MOOD STATE CHANGES IN PSYCHIATRIC WARD

RESIDENTS THAT ARE CORRELATED WITH

A WEEKEND PASS

By

DAN MICHAEL SMITH

Bachelor of Science
Oklahoma State University
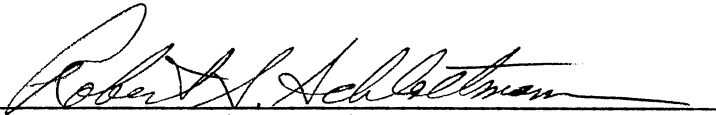Stillwater, Oklahoma
1970

Master of Science
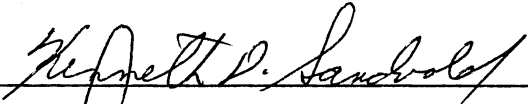Oklahoma State University
Stillwater, Oklahoma
1973

Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
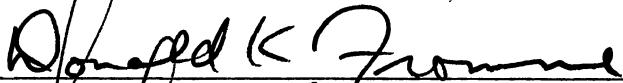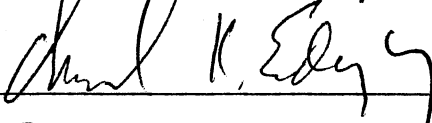DOCTOR OF PHILOSOPHY
July, 1976

MOOD STATE CHANGES IN PSYCHIATRIC WARD

RESIDENTS THAT ARE CORRELATED WITH
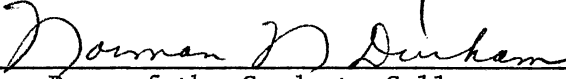
A WEEKEND PASS

Thesis Approved:

_____
Thesis Adviser

_____

_____

_____

_____
Dean of the Graduate College

963989

ii

ACKNOWLEDGEMENTS

their suggestions and help. A special note of appreciation is expressed to Dr. Barbara Stewart for her valuable help. I also wish to thank the Oklahoma State University Department of Psychology whose financial support was a great help.

Finally, I wish to express a very special note of gratitude to my wife, Julia, who spent many hours working on this manuscript and without whose encouragement, support, and help, this study would not have been possible.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

Recent trends in dealing with persons hospitalized for psy-
chiatric reasons have emphasized awareness of the total milieu
relevant to the person's experience. Every element of the hospital
environment as well as many other factors are seen as potential
sources of change in the hospitalized person. This study will focus
on one situation that is a frequent occurrence in the experience of
many psychiatric ward residents, the weekend pass situation.

For the purpose of this study, a "pass" will be defined as an
"authorized leave of absence from a resident psychiatric program
that has been negotiated between the resident and the staff". Usu-
ally, a resident requests a pass extending from several hours to
several days for the purposes of accomplishing some goals consistent
with the resident's goals for improvement. The decision to grant
the pass is usually made by the resident's therapist or by the ward
staff members.

There exist a large number of variables relevant to a pass.
Passes may vary in length and they may be granted for a wide variety
of purposes. Sometimes the granting of a pass is a routine part of
the hospital or ward program and the resident is required to go on a
pass. However, a pass may also be viewed as an earned reward in
other programs, and a resident may be required to achieve certain

standards before he can go on a pass. Chaperones may at times be required, and the resident's pass activities may or may not be strictly regulated. Other variables might include legal qualifications, judgments of the resident's psychological status, medication, and hospital or ward policies. In addition, a large number of individualistic variables may also be relevant. These may include the resident's attitude towards the hospital, his attitudes towards the pass situation he expects to encounter, individual personality characteristics, the nature of specific experiences while on pass, and the goals of the resident. The term "pass" will be used in this study to describe a pass and the variables that are relevant to the types of experiences encountered by the resident while on a pass.

The utilization of passes is a widespread practice. Passes are mentioned in the psychological literature on several occassions, and the development of standardized procedures for granting and processing passes are evidence that many psychiatric hospitals regularly utilize passes (VA Hospital Manual, 1973).

Many beliefs and speculations are held in regard to effects associated with pass situations. Many of these are based upon clinical experience and actively used in the granting and structuring of passes. Often it is assumed that a pass or experiences had on a pass are associated with changes in psychiatric ward residents. These changes include more appropriate behavior, increased coping skills, changes in the resident's perception or understanding, changes in the resident's affect, and changes in the resident's mood state. Such mood state changes may be expected to include

changes in the level of anxiety, depression, energy, anger, and confusion. Some of these beliefs and speculations will be discussed for the purpose of demonstrating a rational basis for the assumption of a relationship between a pass situation and changes in psychiatric ward residents' mood states.

Speculations on Pass Related Mood Changes

A pass situation may offer a means of monitoring the resident's behavior in a natural setting and of gaining feedback on the resident's psychological and social functioning in his native environment. An analysis of the process of a pass may offer an assessment of the coping skills that a ward resident may have available and of his ability to utilize his skills. As time progresses, the quality and effectiveness of the resident's functioning and ability to put newly learned skills into practice can be monitored through his performance in the pass situation. In addition, information about the impact of the resident's behavior upon his environment and about the response from the environment to his behavior may be gained. Alternative behaviors or perceptions may be suggested that may be used to modify the resident's coping style. The sharing of experiences in a group setting may be used to clarify and utilize feedback gained from a pass experience. It would be expected that a ward resident would experience changes in his mood state as he anticipates or gains information about his strengths and weaknesses or as his perceptions of his relationships with his environment are altered.

Some psychological gains may be better generalized through the utilization of passes. Research has shown that poor generalization

of gains has been a problem in psychiatric treatment (Ellsworth, 1968). By practicing new coping behaviors while on a pass, the resident may have an opportunity to generalize his gains to a variety of situations more similar to his everyday environment than is the hospital setting. Through time spent with family and friends, new interpersonal behavior patterns may be ingrained while fears, anxieties, and disruptive behavior patterns may be extinguished. Downing (1958) stressed this point when he suggested the use of a series of "trial visits" to accomplish a gradual weaning away from the hospital. If the resident does this, he may experience changes in his mood states resulting from increased feelings of mastery and pride over his accomplishments. Failures or setbacks may bring about mood changes such as decreased energy and depression, or increased anger, fear, anxiety, or confusion.

A pass situation may also provide an opportunity for the resident to establish or strengthen anchors in his natural environment. A pass may allow persons to establish supports such as employment, housing, friends, acquaintances with new surroundings, and new recreational habits. In addition, a pass may provide the resident with time to tend to matters such as business affairs, legal matters, financial problems, etc. that may tend to be disruptive to the resident's progress or to his re-entry after his hospitalization is terminated. Changes in the resident's levels of anxiety, confusion, or depression may be expected as he begins to feel more secure and positive about his gains and as he turns his attention towards re-entry into his natural environment after treatment.

Finally, some changes in self esteem and self confidence may

be associated with experiences gained while on pass. Support from significant others and positive responses to the resident's new behavior may serve to increase self confidence and self esteem. Another source of support that may be associated with a pass could be the indirect message given by the therapist to the resident when a pass is granted. By granting a pass, the therapist directly or indirectly communicates to the resident that he is competent to handle the pass situation and that the therapist expects that he will do well. In response to these expectations, the resident may indeed do well and afterwards feel more confident and less anxious. The resident may also react directly to the communication from the therapist and consequently modify his self perceptions in a positive direction.

Of course many disadvantages may be associated with a pass situation, including some of the factors listed above. A resident who fails in some task on a pass or who is faced with threatening situations may experience setbacks in his progress. However, such experiences may be used to produce beneficial gains if dealt with in a proper manner by the resident, therapist, and staff. The manner in which the resident's experiences are dealt with after he returns from the pass is probably of great importance to the potential benefit or harm that a pass may yield.

Thus, the pass provides an immediate experience in coping with the everyday world and problems. These experiences may be directly or indirectly associated with changes in mood state.

A thorough search of the psychological literature revealed no empirical studies directly related to this subject, although a

couple of articles do indicate that some pass related effects may have been observed. Balla and Zigler (1971) reported that institutionalized mentally retarded children who had a relatively greater number of visits and vacations were more independent and less wary of strange adults than were similar children who had fewer visits and vacations. Lewis (1973) hypothesized that ward residents often become dependent upon a hospital and come to feel secure with an inpatient status. A pass, as perceived by a resident, may have implications for his ability to function outside the hospital and therefure, threaten his inpatient status. As the pass approaches, the resident begins to feel a great deal of anxiety which he may choose to deal with in a variety of ways including negativistic behavior. Lewis presented several case studies to illustrate his hypothesis. Several ward residents who did not desire to be discharged displayed "negativistic behavior" in reaction to an upcoming pass. Such negativistic behavior included refusing meals, expressing anger, suicidal threats, denial of problems, agitation, sweating, and trembling. Lewis reported that while on a pass the residents behaved in atypical ways such as repeatedly calling the hospital and deliberately sabotaging job interviews. Both studies imply that passes (or "vacations") are possible sources of mood state change, the effects of which are observable through the resident's behavior.

Since passes appear to be commonly occurring events that may potentially be associated with changes in psychiatric ward residents, the ability to predict and control the effects associated with passes would be desirable. This would require information about the types

of changes that may be correlated with a pass and the nature of their relationships with the specific variables of a pass situation. Reliable means of predicting such changes, that were based upon empirical observations, could then be developed to predict which types of changes would occur given a certain constellation of predictor variables. Since no experimental research has been done in this area, no empirically based information is available. In the past, judgments concerned with the appropriateness of a pass and any expected changes resulting from a pass have been based solely upon subjective clinical experience or administrative policy.

This study attempted to initiate an orderly investigation into changes in psychiatric ward residents that are associated with a pass situation. Mood state changes were the focus. The pass situations were restricted to "weekend passes".

CHAPTER II

REVIEW OF THE LITERATURE

As mentioned in Chapter I, the term "pass" is a general term that potentially encompasses a wide range of experiences and situations. It is probable that any relationships between a resident's going on a pass and changes in the resident are complex and not of a direct, functional nature. Thus, many mediating variables and their interactions must be considered. Such variables are probably more directly related to changes in psychiatric residents' mood state scores than is the more global variable, the occurrence or non-occurrence of a pass. Several general classifications of mediating variables will be discussed.

One expected source of variance in mood state scores that is encompassed by a pass would be the specific nature of the experiences that the resident encountered on the pass. This would involve the situations encountered as well as the resident's individual characteristics. The specific situations encountered on a pass would be expected to be related to changes in the mood state of the individual resident. One would expect different mood states to be associated with a resident's spending time relaxing with friends and a resident's spending time talking with creditors. In addition, the resident's individual characteristics would probably be relevant to this issue. The resident's degree of pathology, desire for

social interaction, attitudes towards the specific situations that
will be encountered on the pass, and the person's attitude towards
the hospital and his hospital experiences are all likely to be
relevant to the mood states the person experiences. Interactions
between these two groups of factors, situational and individual
variables, are likely to occur and to be a further source of variance
in mood state scores.

A second source of variance in mood state scores may result
from the subject's attempts to manipulate his scores. Goffman (1959)
has discussed the manner in which persons present themselves to
others. He stated:

> ... when an individual appears before others, his actions
> will influence the definition of the situation which they
> come to have. Sometimes the individual will act in a tho-
> roughly calculating manner, expressing himself in a given
> way solely in order to give the kind of impression to
> others that is likely to evoke from them a specific response
> he is concerned to obtain (Goffman, 1959, p. 6.)

Such behavioral attempts at manipulating others' perceptions of
one's self in order to evoke specific responses from them is called
"impression management". Impression management may be expected to
be a factor in the results of this study since part of the measures
of mood state change used in this study were self reports on mood
state inventories. The subjects may have viewed the self report in-
ventories as a means of presenting a certain facet of themselves to
others. Thus, by manipulating their responses to the mood state
inventories, the subjects may have attempted to create impressions in
the experimenters or the staff that might result in the attainment of
a goal for the subject. Such manipulation of responses to the mood
state inventories may or may not be related to any actual mood

state changes.

Several authors have discussed the goals of persons hospitalized for psychiatric reasons and the relationship of such goals to their behavior. Goffman (1961) pointed out that hospitalized persons' goals are often not the same as the goals of the staff. Since the staff holds the power on the ward, a complex manner of relating takes place between the staff and the ward residents. Of particular relevance to this study, the residents of the psychiatric wards were often observed to alter their behavior in order to avoid undesired situations and to maximize the possibility of gaining privileges. Lewis (1973) presented several case studies that illustrate changes in the behavior of several hospitalized persons directed at the goal of maintaining hospital dependency.

Several experimental studies have also been done that investigated impression management in persons hospitalized for psychiatric reasons. Fontana, Klein, Lewis, and Levine (1968) presented a model of psychopathology based upon self presentation. They reasoned that when a person behaves in an "irrational" manner (according to the observer's judgment), the person's behavior may be directed at attaining goals which are not perceived by the observer. Whereas the behavior may be goal directed, it may appear irrationally non-goal directed to observers because the logical connection between the behavior and the goal is not made by the observers. Fontana, et al., hypothesized that there may be several interrelated goals which might motivate a person to present himself to others as a "crazy", sick, incompetent person. These may include a decrease in both the number of demands made and the persistence of those making the demands. In

addition, such a "sick role" helps to legitimize a passive, dependent life style. In order to present construct validation of this concept, they investigated the relationship between individual tendencies to present oneself as "sick" or "healthy" and self presentation on a number of paper and pencil tests. They used a 30 item scale to divide 247 psychiatric ward residents (including 116 diagnosed as schizophrenic) into two groups - "healthy presenters" and "sick presenters". "Sick presenters" were persons who were motivated to create a sick, incompetent impression on others, whereas "healthy presenters" were persons who were motivated to create a healthy, competent impression. They found that healthy presenters, as compared to sick presenters, responded to the tests in a way that indicated they were more receptive of discharge plans, more internal in their locus of control, higher in their need for social approval, less alienated, more trusting, more certain of successful adjustment after discharge, and requiring less time to prepare for discharge. In addition, healthy presenters viewed their family life as more harmonious and rated persons and places more favorably than did sick presenters. Thus, the individual characteristic of "healthy presenting" or "sick presenting" appeared to be a significant variable that had important implications for the way the subject presented himself. The subjects answered a variety of tests in a manner that supported their mode of presentation. This effect was consistent across diagnoses, buildings, and wards.

Braginsky, Grosse, and Ring (1966) investigated the behavior of psychiatric ward residents relative to the individual variable of "length of hospitalization". Forty psychiatric ward residents

(68% schizophrenic, 20% other psychotic, and 12% neurotic) were divided into two equal groups on the basis of the length of their hospitalization. They reasoned that "old-timers" would be more dependent upon the hospital and reluctant to leave it than the "short-time" residents. Thus, they would present themselves in a manner that would insure their remaining hospitalized. "Short-time" residents would, in contrast, present themselves in a good light so as to maximize their chance for release. Both the "old-timer" group and the "short-time" group were administered a scale composed of 30 MMPI items under two sets of conditions. In one condition, the scale was described as a "mental illness test", whereas in the second condition the scale was described as a "self insight test". The results confirmed their reasoning. The "old-timers" presented the group profile of being "ill" (high score on the mental illness test and a low score on the self insight test). "Short-timers", on the other hand, presented a "healthy" profile (low score on the mental illness test and a high score on the self insight test). A control group consisting of 20 old-timers was not given differential instructions and did not show a significant change in scores between the two administrations of the test. Thus, subject characteristics (length of hospital stay) were found to be an important variable that interacted with the situational variables to influence the type of behavior emitted by the subjects. The subjects were not passive in the situation, but active participants exerting their own effects upon the outcome of the results, consistent with their own goals.

