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Involuntarily and Voluntarily Committed Persons Compared Using Factor and Discriminant Function Analysis

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A comparison of the voluntary and involuntary patients at Dammasch State Hospital, Wilsonville, Oregon. A representative sample of cases over time, were chosen for the year 1976, 72 voluntary and 72 involuntary patients. One-hundred and twelve variables were coded onto sheets for each patient. The variables concerned marital status, job history, history of violent acts, present living situations and relationships, as well as drug history and diagnosis and treatment in the hospital. The data were coded onto cards and a computer analysis was done using Factor and Discriminant Function Analysis. It was hypothesized the populations of persons voluntarily admitted and involuntarily committed would be

different in several ways. (A) The population of involuntarily committed persons would have more anti-social aggression in their histories. This hypothesis was partially supported by the data. The involuntarily committed had a significantly higher incidence of being under a current legal charge at the time of commitment. There was no significant difference between the two populations in the number of previous incarcerations or on 'violence committed within the family'. (B) Persons involuntarily committed would have significantly fewer relationships with persons in the community and fewer ties to persons they support financially or emotionally or that support them emotionally or financially. This hypothesis was partly supported by the data. The two populations were approximately equal on all the variables of relationship and living conditions except 'lives with mate'; for this variable the voluntary patients had a higher score. (C) Involuntarily committed persons would have less successful job histories. None of the items of the job history were significantly different in the two populations. (D) The involuntary population was more likely to have alcoholism as a secondary diagnosis. The voluntary population was more likely to have alcoholism as a primary diagnosis. This hypothesis was not clearly supported by the data. It was found that the voluntary population was more likely to abuse alcohol and the involuntary population was more likely to use alcohol. (E) The involuntary population was more likely to have experienced violence in their homes, while children. There were insufficient data in the hospital records concerning childhood to test this hypothesis.

In the factor which contained the variable 'commitment' there were no elements of a history of dangerousness. The only significant correlation with commitment was 'prescription of phenothiazines in the hospital'; this result may point to the use of drugs as 'chemical restraints'. No other variable which indicated relationships, job history, social status, or dangerousness correlated significantly with commitment. These were the most important findings in the study.

INVOLUNTARILY AND VOLUNTARILY COMMITTED PERSONS COMPARED USING FACTOR AND DISCRIMINANT FUNCTION ANALYSIS

by

Cheryl Marie Morrow

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CHAPTER I

INTRODUCTION

In the last decade many states in the United States have rewritten their laws for the involuntary commitment of persons due to mental illness. Partly because of the changes in the laws, patients are now more likely to spend time in the hospital on a voluntary basis. "Less than 25 years ago the World Health Organization reported that only 13,848 of 138,253 admissions to state mental hospitals in the United States, slightly more than 10%, were voluntary" (Brakel & Rock, 1971, p. 17). Today a majority of persons at Dammasch State Hospital are there voluntarily.

One of the goals of Senate Bill 510, Oregon's commitment law, passed in 1974, is to restrict the involuntary committed population to persons who are both mentally ill and potentially dangerous to themselves or others. Other goals include the protection of the rights of persons who are allegedly mentally ill as well as the rights of persons hospitalized involuntarily. The new law restricts the kinds of treatment which involuntarily committed persons can receive while in the hospital. This study concerns the bases on which decisions for commitment are made and particularly whether examiners are able to differentiate dangerous from non-dangerous persons.

The mental health laws in most states are undergoing change. Louis McGarry in the American Journal of Psychiatry (1973), says

"It matters greatly what the impact of change really is. It is of fundamental importance that the effects of these changes on the quality of people's lives and health be monitored carefully. Empirical follow-up of changes in mental health law is badly needed, and little has appeared in either the psychiatric or the legal literature. It is of great significance that the United States Supreme Court itself, beginning with the landmark school desegregation decision of 1954 ... and most recently in Jackson vs. Indiana ... found such empirical studies to be persuasive in its decision making." (p. 629)

THE PREDICTION OF DANGEROUSNESS

One of the main considerations for commitment in the state of Oregon is the prediction, by the examiners and judge, of dangerous acts by the allegedly mentally ill person. The other consideration of importance is whether the person is mentally ill under the terms of Oregon's Senate Bill 510. Measurement of dangerousness is difficult. The literature revealed one scale which has a fair degree of accuracy in predicting violent behavior toward persons. The 'Legal Dangerousness Scale' (LDS), developed by Joseph Cocozza and Henry Steadman (1974) at the New York State Department of Mental Hygiene in 1973, predicts dangerous activity with 85% accuracy, but this is with high probability of a Type II error. There is an over-prediction factor of 2 to 1. Over-prediction means that if the court were to use this criteria, and on this basis 90 people are judged to be potentially dangerous - only 30 would eventually commit a violent act against a person. In order to have an 85% chance of preventing whatever violence the 30 may commit,

the hypothetical court must commit 60 persons who would not have committed an offence. Cocozza and Steadman found that with their population of 98 patients released to the community, 20 were rearrested. Eighty-five percent of them (17 of 20) were under the age of 50 and had a serious history of criminal activity. Cocozza and Steadman developed a dangerousness scale with a range of 1-15 and found a score of 5 or more on the scale and an age of less than 50 predicted the most persons who were later rearrested or rehospitalized because of violent behavior toward persons. The Legal Dangerousness Scale needs much more testing for validity. Part of the LDS has been incorporated into this study as well as other indicators of possible dangerousness. The literature also contains the results of research on other possible predictors which do not work well, such as psychiatric diagnosis, except paranoia (Hafner, 1973; Tupin, 1973) or the number of X and Y chromosomes an individual possesses (Fox, 1971).

The three factors which correlate positively with later violence are: (1) previous violence toward persons (Cocozza & Steadman, 1974), (2) experience of violence in the home while a child (Adams, 1974; Button, 1973), and (3) alcoholism (Bach-y-Rita & Lion, 1971; Nicol, 1973). Previous violence toward persons is fairly easily checked in the records of hospitalization. The variable of violence while a child is more difficult to uncover because hospital records do not always cover childhood and it is more difficult to find persons who can verify violence while a child. The variable of alcoholism is important but in investigating dangerousness among persons who are involuntarily committed very few are found to be alcoholics. Eighty-five percent of the alcoholics in Dammasch State Hospital are there voluntarily

according to its Director, Dr. Russell Guiss (1977, personal communication).

