bias or reliability of ratings. The information given by Ss involved straightforward statements of fact.

On the other hand, participant-observer ratings (POR) seem somewhat less useful as measures of social adjustment. The reliability coefficient obtained was somewhat unsatisfactory. Furthermore, it is impossible to determine in this case how the participant-observers were effected by the knowledge of which unit members were clients and which were volunteers. Such knowledge may have effected their ratings. A further problem for statistical analysis is the fact that the participant-observer ratings contained very little variance.

#### Changes in Adjustment Criteria

Two of the adjustment criteria show changes of borderline significance. These are POR and FCR. POR increases, indicating that unit members as a whole became more outgoing with time; and FCR decreases, indicating that unit members received fewer friendship choices as a function of time. In both cases, an analysis of variance indicates no significant interaction between groups and time. Thus, clients and volunteers did not differ with respect to the nature of change taking place.

These results provide evidence as to the nature of the general behavioral changes taking place within the living unit, by which the extent of apparent therapeutic effect can be judged.

The change in POR is in the direction of more outgoing, which would indicate favorable therapeutic impact. However, the following factors should be taken into account: 1) The ratings made by participant observers do not correlate highly. Therefore, they do not represent a highly reliable source of information. 2) Ratings by participant-observers represent subjective perceptions, and as such, are susceptible to extraneous factors. For example, becoming more acquainted with unit members would probably influence the participant-observer's perception of these members, causing a change to appear in POR. 3) The change in POR is not limited to clients alone, as one might expect on the basis of the purposes of the living unit. This causes further question as to whether the change in POR is a function of extraneous factors effecting the ratings of the participant-observers.

With respect to FCR, the meaning of a change toward receiving fewer friendship choices is not immediately clear. According to the initial hypothesis, such a change would indicate a negative impact on unit members. Such a notion is somewhat substantiated by the results indicating that a high number of friendship choices is associated with social adjustment, i.e., volunteers received more friendship choices. However, the conclusion that the living unit had a therapeutically negative effect runs directly contrary to the subjective reports of the unit members. The members were systematically interviewed upon leaving the unit. These interviews revealed that with few exceptions there was a general positive response of the unit members to the living

unit. Among benefits gained from the unit, meaningful friendships was mentioned most often by both clients and volunteers. Clients in particular indicated that the living unit was an important source of support and security.

In the light of these results, the decrease in FCR may have meaning in terms of intensification process. It may indicate that unit members were learning to form meaningful friendships with others. This notion is further substantiated by the fact that many unit members, particularly volunteers who lived in the unit for three semesters, reported a growing intensity of interpersonal relationships to the extent that such relationships demanded a great deal of time and energy.

Consequently, the decrease in FCR could be interpreted as the result of socialization processes in which the unit members initially sought out a number of friends, but later established more intense and meaningful relationships with fewer persons. Such an interpretation creates possibilities for future research.

#### Interaction of Groups by Time on Adjustment Criteria

With the exception of MOW, an analysis of variance indicates no significant interaction effects on the adjustment measures. These results suggest that clients did not generally differ from volunteers in the changes taking place in the adjustment criteria. The indication that clients and volunteers were effected similarly runs contrary to the notion that the unit is organized specifically for the rehabilitation

of the clients, and that the impact should therefore be greater with respect to the clients.

The significant interaction with respect to MOW indicates that the clients decreased in MOW more than the volunteers. There is no apparent explanation for these results. It is not clear why the activity in the lounge and dining room would decrease more for clients than for volunteers.

### Conclusions

In conclusion, the general statements indicated by the results are as follows:

1) The evidence for therapeutic impact, although differing in some ways from expected results, is slight and in the direction of positive effect. There is change in the friendship choices and in the participant-observer ratings which can be interpreted in terms of an intensification process, attested to by the subjective reports of the unit members. However, there is no evidence to indicate therapeutic impact was in the nature of change in differentiation of self and others as initially hypothesized.

2) There is little evidence to indicate that the living unit had a unique effect on clients alone. The group by time interaction is generally not significant, with the exception of observed behavior in the lounges and the dining room, in which case it is not clear to what this effect can be attributed.

3) Self differentiation is to some degree associated with social maladjustment, contrary to the initial hypothesis. These results may reflect the importance of taking into account integrative aspects of cognitive structure in measuring differentiation.

4) There is no evidence to indicate a substantial relationship of differentiation of others to adjustment. However, the lack of meaningful relationships to other variables may reflect a failure of the instrument.