Gordon and Groth (1961) divided 60 male psychiatric ward residents diagnosed as schizophrenic into groups of "stayers" (those that desired to stay in the hospital) and "goers" (those that desired to leave the hospital) on the basis of their responses to a sematic differential questionnaire administered to them. They found that, although "goers" and "stayers" did not differ with respect to their attitudes towards hospital life, they did differ in their view of life outside the hospital. "Goers" had a more favorable view of life outside the hospital than did "stayers". It appears that those persons who perceived life outside the hospital as unfavorable desired to remain in the hospital whereas those who perceived life outside the hospital as favorable desired to leave the hospital. These desires were reflected in the differential manner in which the subjects presented themselves on the sematic differential, i.e. "goers" or "stayers".

Fontana and Klein (1968) investigated behavioral changes in subjects with a diagnosis of schizophrenia across several situations that were related to the goals of the subjects. They selected 103 subjects from two treatment and two custodial buildings in three hospitals and classified them as "sick presenters" or "healthy presenters" on the basis of the amount of pathology ascribed to themselves on responses to paper and pencil tests. They assumed that the sick presenting subjects would be motivated to maintain residence in the non-demanding custodial building while the healthy presenting subjects would be motivated to maintain residence in the less restrictive treatment buildings. Both groups were assumed to be motivated to avoid discharge since ratings made by the subjects indicated that

they felt their homes were more favorable than the custodial buildings but less favorable than the treatment buildings. They then compared the reaction times to auditory stimuli of the sick presenters, healthy presenters, and of ten normal controls under two conditions: an evaluation condition (in which the subject expected to have his scores compared with the scores of others) and a no-evaluation condition (where no comparison was expected). Reaction time to auditory stimuli was used as a dependent measure because it is a sensitive and easily measured indicator of "psychological deficit that is resistant to transitory changes," according to the authors. The results showed that sick and healthy presenters from the custodial buildings reacted with similar latencies under the no evaluation condition but that the sick presenters were significantly slower than the healthy presenters and the normal controls under the evaluation condition. Fontana and Klein suggest that this effect was due to the sick presenters' attempts to make sure that they would be retained in the custodial building. The results also showed that sick presenters from the treatment building showed significantly longer latencies than did the healthy presenters and the controls (who did not show significantly different latency times) under the no evaluation condition. However, anticipation of evaluation elicited substantial deficit from the healthy presenters. This was interpreted as an attempt to avoid discharge on the part of the healthy presenters and to avoid transfer to more confining, less pleasurable custodial buildings by sick presenters. Fontana and Klein conclude that personal traits (sick versus healthy presenting) interact with situational variables (institutional differences) to influence behavior in a

direction that is in the service of a person's goals.

Braginsky and Braginsky (1967) also investigated impression management as it relates to the way residents of psychiatric wards present themselves to other people. They administered a mental status exam to 30 male, long term ward residents diagnosed as schizophrenic under three differing conditions. The conditions were manipulated by instructions concerning the purpose of the mental status exam: 1) to assess readiness for discharge, 2) to assess fitness for residency on an open ward, and 3) a neutral situation (no instructions). The subjects' performance was rated by three staff psychiatrists, and the dependent variables were degree of pathology, amount of control needed, and speech characteristics. The results indicated that the subjects' performance in the "open ward" condition was significantly better than in the other conditions. There was no significant difference between the subjects' performance in the "discharge" and the "neutral" situation. It was assumed that the subjects under the open ward condition performed better in an attempt to gain the advantageous position of residency on an open ward. They concluded that the "patients responded to the instructions in a manner which maximized their chances of fulfilling their needs and goals". Furthermore, the "impressions they conveyed were convincing to an audience of experienced psychiatrists."

From the results of these studies, it may be hypothesized that psychiatric ward residents present themselves in a manner consistent with their personal goals. It is likely that these goals are related to several factors including personal characteristics (length of hospitalization, diagnosis, etc.) and the resident's perception of

his situation. Although the resident's goals may be consistent
across several situations, his behavior may change markedly and even
appear contradictory as the relationship between his goals and his
situation changes. Price (1973) stressed this point when he said
that the nature of the resident's goals as well as the contingency
relations perceived by the resident between his goals and his task
performance are crucial elements in evaluating his response to a
situation.

The principles of impression management discussed in this
chapter are relevant to the assessment of the effects of passes
for hospitalized persons. Such persons would likely see the self
report of mood states before and after the pass as an opportunity to
influence or manipulate the staff. Such influence or manipulation
would be expected to be aimed at achieving a relevant goal for the
hospitalized person. For example, a person desiring to remain hos-
pitalized and to avoid further passes might report higher anxiety
and greater depression following a pass relative to preceeding the
pass. Conversely, a person desiring to have more passes and possibly
be discharged, may report a decrease in anxiety and less depression
on the post pass test as compared to his self report on the pre pass
test. The degree and direction of the manipulation may be expected
to be related to both individual and situational differences.

Another source of subject manipulation that may be relevant
in this study is the subject's possible response to the demand
characteristics of this study. Orne (1962) emphasized demand cha-
racteristics and their influences upon experimental outcomes. He
asserted that participants in psychological experiments often become

personally involved in the outcome of the experiment. Consequently,

they actively attempt to ascertain the true purpose of the experi-

ment and respond in a manner which will support the hypothesis of

the experimenter. In this experiment, the subjects will be aware

that the experimenter is interested in finding what type of mood

state changes are related to a pass experience. It is possible that

the subjects will assume that the experimenter is interested in

attaining positive mood state changes and respond accordingly on

the mood state scales. Thus, it is possible that a positive bias

may enter into the experiment.

Goffman (1959) has presented some observations on the behavior

of persons who attempt to manipulate others' impressions of them.

From the standpoint of the observers, according to Goffman, the

total behavior of the manipulating individual may be classified into

two parts.

> Knowing that the individual is likely to present himself
> in a light that is favorable to him, the others may divide
> what they witness into two parts; a part that is relatively
> easy for the individual to manipulate at will, being chiefly
> his verbal assertions, and a part in regard to which he
> seems to have little concern or control, being chiefly de-
> rived from the expressions he gives off. The others may
> then use what are considered to be the ungovernable aspects
> of his expressive behavior as a check upon the validity of
> what is conveyed by the governable aspects (Goffman, 1959,
> p. 7).

It may be reasoned that the responses to the written self report

mood state inventories may be classified as being relatively easily

manipulated. However, the behavior of the subjects in more informal

situations on the ward would be classified as ungovernable. Thus,

ratings of such behavior may be logically used as a check upon the

validity of the more governable mood state self ratings. An active

attempt at manipulation in mood state scores would be reflected in

a significant interaction between self report mood state ratings and

ratings of the subject's mood states made by persons who had observed

the subject's behavior in informal situations. Similarities in the

self ratings and the observers' ratings would indicate agreement

between the governable and the ungovernable aspects of the subject's

behavior. Thus, the observers' ratings would be expected to reflect

the subject's true mood state. This technique of comparing a sub-

ject's self ratings and an observer's ratings was used in this study

to control for manipulation on the part of the subject.

CHAPTER III

STATEMENT OF THE PROBLEM

Rather than selecting one or two pass related variables and studying them under isolated, controlled conditions, a correlational approach was used in this study. A large number of pass related variables were assessed and their relationship to changes in mood states were investigated. As Brunswik (1956) has suggested, such a "representative" type of design allows for a more practical approach, given the large number of unknowns. The many pass related variables, which sum to produce the overall effects of a pass, were allowed to vary in a natural or "representative" manner and any related mood state changes that occurred were measured. Then, by statistical means, the portion of the overall variance in mood states contributed by each of the pass related variables, independent of the other variables, was computed. Thus, the degree to which each pass related variable contributed to the overall effects of a pass was assessed. From this data reliable means of predicting mood state changes correlated with a pass were derived, based upon the prior knowledge of predictor variable information.

Once the variables that accounted for the largest portions of variance in mood states have been identified, more "systematic" designs may be used to further discriminate the effects of these variables under controlled conditions.

Some limitations upon the independent and dependent variables were necessary. For this study a specified type of pass, the weekend pass, was studied. Such a pass is typically granted by the staff several days prior to the weekend and extends from one to three days.

Although many criteria might have been included, the criteria used in this study are limited to measures of mood states. Since the passes were of relatively short duration, it was reasoned that the changes occurring in the subjects would be changes in mood states rather than in more pervasive personality traits. Ellsworth (1971) found that the areas of greatest improvement in treated patients tended to be in personal adjustment areas. These included the areas of confusion, anxiety, and agitated-depression for males. Little improvement was made in such areas as adjustment in a stable employment situation and the degree of involvement in outside social activities. Haskell, Pugatch, and McNair (1969) found that time limited psychotherapy with outpatients resulted in significant improvement on measures of depression, anxiety, and global improvement but not on other measures such as somatic distress. Similarly, Long, Schuerger, Basshart, and Menges (1971) found that "state" personality characteristics were more likely to occur over a short time span than were more "trait" personality characteristics. They administered the Cattell-Curan Psychological State Battery to two groups of subjects on three occasions during fifteen-hour weekend encounter group sessions. Fluctuations in stress and fatigue factors were found to be significant although changes in some other mood states were not found to be significant. Significant changes in more "trait" type characteristics as guilt and extraversion did not

occur. Thus, it appears that changes in transitory, "state" charac-

teristics of a ward resident's personality such as depression, anger,

and state anxiety may be more likely to occur in a short period of

time than such long term personality characteristics as trait anxiety,

social involvement and the capacity for stable employment. Thus,

the more "state" personality characteristics, mood states, were used

as criteria in this study to assess any changes that may result

from a pass.

A test that has been shown to be useful in providing measures

of mood states was chosen for use in this study as a criterion mea-

sure; the Profile of Mood States (POMS). The Profile of Mood States

(McNair, Lorr and Droppleman, 1971) is a 65 item rating scale that is

designed to be filled out by the subject (Appendix A). The subject

is asked to indicate which answer (0-not at all, 1-a little 2-mode-

rately, 3-quite a bit, and 4-extremely) best describes how he has

felt during a specified time period with regard to 65 adjective cata-

gories. Scoring of the inventory yields measures on six dimensions

of mood: tension-anxiety, depression-dejection, anger-hostility,

vigor-activity, fatigue-inertia, and confusion-bewilderment. McNair

and Lorr (1964) found the POMS Scale to be a useful and reliable tool

to assess the mood states of psychiatric outpatients. Through a

factor analysis and two replications of the responses given to the

scale in three studies, they were able to identify six independent

factors (tension, anger, depression, vigor, fatigue, and confusion).

These factors were found to have internal consistency scores ranging

from .75 to .92, and the coefficients of congruence for three rep-

lications of five of the factors ranged from .69 to .97. The

test-retest reliability coefficients for a four week interval were lower than the scores one would expect for more "trait" oriented scales but high enough to reflect a good degree of reliability (.61 to .69). The scales were shown to be largely independent of a measure of social desirability and to correlate well with other mood scales.

Moos (1968) had 30 persons who had been hospitalized for psychiatric reasons and ten staff members fill out the Profile of Mood States in a variety of normal life situations over a period of several weeks. He found a large variance in mood state over time. Individual differences as well as situational differences accounted for significant proportions of the variance in mood states. Thus, the Profile of Mood States inventory provides a measure that is sensitive to changes that occur over a short period of time.

It is recognized that mood states are hypothetical constructs and not directly observable. Thus, it is a basic assumption of this study that the subjects' scores on the POMS offer a potentially valid reflection of inner mood states when confounding factors (such as impression management) are not relevant. Studies which have used the POMS to evaluate subjects' mood states across situations differing in stimulus value have yielded results that support this assumption. Pillard and Fisher (1967) obtained POMS scores ("RIGHT NOW" set) at several points before, during, and after 113 subjects viewed an autopsy film designed to induce anxiety. Tension scores were found to increase from a pre film baseline, to remain high during the film, and to decrease significantly at the end of the film. Fatigue scores increased between the time of the baseline measurement and the start

of the film, but had decreased significantly by the end of the film.
Pillard and Fisher (1970) found that the tension scores ("RIGHT NOW"
set) of 222 patients waiting for a dental exam was significantly
higher than the scores of 236 control subjects under relaxed condi-
tions. Nathan, Zare, Ferneau, and Lowenstein (1970) have reported
significant elevations of tension, depression, and anger scores and
significant lowering of vigor scores in alcoholics during prolonged
periods of drinking as contrasted with non-drinking periods. Thus,
evidence exists to support the assumption that POMS scores are poten-
tially valid measures of inner mood states. However, it is recognized
that the validity of the Profile of Mood States as measures of mood
states may be reduced as other factors, such as impression management,
become relevant.

Certain directly observable behaviors have come to be associ-
ated with the phenomelogical occurrence of certain mood states.
These behaviors have been listed frequently and will not be listed
here. Agreement between subjects' scores on the Profile of Mood
States and ratings of their behavior would support the use of such
ratings as measures of mood states. The Profile of Mood States has
been shown to correlate significantly with ratings on the Inter-
personal Behavior Inventory and observers' ratings of subjects'
behavior during an interview (McNair, Lorr, and Droppleman, 1971).
Thus, the use of behaviorally based ratings made by using the Profile
of Mood States as the rating scale is assumed to provide a reasonably
valid estimate of the subject's mood states.

As stated above, the subject's responses to the Profile of Moods
States may be affected by impression management since the subjects

will be aware of the purpose of the experiment. Thus, the subjects'
responses to the inventory were assumed to be measures of the sub-
jects' mood states that are governable by the subjects. However,
the subjects were not aware that the observers were rating their moods.
Furthermore, the observers were blind to the purpose of the experi-
ment. Therefore, the observers' ratings of the subjects' mood states
were assumed to be ungovernable by the subjects. Thus, following the
reasoning stated above, the observers' ratings were compared with the
subjects' responses as a control for impression management.

The presence of significant changes in mood scores over a pass
was assessed by comparing pre and post pass mood scores. A com-
parison of the mood state scores of subjects who went on a pass and
matched control subjects who did not go on a pass allowed a comparison
of mood state change over a pass with mood state change over a com-
parable time period but without a pass. The subjects' scores were
also compared with observers' ratings of the subjects as a control
for subject manipulation. Finally, the subjects' pre and post pass
mood scores were compared with the subjects' mood scores taken before
and after a two day period during which the subjects were in the hos-
pital. This procedure allowed the comparison of mood changes over a
pass and mood changes over a comparable time period spent in the
hospital.

In six multiple regression analyses, statistical correlations
between a number of predictor variables and the subjects' post pass
mood state scores were computed for each mood scale. The predictor
variables that accounted for the most variance, independent of the

other predictor variables, were identified and the significance of the correlations was tested. From these results, a regression equation was developed that allowed the best possible prediction of mood state score changes, based upon the predictor variable information for the subjects. A cross validation of each regression equation was conducted to assess the reliability of the regression equation and to provide support for generalizing from the results of this study.

CHAPTER IV

METHOD

Subjects

Experimental Subjects

Fifty-five psychiatric ward residents from the four psychiatric
wards (two locked wards and two open wards) and the alcohol treat-
ment unit at St. Anthony's Hospital, Oklahoma City, Oklahoma, were
selected and used as experimental subjects. The criteria for the
selection of these subjects were 1) that they be judged as compe-
tent by their physician to go on a weekend pass, 2) that they have
been authorized to go on a pass for the upcoming weekend, 3) that
the resident go on the pass, 4) that the resident be capable of
filling out the mood states inventories in a valid manner (adequate
mental capacity, reading skills, and writing skills) as judged by
the experimenter, and 5) that the resident voluntarily agree to
participate in the study. Residents who had diagnoses of brain da-
mage, who were receiving electro shock treatments, or who were
heavily sedated were not selected as subjects.

Control Subjects

Fifteen ward residents who did not have weekend passes autho-
rized were selected as control subjects. These subjects were matched

26

with the experimental subjects as much as possible. Criteria for
the selection of the control subjects were 1) that they be judged
by their physician as competent to go on a pass (operationally de-
fined as the resident having pass priviledges, having gone on a
pass the previous week, or having authorization to take unaccompanied
walking passes during the week), 2) that they do not have a pass
scheduled for the upcoming weekend, 3) that they voluntarily agree
to participate in the study by filling out the questionnaires, and
4) that they have adequate mental, reading, and writing skills to
fill out the questionnaires, as judged by the experimenter. Resi-
dents who had diagnoses of brain damage, who were receiving electro
shock treatments, or who were heavily sedated were not used as con-
trol subjects.