CLINICAL JUDGMENTS

After reviewing the literature on prediction of dangerousness, the next phase of the study was analysis of the actual process of making a judgment of this kind. Involuntary commitment has extreme consequences for the person committed. When a person is involuntarily committed, that person does not necessarily have to reside in a hospital against his/her will but the state does have the right to tell the person where they will reside, under what circumstances, and whether they will be involved in some kind of treatment. The process of making decisions about commitment is presumably similar to the way other clinical judgments are made. With this in mind the author reviewed some of the literature on clinical judgments and impression formation.

Much of the following information is from Lewis R. Goldberg's, "Simple models or simple processes? Some research on Clinical Judgments." (1968). In this article Goldberg traces the history of research on clinical judgments. There are several ways in which judgments about committing a person could be made. Using Goldberg's article as a model, the clinicians could be using key factors, single elements such as having committed a criminal offense against a person in the past, as reasons for commitment. Their judgments could result from an additive process in which 'verbal abuse' plus 'impulsivity' plus an 'increasing disorganization in the patient's overall psychological processes', etc. could lead to a decision for commitment. Another

possible criterion for making these kinds of judgments is averaging (Anderson, 1968). The clinician could somehow be weighing different factors, adding them together and then using the average as a way of arriving at a decision either to commit or not to commit an individual.

The literature on judgments suggests that clinicians' judgments about the accuracy of their predictions increases with the amount of information they are given, that is, their confidence in their judgments increases, not necessarily their actual accuracy of judgment (Goldberg, 1968) This finding is relevant to the commitment process because, with changes in the law, the amount of information as well as the kinds of information which clinicians are allowed during the court hearing is decreasing, along with their confidence in their judgments (personal experience). If the research results cited in Goldberg's article are appropriate in this situation, it is possible that the clinicians' actual accuracy of judgment is not decreasing as much as their confidence is decreasing. Another generalization in the literature on clinical judgments is that the clinical judgments are not necessarily better than predictions based on statistical methods (Goldberg, 1968).

REVIEW OF LITERATURE

The author did not find in her previous reviews of the literature or in a recent computer search of Psychological Abstracts and Comprehensive Dissertation Abstracts for the period of 1966-76, any studies precisely like the present one. In one study of retardates in two institutions, factor analysis was used to determine the factors

which seemed to account for variability among the retardates. Shellhaas and Nihira (1970) found that three factors clustered for the retardates admitted to the two institutions: anti-social aggression, arrest and court records, and cultural deprivation.

Alcohol abuse among violent persons has been demonstrated in studies such as the one by George Bach-y-Rita (1971). In his study of 130 persons who were violent he found that the families of the men showed two significant factors: a high incidence of violence and of alcoholism. Alcoholism in this case may be acting as a disinhibitor and the violence may be a consequence of this disinhibition and have no other connection with the fact that the person is an alcoholic. Finally, A. R. Nicol (1973) reports in his study that the violent persons were differentiated from the non-violent by lower age, lower IQ, and alcoholism.

There were a few studies in the sociology literature which pertain to this study. William Rushing (1971) studied the societal reaction and subsequent voluntary or involuntary commitment of persons to mental hospitals, using the two contingencies of individual resources and community integration-visibility. He found that the person's social and economic resources were negatively correlated with commitment and the degree of community integration-visibility was positively correlated with hospitalization. Rushing did not look at the factor of pathological behavior. This author's study tested the variables of deviant behavior as well as the person's relatedness to the community.

Haney and Miller (1970) studied the definitions of mental illness used by courts to make determinations of mental illness in competency hearings. They found that decisions of competency were not correlated

with the behavior pathology of the individuals. The only significant differences between the persons judged competent and those judged incompetent were that the latter had more physiological complaints. The degree of threatening behavior and aggressive behavior did not increase the person's chance of being declared incompetent.

In summary, there were studies in the literature which were concerned with subjects similar but not identical with this thesis project. Studies of the factors which differentiate the involuntary and voluntary persons are important at this time because so many of the laws have been changed in recent years (Brakel & Rock, 1971). It is important to learn to what extent the laws are successful in screening for mental illness and dangerousness.

HYPOTHESES

It was hypothesized that the population of persons voluntarily admitted to the hospital and involuntarily committed to the hospital are different in several ways: (1) The population of involuntarily committed persons have more anti-social aggression in their histories than those who entered the hospital voluntarily. This hypothesis is derived from the work of Cocozza and Steadman (1974) and others who have found evidence of aggression in the backgrounds of those who are involuntarily committed. Also this hypothesis is included because one of the criteria for commitment is dangerousness and one way of checking for potential dangerousness is to look at the person's background of anti-social or aggressive acts. (2) Persons involuntarily committed have significantly fewer relationships with persons in the community than those who enter the hospital voluntarily. Involuntary patients

have fewer ties to persons that they support emotionally or financially than voluntary patients. This hypothesis is included to test the results of Rushing (1971). He found that the person's social and economic resources were negatively correlated with commitment and that the degree of community integration-visibility was positively correlated with commitment. Rushing found that persons with more economic resources were more likely to be committed. This finding led the researcher to check his results by using job history variables in this study. This researcher predicted different results from Rushing on these variables in hypothesis 3. (3) Involuntarily committed persons will have less successful job histories than those who enter the hospital voluntarily. (4) The involuntarily committed are more likely to have alcoholism as a secondary diagnosis. Voluntary patients are more likely to have alcoholism as a primary diagnosis. This hypothesis is based on the work of Bach-y-Rita (1971) and Nicol (1973). (5) The involuntarily committed are more likely to have experienced violence at home while they were children than those who entered the hospital voluntarily. This hypothesis was derived from the work of Adams (1974) and Button (1973) who found that violence experienced as a child correlated with violence acted out as an adult.

On the basis of previous study and other experience the researcher predicted certain associations among the variables for the population being studied. These expectations have been stated as hypotheses.

CHAPTER II

METHOD

Overview and Introduction

The present study, in part, replicates the work of Cocozza and Steadman (1974) and will provide additional information which may lead to a tool for statistical prediction of dangerous behavior. Some of the variables which are most significant in differentiating persons who are involuntarily committed from those who are not can be combined later to try to discover the particular basis on which these judgments are being made. In any event these data will describe some of the characteristics of persons who are in the hospital voluntarily or involuntarily.

In this study a sample of case studies (144) were drawn from the files at Dammasch State Hospital, Wilsonville, Oregon, for 1976. Using these cases information was coded for each individual onto coding sheets so that variables such as sex, race, job history, relationships, history of violence and other variables were described. The researcher then analyzed and compared the information about persons who were voluntarily in the hospital with the information about persons who were involuntarily committed. These analyses and comparisons provide information on what the characteristics of these two populations are. Secondly, an interpretation of the results may give information on how well the current law is screening persons who are committed. In this study, characteristics which may indicate a potential for violence towards

other persons were stressed, rather than characteristics which may indicate a potential for self abuse ; incidents of self abuse were recorded but not suicidal threats.