#### Suggestions for Further Research

Several important issues have been raised in this study which demand further investigation. These are as follows:

1) The results showing a negative relationship of self differentiation to social adjustment should be replicated and further study should be made of the hypothesis that integration of cognitive structure is a meaningful concept.

2) The difficult problem of therapeutic impact demands further study. Although several measures used in this study were validated as criteria of adjustment, the changes shown by these measures were not always in the direction anticipated. In light of these results, the question is raised concerning what changes in behavior are indicative of therapeutic impact.

3) Further study of the nature of the socialization processes taking place in the living unit is needed. Certain results suggest that a somewhat intense, supportive environment was established.

## ACKNOWLEDGMENTS

Without the cooperation and advice of my committee, particularly Dr. Leon H. Rappoport and Dr. E. Robert Sinnett, this thesis could not have been written. I would like to express my appreciation for their time and effort. Also, I would like to thank Dr. Robert Haygood for advice concerning statistical procedures.

I am indebted to my wife, Barbara, for her material assistance and also for her patience and encouragement throughout.



References

- Allport, G. W. Pattern and Growth in Personality. New York: Holt, Rinehart, and Winston, 1964.
- Bach, G. R. Intensive Group Psychotherapy. New York: Ronald Press, 1954.
- Berger, G. S. "Wellmet: A residential halfway house for college students and chronic schizophrenics." Paper presented to the First International Congress of Social Psychiatry. London: August, 1964.
- Bieri, J. "Changes in interpersonal perceptions following social interaction." J. Abnorm. Soc. Psychol. 1953, 48, 61-66.
- Bieri, J. "Cognitive complexity-simplicity and predictive behavior." J. Abnorm. Soc. Psychol. 1955, 51, 263-268.
- Bieri, J. "Differences in perceptual and cognitive behavior as a function of experience type." J. Consult. Psychol. 1957, 21, 217-221.
- Bieri, J. "Complexity-simplicity as a personality variable in cognitive and preferential behavior. In D. W. Fiske and S. Maddi (Eds.). Functions of Varied Experiences. Homewood, Ill: Dorsey, 1961, 355-379.
- Huseth, B. "Halfway houses, a new rehabilitation measure." Mental Hospitals. October, 1958, 9, 8, 5-9.
- Infield, H. "Gould Farm: A therapeutic cooperative community." Cooperative Living. Spring, 1955, 6, 3.
- Kelly, G. A. The Psychology of Personal Constructs. New York: W. W. Norton & Co., Inc. 1955. 2 vols.
- Landy, D., and Greenblatt, M. Halfway House. Washington, D.C.: U. S. Dept. of Health, Education, and Welfare. 1965.
- Maeda, E. M. and Rothwell, N. "Discussion, listing, and bibliography of psychiatric halfway houses in the United States." Psychiatric Studies and Projects. American Psychological Association, September, 1963.
- Maher, B. A. Progress in Experimental Personality Research. New York: Academic. 1965. 2 vols.
- McDavid, J. W. "Immediate effects of group therapy upon response to social reinforcement among juvenile delinquents." J. Consult. Psychol. 1964, 28, 5, 409-412.

- Moore, J. D. J. "Report from Belgium: What Gheel means to me." Look Magazine, May 23, 1961.
- Peres, H. "An investigation of nondirective group therapy." J. Consult. Psychol. 1947, 11, 159-172.
- Phillips, E. L. "Attitudes toward self and others: A brief questionnaire report." J. Consult. Psychol. 15, 1, 79-81, 1951.
- Raush, C. L. "A survey of forty halfway houses in the United States." Master's Thesis, School of Social Work, University of Michigan, 1963.
- Rogers, C. R. (Ed.). Client Centered Therapy. Cambridge, Mass.: Riverside Press, 1951.
- Rogers, C. R., and Dymond, R. F. Psychotherapy and Personality Change. Chicago: Univ. of Chicago Press, 1954.
- Rothwell, N. D., and Doniger, J. M. The Psychiatric Halfway House. Springfield, Ill.: Charles Thomas, 1966.
- Rutman, I. D. "Ex-mental patients in halfway houses." Rehabilitation Record. March-April, 1964, 5, 2, 10-13.
- Rusk, H. A. "Halfway house fills gap in mental health care." Kansas City Star. May 5, 1964 (reprinted from New York Times Service).
- Scott, W. A. "A model and measures of cognitive structure." Boulder: University of Colorado (mimeo) 1966.
- Scott, W. A. Personal correspondence (1967).
- Sheerer, E. T. "An analysis of the relationship between acceptance of and respect for self and acceptance of an respect for others in ten counseling cases." J. Consult. Psychol. 13, 3, 1949, 169-175.
- Shore, M. F., Massimo, J. L., and Mack, R. "Changes in the perception of interpersonal relationships in successfully treated adolescent delinquent boys." J. Consult. Psychol. 1965, 29,
- Sinnett, E. R. "A rehabilitation living unit in a university dormitory setting." Supplemental report to Vocational Rehabilitation Administration. Project No. RD-2053-P-67-C1. (mimeo) 1967.
- Sinnett, E. R., and Niedenthal, Linda A. "The use of indigenous volunteers in a rehabilitation living unit for disturbed college students." Unpublished manuscript, Kansas State University, June, 1967.