The characteristics of the control subjects are summarized in
Table I. As evident in Table I, the control and experimental sub-
jects did not differ significantly with respect to age, sex, diagnosis,
type of ward, or length of hospitalization prior to the weekend
during which they participated in the study.

TABLE I

COMPARISON OF EXPERIMENTAL AND
CONTROL SUBJECTS

Characteristic	Experimental Subjects (n=40)	Control Subjects (n=15)	Statistical Test	df
Diagnosis			$\chi^2=2.06$	3

TABLE I (Continued)

Psychosis	47.5%	33.3%		
Neurosis	22.5%	20.0%		
Personality Disorder	17.5%	26.7%		
Adjustment Reaction	12.5%	20.0%		
Sex			$\pi^2=0.02$	1
Male	45.0%	46.7%		
Female	55.0%	53.3%		
Type of Ward			$\pi^2=0.02$	1
Open	75.0%	73.3%		
Closed (locked)	25.0%	26.7%		
Age			$t=0.05$	53
	$\bar{X}=35.30$	$\bar{X}=34.73$		
	$SD=15.34$	$SD=20.23$		
Number of Hospitalized Days Prior to Pass/Weekend			$t=0.97$	53
	$X=16.48$	$X=11.07$		
	$SD=10.1$	$SD=10.0$		

Observers

Two female psychiatric nursing students at St. Anthony's Hospital were used as observers. Each had a minimum of three years experience working with psychiatric ward residents in a hospital setting. A major portion of their work experience involved making and recording observations of psychiatric ward residents' mood, based on the residents' behavior. The observers' status as members of the St. Anthony's staff was not communicated to the subjects and the observers were not working on the wards where the subjects resided.

The observers were told that the experimenter was interested in obtaining accurate measures of the moods of psychiatric ward residents

at intervals during the week and that the times for the gathering

of the data were selected because they were evenly spaced at two day

intervals and they did not interfere with activities on the ward.

The observers were not informed as to the purpose of the study until

all of the data had been collected. Interviews with the observers

held after all of the data had been collected revealed that they

had not made the assumption that the experimenter was looking for

mood changes that were correlated with a weekend pass. Thus, the

observers were assumed to be "blind" to the purpose of the study.

Independent Variables - Predictor Variables

The independent variable in the first part of the study was

the weekend pass. The subjects were signed out on pass as usual

at ten o'clock a.m. on Saturday and signed in at the termination of

the pass, usually at eight o'clock p.m. on Sunday. The subjects'

mood state scores were assessed prior to and following the pass.

These scores were used to determine whether any consistent changes

occurred in the subjects' mood scores over the weekend pass. The

experimental subjects' scores were compared with those of the con-

trol subjects to determine the effects of hospitalization versus no

hospitalization over a weekend and with their own Tuesday mood scores

to compare the effects of a two day pass period versus a two day

weekday period.

In the second part of the study, several characteristics of

the experimental subjects and of the pass situation were assessed

and used as predictor variables in multiple regression analyses to

predict the experimental subjects' post pass mood scores. The

purpose of this procedure was to determine the correlates of the experimental subjects' mood state changes and to see if individual subject's mood state changes could be reliably predicted.

TABLE II

PREDICTOR VARIABLES

Predictor Variable	Computer Entry	Number of Card Columns
Education	number of years completed	2
Income		1
$0 - 5,000	1	
$5,001 - 10,000	2	
$10,001 - 15,000	3	
$15,001 and over	4	
Social Readjustment Rating Scale	subject's score	4
Nature of Admission		4
Voluntary - Self Referred	no=0, yes=1	
Voluntary - with Advice of Family	no=0, yes=1	
Voluntary - with Advice of Professional	no=0, yes=1	
Involuntary	no=0, yes=1	
Attitude Towards Hospitalization		3
Positive (rather be in)	no=0, yes=1	
Neutral (mixed feelings)	no=0, yes=1	
Negative (rather be out)	no=0, yes=1	
Number of Previous Psychiatric Hospitalizations		1
Number of Previous Weekend Passes		1
Rating of Ward Situation		1

TABLE II (Continued)

Positive	0	
Neutral (mixed feelings)	1	
Negative	(none given)	
Persons Subject Planned To Be with While on Pass		5
Parents	no=0, yes=1	
Spouse only	no=0, yes=1	
Children only	no=0, yes=1	
Family (spouse and children)	no=0, yes=1	
Friends or Siblings	no=0, yes=1	
Subject's Rating of Anticipated Pass		1
Positive (looking forward to pass)	0	
Neutral (mixed feelings)	1	
Negative (didn't want to go)	(none given)	
Subject Expecting to Spend Time with "Someone with Whom You Usually Have a Great Deal of Difficulty Getting Along"	no=0, yes=1	1
Age	number of years	2
Sex	male=0, female=1	1
Marital Status		4
Single	no=0, yes=1	
Married	no=0, yes=1	
Divorced	no=0, yes=1	
Widowed	no=0, yes=1	
Diagnosis		4
Psychosis	no=0, yes=1	
Neurosis	no=0, yes=1	
Personality Disorder (including alcoholism)	no=0, yes=1	
Adjustment Reaction	no=0, yes=1	
Nature of Ward on Which Subject Resides		1
Open	0	
Locked	1	
Length of Subject's Hospitalization Prior to the Pass	number of days	2

<u>TABLE II (Continued)</u>

Medication   4

    Major Tranquilizer   no=0, yes=1
    Minor Tranquilizer   no=0, yes=1
    Anti Depressant   no=0, yes=1
    Other or None   no=0, yes=1

Was the Structure of the Anticipated
Pass Discussed Between the
Subject and the Staff?   no=0, yes=1   1

Have Plans for the Subject's
Discharge Within the Next Two
Weeks Been Made and Discussed
with the Subject?   no=0, yes=1   1

Pre Pass Mood State Scores
Given by the Observers

    Tension   observer's rating   2
    Depression   observer's rating   2
    Anger   observer's rating   2
    Vigor   observer's rating   2
    Fatigue   observer's rating   2
    Confusion   observer's rating   2

Pre Pass Mood State Scores
Given by the Subjects

    Tension   subject's score   2
    Depression   subject's score   2
    Anger   subject's score   2
    Vigor   subject's score   2
    Fatigue   subject's score   2
    Confusion   subject's score   2

The predictor variables that were used were based upon the
discussion in the preceeding chapters and upon several interviews
with psychiatric ward residents who had just returned from a pass.
The subject's chart, the subject's therapist, and the subject himself
served as sources for this information. The predictor variables are

listed in Table II. Most of the variables are self explanatory.

The Social Readjustment Rating Scale (Holmes and Rahe, 1967) was

included as a predictor variable because it provided a quantitative

means of assessing the amount of stress in the subjects' lives during

the year immediately preceeding their current hospitalization. It

is a questionnaire composed of forty-three life events which are

indicative of stress and the need for readjustment in the subjects'

lives. The scale was presented to the subjects and they were asked

to indicate which of the events listed has occurred to them within

the year previous to their current hospitalization. The scales were

scored according to the method proposed by Masuda and Holmes (1976).

A high Social Readjustment Rating Scale score is indicative of a

high level of stress and readjustment during the year prior to the

subjects' hospitalization.

<div align="center">Dependent Variables - Criterion</div>

The dependent variables, or the criteria, were the mood state

scores given by the observers and by the subjects themselves on the

six mood scales comprising the Profile of Mood States (McNair, 1971).

The mood scales contained in the Profile of Mood States and brief

descriptions of the scales are listed in Table III. A more complete

description of the scale is given in Appendix A.

The instructions for the Profile of Mood States were amended to

read as follows:

> Below is a list of words that describe feelings people have.
> Please read each one carefully. Then fill in ONE space
> under the answer to the right which best describes how you
> feel RIGHT NOW, that is, at this moment.

Thus, the Profile of Mood States was geared to measuring the mood states of the subjects at the time that they filled out the questionnaire.

TABLE III

CRITERIA - PROFILE OF MOOD STATES
POST PASS SCORES AND RATINGS

Profile of Mood States

1) Tension - Anxiety.   This scale is composed of adjectives descriptive of heightened musculoskeletal tension. The scale includes reports of somatic tension (tense, on edge) as well as psychomotor manifestations (shaky, restless).

2) Depression - Dejection.   This scale includes adjectives representing a mood of depression accompanied by a sense of personal inadequacy (hopeless, blue, sad, guilty, and unworthy).

3) Anger - Hostility.   This scale represents a mood of anger and antipathy towards others (grouchy, furious, ready to fight, rebellious).

4) Vigor - Activity.   This scale is defined by adjectives suggesting a mood of ebullience and high energy (active, cheerful, full of pep).

5) Fatigue - Inertia.   The adjectives included in this scale describe a mood of weariness and low energy level (worn-out, exhausted, bushed, weary).

6) Confusion - Bewilderment.   This scale includes adjectives descriptive of a mood of bewilderment and muddle-headedness (unable to concentrate, uncertain about things, confused).

Although changes in pre and post pass mood scores are the focus,

post pass mood state scores were used as the criterion in the mul-

tiple regression analysis. Lord (1958) points out that when

correlating difference scores (post score minus pre score) with other

variables, biases are introduced that often confound the results. He

points out that the partial correlation of the predictor variable with

the post score, with the pre score fixed, provides a more accurate

estimate of the true difference between the post and pre scores than

does the correlation of the predictor variable with the difference

score. Thus, in the second part of the data analysis, the post pass

mood scores were used as the criteria in the multiple regression

analyses to provide a more accurate estimate of the pre - post pass

difference in mood state scores.

Procedure

Enlistment of Experimental Subjects

On several consecutive Fridays, a list of ward residents who

had been authorized to go on a weekend pass was obtained. Each

resident who met the criteria listed above was approached, briefed

on the purpose and methodology of the study, and asked to volunteer

for the study. This was done in a fifteen to twenty minute interview

after the experimenter had established rapport with the resident.

During the interview the following was communicated to the resident:

1) the experimenter was interested in assessing people's moods before

and after a weekend pass for the purpose of determining whether or

not any consistent changes occurred, 2) the experimenter desired the

resident's voluntary help which would entail the filling out of a

fifty-six item questionnaire on Friday, Sunday, and Tuesday evenings
(the Profile of Mood States was briefly described and the instructions
explained), and 3) that in order to break the results down to a more
meaningful level, it would be necessary to ask him/her some pertinent
questions about himself/herself. The subjects were not told about
the observers or the ratings they would be doing. If the resident
agreed to volunteer, the predictor variable information was obtained.

Most ward residents readily volunteered as subjects. A total of
only four persons refused to participate (two from a locked ward and
two from an open ward).

Fifteen of the fifty-five experimental subjects were randomly
selected for use in the cross validation section of the data analysis.
Thus, the subject selection procedure yielded fifty-five subjects;
forty experimental subjects and fifteen experimental cross validation
subjects. The characteristics of the forty experimental subjects
are summarized in Table I.

Enlistment of the Control Subjects

On several consecutive Fridays, coinciding with the Fridays
that the experimental subjects were selected, a list of residents
meeting the criteria for control subjects was obtained. These resi-
dents were approached, briefed on the purpose and methodology of the
study, and asked to volunteer for the study in a manner similar to
that employed with the experimental subjects. A fifteen to twenty
minute interview was held with the resident during which rapport was
established and the following information was communicated: 1) the
experimenter was interested in assessing people's moods before and

after a weekend for the purpose of determining whether or not any
consistent changes occurred and 2) the experimenter wanted the resi-
dent to voluntarily help by filling out a sixty-five item questionnaire
on Friday, Sunday, and Tuesday evenings (the Profile of Moods States
inventory was briefly described and the instructions explained). The
control subjects were not told about the observers nor about the
ratings they would be doing on them. Only two subjects refused to
volunteer as control subjects.

Data Collection

Predictor Variable Information. The predictor variable infor-
mation was gathered for each experimental subject prior to his leaving
on pass. The subject, the subject's chart, and the subject's pri-
mary therapist served as sources for this information.

Subjects' Mood State Scores. The experimental and control
subjects filled out the Profile of Mood States on three occassions.
The experimental subjects filled out the questionnaire between seven
and ten o'clock p.m. on the Friday preceeding their weekend pass,
again between seven and ten o'clock p.m. on Sunday upon their return
from the pass, and a third time on the following Tuesday between
seven and ten o'clock p.m. The control subjects also filled out the
three questionnaires during the same time periods. Thus, the times
that the experimental and control subjects filled out the question-
naires were closely matched. On each occassion, the subjects were
led to a quiet, well lighted, private room where the mood question-
naires were administered. After the examiner repeated the instructions

and felt confident that the subject understood the task, the subject was left to complete the questionnaire. Care was taken to avoid influencing the responses of the subjects in any way.

Observers' Mood State Ratings. The observers evaluated and rated the mood states, using the Profile of Mood States, on three occassions coinciding with the times that the subjects filled out the questionnaires (Friday, Sunday, and Tuesday evenings between seven and ten o'clock).

On Friday the observers approached the subjects, introduced themselves, and explained that they were student psychiatric nurses interested in talking with psychiatric ward residents on several occassions during the week. The subject was asked if he would consent to a brief conversation on several nights of the following week. All of the subjects were agreeable. Then a brief ten to fifteen minute interview was conducted. During this interview, the observers established rapport with the subject and facillitated conversation about the subject's current moods while remaining as nondirective as possible at all times. Similar interviews were held on Sunday and Tuesday. Care was taken at all times to avoid implying any connection between the observers' interviews and this study. The observers and the experimenter avoided being on the same ward at the same time.

The observers reported that the subjects talked freely with them and readily shared their thoughts and feelings in an apparently sincere manner. In many cases the subjects looked forward to the interviews and resisted when the observers attempted to terminate the interviews. It was apparent that a good rapport between the

observers and most of the subjects was present. In general, it is

assumed that the subjects did not regard the observers as staff mem-

bers nor did they see them as threatening.

Following the interviews, the observers retired to a quiet,

private room where they would not be observed by the subjects and

filled out a Profile of Mood States on each subject. The instructions

for the Profile of Mood States were changed to read:

> Rate the subject on each of the following wards, basing
> your ratings only upon your observations of the subject's
> current behavior. Give your assessment of the subject's
> current mood state, that is, how he or she felt during the
> time you observed his or her behavior.

Each subject was rated on all three occassions by the same obser-

ver. The observers' ratings were counterbalanced across subjects

and across wards. Thus, each observer rated equal numbers of subjects

from each ward.

The Tuesday evaluation sessions served to obscure the purpose of

the experiment for the observers (specifically the assessment of a

relationship between the Friday and Sunday ratings and the occurrence

or nonoccurrence of a pass).

Inter-Observer Reliability

Prior to the collection of the data, the observers used the Pro-

file of Mood States to rate several subjects. These ratings were

based upon concurrent observations of the same subject. The scales

were scored and discussed openly with the aim of increasing the

reliability of the observers' ratings. More objective definitions

of some of the terms were agreed upon and an attempt was made to

anchor the ratings to the behavior of the subjects.

The observers also made concurrent observations of the first twenty-five subjects used in this study. Immediately upon the termination of the observation, each observer filled out the Profile of Mood States, basing her ratings on the observations just made. A Pearson r was completed for each mood dimension using both of the observers' ratings. These Pearson r's were used as measures of inter-observer reliability and are as follows: Tension (.92), Depression (.97), Anger (.96), Vigor (.95), Fatigue (.86), and Confusion (.94). All of the r's for inter-observer reliability are significant at the $p < .01$ level. One of the two ratings done on each of the first twenty-five subjects was randomly chosen for use in the data analysis.