When doing research concerning records kept by any part of the State Mental Health Division of Oregon the first step is to obtain permission from the Administrator of the State Mental Health Division, J. D. Bray, M.D. The researcher met with Mr. Fred E. Letz, Assistant Administrator, for Region I, and explained the project. Mr. Letz wrote to the Administrator, Dr. Bray, who granted permission for the project. The researcher also met with the Superintendent of Dammasch State Hospital, Dr. Russell Guiss. Dr. Guiss granted permission to examine the records and introduced the researcher to the Medical Librarian, Ms. Dorothy Johnson, and explained that she had permission to examine the records. Another investigator attempting to collect data to verify this study might encounter more difficulty if he/she was not known in the professional community or to the staff of the hospital concerned.

Subjects

The researcher collected case histories of persons who were hospitalized voluntarily and involuntarily at Dammasch State Hospital. Dammasch admits patients who reside in Clackamas, Multnomah, Washington, and several coastal counties; therefore patients come from a variety of geographical and social backgrounds. The greatest proportion of admissions (67%) comes from Multnomah County, which includes the state's only major metropolitan area. See Table I below for a more complete breakdown of admissions per county.

TABLE I

PERCENTAGE OF ADMISSIONS TO DAMMASCH
FROM ADMITTING COUNTIES
1976

Multnomah	67%
Clackamas	15%
Washington	8%
Tillamook, Clatsop Columbia, and others	10%

The researcher drew case histories from patients admitted in the calendar year 1976. The subjects were 6 admissions from each month for the two categories, voluntary admissions and involuntary commitments. From admissions for each month the researcher drew one admission for each category (voluntary and involuntary) of admissions for the 2nd, 7th, 12th, 17th, 22nd, and 27th of the month. The researcher did not include in the sample the records for persons who were in the hospital less than one week. When there was not at least one involuntarily and one voluntarily admitted patient both found on the assigned day, the author went to the next successive day to search for a day which contained admissions for both categories of patients. Spreading out the chosen subjects over each month offset biasing due to admission at any particular time of the month and the 6 admissions from each category for each month of the year served as a sampling device to rule out seasonal effects on admissions. The final study comprised 144 subjects: six voluntary and six involuntary admissions for each month of the calendar year, 1976. Each subject was guaranteed anonymity by the assignment of a number individually for

each subject and these numbers only were used on the code sheets. A separate list of the numbers and the names was kept in case data needed to be examined at a later time. Also the researcher kept a record of which days subjects were drawn from for each month. Neither commitments under criminal statutes nor under retardation statutes were used in this study.

By taking admissions from Dammasch State Hospital the researcher ruled out some subjects who can afford private hospitalization and also some patients who, when committed, are referred to Oregon's maximum security ward at Oregon State Hospital in Salem. By not considering the patients who were considered most dangerous and were placed at Oregon State Hospital this study does not cover those few for whom there is the least doubt about dangerousness. The subjects in this study are those for whom involuntary commitment on the basis of dangerousness is a more questionable decision. Others not considered in this study are those hospitalized privately. Those persons hospitalized privately either have private insurance to cover hospital costs or are eligible for Welfare coverage of hospital expense. In addition, those persons who are hospitalized in the community are usually persons who need only a short term of treatment and could on that basis be considered less dangerous.

When it was necessary to go to the next day in choosing subjects for the study,it was because there was not an involuntary admission on that day. Only twice did the researcher have to go to the next day because there was not a voluntary admission on that day. Only the records of persons in the hospital less than one week were

incomplete enough to be discarded from this study.

Instruments

Appendix A is a sample of the coding form used for each subject. The researcher used a frequency count approach in coding the data, all of the variables are coded 'yes' or 'no'. Under each category the various possibilities are broken down. For instance, under relationships the different possible relationships are: never married, married 1st time, divorced, married second time, etc. All of the possibilities of relationships are listed separately and coded 'yes' or 'no'.

Procedure

A representative sample over time was chosen by finding 6 admissions in each group for each month of 1976, with each 6 admissions spread out over each month. The individuals were assigned numbers to insure confidentiality and coded on sheets, like those in Appendix A. The reliability of the author's coding was tested by having three other persons (undergraduate psychology students) independently code a sample of the cases at the beginning, middle, and end of the coding time period. Reliability was checked by matching categories instead of individual 'yes' or 'no' sub-categories, for a better check on reliability. For instance, reliability was checked for the same sub-category choice under 'living conditions'. The reliability for the first check involved 4 subjects (every 3rd subject) from the beginning of the study. The first reliability score was 91% agreement of sub-choices under the various categories. Reliability on three subjects similarly chosen from the middle of the study was 87%, and reliability

for the end of the study for three subjects was 90%. Overall reliability averaged 90.3%. The second and third reliabilities involved only 3 subjects due to time limitations on the part of the scorers.

Statistical Analysis

Factor analysis was performed on all the coded variables listed in Appendix A and for all subjects. The results of factor analysis and of item intercorrelations were examined to identify items that seemed to define each of the factors produced by the analysis. Item intercorrelations of approximately .30 and factor loadings of approximately .30 were required to define membership for an item on a factor.

The most important factors from the factor analysis and the results of the item analysis were used to select individual variables for use as predictors in the discriminant function analysis. The discriminant function analysis was run on all subjects using 51 variables (see Table II, page 22).

"A discriminant function is similar to a regression equation; just as the regression equation predicts a point along some continuum of criterion measurement, the discriminant function also predicts some point. However, this analysis provides a critical value along this continuum which determines the group into which an individual is assigned" (Weiner, Ottinger & Tilton, 1969, p. 224).

For this study a step-wise linear discriminant function analysis was computed to examine differences between the voluntary and involuntary groups. The predictor variables used to differentiate the voluntary from the involuntary group were the measurements for each

subject on the 51 variables from the factor analysis. The analysis provided a discriminant function for each group based on a weighing system which maximized the variance between groups while minimizing the variance within groups. It was assumed that the prior probabilities of each population were equal. Each subject was then assigned to that group whose mean discriminant function was closer to the discriminant function score of the subject. The differences between the mean vectors for the groups in the analysis was examined using the U statistic. The U statistic was then transformed into an F statistic with p and n-p-1 degrees of freedom where p equals the number of predictors and n equals the total number of subjects. The step-wise discriminant function analysis also indicated the order of selection of the variables in discriminating between the groups. For instance, the second variable selected was the one which contributed the most to the prediction system already containing the best single predictor. An F test with 1-g-p degrees of freedom was used at each step to determine whether each of the remaining predictors contributed significantly to accounting for the remaining variance (g equals the number of groups) (Anderson, Schlottmann, & Weiner, 1975).