- Sinnett, E. R., Wiesner, E. F., and Friesen, W. S. "An experimental living unit in a university setting: a new approach to the rehabilitation of the emotionally disturbed student.: Rehab. Record. Jan.-Feb., 1967, 8, 11, 34-37.
- Slavson, S. R. (Ed.). The Practice of Group Therapy. New York: International Univ. Press, 1947.
- Snedecor, G. W. Statistical Methods. Ames, Iowa: Iowa State University Press, 1956.
- Stock, D. "An investigation into the interrelations between the self-concept and feelings directed toward other persons and groups." J. Consult. Psychol., 1949, 13, 3, 176-180.
- Swanson, R. M. and Scott, W. A., "Research in developing measures of cognitive differentiation." Boulder: University of Colorado (mimeo). 1966.
- Wechsler, H. "Halfway houses for former mental patients: a survey." Journal of Social Issues. 1960, 16, 2, 20-26.
- Wolf, A., and Schwartz, E. K. Psychoanalysis in Groups. New York: Grune and Stratton, 1962.
- Wylie, R. C. The Self Concept: Critical Survey of Pertinent Research Literature. Lincoln, Nebraska: Univ. of Nebraska, 1960.



## Myself as a student

selfish	: _ : _ : _ : _ : _ : _ : _ :	unselfish
tactful	: _ : _ : _ : _ : _ : _ : _ :	tactless
confident	: _ : _ : _ : _ : _ : _ : _ :	unsure
popular	: _ : _ : _ : _ : _ : _ : _ :	unpopular
similar to others	: _ : _ : _ : _ : _ : _ : _ :	different from others
kind	: _ : _ : _ : _ : _ : _ : _ :	unkind
tense	: _ : _ : _ : _ : _ : _ : _ :	relaxed
involved	: _ : _ : _ : _ : _ : _ : _ :	detached
perceptive	: _ : _ : _ : _ : _ : _ : _ :	imperceptive
helpful	: _ : _ : _ : _ : _ : _ : _ :	unhelpful
helpless	: _ : _ : _ : _ : _ : _ : _ :	self-sufficient
cooperative	: _ : _ : _ : _ : _ : _ : _ :	uncooperative
outgoing	: _ : _ : _ : _ : _ : _ : _ :	shy
stimulating	: _ : _ : _ : _ : _ : _ : _ :	dull
patient	: _ : _ : _ : _ : _ : _ : _ :	impatient

## Myself as a helper

selfish	: _ : _ : _ : _ : _ : _ : _ :	unselfish
tactful	: _ : _ : _ : _ : _ : _ : _ :	tactless
confident	: _ : _ : _ : _ : _ : _ : _ :	unsure
popular	: _ : _ : _ : _ : _ : _ : _ :	unpopular
similar to others	: _ : _ : _ : _ : _ : _ : _ :	different from others
kind	: _ : _ : _ : _ : _ : _ : _ :	unkind
tense	: _ : _ : _ : _ : _ : _ : _ :	relaxed
involved	: _ : _ : _ : _ : _ : _ : _ :	detached
perceptive	: _ : _ : _ : _ : _ : _ : _ :	imperceptive
helpful	: _ : _ : _ : _ : _ : _ : _ :	unhelpful
helpless	: _ : _ : _ : _ : _ : _ : _ :	self-sufficient
cooperative	: _ : _ : _ : _ : _ : _ : _ :	uncooperative
outgoing	: _ : _ : _ : _ : _ : _ : _ :	shy
stimulating	: _ : _ : _ : _ : _ : _ : _ :	dull
patient	: _ : _ : _ : _ : _ : _ : _ :	impatient