Several reasons provided support for the assumption that the observers' ratings were accurate estimates of the subjects' mood states. These included 1) the observers were experienced observers of psychiatric residents' moods, 2) the observers were blind to the purpose of the experiment and, thus, less likely to bias their ratings, 3) the subjects were not informed of the observers' connection with this study and were unaware that the observers were rating their mood states and, thus, were less likely to modify their behavior while with the observers, and 4) the inter-observer reliability coefficients are quite high, and 5) good rapport generally existed between the observers and subjects. Since the subjects were aware of the purpose of the experiment, it was assumed that their mood scores were more likely to be biased because of attempts at manipulation than the observers' scores. In fact, a number of subjects remarked that they had manipulated their responses on the questionnaire because, "the doctor might just see this", "I'll have a better chance if I don't tell the truth",

and "I'm not going to let you know how bad I really feel." Thus, comparisons of the more objective observers' ratings with the subjects' more subjective scores provided a control for subject manipulation (impression management).

Post Pass Follow-up. After each experimental subject returned from his pass and completed the questionnaire, he was briefly interviewed by the experimenter. The purpose of the interview was to ascertain with whom the subject actually spent his time and whether any extreme circumstances arose during the pass which might have confounded the results of the study. All but a few of the subjects reported that their passes went according to their plans and thus, the subjects' pre pass information concerning whom they planned to be with appeared to be reliable. Two subjects were eliminated from the study due to extreme circumstances. In both instances it was because of the subject's running away from home and refusing to return to the hospital.

CHAPTER V

RESULTS

Pre-Post Pass Mean Differences

in Mood State Scores

A two by two by two unweighted means split plot analysis of vari-
ance was computed for each of the six mood scales. The between factor
was groups (experimental subjects versus control subjects), and the
within factors were pre versus post and self ratings versus observers'
ratings. When significant interaction effects were obtained, appro-
priate two tailed t tests were used to analyze the simple effects
(Winer, 1971, p. 544). The means of the experimental and control sub-
jects' pre and post mood scores and the observers' pre and post
ratings are given in Table IV.

Tension

The results shown in Table V indicate that a significant dif-
ference between the Friday and Sunday Tension scores existed. As
evident from Table IV, the subjects' Sunday Tension scores were
significantly lower than their Friday Tension scores. Thus, the
experimental and control subjects were less tense on Sunday than
they were on Friday.

Although the ABC interaction did not reach significance, the F

value is large ($p < .10$). It appears that the difference in the pre

and post pass scores tended to be dependent upon the subject and source

factors. The experimental subjects' Tension scores decreased signifi-

cantly from pre to post pass ($t = ^-2.67$, df=53, $p \leq .05$), while the

observers' ratings for the experimental subjects showed no significant

change ($t = ^-0.55$, df=53). Thus, while the experimental subjects indi-

cated a decrease in Tension over the weekend pass, the observers did

not observe any significant changes. The control subjects' Tension

scores did not change significantly over the weekend ($t = ^-0.55$, df=53),

whereas the observers' ratings for the control subjects showed a

significant decrease ($t = ^-2.83$, df=53, $p < .05$). Just the opposite of

the experimental subjects, the control subjects indicated no changes

in their levels of tension while the observers indicated that they

observed a decrease in the control subjects' tension levels. These

results must, however, be interpreted with caution since the overall

F for the ABC interaction did not reach significance.

TABLE IV

MEANS OF THE EXPERIMENTAL AND CONTROL SUBJECTS' PRE AND POST
MOOD SCORES AND PRE AND POST RATINGS

Mood Scale	Pre		Post	
	Observer	Subject	Observer	Subject
Tension				
Experimental Subjects (n=40)	11.35	13.38	10.63	9.85
Control Subjects (n=15)	13.13	12.33	9.40	11.60

TABLE IV (Continued)

Depression
    Experimental
      Subjects (n=40)   8.75   14.98   8.98   12.03
    Control
      Subjects (n=15)   11.07   16.08   7.27   16.47

Anger
    Experimental
      Subjects (n=40)   5.28   7.65   5.53   5.40
    Control
      Subjects (n=15)   6.93   8.60   2.25   3.78

Vigor
    Experimental
      Subjects (n=40)   12.60   14.35   11.20   13.93
    Control
      Subjects (n=15)   12.53   14.73   12.87   12.93

Fatigue
    Experimental
      Subjects (n=40)   4.75   9.98   6.18   9.00
    Control
      Subjects (n=15)   5.07   6.80   3.13   8.27

Confusion
    Experimental
      Subjects (n=40)   9.83   5.75   7.95   6.55
    Control
      Subjects (n=15)   10.73   7.27   10.80   4.60

TABLE V

ANALYSIS OF VARIANCE SUMMARY TABLE - TENSION

Source	SS	df	MS	F
Between Subjects	5959.00	54		
Groups (A)	9.05	1	9.05	0.09
Subjects w. groups	5955.00	53	112.36	

TABLE V (Continued)

Within Subjects	4318.00	165		
Pre versus post (B)	142.90	1	142.90	9.86**
AB	0.00	1	0.00	0.00
B x subjects w. groups	768.00	53	14.49	
Self versus observers' ratings (C)	28.37	1	28.37	0.79
AC	0.00	1	0.00	0.00
C x subjects w. groups	1906.00	53	35.96	
BC	0.00	1	0.00	0.00
ABC	91.85	1	91.85	3.89
BC x subjects w. groups	1253.00	53	23.64	

**$p < .01$

Depression

TABLE VI

ANALYSIS OF VARIANCE SUMMARY TABLE - DEPRESSION

Source	SS	df	MS	F
Between Subjects	10,121.00	54		
Groups (A)	128.95	1	128.95	0.68
Subjects w. groups	10,096.00	53	190.49	
Within Subjects	24,243.00	165		
Pre versus post (B)	128.29	1	128.29	0.99
AB	3.93	1	3.93	0.03
B x subjects w. groups	6,846.00	53	129.17	
Self versus observers' ratings (C)	1,598.18	1	1,598.18	17.16**
AC	87.71	1	87.71	0.94
C x subjects w. groups	4,937.00	53	93.15	
BC	3.71	1	3.71	0.02

TABLE VI (Continued)				
ABC	117.82	1	117.82	0.60
BC x subjects w. groups	10,457.00	53	197.30	

**p<.01

As can be seen in Table VI, the subjects' self ratings and the observers' ratings of the subjects' mood states were significantly different. From Table IV it can be seen that the observers' ratings were lower than the subjects' self ratings.

Anger

TABLE VII

ANALYSIS OF VARIANCE SUMMARY TABLE - ANGER

Source	SS	df	MS	F
Between Subjects	5265.73	54		
Groups (A)	14.18	1	14.18	0.15
Subjects w. groups	5101.17	53	96.23	
Within Subjects	6511.25	165		
Pre versus post (B)	361.09	1	361.09	14.50**
AB	154.04	1	154.04	6.18*
B x subjects w. groups	1320.19	53	24.19	
Self versus observers' ratings (C)	80.73	1	80.73	1.36
AC	2.40	1	2.40	0.04
C x subjects w. groups	3147.86	53	59.39	
BC	19.20	1	19.20	0.58

TABLE VII (Continued)				
ABC	15.05	1	15.05	0.48
BC x subjects w. groups	1744.15	53	32.91	

**p < .01
 *p < .05

As evident in Table VII, the AB interaction was significant. This interaction indicates that changes in pre post mood scores can best be specified if the level of A (experimental subjects or control subjects) is taken into account. Appropriate two tailed t tests (Winer, 1971) indicated that the control subjects' Sunday scores were significantly lower than their Friday scores ($t=-5.83$, $df=53$, $p < .01$). However, the experimental subjects' pre and post pass Anger scores did not significantly differ ($t=-1.23$, $df=53$). Thus, the control subjects were less angry after spending the weekend in the hospital. However, the experimental subjects, who went on pass, showed no significant differences in their levels of anger on Friday and Sunday.

Vigor

The analysis of variance summary data for the Vigor mood scale is presented in Table VIII. As can be seen, no significant results were obtained on the Vigor scale.

TABLE VIII

ANALYSIS OF VARIANCE SUMMARY TABLE - VIGOR

Source	SS	df	MS	F
Between Subjects	2867.00	54		
Groups (A)	2.62	1	2.62	0.05
Subjects w. groups	2867.00	53	54.09	
Within Subjects	6018.00	165		
Pre versus post (B)	29.45	1	29.45	1.09
AB	0.44	1	0.44	0.02
B x subjects w. groups	1433.00	53	27.03	
Self versus observers' ratings (C)	123.93	1	123.93	2.61
AC	13.31	1	13.31	0.28
C x subjects w. groups	2516.00	53	47.47	
BC	3.71	1	3.71	0.11
ABC	26.40	1	26.40	0.77
BC x subjects w. groups	1815.00	53	34.25	

Fatigue

The significance of the ABC interaction implies that the pre and post Fatigue mood scores can be best predicted when the levels of factors A and C are known. Appropriate two tailed t tests for simple effects (Winer, 1971) were used to test for significant differences between pre and post pass Fatigue scores given by the subjects and by the observers for both groups of subjects, experimental and control. None of these comparisons reached significance (experimental subjects' scores, $t=-1.545$, $df=53$; experimental subjects' observers' ratings,

$\underline{t}$=0.66, $\underline{df}$=53; control subjects' scores, $\underline{t}$=⁻1.21, $\underline{df}$=53; control

subjects' observers' ratings, $\underline{t}$=⁻1.59, $\underline{df}$=53).

TABLE IX

ANALYSIS OF VARIANCE SUMMARY TABLE - FATIGUE

Source	SS	df	MS	F
Between Subjects	4610.00	54		
Groups (A)	120.00	1	120.00	1.42
Subjects w. groups	4490.00	53	84.17	
Within Subjects	4462.00	165		
Pre versus post (B)	0.00	1	0.00	0.00
AB	2.40	1	2.40	0.14
B x subjects w. groups	884.00	53	16.67	
Self versus observers' rating (C)	606.98	1	606.98	17.68**
AC	3.71	1	3.71	0.11
C x subjects w. groups	1820.00	53	34.34	
BC	2.40	1	2.40	0.15
ABC	92.07	1	92.07	5.89*
BC x subjects w. groups	829.00	53	15.64	

**$\underline{p}$ <.01
*$\underline{p}$ <.05

Confusion

The significant ABC interaction, shown in Table X, implies that the pre and post Confusion mood scores can be best predicted when the levels of factors A and C are known. The experimental subjects' scores

and the observers' ratings for the experimental subjects did not change significantly from Friday to Sunday ($t=-1.99$, $df=53$, $t=0.85$, $df=53$, respectively). The control subjects' scores did not change significantly from Friday to Sunday ($t=0.07$, $df=53$), but the observers' ratings of the control subjects' levels of confusion decreased significantly from Friday to Sunday ($t=-2.83$, $df=53$, $p<.05$). Thus, it appears that the experimental subjects indicated no change in their levels of confusion before and after the pass and that the observers did not observe any significant change in the experimental subjects' levels of confusion from Friday to Sunday. Although the observers did observe a significant decrease in the control subjects' levels of confusion from Friday to Sunday, the control subjects reported that their levels of confusion were not significantly different on Friday and Sunday.

TABLE X

ANALYSIS OF VARIANCE SUMMARY TABLE - CONFUSION

Source	SS	df	MS	F
Between Subjects	3308.00	54		
Groups (A)	30.33	1	30.33	0.49
Subjects w. groups	3278.00	53	61.85	
Within Subjects	3572.00	165		
Pre versus post (B)	36.87	1	36.87	4.65*
AB	6.33	1	6.33	0.80
B x subjects w. groups	420.00	53	7.92	

TABLE X (Continued)					

Self versus observers' ratings (C)	625.09	1	625.09	18.87**
AC	47.56	1	47.56	1.44
C x subjects w. groups	1756.00	53	33.13	
BC	0.00	1	0.00	0.00
ABC	80.07	1	80.07	6.97*
BC x subjects w. groups	609.00	53	11.49	

**$p < .01$
*$p < .05$

Weekday Mood State Changes for Experimental

Subjects (Sunday to Tuesday)

Two tailed t tests for matched pairs were used to test for

significant changes between the experimental subjects' Sunday

and Tuesday mood levels. Separate t tests were computed for the

subjects' scores and for the observers' ratings on each of the

six mood scales. It should be noted that since the Sunday scores

were used in the tests for pass related mood score differences

(Friday to Sunday) as well as tests for weekday mood score changes

(Sunday to Tuesday), these tests cannot be assumed to be inde-

pendent. The means of the experimental subjects' Sunday and

Tuesday mood scores and observers' ratings on each of the mood

scales are presented in Table XI.

TABLE XI

MEANS FOR THE EXPERIMENTAL SUBJECTS' SCORES AND RATINGS
ON SUNDAY AND TUESDAY (N=40)

Mood Scale	Sunday	Tuesday
Tension		
Experimental Subjects	9.85	11.45
Observers	10.83	9.3
Depression		
Experimental Subjects	11.75	13.18
Observers	9.00	5.73
Anger		
Experimental Subjects	5.40	7.05
Observers	5.53	3.3
Vigor		
Experimental Subjects	13.35	14.78
Observers	10.48	13.85
Fatigue		
Experimental Subjects	9.00	7.68
Observers	6.03	2.40
Confusion		
Experimental Subjects	8.68	7.73
Observers	6.28	4.85

The t tests indicated that significant differences existed between the observers' Sunday and Tuesday ratings on the Vigor (t=3.46, df=.39, p .01), Depression (t=-2.34, df=39, p .05), Fatigue (t=-4.90, df=39, p .01), and Confusion scales (t=-2.17, df=39, p .05). No significant differences for the observers' ratings on the Tension and Anger scales were found (t=1.55, df=39; t=-1.94, df=39, respectively). As evident in Table XI, the observers' ratings of the experimental

subjects' levels of depression, fatigue, and confusion decreased significantly from Sunday to Tuesday, and their ratings of the experimental subjects' levels of Vigor increased significantly from Sunday to Tuesday. In contrast, the experimental subjects indicated that they experienced no significant differences between their Sunday and Tuesday levels of tension (t=1.40, df=39), depression (t=0.68, df=39), anger (t=1.22, df=39), vigor (t=1.50, df=39), fatigue (t=⁻1.14, df=39), and confusion (t=⁻1.39, df=39).

In summary, all of the subjects were significantly less tense after the pass or weekend. On the remainder of the mood scales, the observers' ratings for the experimental subjects indicated that no changes occurred, and the experimental subjects indicated that they did not experience any changes over the pass. The control subjects' self ratings and observers' ratings indicated that a significant decrease in Anger occurred from Friday to Sunday. Although the observers observed a significant decrease in the control subjects' confusion from Friday to Sunday, the control subjects indicated that they did not feel less confused on Sunday. On the remainder of the mood scales, no mood changes for the control subjects were reported by the observers, and the control subjects indicated that no changes had occurred.

Over the time period of the pass, the observers observed a decrease in the experimental subjects' levels of tension but no changes on the other mood dimensions. However, over a two day period, during which the experimental subjects were hospitalized, the observers observed improvement (in the sense that the Depression, Fatigue, and Confusion ratings decreased and the Vigor ratings increased), whereas, the experimental subjects, however, reported that no changes in their

moods had occurred over the same time period.

Prediction of Individual Subjects' Post Pass

Scores and Observers' Ratings

The results of the analyses of variance provided a summary of the
data on the group level. That is, the analyses assessed differences
between the experimental and control groups, between the observers'
ratings and the subjects' scores, and between pre and post pass scores.
Such information allows predictions about the mood scores of groups
of persons. However, in many clinical settings, the individual is
the level of interest. Thus, the clinician is most often interested
in how a specific person's moods will change over a pass.