CHAPTER III

RESULTS

General Descriptions of the Two Groups

The voluntary patient could be described as an individual who is heterosexual, lives with a mate and abuses alcohol. The involuntary patient could be described as less likely than the voluntary patient to live with a mate. The involuntary patient is more likely to be living alone or with relatives. The involuntary patient uses, does not abuse alcohol, carries a schizophrenic diagnosis and is apt to be prescribed phenothiazines in the hospital. The involuntary patient is more likely than the voluntary patient to have committed a criminal offense at the time of hospitalization; the offense is usually of a minor nature. A small but significant percentage of the involuntary patients are homosexual or epileptic (see Table III, p. 25).

It is interesting that the two groups did not differ in any significant way on their job histories or in the manner they were employed at the time of hospitalization. There were no significant differences between the two groups on the variables of sex or age. The groups were also similar in the number of children they had. The involuntary patient was more likely to have their children living away from home. There were no significant differences in the two populations in the kinds or number of organic complaints they had in the hospital. The two groups did not differ significantly on the percentage who were supported by relatives.

The drug histories for heroin, amphetimines, hallucinogenics, and barbituates were not significantly different between the two groups. A similar percentage of voluntary and involuntary patients had military records and were self supporting at the time of hospitalization.

Factor Analysis - Item Intercorrelations

The first result of the factor analysis to be discussed will be some correlations from the Item Correlation Matrix. Intercorrelations which are redundant (for example, 'married' negatively correlated with 'divorced') will not be listed nor will trivial correlations such as 'living alone' negatively correlated with 'living in commune'. In order for a correlation to be significant (two tailed test, $\alpha = .05$, df= 142) it needed to exceed $\pm$ .195, $\alpha = .001$ the observed correlation needed to exceed $\pm$ .321. For this discussion a correlation of .30 was practically large enouch to be of interest. Since it is unlikely that correlations would be this large by chance alone, it seems appropriate to limit discussion to these substantial correlations. Subheadings by category will be used where appropriate.

1. 'Commitment' correlated with 'prescription of phenothiazines in the hospital' (.35). This was the only correlation with commitment which exceeded .30.
2. 'Age' correlated with 'never married' (-.39) and also with 'living in a commune' (-.44) and 'living with a mate' (-.32). Age was correlated with 'Organic Brain Syndrome or Korsikoff's Syndrome' (.31).

Living Conditions

1. 'Lives with children' was correlated with 'divorced' (.32)

and'cares for children' (.62).

2. 'Lives with mate' correlated with 'children with parent' (.30).

Relationships

1. 'Never married' correlated with 'use of hallucinogenics' (.33) and with 'children with parent' (-.56).
2. 'In 1st or 2nd marriage' correlated with 'children with parent' (.42).
3. 'Widowed' correlated with 'death of a close relative within the last six months' (.40).
4. 'Divorced' correlated with 'children with parent' (.42).

Job History

The items on this scale were highly correlated with each other but not with items on other scales. They will not be listed individually except to say that their range of intercorrelation was .36 to .65. They formed a factor. One exception to the above is that 'sporadic history in white collar jobs' correlated with 'drug addict' (.30).

Current Activity

1. 'Goes to school' correlated with 'veteran or on DVR for vocational training' (.66).
2. 'Holds a part time job' correlated with 'supports self' (.37).
3. "Holds a full time job' was correlated with 'alcoholic' (.38).
4. 'Cares for children in the home' correlated with 'female' (sex -.35) and 'inadequate personality' (.41).
5. 'In day treatment' or 'working at a voluntary job' correlated

with 'lithium prescribed in hospital' (.41).

Current Financial Situation

'Supports self' correlated with 'on disability, supplemental security income, or welfare' (-.52). 'Supports self' correlated with 'holds a part time job' (.37).

Drug History

1. 'Alcoholic as diagnosis' correlated with 'prescription of phenothiazines in hospital' (-.38) and with 'schizophrenic diagnosis' (-.33). 'Alcoholic as diagnosis' was correlated with 'valium detoxification' (.48).
2. 'Marijuana use' correlated with 'use of hallucinogenics' (.53) and with 'use of cocaine' (.30).
3. 'Use of hallucinogenics' correlated with 'use of cocaine' (.31).
4. 'Heroin use' correlated with 'amphetemine use' (.46) and with 'drug addict as diagnosis' (.39).
5. 'Barbituates' was correlated with 'drug addict as diagnosis' (.51).
6. 'Diagnosis as a drug addict' correlated with 'Black' (.31).
7. 'Taking prescription drugs previous to being hospitalized' correlated with 'alcohol addiction' (-.33).

Drugs Prescribed in Hospital

1. 'No drugs in hospital' correlated with 'country residence' (.31).
2. 'Prescription of phenothiazaines' correlated with 'depressive neurosis' (-.32) and with 'alcoholism' (-.41). This item was correlated with 'schizophrenia' (.58) and with

'commitment' (.35).

3. 'Prescription of anti-depressants' correlated with 'depressive neurosis' (.39) and with'depression' (.31).
4. 'Dilantin prescribed' correlated with 'brain damage diagnosed' (.36) and with 'other category' under diagnosis (.31).

Legal Dangerousness Scale

The items on this scale were highly correlated (range of .78 to .89) with each other but not correlated with any other item on any other scale. This is significant because Cocozza and Steadman maintain that these items are the best predictors of violence against persons. It is especially important to note that none of these items had significant correlations with items of having committed violent acts against persons inside or outside the family.

Violence - Experienced or Committed

'Violence committed outside the family' correlated with 'sexual abuse' (.30).

Again it is important to note the lack of correlations of .30 or better of this scale with commitment and other variables.

Sexual Orientation

No correlations of .30 or better.

Race

No correlations of .30 or better except as noted previously the correlation of 'diagnosis as a drug addict' with 'Black'.

Brain Damage

'Brain damage diagnosed' correlated with 'Organic Brain Syndrome and Korsikoff's' (.31) and with 'prescription of dilantin' as

noted previously.

Diagnosis

Some correlations with diagnosis have been noted above. Additionally, 'schizophrenia' correlated with 'depressive neurosis' (-.32) and 'other diagnosis' correlated with 'epilepsy' (.31).

Children

'Having had children' correlated with 'children grown' (.38).

Organic Complaints

No correlations of .30 or better.

For a more detailed breakdown of item intercorrelations see Appendix D.