## Myself as a roommate

selfish	: _ : _ : _ : _ : _ : _ : _ :	unselfish
tactful	: _ : _ : _ : _ : _ : _ : _ :	tactless
confident	: _ : _ : _ : _ : _ : _ : _ :	unsure
popular	: _ : _ : _ : _ : _ : _ : _ :	unpopular
similar to others	: _ : _ : _ : _ : _ : _ : _ :	different from others
kind	: _ : _ : _ : _ : _ : _ : _ :	unkind
tense	: _ : _ : _ : _ : _ : _ : _ :	relaxed
involved	: _ : _ : _ : _ : _ : _ : _ :	detached
perceptive	: _ : _ : _ : _ : _ : _ : _ :	imperceptive
helpful	: _ : _ : _ : _ : _ : _ : _ :	unhelpful
helpless	: _ : _ : _ : _ : _ : _ : _ :	self-sufficient
cooperative	: _ : _ : _ : _ : _ : _ : _ :	uncooperative
outgoing	: _ : _ : _ : _ : _ : _ : _ :	shy
stimulating	: _ : _ : _ : _ : _ : _ : _ :	dull
patient	: _ : _ : _ : _ : _ : _ : _ :	impatient

## Myself as a date

selfish	: : : : : : : :	unselfish
tactful	: : : : : : : :	tactless
confident	: : : : : : : :	unsure
popular	: : : : : : : :	unpopular
similar to others	: : : : : : : :	different from others
kind	: : : : : : : :	unkind
tense	: : : : : : : :	relaxed
involved	: : : : : : : :	detached
perceptive	: : : : : : : :	imperceptive
helpful	: : : : : : : :	unhelpful
helpless	: : : : : : : :	self-sufficient
cooperative	: : : : : : : :	uncooperative
outgoing	: : : : : : : :	shy
stimulating	: : : : : : : :	dull
patient	: : : : : : : :	impatient



## Myself as a close friend

selfish	: _ : _ : _ : _ : _ : _ : _ :	unselfish
tactful	: _ : _ : _ : _ : _ : _ : _ :	tactless
confident	: _ : _ : _ : _ : _ : _ : _ :	unsure
popular	: _ : _ : _ : _ : _ : _ : _ :	unpopular
similar to others	: _ : _ : _ : _ : _ : _ : _ :	different from others
kind	: _ : _ : _ : _ : _ : _ : _ :	unkind
tense	: _ : _ : _ : _ : _ : _ : _ :	relaxed
involved	: _ : _ : _ : _ : _ : _ : _ :	detached
perceptive	: _ : _ : _ : _ : _ : _ : _ :	imperceptive
helpful	: _ : _ : _ : _ : _ : _ : _ :	unhelpful
helpless	: _ : _ : _ : _ : _ : _ : _ :	self-sufficient
cooperative	: _ : _ : _ : _ : _ : _ : _ :	uncooperative
outgoing	: _ : _ : _ : _ : _ : _ : _ :	shy
stimulating	: _ : _ : _ : _ : _ : _ : _ :	dull
patient	: _ : _ : _ : _ : _ : _ : _ :	impatient

Myself as a leader

selfish	: _ : _ : _ : _ : _ : _ :	unselfish
tactful	: _ : _ : _ : _ : _ : _ :	tactless
confident	: _ : _ : _ : _ : _ : _ :	unsure
popular	: _ : _ : _ : _ : _ : _ :	unpopular
similar to others	: _ : _ : _ : _ : _ : _ :	different from others
kind	: _ : _ : _ : _ : _ : _ :	unkind
tense	: _ : _ : _ : _ : _ : _ :	relaxed
involved	: _ : _ : _ : _ : _ : _ :	detached
perceptive	: _ : _ : _ : _ : _ : _ :	imperceptive
helpful	: _ : _ : _ : _ : _ : _ :	unhelpful
helpless	: _ : _ : _ : _ : _ : _ :	self-sufficient
cooperative	: _ : _ : _ : _ : _ : _ :	uncooperative
outgoing	: _ : _ : _ : _ : _ : _ :	shy
stimulating	: _ : _ : _ : _ : _ : _ :	dull
patient	: _ : _ : _ : _ : _ : _ :	impatient