Multiple regression equations allow the prediction of individuals'
scores, based upon certain predictor information. As mentioned in
Chapter III, the criterion used in the multiple regression analyses
were the post pass mood scores. Thus, for each of the six mood scales,
two multiple regression analyses, utilizing a number of potentially
useful predictor variables (Table III), were computed. One analysis
produced an equation useful in predicting the subject's post pass
mood score, while the other analysis produced an equation to predict
the observer's rating of the subject's post pass mood state. In all
of the multiple regression analyses, the subjects' pre pass mood scores
and the observers' pre pass mood ratings were included as predictor
variables. As Lord (1958) has shown, the predicted post pass mood
scores given by the multiple regression equations can be used as esti-
mates of the amount of mood state change over a weekend pass.

54

The Maximum R^2 Improvement technique (Goodnight and Barr, 1972)
was used to compute the multiple regression analyses. This procedure
computes the "best" one-variable, two-variable, three-variable, four-
variable, and five-variable models for predicting the criterion. The
term "best" is used to indicate the equation which produces the largest
R^2. R^2 reflects the percentage of the variance of the criterion that
can be accounted for by the multiple regression equation. The Maximum
R^2 Improvement technique first finds the one-variable model providing
the highest R^2 statistic. Another variable, the one which would yield
the greatest increase in R^2, is added to obtain a two-variable model.
Then each of the predictor variables in the two-variable model is
compared with all of the predictor variables not included in the model.
For each comparison, the procedure determines if replacing the variable
in the model with a variable not included in the model would increase
R^2. After all of the possible comparisons are completed, the switch
which produces the largest increase in R^2 is made. Comparisons are
made again and the process continues until the procedure finds that no
switch would increase R^2. The Maximum R^2 Improvement technique then
adds a third variable to the model according to the maximum R^2 cri-
terion. The comparing and switching process is completed and the
"best" three-variable model is produced. This process is repeated
until the best one-, two-, three-, four-, and five-variable models
are identified. The statistical Analysis System multiple correlation
computer program with the Maximum R^2 Improvement option was used to
do the multiple regression analyses (Goodnight and Barr, 1972).

For each model produced by the multiple regression equation, the
following statistics are produced: 1) a multiple regression equation

that is a linear combination of the significant predictor variables and which provides the best prediction of the post pass mood scores for the subjects in the sample, 2) a coefficient of multiple correlarion, $\underline{R}$, which is an index of the accuracy of the regression equation, 3) an $\underline{F}$ test for the hypothesis Ho:$\underline{R}$=.00, 4) $\underline{R}^2$, and 5) beta weights (standard regression coefficients) for each of the predictor variables included in the regression equation (β). The absolute value of a predictor variable's beta weight reflects the predictor variable's contribution to the regression equation. Thus, the predictor variable that has the beta weight with the largest absolute value is the best predictor in the equation; conversely, a small beta weight indicates that the corresponding predictor variable is not contributing to a successful prediction as much as the other variable(s).

Since the multiple regression equations were developed by using the information gathered on the experimental subjects, the equations are best suited for predicting the criterion scores of the experimental subjects. In order to assess the usefulness of the equations for predicting the criterion scores of persons in other samples of subjects, cross validation procedures were carried out. The equations were used to predict criterion scores (subjects' post pass mood scores and observers' post pass mood state ratings) for the fifteen cross validation subjects. Then the predicted and actual post pass mood scores were used to compute a multiple correlation coefficient which reflects the degree of correlation between the scores. The significance of the multiple correlation coefficient was tested by the following $\underline{F}$ test: $\underline{F}_{R_{cv}}=\underline{R}^2(\underline{N}-\underline{p}-1)/(1-\underline{R}^2)\underline{p}$, $\underline{df}=\underline{p}/(\underline{N}-\underline{p}-1)$, where $\underline{N}$ equals the number of pairs of scores and $\underline{p}$ equals the number of

variables included in the regression equation (Overall and Klett, 1972). If significance was obtained at the .05 level, the value of $\underline{R}$ for the cross validation was assumed to be significantly greater than zero. A significant $\underline{R}$ was taken to be evidence that the multiple regression equation could be reliably used to predict the post pass mood scores of samples other than the sample of experimental subjects.

The one multiple regression equation out of those produced by each multiple regression analysis which had the highest $\underline{R}^2$ statistic, yet which achieved a significant $\underline{R}$ in the cross validation procedure, was found for presentation in this chapter. In each case, this equation represents the multiple regression equation which accounts for the largest percentage of the variance of the criterion and which can be applied to subjects other than the experimental subjects with some justification.

Prediction of Subjects' Post Pass Scores

TABLE XII

MULTIPLE REGRESSION EQUATIONS FOR PREDICTING THE OBSERVERS' RATINGS
OF THE EXPERIMENTAL SUBJECTS' POST PASS MOOD STATES

Tension
$$\hat{Y} = 5.663 + 0.567(X_1)*$$

Depression
$$\hat{Y} = {}^{-}1.005 + 0.708(S_1)* + 0.497(X_2)**$$

Anger
$$\hat{Y} = 0.870 + 0.532(X_1)*$$

<u>TABLE XII (Continued)</u>

<u>Vigor</u>
   $Y = 12.855 - 0.216(X_2)**$

<u>Fatigue</u>
   $Y = {}^-3.187 + 0.626(X_3)***$

<u>Confusion</u>
   $Y = 3.183 + 0.799(X_3)***$

  *X_1 = Observer's Pre Pass Depression Rating
 **X_2 = Subject's Pre Pass Anger Score
***X_3 = Observer's Pre Pass Fatigue Rating

The multiple regression equations computed to predict the obser-
vers' ratings of the experimental subjects' post pass mood states are
given in Table XII. Table XIII contains the summary data for these
equations.

TABLE XIII

SUMMARY TABLE FOR THE MULTIPLE REGRESSION ANALYSES ON THE OBSERVERS'
POST PASS RATINGS OF THE EXPERIMENTAL SUBJECTS' MOOD STATES (N=40)

Predictor Variable	$\underline{R}$	$\underline{R}^2$	$\underline{F}$	$\underline{df}$	β
Tension					
Observer's Pre Pass Depression Rating	.62	.39	24.14**	1/39	.62
Depression					
Observer's Pre Pass Depression Rating	.54	.29			.47
Subject's Pre Pass Anger Score	.64	.41	12.91**	2/38	.36
Anger					
Observer's Pre Pass Depression Rating	.46	.21	10.26**	1/39	.46

TABLE XIII (Continued)

Vigor					
Subject's Pre Pass Anger Score	.30	.09	3.91**	1/39	⁻.31
Fatigue					
Observer's Pre Pass Fatigue Rating	.49	.24	12.05**	1/39	.49
Confusion					
Observer's Pre Pass Fatigue Rating	.58	.33	18.80**	1/39	.58

**$p < .01$

In Table XIII, the predictor variables, which were included in the multiple regression equation for predicting the observers' post pass ratings, are listed for each mood scale. The multiple regression coefficient, R, beside each predictor variable in Table XIII indicates the degree of correlation between the actual post pass ratings given by the observers and the estimated post pass ratings obtained by using a regression equation containing the variable and any preceeding variables given for the mood scale. The R^2 value given by each predictor variable reflects the amount of the variance of the post pass ratings that can be accounted for by using a regression equation containing the variable and any preceeding variables given for the mood scale. Comparisons of the value of R^2, when more than one variable is included in the equation, allows the determination of the increase in R^2 gained by adding the variable to the regression equation. The F values contained in Table XIII are the critical values for F tests with null hypotheses of Ho:R=.00. A significant F value indicates that the regression equation (which contains all of the predictor variables

listed for a mood scale) predicted the observers' actual post pass

rating with a reliability significantly greater than zero. The beta

weights for each predictor variable reflect the relative contribution

that the predictor variable made to the regression equation which con-

tains all of the predictor variables listed for each mood scale. The

larger the absolute value of the beta weight, the greater the contri-

bution of the predictor variable.

As can be seen in Table XIV, the F tests for R reached signifi-

cance for all of the multiple regression equations. Thus, all of the

regression equations provided reliable estimates of the observers'

ratings of the experimental subjects' post pass mood states.

TABLE XIV

SUMMARY TABLE FOR THE CROSS VALIDATION PROCEDURES ON THE OBSERVERS'
RATINGS OF POST PASS MOOD STATES (N=15)

Mood Scale	R_{cv}	R^2_{cv}	F_R	df_F	$t_{\hat{Y}Y}$***
Tension	.36	.13	1.94	1/13	
Depression	.76	.58	10.81**	2/12	0.26
Anger	.30	.09	1.26	1/13	
Vigor	.52	.28	4.94*	1/13	0.49
Fatigue	.72	.52	13.91**	1/13	⁻1.19
Confusion	.62	.39	8.28*	1/13	0.60

*$p < .05$
**$p < .01$
***df for $t_{\hat{Y}Y}$=14

As evident in Table XIV, the $\underline{F}$ tests for the $\underline{R}$'s produced by the cross validation procedures were significant for the Depression, Fatigue, Vigor, and Confusion scales. Furthermore, the $\underline{R}^2$ values are relatively high for the scales that cross validated significantly, indicating that the multiple regression equations accounted for twenty-eight to fifty-eight percent of the variance in the post pass ratings. None of the $\underline{t}$ tests reached significance, indicating that there were no significant differences between the means of the predicted and the actual scores. Thus, on most of the scales, the multiple regression equations computed for the experimental subjects' post pass ratings provided reliable estimates of the cross validation subjects' post pass ratings.

TABLE XV

MULTIPLE REGRESSION EQUATIONS FOR PREDICTING THE EXPERIMENTAL
SUBJECTS' POST PASS MOOD STATE SCORES

Tension
$$\hat{Y} = 1.221 + 0.556(X_1) + 1.128(X_2)$$

Depression
$$\hat{Y} = 0.495 + 0.781(X_3)$$

Anger
$$\hat{Y} = {}^{-}2.31 + 0.727(X_4)$$

Vigor
$$\hat{Y} = 7.204 + 0.473(X_5)$$

Fatigue
$$\hat{Y} = 1.526 + 0.75(X_6)$$

TABLE XV (Continued)

__Confusion__

$$Y = 7.577 + 0.793(X_7) + 1.813(X_2) - 0.774(X_8)$$

X_1 = Subject's Pre Pass Tension Score
X_2 = Number of Previous Psychiatric Hospitalizations
X_3 = Subject's Pre Pass Depression Score
X_4 = Subject's Pre Pass Anger Score
X_5 = Subject's Pre Pass Vigor Score
X_6 = Subject's Pre Pass Fatigue Score
X_7 = Subject's Pre Pass Confusion Score
X_8 = Number of Years of Education Completed

Table XV contains the multiple regression equations for predicting the experimental subjects' post pass mood scores (the previous analyses involved observers' ratings). Table XVI contains the summary data for these equations.

TABLE XVI

SUMMARY TABLE FOR THE MULTIPLE REGRESSION ANALYSES ON THE
EXPERIMENTAL SUBJECTS' POST PASS SCORES (N=40)

Predictor Variable	R	R^2	F	df	β
__Tension__					
Subject's Pre Pass Tension Score	.71	.50			.69
Number of Previous Psychiatric Hospitalizations	.76	.58	25.42**	2/38	.27
__Depression__					
Subject's Pre Pass Depression Score	.63	.40	25.09**	1/39	.63
__Anger__					
Subject's Pre Pass Anger Score	.67	.45	30.58**	1/39	.67

TABLE XVI (Continued)

Vigor					
Subject's Pre Pass Vigor Score	.40	.16	7.24**	1/39	.40
Fatigue					
Subject's Pre Pass Fatigue Score	.61	.37	22.56**	1/39	.61
Confusion					
Subject's Pre Pass Confusion Score	.64	.41			.74
Number of Previous Psychiatric Hospitalizations	.72	.52			.45
Number of Years of Education Completed	.77	.60	17.98**	3/36	$^{-}$.30

**$p < .01$

Table XVI is to be interpreted in the same way as Table XIII. As shown in Table XVI, the post pass scores of the experimental subjects were predicted with a reliability greater than zero on all of the mood scales.

All of the R's for the cross validation procedures were significantly different from zero except on the Anger mood scale (as shown in Table XVII). In addition, the regression equations that were significant accounted for thirty-two to seventy-nine percent of the variance in the cross validation subjects' post pass scores. None of the t tests reached significance, indicating that there were no significant differences between the means of the predicted and actual scores. These results imply that the multiple regression equations computed to predict the experimental subjects' post pass scores also reliably predicted the cross validation subjects' post pass scores on five of the mood scales.

TABLE XVII

SUMMARY TABLE FOR THE CROSS VALIDATION PROCEDURES ON THE
POST PASS MOOD SCORES (N=15)

Mood Scale	R_{cv}	R^2_{cv}	F_R	df_F	$t_{\hat{Y}Y}$***
Tension	.73	.54	7.04**	2/12	0.96
Depression	.57	.32	5.96*	1/13	0.06
Anger	.46	.21	1.62	1/13	1.26
Vigor	.89	.79	47.75**	1/13	0.48
Fatigue	.63	.40	8.52*	1/13	0.30
Confusion	.71	.50	3.64*	3/11	0.85

*$p < .05$
**$p < .01$
***df for $t_{\hat{Y}Y}$=14

In summary, the multiple regression equations that were developed by using information relevant to the experimental subjects provided reliable estimates of the experimental subjects' actual post pass scores and ratings. Furthermore, in most cases, these same equations also provided reliable estimates of post pass scores and ratings for the cross validation subjects.

CHAPTER VI

DISCUSSION

Some conclusions can be made about pre and post pass mood state levels of psychiatric ward residents, based upon the results of this study. First, since the experimental subjects' post pass rating on Tension was lower than the pre pass rating on Tension, it may be assumed that residents are less tense after a weekend pass. However, since the control subjects' Tension ratings also decreased from Friday to Sunday, it cannot be said that the experimental subjects' decrease on Tension was directly associated with the pass. It is also possible that the decrease in the subjects' Tension ratings is due to practice effects rather than to actual decreases in their levels of tension. The subjects may have felt less nervous during their interviews with the observers on Sunday and Tuesday than they did during the Friday interviews since they had a chance to develop a rapport with the observers on Friday. Second, the experimental subjects' pre and post pass ratings on Depression, Anger, Vigor, Fatigue, and Confusion were not significantly different. Thus, it appears that psychiatric ward residents who go on a weekend pass may generally be expected to feel the same after the pass as they did prior to the pass on these mood dimensions. Third, the observers' ratings of the control subjects' mood states indicated that they appeared less tense, less angry and less confused on Sunday than they did on Friday. To the

extent that the experimental subjects were similar to the control subjects, similar results would have been expected if they had stayed in the hospital over the weekend. The fact that the observers' ratings of the experimental subjects' mood states indicated that they showed "positive" mood state changes on four of the mood scales from Sunday to Tuesday, while they were hospitalized, also suggests that hospitalization of the experimental subjects over the weekend might have resulted in "positive" mood changes.

The results of "no change" are especially interesting since the subjects probably went into pass environments that were more demanding and threatening than the hospital environment. Although the pass environments cannot be considered identical to the subjects' environments prior to their coming into the hospital, it is likely that many of the situations that resulted in their hospitalizations were still viable. Thus, the subjects would have had to deal with the difficult situations while on the pass. In fact, many of the subjects talked at length about problems they expected to face and did face while on the weekend pass. The fact that the experimental subjects were rated as showing "no changes" on five of the mood scales over the pass but rated as showing "positive" mood change on four of the mood scales from Sunday to Tuesday may be a result of the more difficult circumstances faced by the experimental subjects on the passes.

As discussed in Chapter I, pass experiences may be beneficial in that they may provide a vehicle for generalizing gains, establishing anchors to be used after discharge, maintaining relations with family members and friends, and by providing feedback that may be useful to the ward resident or to the staff members. Further research is

needed to determine the validity of these possible benefits from a resident's going on a pass. To the extent that these benefits from a pass are valid, ward residents may generally be expected to achieve such benefits from a pass with a low probability of significant "negative" mood state change (increases in Tension, Depression, Anger, Fatigue, and Confusion or decreases in Vigor).