Factor Analysis - Factors

The factor analysis was computed for all 144 subjects using 112 variables. The mean age of the total population was 36 years and the population was approximately equally divided sexually. The first factor analysis was run using the results of the scale 'violence while a child'. Only approximately 1/3 of the records were coded on this category so another factor analysis was run without this category. There were 10 interpretable factors (51 variables) which were used in the discriminant function analysis. Before rotation the 10 factors accounted for approximately 36.2% of the variance. All of the variances listed below are also before rotation. It is interesting that the Legal Dangerousness Scale was the second most prominent factor. Another interesting finding which relates to the issue of dangerousness is that 'not having taken drugs' correlated with 'not having committed a violent act against a person in the family'.

TABLE II

VARIABLES INCLUDED IN FACTORS
WITH .30 OR HIGHER LOADINGS

Factor 1 - Parental Adequacy, accounted for 5.3% of variance.

Cares for children in the home	-.78
Inadequate personality	-.72
Children with parent	-.44

Factor 2 - Legal Dangerousness Scale, accounted for 5.1% of the variance.

Juvenile Record	.86
0 or 1 incarcerations	.79
2 or more previous incarcerations	.86
Violent crime conviction	.89
Current Offense	.81

Factor 3 - Job History, accounted for 4.4% of the variance.

Never worked	.48
Worked part time	.64
Consistent history in manual jobs	.50
Sporadic history in white collar jobs	.73
Consistent history in white collar jobs	.59
Sporadic history in professional jobs	.87
Consistent history in professional jobs	.75

Military experience	.52
Retired	.81

Factor 4 - Schizophrenia - Committed, accounted for 3.9% of the variance.

Committed	.37
Self-supporting	-.33
Uses Alcohol	.36
Alcoholic	-.83
On prescription drugs outside the hospital	.36
Phenothiazines prescribed in the hospital	.56
Valium detoxification in the hospital	.56
Sex (0=female, 1=male)	-.30
Schizophrenic	.46
Alcohol addict	-.85

Factor 5 - Epileptic or Disabled, accounted for 3.4% of the variance.

Never worked	.31
Physical disability	.32
Epilepsy	.80

Factor 6 - Geographical Origin, accounted for 3.2% of the variance.

City	.86
Suburb	-.80
Multnomah County	.84

Clackamas County	-.70
Washington County	-.33

Factor 7 - Non-drug addict, accounted for 3.0% of the variance.

Heroin Abuse	-.30
Barbituate Abuse	-.74
Drug Addict as diagnosis	-.83
Committed violent act against family member	-.30
Black	-.43
Drug Addict	-.73

Factor 8 - Living Condition - Married, accounted for 2.9% of the variance.

Lives alone	-.36
Lives with mate	.83
In 1st or 2nd marriage	.86
Divorced	-.38
Relatives support	.34
Children with parent	.39

Factor 9 - Alcohol , accounted for 2.6% of the variance.

Abuses alcohol	.42
Other meds in Hospital	.78

Factor 10 -Sexuality, accounted for 2.4% of the variance.

Heterosexual	.81
Homosexual	-.89
Suicidal	-.31

Stepwise Discriminant Analysis

The first results of interest (Table III) are the variables with significant differences between their means and standard deviations in the groups, voluntary and involuntary patients (df=1, 142).

TABLE III

SIGNIFICANT MEANS AND STANDARD DEVIATIONS AND F VALUES FROM THE DISCRIMINANT FUNCTION ANALYSIS

Variable	Voluntary		Involuntary		F Values
	Mean	Standard Deviation	Mean	Standard Deviation	
* Lives with mate@	.31	.49	.17	.38	3.62
* Uses alcohol	.14	.35	.26	.44	3.53
** Abuses alcohol@ (alcoholic)	.35	.48	.17	.38	6.33
*** Phenothiazines in hospital	.38	.49	.71	.46	17.89
** LDS-Current Offense@	.22	.56	.42	.62	3.87
*** Heterosexual	.98	.12	.83	.38	10.86
*** Homosexual	.00	.00	.11	.32	8.88
*** Schizophrenic Diagnosis	.26	.44	.50	.50	8.81
** Alcohol Addict@	.36	.48	.18	.39	6.11
** Drug Addict@	.11	.32	.01	.12	5.97
** Washington County Resident	.09	.30	.01	.12	4.86
** Epilepsy	.00	.00	.07	.26	5.30

* significant at .10 level ** significant at .05 level
*** significant at .01 level @ differences in predicted direction; one tailed test, all others 2 tailed tests.

Again it is important to note the variables whose means were not significantly different in the two groups. Those variables whose means were not significantly different are listed in Appendix C. The two groups, voluntary admissions and involuntary commitments, did not differ significantly on the variables '2 or more incarcerations' or 'violent crime conviction' from the Legal Dangerousness Scale. The groups also did not differ on many of the scales of job history and relationships. Both groups had surprisingly few members who had either had children and/or retained custody of their children.

The following table describes the cumulative effects of using the five most significant variables as predictors of each member of the population belonging to the group of voluntary or involuntary patients. For classification according to sampling criteria read down. For classification according to the criteria of analysis read accross.

TABLE IV

PREDICTION OF GROUP MEMBERSHIP
USING FIVE VARIABLES

Step Number 1 - Variable entered 'Phenothiazines in hospital'
F (1, 142) = 17.89 ($p < .01$) Number of cases classified into group-

	Voluntary	Involuntary	
Voluntary	45	27	misses 48
			hits 96
Involuntary	21	51	

Step Number 2 - Variable added 'Homosexual'
F (2, 141) = 16.01 ($p < .01$) Number of cases classified into group-

	Voluntary	Involuntary	
Voluntary	45	27	misses 43
			hits 101
Involuntary	16	56	

Step Number 3 - Variable added 'Current Offense'
F (3, 140) = 12.65 ($p < .01$) Number of cases classified into group-

	Voluntary	Involuntary	
Voluntary	42	30	misses 45
			hits 99
Involuntary	15	57	

Step Number 4 - Variable added ' Valium detoxification'
F (4,139) = 10.44 ($p < .01$) Number of cases classified into group-

	Voluntary	Involuntary	
Voluntary	43	29	misses 46
			hits 98
Involuntary	17	55	

Step Number 5 - Variable added 'Suicidal actions'
F (5.138) = 9.08 ($p < .01$) Number of cases classified into group-

	Voluntary	Involuntary	
Voluntary	49	23	misses 43
			hits 101
Involuntary	20	52	

It is obvious that the prediction doesn't get appreciably better when more variables are entered in the five steps described above. The variable which is the best predictor is not a predictor at all, it is a consequence of admission, it is the medication received after a person is in a hospital.