Myself as a newcomer to a group

selfish	: _ : _ : _ : _ : _ : _ : _ :	unselfish
tactful	: _ : _ : _ : _ : _ : _ : _ :	tactless
confident	: _ : _ : _ : _ : _ : _ : _ :	unsure
popular	: _ : _ : _ : _ : _ : _ : _ :	unpopular
similar to others	: _ : _ : _ : _ : _ : _ : _ :	different from others
kind	: _ : _ : _ : _ : _ : _ : _ :	unkind
tense	: _ : _ : _ : _ : _ : _ : _ :	relaxed
involved	: _ : _ : _ : _ : _ : _ : _ :	detached
perceptive	: _ : _ : _ : _ : _ : _ : _ :	imperceptive
helpful	: _ : _ : _ : _ : _ : _ : _ :	unhelpful
helpless	: _ : _ : _ : _ : _ : _ : _ :	self-sufficient
cooperative	: _ : _ : _ : _ : _ : _ : _ :	uncooperative
outgoing	: _ : _ : _ : _ : _ : _ : _ :	shy
stimulating	: _ : _ : _ : _ : _ : _ : _ :	dull
patient	: _ : _ : _ : _ : _ : _ : _ :	impatient

Myself as a member of the Monday meetings

selfish	: _ : _ : _ : _ : _ : _ : _ :	unselfish
tactful	: _ : _ : _ : _ : _ : _ : _ :	tactless
confident	: _ : _ : _ : _ : _ : _ : _ :	unsure
popular	: _ : _ : _ : _ : _ : _ : _ :	unpopular
similar to others	: _ : _ : _ : _ : _ : _ : _ :	different from others
kind	: _ : _ : _ : _ : _ : _ : _ :	unkind
tense	: _ : _ : _ : _ : _ : _ : _ :	relaxed
involved	: _ : _ : _ : _ : _ : _ : _ :	detached
perceptive	: _ : _ : _ : _ : _ : _ : _ :	imperceptive
helpful	: _ : _ : _ : _ : _ : _ : _ :	unhelpful
helpless	: _ : _ : _ : _ : _ : _ : _ :	self-sufficient
cooperative	: _ : _ : _ : _ : _ : _ : _ :	uncooperative
outgoing	: _ : _ : _ : _ : _ : _ : _ :	shy
stimulating	: _ : _ : _ : _ : _ : _ : _ :	dull
patient	: _ : _ : _ : _ : _ : _ : _ :	impatient

Myself as a project member

selfish	: _ : _ : _ : _ : _ : _ : _ :	unselfish
tactful	: _ : _ : _ : _ : _ : _ : _ :	tactless
confident	: _ : _ : _ : _ : _ : _ : _ :	unsure
popular	: _ : _ : _ : _ : _ : _ : _ :	unpopular
similar to others	: _ : _ : _ : _ : _ : _ : _ :	different from others
kind	: _ : _ : _ : _ : _ : _ : _ :	unkind
tense	: _ : _ : _ : _ : _ : _ : _ :	relaxed
involved	: _ : _ : _ : _ : _ : _ : _ :	detached
perceptive	: _ : _ : _ : _ : _ : _ : _ :	imperceptive
helpful	: _ : _ : _ : _ : _ : _ : _ :	unhelpful
helpless	: _ : _ : _ : _ : _ : _ : _ :	self-sufficient
cooperative	: _ : _ : _ : _ : _ : _ : _ :	uncooperative
outgoing	: _ : _ : _ : _ : _ : _ : _ :	shy
stimulating	: _ : _ : _ : _ : _ : _ : _ :	dull
patient	: _ : _ : _ : _ : _ : _ : _ :	impatient

Myself as ~~the~~ one being helped

selfish	: _ : _ : _ : _ : _ : _ : _ :	unselfish
tactful	: _ : _ : _ : _ : _ : _ : _ :	tactless
confident	: _ : _ : _ : _ : _ : _ : _ :	unsure
popular	: _ : _ : _ : _ : _ : _ : _ :	unpopular
similar to others	: _ : _ : _ : _ : _ : _ : _ :	different from others
kind	: _ : _ : _ : _ : _ : _ : _ :	unkind
tense	: _ : _ : _ : _ : _ : _ : _ :	relaxed
involved	: _ : _ : _ : _ : _ : _ : _ :	detached
perceptive	: _ : _ : _ : _ : _ : _ : _ :	imperceptive
helpful	: _ : _ : _ : _ : _ : _ : _ :	unhelpful
helpless	: _ : _ : _ : _ : _ : _ : _ :	self-sufficient
cooperative	: _ : _ : _ : _ : _ : _ : _ :	uncooperative
outgoing	: _ : _ : _ : _ : _ : _ : _ :	shy
stimulating	: _ : _ : _ : _ : _ : _ : _ :	dull
patient	: _ : _ : _ : _ : _ : _ : _ :	impatient