Decisions concerning the granting of passes should be made with these factors in mind. This decision involves a deciding between gains likely to be made from a pass and gains likely to occur if the resident remains hospitalized. For example, if a resident was not expected to return from a pass with high levels of Tension, Depression, Anger, Fatigue, or Confusion or a low level of Vigor and the resident was expected to make other types of gains while on a pass, a pass would be indicated. However, if a high level of post pass Tension, Depression, Anger, Fatigue or Confusion or a low level of Vigor was expected and few gains of other types were expected, a pass might not be indicated or some type of pre pass preparation might be arranged.

On four of the mood scales, significant differences were found between the experimental subjects' Sunday and Tuesday mood state scores and the observers' Sunday and Tuesday ratings of the experimental subjects' mood states. The observers judged the subjects to have changed towards a more "positive" status (a decrease in the subjects' Depression, Fatigue, and Confusion scores and an increase in Vigor scores) for the Tuesday ratings. However, the experimental subjects indicated that they experienced the same levels of depression, vigor, fatigue, and confusion on Tuesday as they had on Sunday.

One explanation for this discrepancy between the subjects' Tuesday scores and the observers' Tuesday ratings might be impression management. Sixty-five percent of the experimental subjects indicated that they wished to remain hospitalized while only seventeen and one-half percent indicated that they wished to be discharged (seventeen and one-half percent had mixed feelings). However, eighty percent of the experimental subjects indicated on Friday that they were looking forward to their weekend pass and none indicated that they did not want to go on the pass (twenty percent had mixed feelings). Thus, it may be assumed that the experimental subjects were motivated to remain hospitalized and to gain weekend passes. If the experimental subjects had reported mood changes in agreement with those observed by the observers ("positive" changes), it might have been seen as evidence of improvement and their hospitalization might have been jeopardized. A report of "no changes", however, might not have been seen as evidence in favor of discharge and, furthermore, not seen as evidence to support a restriction of pass privileges. Thus, it may have been that the experimental subjects manipulated their responses on the Profile of Mood States in order to attain the goals of remaining hospitalized and of gaining more weekend passes.

Of course, the possibility that the experimental subjects did not experience any changes in their mood states and, therefore, gave accurate ratings of their mood states, cannot be completely ruled out. However, the presence of evidence of mood state change in the subjects' behavior, as observed by the observers, argues against this possibility.

The control subjects' pre and post weekend scores and the observers' pre and post weekend ratings on the Confusion mood scale were in disagreement. The observers indicated that the control subjects were less confused on Sunday, and the control subjects indicated that they felt no differences in their levels of confusion on Friday and Sunday. It may have been that an acknowledgement that they had become less confused would have resulted in increased chances for discharge. Thus, just as the experimental subjects may have done, the control subjects may have manipulated their answers to the Confusion scale of the Profile of Moods States in order to maintain their hospitalized status.

Although the observers' ratings on Confusion were found to be significantly lower than the subjects' scores on Confusion, it is not of major concern. It is likely that the subjects who experienced their confusion would report its intensity as higher than would the observers who only observed the confusion. In addition, the subjects and observers may have had differing sets of norms against which to compare the levels of confusion.

The multiple regression equations provided reliable predictions of the experimental subjects' post pass scores and the observers' post pass ratings of the experimental subjects' mood states. Furthermore, since most of the multiple regression equations provided reliable predictions in the cross validation procedures, some support is given for applying the regression equations to predict post pass scores and ratings for other groups of ward residents who are similar to the experimental subjects. However, since the experimental subjects' scores and ratings reflected no pre-post pass changes on most of the mood

scales, the usefulness of the regression equations may be limited. The pre pass score may be used as an estimate of the subjects' post pass score, in most cases. In fact, the predicted scores given by the multiple regression equations for the prediction of the subjects' post pass scores are a function of the subjects' pre pass scores.

Although the same results would be predicted for the observers' ratings, they did not occur on four of the scales. The pre pass observers' rating for Depression contributed most to the prediction of the post pass ratings on Tension and Anger. In both cases the pre pass Depression rating was positively correlated with the post pass ratings. The observers' pre pass Anger ratings were included as a significant predictor variable in the regression equation predicting post pass Vigor ratings. Similarly, the observers' pre pass Fatigue ratings were included in the regression equation predicting the post pass Confusion ratings. However, in all cases, the pre pass rating included as a predictor in the multiple regression equation correlated significantly with the pre pass rating on the same scale as the post pass rating that was predicted by the equation. The pre pass Depression ratings correlated significantly with the pre pass Tension and Anger ratings (r=.69 and .69 respectively). The pre pass Anger rating correlated significantly with the pre pass Vigor rating (r=.34), and the pre pass Fatigue rating correlated significantly with the pre pass Confusion rating (r=.41) (Appendix D).

In some instances a valid predictor variable may have been deleted from the regression equation if it correlated significantly with a variable already in the equation. Since such variables would account for overlapping portions of the criterion variance, the second variable

would add little to the equation even though it may have been highly
correlated with the criterion. Thus, it would not be included in the
regression equation. A complete listing of the significant correla-
tions between predictor variables is given in Appendix D.

It is interesting to note that the pre pass Depression rating was
included as a predictor variable in the regression equations for pre-
dicting the post pass ratings on the Tension, Depression, and Anger
scales. In addition, the subject's pre pass report of his level of
anger (pre pass Anger score) was included as a predictor variable in
the regression equation for predicting the post pass Depression rating.
Some clinicians argue that tension and anger are commonly "defenses"
against depression. In more threatening situations, such as a pass,
the defenses against depression may be expected to increase. Thus,
if a subject's level of depression was high, his levels of tension
and anger would also be expected to be high. Thus, it may be expected
that the higher the pre pass level of depression, the higher the post
pass levels of tension and anger. In a similar manner, some clini-
cians may contend that if a person is able to admit his anger, he may
be able to start admitting his depression and working to decrease it.
Thus, a high pre pass score on Anger would be expected to be corre-
lated with a high post pass score on Depression. Results consistent
with this theory were found; pre pass Anger self scores were positively
correlated with post pass Depression ratings. Thus, it might have
been that the subjects were able to work through some of their anger
while on the pass and begin to experience their depression over the
time period that they were on pass.

It should be noted that the observers' mood state ratings do not

appear to be independent of each other. A dependence between the observers' ratings on the mood scales may indicate that some biases in the observers' ratings may have been present. If a subject receives a high rating on pre pass depression, his predicted values for the observers' ratings of Tension and Anger may be expected to be high since the pre pass observer's rating on Depression is used to estimate the post pass Tension and Anger ratings. The same is true for the Confusion rating where the pre pass Fatigue rating is used as a predictor. Since the pre pass Tension, Depression, and Anger ratings were significantly correlated, it may be that the observers saw these mood dimensions as somewhat similar or overlapping.

It cannot be assumed that the predictor variables included in the multiple regression equations presented in Chapter V are the only predictor variables significantly correlated with the criterion measures. The regression equations presented in Chapter V were the ones which reliably predicted the experimental subjects' scores and which stood up under cross validation. The Max $\underline{R}^2$ technique, however, computed several equations which reliably predicted the criterion measures and which contained a number of predictor variables which contributed significantly to the predictive ability of the equations. The predictor variables included in the five variable models produced by the Max $\underline{R}^2$ multiple regression analyses are listed in Appendix E. It is interesting to note that the number of previous psychiatric hospitalizations correlated positively with the subjects' post pass scores on Tension, Depression, Anger, and Confusion and the observers' post pass ratings on Fatigue. The number of years of education completed correlated negatively with the subjects' post pass scores on Anger and

Confusion and with the observers' post pass ratings on Vigor, and positively with the observers' post pass rating on Tension and Depression.

Several limitations to this study are noted. First, the ability to generalize from this study is limited since the selection criteria for the experimental subjects were quite exclusive. As stated above, all of the subjects used in this study met a number of criteria and also completed a pass that was at least fairly successful. Generalizations to subjects who are not willing to volunteer, who are receiving strong sedatives or electro shock therapy, who experience extreme circumstances while on their weekend pass, whose passes are different from the passes given at St. Anthony's Hospital, who are in different types of treatment programs than the experimental subjects, or who do not meet the criteria for selection in this study may not produce results consistent with those obtained in this study. Second, the control group and the experimental group may not be equivalent because of problems in selection criteria. The fact that the experimental subjects had a pass authorized and the control subjects did not implies that there may have been differences other than those that were controlled in this study (age, sex, ward residency, length of hospitalization, and diagnosis). Any such differences would have implications for the comparisons made between the control subjects and the experimental subjects. Third, comparisons made between time spent on the pass (Friday to Sunday) and in the hospital (Sunday to Tuesday) by the experimental subjects are not independent since the same score (Sunday) was used in the measurement of change over both periods. Fourth, changes in only six mood states were assessed in this study.

It is possible that the assessment of pass related changes in other mood states or other types of criteria may produce results different from the results obtained in this study. Future research projects in this area may want to take these limitations into account, and, if possible, design appropriate controls.

Finally, it should be stated that this study is a correlational study and as such, cannot make conclusions about the causes of any mood state changes (or of the lack of mood state changes) that were found to be associated with a pass. If the results of this study are confirmed by future research, more controlled experiments may be designed that may provide support for statements about the causes of the mood state changes or lack of mood state changes.

CHAPTER VII

SUMMARY AND CONCLUSIONS

This study investigated the pre and post pass mood states of

psychiatric ward residents. Six mood states were assessed for each

resident: Tension, Depression, Anger, Vigor, Fatigue, and Confusion.

Forty residents who had been judged by their therapists as

competent to go on a weekend pass and who went on a weekend pass,

were selected as experimental subjects. Fifteen residents who had

pass priviledges but who did not go on a weekend pass were selected

as control subjects. The experimental and control subjects were

matched for age, sex, diagnosis, ward residency, and length of hos-

pitalization prior to assessment. The subjects completed the Profile

of Moods States (McNair, 1971) prior to the weekend (Friday evening),

after the weekend (Sunday evening), and again on Tuesday evening. On

these three occassions, observers used the Profile of Mood States to

rate the subjects' mood states, basing their ratings upon their obser-

vations of the subjects' behavior. For all of these assessments, the

instructions for the Profile of Mood States were changed so that it

measured the subjects' mood states at the time that the subjects or ob-

servers filled out the scales. Although the subjects were aware of the

purpose of the experiment, the observers were blind to the purpose of

the experiment. The subjects were not informed that the observers were

rating their mood states or that the observers were connected with

this study. The observers' ratings of the subjects' mood states were assumed to be objective measures of the subjects' mood states, whereas the subjects' scores were assumed to be subjective reports made by the subjects concerning their own mood states.

The data analysis was done in two parts. The first part involved the use of two by two by two unweighted means, split plot analyses of variance to summarize the data collected for each mood scale. The second part of the data analysis involved the computation of a separate multiple regression analysis to predict each of the experimental subjects' post pass mood scores and each of the observers' ratings of the experimental subjects' post pass mood scores. The predictor variables included individual variables, situational variables, and the experimental subjects' pre pass mood scores and ratings. A cross validation procedure was used to test the reliability of each of the multiple regression equations when applied to another group of subjects.

The major results of this study are summarized below: 1) all of the subjects were less tense on Sunday (after the pass or weekend) than they were on Friday, 2) on five of the mood scales the experimental subjects showed no significant pre or post pass changes, 3) the control subjects experienced "positive" mood state changes over the weekend on three of the mood scales, 4) the experimental subjects experienced "positive" mood state changes from Sunday to Tuesday on four of the mood scales, 5) the multiple regression equations yielded reliable predictions of the experimental subjects' scores, 6) the regression equations were also found to be reliable in most of the cross validation procedures, and 7) the experimental subjects' scores and the observers' ratings given on Tuesday were not in agreement on

four of the mood scales (the observers observed "positive" mood state changes, but the subjects reported no mood state changes).

The major conclusions suggested by the data are listed below. 1) Psychiatric ward residents who are judged as competent to go on a weekend pass by their physician and who go on a weekend pass, typically return from the pass with depression, anger, vigor, fatigue, and confusion mood state levels that are not significantly different from their pre pass mood state levels. It was suggested that the finding of "no change" in mood states over a pass is a noteworthy finding since the residents often go into pass environments that would be expected to produce "negative" mood changes. It was also suggested that passes may also be correlated with gains or setbacks on criteria not assessed in this study. 2) Psychiatric ward residents who remain in the hospital for a comparable period of time may be expected to show decreases in their levels of depression, fatigue, and confusion and increases in their levels of vigor. 3) The individual resident's post pass mood levels can be predicted and used in deciding whether or not an individual should be granted a pass. 4) Some evidence was present to suggest that the experimental subjects and the control subjects may have manipulated some of their responses to the Profile of Mood States in order to continue their hospitalized status and to gain future passes.

The limitations of this study are discussed and suggestions for further research are given.

BIBLIOGRAPHY

Balla, D. E. and E. Zigler. "The Therapeutic Role of Visits and
    Vacations for Institutionalized Retarded Children." Mental
    Retardation, Vol. 3 (June, 1971), 7-9.

Braginsky, B. M. and D. D. Braginsky. "Schizophrenic Patients in
    the Psychiatric Interview; An Experimental Study of Their
    Effectiveness at Manipulation." Journal of Consulting Psychology,
    Vol. 31 (1967), 543-547.

Braginsky, B. M., M. Grosse, and K. Ring. "Controlling Outcomes
    Through Impression Management." Journal of Consulting Psychology,
    Vol. 30 (1966), 295-300.

Brunswik, E. Perception and the Representative Design of Psychological
    Experiments. New York: A. A. Knopf, 1956.

Downing, J. "Chronic Mental Hospital Dependency as a Character
    Defense." Psychiatric Quarterly, Vol. 32 (1958), 489-499.

Ellsworth, R. B., L. Foster, B. Childers, G. Arthur, and D. Kroeker.
    "Hospital and Community Adjustment as Perceived by Psychiatric
    Patients, Their Families, and Staff." Journal of Consulting and
    Clinical Psychology, Vol. 32, No. 5, Part 2 (1968), 1-41.

Ellsworth, R. B. "Approaches to Program Evaluation in Mental Health
    Settings." Handbook of Evaluation Research. Vol. 2. Eds.
    M. Guttentag and E. L. Struening. Boston: Sage, 1975, 998-1023.

Fontana, A. F., E. B. Klein, L. Levine, and E. Lewis. "Presentation
    of Self in Mental Illness." Journal of Consulting and Clinical
    Psychology, Vol. 32 (1968), 110-119.

Fontana, A. F. and E. B. Klein. "Self Presentation and the Schizo-
    phrenic Deficit." Journal of Consulting and Clinical Psychology,
    Vol. 32 (1968), 250-256.

Goffman, I. The Presentation of Self in Everyday Life. Garden City:
    Doubleday and Company, Inc., 1959.

Goffman, I. Assylums. Garden City: Doubleday and Company, Inc., 1961.

Goodnight, J. H. and A. J. Barr. Statistical Analysis System.
    Raleigh, North Carolina: North Carolina State University, 1972.

Gordon, H. L. and C. Groth. "Mental Patients Wanting to Stay in the Hospital." <u>Archives of General Psychiatry</u>, Vol. 4 (1961), 124-130.

Haskell, D. D., D. M. McNair, and D. Fugatch. "<u>Time Limited Psycho-</u>therapy for Whom?" <u>Archives of General Psychiatry</u>, Vol. 21 (1969), 546-552.

Holmes, T. H. and R. H. Rahe. "The Social Readjustment Rating Scale." <u>Journal of Psychosomatic Research</u>, Vol. 11 (1967), 213-218.

Lewis, A. B. "On Resistance to Discharge." <u>Comprehensive Psychiatry</u>, Vol. 14, 4 (1973), 357-363.

Long, T. J., D. M. Schuerger, D. A. Bosshart, and R. J. Menges. "Fluctuation in Psychological State During Two Encounter Group Weekends." <u>Psychological Reports</u>, Vol. 29 (1971), 267-274.