Before turning to an interpretation of these results the reader should again note an important reservation. The ten factors presented in Table II account for less than 37% of the variance in the original matrix. While reading the next chapter, one should keep in mind that almost 63% of the original variance remained unaccounted for in the analysis. Table II shows the amount of variance accounted for by each factor and also the variables making up each factor.

CHAPTER IV

DISCUSSION

Interpretation of Data

Interpretation of the data will be begun by looking at the hypotheses the researcher had and what the data say to confirm or deny the hypotheses.

A. The researcher hypothesized that the population of involuntarily committed persons would have more anti-social aggression in their histories than those who entered the hospital voluntarily. This hypothesis was partially confirmed by the data. The data show some differences in the histories of the two groups which would indicate a difference in anti-social aggression but not to the extent the researcher expected. Specifically, there was a significant difference in the two populations on the variable 'current offense'. From this it can be inferred that the involuntary population, which had the higher incidence on this variable has shown some degree of anti-social action but since the two populations did not differ significantly on the variables '2 or more incarcerations' or 'violence committed within the family' the amount of difference is meager. Furthermore, commitment did not correlate as a factor with violence within or without the family, with experience of sexual abuse or the other category of violence while an adult. The only significant finding in this area was that 'violence committed outside the family' correlated with 'sexual abuse' (.31).

B. The researcher hypothesized that persons who are committed involuntarily have significantly fewer relationships with persons in the community than those who enter the hospital voluntarily. Involuntary patients have fewer ties to persons that they support emotionally or financially or that support them emotionally or financially than voluntary patients. This hypothesis was not supported by the data. In the Item Correlation Matrix 'commitment' did not correlate significantly with any variable which indicated relationships. In the discriminant function analysis 'lives alone', 'in the 1st or 2nd marriage', and 'divorced' did not differ significantly in the two populations. Also the variable, 'relatives support' was not significantly different in the two populations. The only relationship indicator which differed in the two populations was the variable 'lives with mate'. This variable had a mean of .31 in the voluntary population and .17 in the involuntary population (significant at .005). This finding, although interesting, is not in itself enough data to consider it support for this hypothesis. Another finding which tends not to support the hypothesis is that the number of persons who had grown children and had their children with them were substantially the same in the two populations.

C. The third hypothesis is that involuntarily committed persons will have less successful job histories than those who enter the hospital voluntarily. This hypothesis had little support from the data. The job history information was one of the factors which emerged from the factor analysis (accounting for approximately 4.4% of the variance) so that virtually all items on the job history

category became items of the discriminant function analysis. However, none of the items of the job history was significantly different, when looking at the means on these items, in the two populations.

D. The next hypothesis goes on to say that the involuntary population is more likely than the voluntary population to have alcoholism as a secondary diagnosis. Voluntary patients are more likely to have alcoholism as a primary diagnosis. The data analysis did not discriminate 'alcoholism as a primary diagnosis' well from 'alcoholism as a secondary diagnosis'. However, 'Valium detoxification', a category that covers both alcoholics and drug addicts in the hospital, had a significantly greater mean in the voluntary than the involuntary population. Also, the data say that the involuntary population has more persons who use alcohol versus those who abuse alcohol. The voluntary population is more likely to abuse alcohol whether or not it is to the extent of being diagnosed as an alcoholic. It can be inferred from the above that the data tend to support this hypothesis.

E. The last hypothesis is that the involuntary population is more likely to contain persons who have experienced violence while a child than is the voluntary population. This hypothesis remains untested by this study because most of the persons in the sample had too little data on their childhood in their hospital records for this part of the questionnaire to be included in the statistical analysis. One significant finding which may be related is that persons who had 'experienced sexual abuse as an adult' correlated with persons who 'committed violence outside the family'.

A negative correlation turned out to be that 'not having taken drugs' correlated with 'not having committed acts of violence against a person in the family'.

Factor 4, in the factor analysis is the closest to a commitment factor. No element of a history of dangerousness loaded significantly enough on this factor to be an element of factor definition. The only significant correlation with commitment was 'prescription of phenothiazines in the hospital'. No other variable which indicated relationships, job history, social status, or dangerousness loaded substantially on this factor. On most of these indices the persons in the hospital involuntarily turned out to be very like the persons in the hospital voluntarily. The Legal Dangerousness Scale, by itself, would not be a good discriminator between persons in these two groups at Dammasch State Hospital. Cocozza and Steadman developed the items on the Legal Dangerousness Scale using a population of person who had committed more criminal offenses in New York. It seems possible that the items on the Legal Dangerousness Scale would not be good discriminators for the majority of the involuntary committed population in the United States.

The voluntary and involuntary patient populations were also similar on the means of the variables 'supports self' and 'relatives support'. There was a non-significant difference between the two populations with a trend in the opposite direction than the researcher would have predicted. The voluntary population was slightly more likely to be self supporting and was also more likely to be supported by relatives. These tendencies did not reach significance.

In looking at the data geographically there was only one

significant difference between the proportion of persons in the hospital voluntarily versus those in the hospital involuntarily. Washington County had a significantly higher percentage of persons in the hospital voluntarily. Multnomah and Clackamas counties were exactly alike in the mean scores for involuntary and voluntary patients. One reason the mean for Clackamas County may be misleading is that all of the persons who come up for commitment the 2nd time while still in the hospital are counted as Clackamas County residents because Dammasch State Hospital is in Clackamas County. Therefore, Clackamas County might have more voluntary patients proportionately than the data show. In Multnomah County there are several community hospitals in which there are private psychiatric wards as well as the Medical School of the University of Oregon and the Veteran's Hospital which also have psychiatric facilities. The number of community psychiatric wards in Multnomah County may in some way influence the proportion of voluntary and involuntary patients who are admitted to Dammasch but that influence is not discriminable by the data.

There were no persons in the hospital voluntarily with epilepsy whereas the mean score for persons in the hospital involuntarily with epilepsy was .07 (significant at .05 level). A surprising finding for the researcher was the lack of correlation of miscellaneous complaints (organic) with any other variable. Also, persons who had physical disabilities were no more likely to be in the hospital involuntarily than voluntarily.

The evidence from this study is that the persons in Dammasch State Hospital, which serves a wide region of Oregon, are very little

different when the involuntary patients are compared with the voluntary patients.

Ideas for Future Work

In future work, it would be important and interesting to find out more information in order to interpret the sameness in these two populations. Are the populations similar because the persons who screen admissions for Dammasch are as strict in admissions of persons voluntarily as the mental health examiners are when reviewing persons for possible commitment? Are these two groups of examiners in fact using the same criteria for hospitalization and commitment? An alternative interpretation of the data might be that because the two populations are so similar the examiners aren't being strenuous enough in the review process for commitment, or maybe the law simply is not in practice screening well for dangerousness for some other reason. It seems curious to the researcher that the two populations are so similar on the indices which might predict dangerousness.