## Myself as a follower

selfish	: _ : _ : _ : _ : _ : _ :	unselfish
tactful	: _ : _ : _ : _ : _ : _ :	tactless
confident	: _ : _ : _ : _ : _ : _ :	unsure
popular	: _ : _ : _ : _ : _ : _ :	unpopular
similar to others	: _ : _ : _ : _ : _ : _ :	different from others
kind	: _ : _ : _ : _ : _ : _ :	unkind
tense	: _ : _ : _ : _ : _ : _ :	relaxed
involved	: _ : _ : _ : _ : _ : _ :	detached
perceptive	: _ : _ : _ : _ : _ : _ :	imperceptive
helpful	: _ : _ : _ : _ : _ : _ :	unhelpful
helpless	: _ : _ : _ : _ : _ : _ :	self-sufficient
cooperative	: _ : _ : _ : _ : _ : _ :	uncooperative
outgoing	: _ : _ : _ : _ : _ : _ :	shy
stimulating	: _ : _ : _ : _ : _ : _ :	dull
patient	: _ : _ : _ : _ : _ : _ :	impatient

## Myself as a conversationalist

selfish	: _ : _ : _ : _ : _ : _ : _ :	unselfish
tactful	: _ : _ : _ : _ : _ : _ : _ :	tactless
confident	: _ : _ : _ : _ : _ : _ : _ :	unsure
popular	: _ : _ : _ : _ : _ : _ : _ :	unpopular
similar to others	: _ : _ : _ : _ : _ : _ : _ :	different from others
kind	: _ : _ : _ : _ : _ : _ : _ :	unkind
tense	: _ : _ : _ : _ : _ : _ : _ :	relaxed
involved	: _ : _ : _ : _ : _ : _ : _ :	detached
perceptive	: _ : _ : _ : _ : _ : _ : _ :	imperceptive
helpful	: _ : _ : _ : _ : _ : _ : _ :	unhelpful
helpless	: _ : _ : _ : _ : _ : _ : _ :	self-sufficient
cooperative	: _ : _ : _ : _ : _ : _ : _ :	uncooperative
outgoing	: _ : _ : _ : _ : _ : _ : _ :	shy
stimulating	: _ : _ : _ : _ : _ : _ : _ :	dull
patient	: _ : _ : _ : _ : _ : _ : _ :	impatient



## Myself as a companion

selfish	: _ : _ : _ : _ : _ : _ : _ :	unselfish
tactful	: _ : _ : _ : _ : _ : _ : _ :	tactless
confident	: _ : _ : _ : _ : _ : _ : _ :	unsure
popular	: _ : _ : _ : _ : _ : _ : _ :	unpopular
similar to others	: _ : _ : _ : _ : _ : _ : _ :	different from others
kind	: _ : _ : _ : _ : _ : _ : _ :	unkind
tense	: _ : _ : _ : _ : _ : _ : _ :	relaxed
involved	: _ : _ : _ : _ : _ : _ : _ :	detached
perceptive	: _ : _ : _ : _ : _ : _ : _ :	imperceptive
helpful	: _ : _ : _ : _ : _ : _ : _ :	unhelpful
helpless	: _ : _ : _ : _ : _ : _ : _ :	self-sufficient
cooperative	: _ : _ : _ : _ : _ : _ : _ :	uncooperative
outgoing	: _ : _ : _ : _ : _ : _ : _ :	shy
stimulating	: _ : _ : _ : _ : _ : _ : _ :	dull
patient	: _ : _ : _ : _ : _ : _ : _ :	impatient

## Myself as X an employee

selfish	: _ : _ : _ : _ : _ : _ : _ :	unselfish
tactful	: _ : _ : _ : _ : _ : _ : _ :	tactless
confident	: _ : _ : _ : _ : _ : _ : _ :	unsure
popular	: _ : _ : _ : _ : _ : _ : _ :	unpopular
similar to others	: _ : _ : _ : _ : _ : _ : _ :	different from others
kind	: _ : _ : _ : _ : _ : _ : _ :	unkind
tense	: _ : _ : _ : _ : _ : _ : _ :	relaxed
involved	: _ : _ : _ : _ : _ : _ : _ :	detached
perceptive	: _ : _ : _ : _ : _ : _ : _ :	imperceptive
helpful	: _ : _ : _ : _ : _ : _ : _ :	unhelpful
helpless	: _ : _ : _ : _ : _ : _ : _ :	self-sufficient
cooperative	: _ : _ : _ : _ : _ : _ : _ :	uncooperative
outgoing	: _ : _ : _ : _ : _ : _ : _ :	shy
stimulating	: _ : _ : _ : _ : _ : _ : _ :	dull
patient	: _ : _ : _ : _ : _ : _ : _ :	impatient