Lord, Frederic M. "Further Problems in the Measurement of Growth." <u>Educational and Psychological Measurement</u>, Vol. 18, 3 (1958), 437-451.

Masuda, M. and T. H. Holmes. "Magnitude Estimations of Social Re-adjustments." <u>Journal of Psychosomatic Research</u>, Vol. 11 (1967), 219-225.

McNair, D. M. and M. Lorr. "An Analysis of Mood in Neurotics." <u>Journal of Abnormal and Social Psychology</u>, Vol. 69 (1964), 620-627.

McNair, D. M., M. Lorr, and L. F. Droppleman. <u>EITS Manual for the Profile of Mood States</u>. San Diego, Calif.: Educational and Industrial Testing Service, 1971.

Moos, R. H. "Situational Analysis of a Therapeutic Community Milieu." <u>Journal of Abnormal Psychology</u>, Vol. 73 (1968), 49-61.

Nathan, P. E., N. A. Tiller, L. M. Lowenstein, P. Soloman, and A. M. Rossi. "Behavioral Analysis of Chronic Alcoholism: Interaction of Alcohol and Human Contact." <u>Archives of General Psychiatry</u>, Vol. 22 (1970), 419-430.

Orne, M. T. "On the Social Psychology of the Psychological Experiment: With Particular Reference to Demand Characteristics and Their Implications." <u>American Psychologist</u>, Vol. 17, 10 (1962), 776-783.

Overall, J. E. and C. J. Klett. <u>Applied Multivariate Analysis</u>. New York, N. Y.: McGraw-Hill Book Co., 1972.

Pillard, R. C. and S. Fisher. "Aspects of Anxiety in Dental Clinic Patients." <u>Journal of the American Dental Association</u>, Vol. 80 (1970), 1331-1334.

Pillard, R. C., D. W. Atkinson, and S. Fisher. "The Effects of Different Preparations on Film-Induced Anxiety." The Psychological Record, Vol. 17 (1967), 35-41.

Price, R. H. "The Case for Impression Management in Schizophrenia." The Making of a Mental Patient. Eds. R. H. Price and B. Denner. New York: Holt, Rinehart, and Winston, Inc., 1973, 262-275.

Veterans Administration Hospital Manual. M-1, Part 1, Chapter 10. Washington D. C.: VA Central Office, 1973, 1-8.

Winer, B. J. Statistical Principles in Experimental Design. 2nd Ed. New York: McGraw-Hill Book Company, 1971.

APPENDIX A

PROFILE OF MOOD STATES

The Profile of Mood States is a sixty-five, five point adjective rating scale giving scores on six mood scales: Tension, Depression, Anger, Vigor, Fatigue, and Confusion (McNair, Lorr, Droppleman, 1971). For each of the sixty-five adjectives, the subject is requested to indicate one of the five possible responses that best describes how he has felt during some specified time period. The five responses from which the subject may select his answer are: not at all, a little, moderately, quite a bit, and extremely. Each of the responses has been given a weight (not at all = 0, a little = 1, moderately = 2, quite a bit = 3, and extremely = 4). The weights for the adjectives associated with each mood scale are summed to obtain the scores for the six mood scales.

Profile of Mood States questionnaires, scoring keys, and manual are published by the Educational and Industrial Testing Service, San Diego, California, 92107.

The adjectives included in the Profile of Mood States are listed below. The mood scale, on which the subject's response to the adjective is scored, is listed next to each adjective in Table XVIII.

TABLE XVIII

ADJECTIVES AND MOOD SCALES FOR PROFILE OF MOOD STATES

Adjective	Mood Scale
friendly	--
tense	Tension
angry	Anger
worn out	Fatigue
unhappy	Depression
clear-headed	--
lively	Vigor
confused	Confusion
sorry for things done	Depression
shaky	Tension
listless	Fatigue
peeved	Anger
considerate	--
sad	Depression
active	Vigor
on edge	Tension
grouchy	Anger
blue	Depression
energetic	Vigor
panicky	Tension
hopeless	Depression
relaxed	Tension (scored negatively)
unworthy	Depression
spiteful	Anger
sympathetic	--
uneasy	Tension
restless	Tension
unable to concentrate	Confusion
fatigued	Fatigue
helpful	--
annoyed	Anger
discouraged	Depression
resentful	Anger
nervous	Tension
lonely	Depression
miserable	Depression
muddled	Confused
cheerful	Vigor
bitter	Anger
exhausted	Fatigue
anxious	Tension
ready to fight	Anger
good natured	--
gloomy	Depression

TABLE XVIII (Continued)

desperate	Depression
sluggish	Fatigue
rebellious	Anger
helpless	Depression
weary	Fatigue
bewildered	Confusion
alert	Vigor
deceived	Anger
furious	Anger
efficient	Confusion (scored negatively)
trusting	--
full of pep	Vigor
bad-tempered	Anger
worthless	Depression
forgetful	Confusion
carefree	Vigor
terrified	Depression
guilty	Depression
vigorous	Vigor
uncertain about things	Confusion
bushed	Fatigue

APPENDIX B

TABLE XIX

RAW SCORE DATA

		Friday						Sunday						Tuesday					
		T	D	A	V	F	C	T	D	A	V	F	C	T	D	A	V	F	C
Experimental Subjects																			
#1	Self	15	18	22	20	15	16	21	41	22	17	14	16	18	37	25	14	16	15
	Observer	11	13	6	8	6	12	24	45	25	2	19	19	23	34	18	9	7	16
#2	Self	15	21	3	12	14	9	5	0	0	30	0	1	6	8	0	7	5	6
	Observer	12	14	10	9	11	7	12	14	14	16	7	6	12	13	6	15	7	7
#3	Self	10	11	2	13	4	9	11	10	1	13	7	6	2	3	0	22	0	7
	Observer	5	0	0	16	0	2	7	1	0	14	1	3	7	4	3	11	0	3
#4	Self	11	5	0	11	5	6	4	0	0	24	0	1	4	0	0	22	0	1
	Observer	6	7	0	17	10	3	5	1	0	20	2	2	4	1	1	19	3	1
#5	Self	13	14	0	10	8	3	5	3	0	15	5	3	10	10	2	10	6	3
	Observer	22	26	15	10	9	14	17	24	19	9	11	12	18	23	20	6	9	12
#6	Self	8	24	8	6	24	9	11	15	4	15	13	9	5	3	0	14	6	9
	Observer	6	6	0	17	8	3	9	11	3	16	9	5	8	4	2	17	0	2
#7	Self	4	6	4	16	5	8	5	2	5	11	8	12	10	4	3	17	2	7
	Observer	10	10	6	16	2	5	2	3	0	24	0	2	2	1	0	24	0	2
#8	Self	13	36	9	6	15	18	6	4	1	8	7	8	23	50	2	1	16	18
	Observer	16	20	12	4	11	11	8	11	3	15	6	5	31	32	5	4	9	18
#9	Self	10	2	7	30	7	11	18	7	4	8	6	11	5	4	3	28	7	6
	Observer	10	11	17	15	4	8	8	7	1	9	5	3	3	3	0	20	3	5
#10	Self	6	7	2	16	11	6	0	1	0	28	0	0	0	2	0	30	0	7
	Observer	12	10	9	15	6	2	11	9	5	9	7	8	1	0	3	17	0	5

TABLE XIX (Continued)

```
#11 Self     26 29 11  8 15 21   17  4  1 11  5 12   30 41 13  8 19 20
    Observer 15 13 11 15  8  8   14 10  4 10  8 10    8  6  1 15  6  3

#12 Self     20 23 25 20 16  9   13 27 19 15 13 12   18 27 24 13 16 16
    Observer 19 26 11  1 11 17   28 11  2  3  7 21   14 11  0 15  5  9

#13 Self      5  5  1 11  7  4    5  2  1 15  4  2    4  1  0 14  5  2
    Observer  4  1  0 17  1  3    3  2  0 12  3  6    3  1  0 11  1  3

#14 Self     12 13  8 11  5 11   10 11 10  8  5 10   10  1  1 14  1  7
    Observer 10  5  2 16  4  5   14 17 15  7 10  8   11  9  3 11  5  6

#15 Self     11 15 12 26  9 11    5  4  1 32  0  0    6  1  0 32  3  1
    Observer  9 21  5 11 12  5   29 41 34  3 15 21   13  9  7 15  3 10

#16 Self      5  2  0 16  0  4    1  0  0 19  0  1    3  3  0 13  6  3
    Observer 16 15  7 13  7  4    6  5  0 16  6  2    3  3  1 16  1  1

#17 Self     31 49 33  4 26 22   25 54 39  1 27 26   26 41 32  1 27 20
    Observer 14 10 10  9  7  4   22 29 18  6 11 11    5  0  0 16  1  2

#18 Self     28 30  7  7 18 18    9 17  2 16  4 12   18 20  5 15  9 13
    Observer 10 10  1 15  4  3   11 10  3 13  6  4    8  5  1 16  1  4

#19 Self     31 30  6 11 11 18   23 47 16  3 25 20   24 24  2 12  9 11
    Observer 13  7  0 16  1  6    8  9  2 12 12  7   16  7  0 16  5  5

#20 Self      5  2  0  5 17  3    5  5  0  0 24  4    5  3  0  9  7  5
    Observer  2  1  0 10 12  3    8  3  1  6 13  7    8  3  1 14  3  3

#21 Self     14 16  8 12 13 21    8 25  5  0 28 16    5  3  0 27  5  6
    Observer 10  5  0 12  1  3    4  1  0 11  1  3    6  3  0 15  0  3

#22 Self     24 18  4  9 17  7   24 39 20 11 23 22   23 48 28 13 19 19
    Observer 23 15 24  5  9 10   17 14 11  6 15 11   12  4  6 15  4  4

#23 Self      6  5 12 16  0  5    4  1  0 26  0  1    4  0  0 21  0  2
    Observer  4  2  5 20  0  3   12  0  2 17  0  4   11  3  9 13  1  4

#24 Self     19 29  5 12  6 16   17 32  9 11 13 14   19 37 12 12  9 15
    Observer 19 15  7  3  5 10   10  5  2 14  5  6   17  1  0  8  1  8

#25 Self     13 15 11 15 12  9   14 11  2 13 11 12   11 11  8 11 13  7
    Observer 17 12 11 10  6  7   16 15 16  8  7  9   10  0  2 14  1  4

#26 Self     14  8  3 22  5  5   11 12  8 23  1  6    9  4  1 19  2  2
    Observer  8 11  8 23  0  5    9  6  5 16  5  4    4  0  1 15  0  3

#27 Self      5  1  1 11  6  4   10  9  0  7  8  4    1  0  0 10  2  2
    Observer  6  0  0 16  0  2    8  9  2 12  5  3    9  3  0 16  0  2
```

TABLE XIX (Continued)

```
#28 Self      19 16 12 23 13 16     5 11  4  6  9  0    12 12  5  9 13 12
    Observer   7  1  4 14  1  3     7 10 11  9 16  7     3  0  0 14  0  3

#29 Self      18 25 18 23 15 18     6 18  8 14 18 13    13 20 13 21  8 11
    Observer  14  8  0  9  3 13     8  7  0 12  2 13     6  2  0 12  0  7

#30 Self      10  4  0 12  2  4     6  2  0  7  4  5     5  5  0  5  3  5
    Observer  22  5  0  4  1  8     8  2  0 16  4  3    10  0  0  7  4  3

#31 Self       2  4  7 18  4  8     5  7  1 17  7  9     6  8  2 18  8  9
    Observer  10  7  1 10  3  5    12 10  7  7  6  5     7  5  1 15  0  2

#32 Self      18  9  5 23  5  2     9 16 13 21  6  4     9  6  4 18  3  4
    Observer  11  2  0  8  4  6     7  2  0 16  0  2    16 12 13  6  5  6

#33 Self       9  5  1 30  0  3     5  4  3 17  6  4    30 34 46  1 15 12
    Observer   9  2  5 16  1  3    10  2  6  4  1  6    14  9 21 14  1  8

#34 Self      15 12  8 20  5  6    11  8  0 16  8  8    14 11  5 17  8 11
    Observer  11  4  1 15  6  3     8  1  0  3  4  5     8  2  0 16  1  3

#35 Self       7 16 12 12  6  7     3  2  5 19  0  4     2  3  4 20  1  4
    Observer   1  1  1 19  0  1     5  0  0 16  1  2     5  0  0 16  0  2

#36 Self      30  7 17 14 22 11    21  4  2 24 15  7    21 11  9 12 14  9
    Observer   9  1  0 16  1  2     6  0  1 16  0  3    10  2  0 15  1  3

#37 Self      16 24 13  9 11 16     7  6  4 13  6  8     8  5  2 18  0  8
    Observer  13  9  1 11  7  5     9  1  0 16  4  3     4  0  0 16  0  2

#38 Self      12  9  7 23  1  3    11  2  2 17  0  1    18 25 13  5  4 12
    Observer   8  2  2 16  1  4     8  3  1 10  1  4    11  7  5  9  6  4

#39 Self       0 26  3  4 12 14     7 20  1  1 21  9     6 23  1  7  7  5
    Observer  12  8  7 16  5  4     5  3  0  4  8  3     5  5  0 15  1  2

#40 Self       3  2  0 14  1  5     3  0  1 11  1  3    16 10  7  6  7  7
    Observer  18 14 12 11  3  8    10  6  8 13  4  4    11  2  2 16  1  4
```

Control
Subjects

```
#1 Self       26 38 12  2 11 17    30 47  6  5  3 25
   Observer   10  3  9 15  2  6     9  6  6 16  2  4

#2 Self       13 19 19 23  1  9    12 26  9 10 22 20
   Observer   14  7 14 14  2  9     6  4  1 16  1  3

#3 Self       25 38  7  2 19 17    12 26  9 10 22 20
   Observer   27 45  5  7 21 16    12 11 10 12  6  7
```

TABLE XIX (Continued)

#4	Self	8	4	9	25	5	8	18	16	24	10	7	10
	Observer	18	16	24	10	7	10	5	5	5	16	0	2
#5	Self	15	10	0	8	3	12	20	10	1	12	2	14
	Observer	21	23	17	7	9	18	25	18	17	11	11	17
#6	Self	6	5	3	21	7	18	5	2	5	29	3	7
	Observer	6	8	0	16	0	4	3	0	0	21	0	2
#7	Self	3	8	0	9	13	3	3	11	6	4	24	13
	Observer	9	0	1	15	1	3	9	5	0	11	9	4
#8	Self	4	9	5	13	5	4	8	5	8	12	6	4
	Observer	7	1	0	9	2	4	11	11	21	7	2	5
#9	Self	5	10	10	12	1	4	3	2	3	14	0	3
	Observer	9	5	9	15	1	3	6	2	0	16	1	2
#10	Self	1	12	0	18	4	8	3	8	3	17	1	6
	Observer	9	1	0	17	1	2	8	1	0	16	3	3
#11	Self	14	19	1	6	7	8	8	13	0	20	5	7
	Observer	21	24	13	12	9	9	13	19	12	4	2	4
#12	Self	13	15	10	26	1	12	12	11	15	5	24	12
	Observer	10	6	0	15	5	5	11	6	0	11	8	5
#13	Self	13	22	15	21	6	15	18	35	19	6	8	13
	Observer	22	21	10	6	9	14	6	13	13	10	1	4
#14	Self	21	31	19	3	14	20	28	37	17	6	16	18
	Observer	8	4	1	16	7	3	14	5	0	9	1	4
#15	Self	13	12	19	16	5	6	10	7	10	25	3	1
	Observer	6	2	1	14	0	3	3	3	0	17	0	3

Cross Validation
Subjects

#1	Self	21	36	29	8	19	19
	Observer	13	27	9	7	9	10
#2	Self	6	3	0	12	8	3
	Observer	10	0	0	17	1	4
#3	Self	7	15	8	12	17	8
	Observer	5	4	2	16	3	5
#4	Self	10	6	5	9	19	8
	Observer	13	14	12	6	10	5