More work in other areas of the country needs to be done to compare involuntary and voluntary patients. The results of this study show some differences from the results of studies done earlier. The results of this study do not agree with William Rushings' findings (1971) that the person's social and economic resources were negatively correlated with commitment and the degree of community integration-visibility was positively correlated with hospitalization. Nor do the results of this study agree with the results of Haney and Miller (1970) that the only significant differences between persons judged competent and those judged incompetent were that the latter had more

physiological complaints. The results of this study do confirm the same authors' findings that the degree of threatening behavior and aggressive behavior did not increase the person's chance of being declared incompetent (Haney & Miller, 1970).

Questions Raised

The results of this study raise questions whether the commitment law in Oregon as it stands now and is being interpreted now is serving its purpose of screening for commitment those persons most dangerous to themselves or others. For instance, the researcher found that significantly more persons hospitalized voluntarily had acted out suicidal actions than had persons who were hospitalized involuntarily. An alternative explanation, to the ineffectiveness of the law, would be the explanation that those involuntarily committed were prevented from acting out suicidal intentions.

Speculation

This researcher is willing to speculate that in fact the mental health examiners are using much the same criteria for involuntary commitment as the admitting physicians are using for admission to state mental hospitals as a voluntary patient. Another person might interpret the data to mean that the examiners are doing a good job because they are placing people in the hospital under commitment who might come into the hospital voluntarily if their judgment was unimpaired. This researcher believes that before some representative of the state should deprive a person of volition, there should be more evidence of potential dangerousness.

A SELECTED BIBLIOGRAPHY

Adams, K. A. The child who murders: a review of theory and research. Criminal Justice and Behavior, March 1974, pp. 51-61.

Anderson, N. H. Theories of cognitive consistency: a sourcebook. Chicago. McNally, 1968.

Anderson, V. H., Schlottmann, R. S. & Weiner, B. J. Predictors of parent involvement with institutionalized retarded children. American Journal of Mental Deficiency, June 1975, pp. 705-710.

Bach-y-Rita, G. Habitual violence and self-mutilation. American Journal of Psychiatry, September 1974, pp. 1018-1020.

Bach-y-Rita, G. Habitual violence: a profile of 62 men. American Journal of Psychiatry, September 1974, pp. 1015-1017.

Bach-y-Rita, G. & Lion, J. R. Episodic dyscontrol: a study of 130 violent patients. American Journal of Psychiatry, May 1971, pp. 1473-1478.

Button, A. Some antecedents of felonious and delinquent behavior. Journal of Clinical Psychology. Fall 1973, pp. 35-37.

Brakel, S. J. & Rock, R. S. The mentally disabled and the law. (Rev. ed.) Chicago. University of Chicago Press, 1971.

Cocozza, M. A. & Steadman H. J. Some refinements in the measurement and prediction of dangerous behavior. American Journal of Psychiatry, September 1974, pp. 1012-1014.

Fox, R. G. The XYY offender: a modern myth. Journal of Criminal Law, Criminology and Police Science, March 1971, pp. 59-73.

Fromm, E. The anatomy of human dangerousness. (1st ed.) New York. Holt, Rinehart and Winston, 1973.

Goldberg, L. R. Simple models or simple processes: Some research on Clinical Judgments. American Psychologist, 1968, pp. 483-495.

Hafner, H. & Baker, R. The mentally disordered violent offenders. Social Psychiatry, November 1973, pp. 220-229.

Haney, C. A. & Miller, K. Definitional factors in mental incompetency. Sociology and Social Research, July 1970, pp. 520-532.

Heynard, A. J. Psychological predictors of patients who are dangerous to others. Journal of Clinical Psychology, October 1973, pp. 443-447.

Lourie, R. S. The roots of violence: an essay on its nature and early developmental determinants. Early Child Devevelopment and Care, January 1973, pp. 1-12.

McGarry, A. L. & Kaplan, H. A. Overview: current trends in mental health law. American Journal of Psychiatry, June 1973, pp. 621-629.

Nicol, A. R. The relationship of alcoholism to violent behavior resulting in long term imprisonment. British Journal of Psychiatry, July 1973, pp. 47-51.

Oskamp, S. Overconfidence in case-study judgments. Journal of Consulting Psychology, 1965, pp. 261-265.

Rushing, W. Individual resources, societal reaction, and hospital commitment. American Journal of Sociology, November 1971, pp. 511-526.

Shellhaas, M & Nihira, K. Factor analytic comparison of reasons retardates are institutionalized in two populations. American Journal of Mental Deficiency, 1970, pp. 626-632.

Tupin, J. P. & Makes, D. Two types of violent offenders with psychosocial descriptions. Diseases of the Nervous System, October 1973, pp. 356-363.

Weiner, B. J., Ottinger, D. R., & Tilton, J. R. Comparison of the toy-play behavior of autistic, retarded, and normal children: a reanalysis. Psychological Reports, 1969, 25, pp. 223-227.

APPENDIX A

INFORMATION CODING FORM

Subject Code _____ Age _____

Commitment _____

VARIABLES

LIVING CONDITIONS	yes	no
1. Lives alone.		
2. Lives with children, single parent.		
3. Transient, sleeps in park, under bridge, etc.		
4. Lives with roommate.		
5. Lives with sibling.		
6. Lives in foster care.		
7. Lives in nursing home.		
8. Lives with parents.		
9. Lives in commune.		
10. Lives with mate.		
11. Lives with mate and children.		
12. Lives with others in group home.		
13. Lives with grand-parents.		
14. Lives with children, grown.		
15. Lives with three generation family.		

	yes	no
16. Lives with mother.		
17. Lives in same place as job, live-in housekeeper, etc.		
18. Lives with parents and siblings.		
Numbers 19-25 for other categories.		
RELATIONSHIPS		
26. Never married.		
27. Married, 1st.		
28. Divorced.		
29. Married, 2nd.		
30. Living with someone for more than a year.		
31. Living with someone for a year or less.		
32. Widowed.		
33. Marriage annulled.		
34. In 3rd or later marriage.		
35. Never lived with anyone intimately.		
Numbers 36 thru 40 for other categories.		
JOB HISTORY		
41. Never held a job.		
42. Sporadic history in professional jobs.		
43. Has only held part time jobs.		