## Myself as an acquaintance

selfish	: _ : _ : _ : _ : _ : _ : _ :	unselfish
tactful	: _ : _ : _ : _ : _ : _ : _ :	tactless
confident	: _ : _ : _ : _ : _ : _ : _ :	unsure
popular	: _ : _ : _ : _ : _ : _ : _ :	unpopular
similar to others	: _ : _ : _ : _ : _ : _ : _ :	different from others
kind	: _ : _ : _ : _ : _ : _ : _ :	unkind
tense	: _ : _ : _ : _ : _ : _ : _ :	relaxed
involved	: _ : _ : _ : _ : _ : _ : _ :	detached
perceptive	: _ : _ : _ : _ : _ : _ : _ :	imperceptive
helpful	: _ : _ : _ : _ : _ : _ : _ :	unhelpful
helpless	: _ : _ : _ : _ : _ : _ : _ :	self-sufficient
cooperative	: _ : _ : _ : _ : _ : _ : _ :	uncooperative
outgoing	: _ : _ : _ : _ : _ : _ : _ :	shy
stimulating	: _ : _ : _ : _ : _ : _ : _ :	dull
patient	: _ : _ : _ : _ : _ : _ : _ :	impatient

Appendix 2SCORE SHEET FOR MEASUREMENT OF  
DIFFERENTIATION OF OTHERS

## I. ATTRIBUTES

A. Emotions

slow to react	depressed	anxious
love of fellow man	angry	guilty
unsatisfied	ill at ease	
love for family	shocked	
lonely, rejected	surprised	
emotionally disturbed	better	

B. Attitudes

appreciates music respect  
 disinterested  
 don't want education  
 proud  
 thinks it's childish  
 sympathetic

C. Motives

trying to renew relationship

D. Traits

moody  
 violent temper  
 fine young man  
 broken spirit  
 confused and troubled  
 meek, uncertain

## II. QUALITIES OF RELATIONSHIPS

love  
 woman perceiving man  
 mutual respect and understanding

SCORE: 30

SUBJECT: # 25

A TAT MEASURE OF DIFFERENTIATION OF OTHERS (D<sub>0</sub>)

The degree of differentiation is represented by the sum of different attributes of others and the different relationships mentioned in the stories.

The scoring procedure is to note each attribute and relationship as it occurs. Attributes will be subdivided into emotions, attitudes, motives, and traits.

The following is an example of how one might score a protocol

## I. ATTRIBUTES

- A. Emotions. (Descriptions of the figures in terms of affective content and feeling.)
- (1) being sorry ("...he is sorry that he startled her.")
  - (2) being happy ("The wife will awaken and be happy to see her husband.")
  - (3) regret (The man will reason out what has happened and will regret it.)
  - (4) being dejected
  - (5) being gloomy ("He is dejected and gloomy because...")
  - (6) grief ("She is at the moment overcome by grief.")
- B. Attitudes. (Description of relatively enduring tendencies shown by the figures in response to their environment)
- (7) self pity ("He is sitting and thinking how unfair the world is.")
  - (8) trust ("They will get the money from the many friends who trust them.")
  - (9) uncooperativeness ("He will unwillingly practice.")
  - (10) bored ("He looks bored.")
  - (11) complacent ("Everyone is complacent...")
- C. Motives. (Description in terms of what the figures seek or want.)
- (12) achievement ("...probably will take lessons and become a great violinist"; also, "They are discussing the possible professions he might go into.")
  - (13) revenge ("The boy is thinking of ways to get revenge against whoever inflicted the punishment.")
  - (14) affiliation ("She does not want him to leave her.")
  - (15) "The kid wants to leave home."
  - (16) aggression ("He is going to put an end to the one lying down.")
- D. Traits. (Descriptions of enduring characteristics or dispositions of the figures.)
- (17) charm ("The woman is trying to use her charm to bring the man back.")
  - (18) stubbornness
  - (19) superiority ("The man, being stubborn and superior to the woman, will leave for awhile.")
  - (20) fairness ("This will be their reward for being fair.")