TABLE XIX (Continued)

#5	Self	6	6	1	4	11	6
	Observer	6	0	0	14	4	3
#6	Self	30	46	10	0	25	26
	Observer	7	3	0	15	6	5
#7	Self	10	5	27	7	6	12
	Observer	16	17	15	2	4	8
#8	Self	23	22	12	14	6	11
	Observer	20	17	2	0	14	14
#9	Self	7	1	0	14	7	4
	Observer	6	2	0	12	4	2
#10	Self	2	8	5	23	6	3
	Observer	5	0	0	17	1	2
#11	Self	8	4	2	15	1	3
	Observer	16	6	19	13	1	7
#12	Self	13	9	1	22	4	12
	Observer	8	7	0	14	1	2
#13	Self	3	0	0	5	2	4
	Observer	8	1	5	16	0	2
#14	Self	6	2	0	25	2	1
	Observer	8	3	0	11	7	7
#15	Self	4	5	3	11	15	1
	Observer	9	6	0	4	1	8

APPENDIX C

CHARACTERISTICS OF THE EXPERIMENTAL SUBJECTS
(PREDICTOR VARIABLE INFORMATION)

Characteristic	Descriptive Statistic
Education - Number of Years Completed	
six years	2.5%
seven years	2.5%
eight years	5.0%
nine years	2.5%
ten years	15.0%
eleven years	7.5%
twelve years	37.5%
thirteen years	10.0%
fourteen years	7.5%
sixteen years	5.0%
seventeen years	2.5%
nineteen years	2.5%
Income	
$0 - 5,000	20.0%
5,001 - 10,000	17.5%
10,001 - 15,000	25.0%
15,001 +	37.5%
Social Readjustment Rating Scale	$\bar{X}=1667.9$
Nature of Admission	
Voluntary	15.0%
Voluntary with Advice of Family	20.0%
Voluntary with Advice of Professional	50.0%
Involuntary	15.0%
Attitude Towards Hospitalization	
Positive (preferred to be in)	65.0%
Neutral (mixed feelings)	17.5%
Negative (preferred discharge)	17.5%
Number of Previous Psychiatric Hospitalizations	
Zero	57.5%
One	25.0%
Two	2.5%

Three	10.0%
Four	2.5%
Eight	2.5%

Rating of Ward Situation
Positive	92.5%
Neutral	7.5%
Negative	0.0%

Persons Subject Planned to Be with While on Pass
Spouse	8.5%
Children	5.0%
Spouse and Children	29.0%
Parents	23.7%
Siblings or Friends	33.9%

Subject's Rating of the Anticipated Pass
Positive (Looking Forward to the Pass)	82.5%
Neutral (Mixed Feelings)	2.5%
Negative (Did Not Want to Go on the Pass)	0.0%

Subject Expecting to Spend Time with "Someone with Whom You Usually Have A Great Deal of Difficulty Getting Along"
Yes	20.0%
No	80.0%

Age $\bar{X}=34.73$

Sex
Male	45.0%
Female	55.0%

Marital Status
Single	30.0%
Married	52.5%
Divorced	12.5%
Widowed	5.0%

Diagnosis
Psychosis	47.5%
Neurosis	22.5%
Personality Disorder (Including Alcoholism)	7.5%
Adjustment Reaction	12.5%

Nature of Ward on Which Subject Resides
Open	75.0%
Closed	25.5%

Length of Subject's Hospitalization Prior to the Pass $\bar{X}=16.25$

Medication
Major Tranquilizer	44.0%

Minor Tranquilizer	19.0%
None/Other	28.0%
Anti Depressant	9.0%

Was the Structure of the Anticipated Pass Discussed
Between the Subject and a Staff Member?

Yes	37.5%
No	62.5%

Have Plans for the Subject's Discharge Within the
Next Two Weeks Been Made and Discussed with the
Subject?

Yes	42.5%
No	57.5%

Number of Previous Weekend Passes

None	55.0%
One	30.0%
Two	15.0%

APPENDIX D

SIGNIFICANT CORRELATIONS BETWEEN

PREDICTOR VARIABLES

The predictor variables used in this study are listed below. Listed below each variable are the predictor variables with which the variable correlated significantly ($p < .05$). Also given for each significant correlation between the predictor variables are the correlation coefficient and the probability that the correlation coefficient is equal to zero.

Predictor Variable	Significant Correlates	R	p R $<$ 0.0
X1 Education (in years)	X11	.35	.030
X2 Income	X6	.51	.001
	X17	.33	.040
	X27	.38	.020
X3 Social Readjustment Rating Scale Score	None		
X4 Voluntary Admission/Self Referred	X6	-.42	.010
	X11	.34	.030
	X19	.49	.001
	X32	.47	.004
	X39	.35	.020
	X40	.40	.010
	X41	.32	.040
	X44	.41	.010
	X45	.38	.010
	X46	.36	.020
X5 Voluntary Admission with Advice of Family	X6	-.50	.001

		X8	-.42	.007
X6	Voluntary Admission with Advice of Professional	X2	.51	.001
		X4	-.42	.007
		X5	-.50	.001
		X7	-.42	.007
		X8	.31	.048
		X9	-.33	.040
X7	Involuntary Admission	X2	-.35	.030
		X6	-.42	.007
		X10	.36	.023
		X18	.40	.010
		X23	.49	.001
		X24	-.44	.004
		X31	.73	.001
		X45	-.41	.009
		X46	-.38	.017
		X47	-.36	.022
		X48	-.34	.032
X8	Positive Attitude Towards Hospitalization	X5	-.42	.007
		X6	.31	.048
		X9	-.63	.001
		X10	-.63	.001
		X19	.37	.020
		X23	-.32	.044
X9	Neutral Attitude Towards Hospitalization, Mixed Feelings	X8	-.63	.001
		X39	-.32	.048
		X47	.42	.007
		X49	.44	.005
X10	Negative Attitude Towards Hospitalization	X6	-.33	.038
		X7	.36	.023
		X8	-.63	.001
X11	Number of Previous Psychiatric Hospitalizations	X1	.35	.028
		X4	.34	.032
		X41	.50	.001
X12	Number of Previous Weekend Passes	X20	.36	.024
X13	Positive Rating of Ward Situation	None		
X14	With Parents on Pass	X17	-.40	.011
		X21	-.62	.001

	X23	.43	.005
	X27	-.46	.003
	X43	-.33	.037
X15 <u>With Spouse on Pass</u>	X17	-.35	.028
	X23	-.33	.039
	X24	.48	.002
	X29	.32	.048
X16 <u>With Children on Pass</u>	X25	.31	.048
X17 <u>With Spouse and Children While on Pass</u>	X2	.33	.039
	X14	-.40	.011
	X15	-.35	.028
	X18	-.41	.009
	X21	.40	.010
	X23	-.45	.003
	X24	.55	.001
	X31	-.40	.010
	X34	.32	.044
	X36	-.34	.033
X18 <u>With Friends and/or Siblings While on Pass</u>	X7	.40	.011
	X17	-.41	.009
	X19	.35	.027
	X21	-.42	.007
	X23	.40	.010
	X26	-.40	.010
	X31	.55	.001
	X41	.33	.039
X19 <u>Rating of Anticipated Pass: 0=Positive, 1=Negative</u>	X4	.49	.001
	X8	.37	.020
	X18	.35	.027
	X28	.33	.038
	X40	.35	.026
	X41	.39	.012
	X46	.33	.036
	X48	.36	.024
X20 <u>Expect Encounter with A Noxious Person</u>	X12	.36	.024
	X40	.43	.005
	X41	.45	.004
	X44	.46	.003
X21 <u>Age</u>	X14	-.62	.001
	X17	.40	.010
	X18	-.42	.007
	X23	-.63	.001

	X24	.47	.002
	X31	−.32	.042
	X48	−.32	.045
X22 Sex; 0=Male, 1=Female	X43	.36	.023
X23 Single	X7	.49	.001
	X14	.43	.005
	X15	−.33	.039
	X17	−.45	.003
	X18	.40	.010
	X21	−.63	.001
	X24	−.69	.001
	X31	.50	.001
	X36	−.33	.039
	X48	.36	.024
X24 Married	X7	−.44	.004
	X14	−.46	.003
	X15	.48	.002
	X17	.55	.001
	X18	−.40	.010
	X21	.47	.002
	X23	−.69	.001
	X25	−.40	.011
	X31	−.61	.001
	X35	.32	.046
	X46	.34	.031
	X48	−.39	.013
X25 Divorced	X16	.31	.048
	X24	−.40	.011
X26 Diagnosis – Psychosis	X2	−.38	.017
	X28	−.54	.001
	X29	−.42	.007
	X30	−.32	.016
	X36	−.33	.039
	X37	−.36	.022
	X38	−.35	.025
	X43	.32	.042
X28 Diagnosis – Neurosis	X19	.33	.048
	X27	−.54	.001
	X37	.32	.043
	X41	.32	.043
X29 Diagnosis – Personality Disorder	X15	.32	.048
	X27	−.42	.007
	X36	.34	.034
	X37	.40	.011
	X40	−.35	.028

		X42	.37	.020
X30	Diagnosis - Adjustment Reaction	X27	-.38	.016
X31	Ward Residency; 0=Open, 1=Closed	X7	.73	.001
		X17	-.40	.010
		X18	.55	.001
		X21	-.32	.042
		X23	.50	.001
		X24	-.61	.001
		X50	-.33	.040
X32	Length of Hospitalization Prior to Pass/Weekend (In Days)	X4	.45	.004
		X11	.35	.028
		X45	.32	.046
X33	Medication - Major Tranquilizer	X36	-.62	.001
X34	Medication - Minor Tranquilizer	X17	.32	.044
		X23	-.33	.039
		X36	-.33	.037
		X37	.33	.037
X35	Medication - Anti Depressant	X24	.32	.046
		X32	-.32	.046
X36	Medication - Other or None	X17	-.34	.033
		X27	-.33	.039
		X29	.34	.033
		X33	-.62	.001
		X34	-.33	.039
		X39	-.34	.033
		X43	-.36	.020
X37	Structure of Pass Discussed with Staff; 0=No, 1=Yes	X27	-.36	.022
		X28	.32	.041
		X29	.40	.011
		X42	.33	.038
X38	Plans for Discharge Within Two Weeks Discussed with Resident	X27	-.35	.025
		X39	-.40	.013
		X40	-.37	.018
X39	Observer's Pre Pass Rating - Tension	X40	.69	.001
		X41	.60	.001
		X42	-.70	.001

X43	.33	.036
X44	.73	.001
X45	.31	.055
X46	.31	.055

X40 Observer's Pre pass Rating –
__Depression__

X4	.40	.011
X19	.35	.026
X20	.43	.005
X29	-.35	.028
X38	-.37	.018
X39	.69	.001
X41	.69	.001
X42	-.54	.001
X43	.66	.001
X44	.75	.001
X45	.35	.026

X41 Observer's Pre pass Rating –
__Anger__

X4	.32	.041
X11	.50	.001
X18	.33	.039
X19	.39	.012
X20	.45	.004
X28	.32	.043
X39	.60	.001
X40	.69	.001
X42	-.34	.032
X43	.41	.008
X44	.54	.001

X42 Observer's Pre pass Rating –
__Vigor__

X29	.37	.020
X37	.33	.038
X39	-.70	.001
X40	-.54	.001
X41	-.34	.032
X43	-.51	.001
X44	-.71	.001
X46	-.33	.038

X43 Observer's Pre Pass Rating –
__Fatigue__

X22	.36	.023
X27	.32	.042
X34	-.36	.021
X39	.33	.036
X40	.66	.001
X41	.41	.008
X42	-.51	.001
X44	.41	.008
X46	.32	.041
X49	.43	.006

X44 <u>Observer's Pre Pass Rating -</u>
<u>Confusion</u>

X4	.41	.009
X20	.46	.003
X39	.73	.001
X40	.75	.001
X41	.54	.001
X42	-.71	.001
X43	.41	.008
X46	.30	.058

X45 <u>Subject's Pre Pass Score -</u>
<u>Tension</u>

X4	.38	.014
X7	-.41	.009
X32	.32	.046
X39	.31	.054
X46	.62	.001
X47	.53	.001
X49	.57	.001
X50	.58	.001

X46 <u>Subject's Pre Pass Score -</u>
<u>Depression</u>

X4	.36	.021
X7	-.38	.017
X19	.33	.036
X26	.34	.031
X40	.35	.026
X42	-.33	.038
X43	.32	.041
X45	.62	.001
X47	.58	.001
X48	-.43	.005
X49	.66	.001
X50	.79	.001

X47 <u>Subject's Pre Pass Score -</u>
<u>Anger</u>

X9	.42	.007
X45	.53	.001
X46	.58	.001
X49	.57	.001
X50	.58	.001

X48 <u>Subject's Pre Pass Score -</u>
<u>Vigor</u>

X19	-.36	.024
X21	-.32	.045
X23	.36	.024
X27	-.39	.013
X46	-.43	.005
X49	.44	.005

X49 <u>Subject's Pre Pass Score -</u>
<u>Fatigue</u>

X7	-.36	.022
X9	.44	.005
X33	.38	.015

X43	.43	.006
X45	.57	.001
X46	.66	.001
X47	.57	.001
X48	-.44	.005
X50	.59	.001

X50 <u>Subject's Pre Pass Score</u> –
  <u>Confusion</u>

X7	-.34	.032
X31	-.33	.040
X45	.58	.001
X46	.79	.001
X47	.58	.001
X49	.59	.001

APPENDIX E

TABLE XX

PREDICTOR VARIABLES SIGNIFICANTLY CORRELATED
WITH THE CRITERION

Criterion	Predictor Variables*
Subjects' Post Pass Scores	
Tension	X17, X30 X49, X51, X53
Depression	X17, X21, X48, X49, X52
Anger	X7, X17, X25, X52, X53
Vigor	X9, X19, X24, X54, X56
Fatigue	X20, X28, X31, X49, X55
Confusion	X7, X17, X43, X51, X56
Observers' Post Pass Ratings	
Tension	X7, X21, X46, X53, X56
Depression	X7, X10, X33, X38, X53
Anger	X8, X23, X24, X47, X49
Vigor	X7, X9, X24, X28, X53
Fatigue	X10, X15, X17, X33, X56
Confusion	X23, X24, X32, X49, X50

*as numbered in Appendix D

VITA

Dan Michael Smith

Candidate for the Degree of

Doctor of Philosophy

Thesis: MOOD STATE CHANGES IN PSYCHIATRIC WARD RESIDENTS THAT
ARE CORRELATED WITH A WEEKEND PASS

Major Field: Psychology

Biographical:

Personal Data: Born in Ponca City, Oklahoma, October 29, 1948,
the son of Mr. and Mrs. Roger A. Smith; married to Julia
R. Smith.

Education: Attended Northern Oklahoma Junior College 1966 to
1967; received Bachelor of Science degree in psychology
from Oklahoma State University in 1970; received Master
of Science degree in psychology from Oklahoma State Uni-
versity in 1973; did an internship in Clinical Psychology
under the Department of Psychiatry and Behavioral Sciences,
University of Oklahoma Health Sciences Center from 1974
to 1975; completed requirements for the Doctor of Philo-
sophy degree at Oklahoma State University in July, 1976.

Professional Experience: Practicums at Payne County Guidance
Center, Stillwater, Oklahoma, 1971 to 1972, Bi-State Mental
Health Clinic, Oklahoma State University campus, 1972 to
1973, and Psychological Guidance Center, Oklahoma State
University campus, 1973 to 1974; graduate teaching assis-
tant, Oklahoma State University, School of Psychology, 1971
to 1972; Trainee in Clinical Psychology at the Veterans'
Administration Hospital, Oklahoma City, Oklahoma, 1973
to 1975; Intern in Clinical Psychology at the University of
Oklahoma Health Sciences Center and the Veterans' Adminis-
tration Hospital, Oklahoma City, Oklahoma, from 1974 to 1975.