## II. QUALITIES OF RELATIONSHIPS

- (21) punishing parents vs. crying, revengeful son
- (22) unfaithful husband vs. faithful wife
- (23) helpful father vs. receptive daughter
- (24) comforting son vs. dependent mother
- (25) male aggressor vs. passive girl
- (26) Male aggressor vs. male aggressor
- (27) advising father vs. receptive son
- (28) illicite sexual relationship

This subject's score: 28

### Further comments:

Score only those attributes and relationships that are mentioned specifically. Rely on inference as little as possible.

Several relationships described may be slightly different, but of the same quality. For example, the two relationships below have the same quality and would therefore be scored as one:

- (1) punishing parents vs. crying, revengeful son.
- (2) dominant, advising father vs. rebellious son.

Appendix 4

## SOCIOMETRIC QUESTIONNAIRE

Name \_\_\_\_\_  
Date \_\_\_\_\_

Instructions: We are interested in finding out the resources you turn to when troubled or in need of help, and also in the friendship structure of the group. Those you cite as friends may or may not be the same people you cite as helping resources. In each question list the people by their name. People in the Counseling Center will come under University staff, as well as will university instructors, etc. The information you provide will be kept completely confidential.

1. Whom do you turn to for help when you have personal troubles?  
 Students in project:                      University staff:                      Other:
  
2. Whom would you not turn to when you have personal troubles?  
 Students in project:                      University staff:                      Other:
  
3. Who are your close friends?  
 Students in project:                      Other:
  
4. Whom would you not want as a friend?  
 Students in project:                      Other:
  
5. If given a choice of roommates now, whom would you choose?  
 Students in project:
  
6. If given a choice of roommates now, whom would you not choose?  
 Students in project:

## ACTIVITY RECORD

Name \_\_\_\_\_

Date \_\_\_\_\_

Time	Place	Activity	No. Persons Present	
			Total	Unit Mem.
8:30	Room	Talked, expressed	1	0
9:00	Station	Turned in paper	0	0
9:05	Union	Talking	3	0
9:45	Room	Studied	0	0
11:00	Kramer	etc.	2	3
11:30	Room	Studied, talked	1	1
2:00	Class	-----	---	---
3:00	Class	-----	---	---
4:00	Union	Talked	2	0
4:30	Dormer	Turned in paper	0	0
4:50	Kramer	etc.	1	0
5:30	Room	Changed, talked	1	1
6:00	Fifth floor	Talked	5	0
7:00	Room	Talked, studied	1	1
7:30	-----	Talked on phone	0	0
7:45	Lobby	Talked	3	1
8:00	On date	Played cards	3	0
10:30	On date	Talked	1	0
11:00	Lobby	Talked	5	0
12:00	Room	Read	0	0
1:00	Room	Retired	---	---









A STUDY OF CHANGES IN  
COGNITIVE STRUCTURE AND MEASURES OF ADJUSTMENT  
AMONG MEMBERS OF A REHABILITATION LIVING UNIT

by

DUMONT KERMIT SCHMIDT

B. A., Bethel College, 1965

---

AN ABSTRACT OF A THESIS

submitted in partial fulfillment of the  
requirements for the degree

MASTER OF SCIENCE

Department of Psychology

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

1967

The impact of a rehabilitation living unit on its members was investigated in terms of changes in structural differentiation of the self concept and concept of others. Changes in social-psychological variables used as measures of adjustment were also examined. Differentiation of self and others was further related to these measures of adjustment in order to describe correlates of social adjustment.

There was no clear evidence indicating the nature of changes in differentiation of self and others. However, on the basis of characteristic changes in the relationship of differentiation of self with adjustment measures, it was suggested that changes in cognitive structure may be sequential in nature with behavioral changes.

The evidence for therapeutic impact as indicated by measures of adjustment was slight, but in support of positive therapeutic effect. The nature of changes taking place were in one case different than expected, leading to the suggestion that there was a change toward more intense and meaningful relationships among unit members.

Contrary to the initial expectations, differentiation of self was negatively related to adjustment measures. Consequently, it was suggested that the instrument used in this case may reflect integrative aspects of cognitive structure, thus accounting for the negative relationship to adjustment. With respect to differentiation of others, no relationship to measures of adjustment was indicated. However, it was generally recognized

that the instrument in this case was inadequate as a measure of differentiation.

In general, the hypothesized client-volunteer differences on measures of adjustment were supported, suggesting the possibility that social adjustment can be measured by objective criteria involving characteristic interpersonal behavior patterns.

Suggestions for future research were made, including the need for refining of instruments and pursuing the possibility that social maladjustment is implied by a highly differentiated self concept which lacks integration. It was further suggested that the socialization processes reflected in the unit needed further study.