	yes	no
44. Never held a job more than 6 months.		
45. Sporadic history in manual jobs.		
46. Consistent history in white collar jobs.		
47. Consistent history in professional jobs.		
48. Consistent history in manual jobs.		
49. Sporadic history in white collar jobs.		
50. Retired.		
51. Military 4 years or less.		
52. Military more than 4 years.		
Numbers 53 thru 65 for other categories.		
CURRENT ACTIVITY		
66. Visits with neighbors, once a week or more.		
67. Visits with friends, less than once a week.		
68. Goes to school.		
69. Holds a part time job.		
70. Works on a part time or volunteer basis.		
71. Works full time.		
72. Goes to a day treatment program.		
73. Cares for children in the home.		

	yes	no
Numbers 74 thru 80 for other categories.		
CURRENT FINANCIAL SITUATION		
81. On welfare.		
82. Supports self with earned income.		
83. Supports self plus partial or full support of others.		
84. On unemployment.		
85. Relatives support.		
86. On disability.		
87. On SSI.		
88. Support from child support or alimony payments.		
89. Veteran's educational benefits or vocational rehabilitation support.		
90. Lives on inherited or insurance income.		
DRUG USE		
91. Uses alcohol.		
92. Alcohol abuse to the extent of alcoholic as 1st or 2nd diagnosis.		
93. Marijuana use.		
94. Cocaine use.		
95. Heroin use.		
96. Barbituate use.		
97. Amphetemine use.		

	yes	no
98. Drug addict as primary or secondary diagnosis.		
99. Cigarette or coffee use, extraordinary.		
100. Prescription drugs Phenothiazines Minor Tranquilizers Anti-depressants Metrazol (energizers) Lithium		
First medication prescribed after admission to hospital:		

LEGAL DANGEROUSNESS SCALE

101. Juvenile record.		
102. 0 or 1 incarceration.		
103. 2 or more incarcerations.		
104. Violent crime convictions.		
105. Current offence, if any.		
106 thru 120 for other categories.		

HISTORY OF VIOLENCE WHILE A CHILD

121. History of abuse as a child.		
122. History of one parent abusing another parent.		
123. History of parent being convicted of violent crime against another person.		

	yes	no
124. History of abusing siblings while both were in the parental home.		
125. History of violence in school, or other gang behavior.		
126. Sexual abuse.		

Numbers 127 thru 130 for other categories.

EXPERIENCE OF VIOLENCE WHILE AN ADULT

131. Experience of violence as a victim.		
132. Committed violent act against a person in the family.		
133. Committed violent act against a person outside the family.		
134. Sexual abuse.		
135. ECT.		

1. Sex

   A. Male
   B. Female

2. Sexual Orientation

   A. Heterosexual
   B. Homosexual
   C. Transexual
   D. Bisexual

3. Race

   A. White
   B. Black
   C. Asian
   D. Chicano
   E. Native American

4. Brain Damage

   A. Minor
   B. Major

5. Diagnosis

   A. Manic Depressive
   B. Schizophrenic, etc.

6. Lives in the

   A. Country
   B. Suburban
   C. City

7. Spouse died within 6 months.

8. Marked physical disability.

9. Diabetic.

10. History of suicidal actions.

11. County of origin.

   A. Multnomah
   B. Clackamas
   C. Washington
   D. Tillamook
   E. Other

12. Children

   A. With parents
   B. Not with parents
   C. Grown

13. Other organic complaints.

APPENDIX B

LIST OF VARIABLES

1. Age.
2. Lives alone.
3. Lives with mate.
4. In 1st or 2nd marriage.
5. Divorced.
6. Never worked.
7. Part time only work, or never held a job more than 6 months.
8. Consistent history in manual jobs.
9. Sporadic history in white collar jobs.
10. Consistent history in white collar jobs.
11. Sporadic history in professional jobs.
12. Consistent history in professional jobs.
13. Military experience.
14. Retired.
15. Cares for his/her children in the home.
16. Supports self.
17. Relatives support.
18. Uses alcohol.
19. Abuses alcohol, not diagnosed as alcoholic.
20. Abuses alcohol, diagnosed as alcoholic.
21. Heroin abuse
22. Barbituate abuse.

23. Drug addict as diagnosis.
24. Use of prescription drugs previous to hospitalization.
25. Phenothiazines prescribed in hospital.
26. Detoxification, using valium, in hospital.
27. Other medications prescribed in hospital.
28. Juvenile record.
29. 0 - 1 incarceration.
30. 2 or more incarcerations.
31. Violent crime convictions.
32. Current offence.
33. Committed violent act against a person within the family.
34. Sex.
35. Heterosexual.
36. Homosexual.
37. Black.
38. Schizophrenic diagnosis.
39. Alcohol addiction as diagnosis.
40. Drug addict as diagnosis.
41. Inadequate personality as diagnosis.
42. Resides in city.
43. Resides in suburb.
44. Physical disability.
45. Suicidal actions.
46. Multnomah county resident.
47. Clackamas county resident.

48. Washington county resident.

49. Children with parent.

50. Grown children.

51. Epilepsy.

APPENDIX C

NON-SIGNIFICANT MEANS AND STANDARD DEVIATIONS FROM THE DISCRIMINANT FUNCTION ANALYSIS

Variable	Voluntary		Involuntary	
	Mean	Standard Deviations	Mean	Standard Deviations
Age	36.52	12.95	36.00	14.12
Lives alone	.32	.47	.31	.46
In 1st or 2nd marriage	.15	.36	.13	.33
Divorced	.38	.49	.36	.48
Never worked	.18	.42	.19	.43
Part time work	.11	.36	.13	.37
Consistent history in manual jobs	.18	.42	.15	.40
Sporadic history in white collar jobs	.08	.32	.07	.31
Consistent history in white collar jobs	.13	.37	.17	.41
Sporadic history in professional jobs	.03	.24	.07	.31
Consistent history in professional jobs	.10	.34	.06	.29
Military experience	.21	.44	.25	.47
Retired	.05	.29	.07	.31
Cares for children in the home	.11	.32	.04	.20
Supports self	.39	.49	.33	.47
Relatives support	.28	.45	.25	.44

Abuses alcohol not alcoholic	.08	.28	.05	.23
Heroin use	.08	.28	.07	.26
Barbituate use	.14	.35	.07	.26
Drug addict as diagnosis	.08	.32	.03	.12
Use of prescription drugs previous to hospitalization	.38	.49	.35	.48
Juvenile record	.29	.59	.32	.60
0 or 1 incarceration	.21	.56	.32	.60
2 or more incarcerations	.31	.60	.39	.62
Comitted violentaction against a person in the family	.14	.35	.17	.38
Sex	.54	.50	.57	.50
Black	.08	.28	.04	.20
Other meds in hospital	.38	.49	.71	.35
Inadequate personality diagnosis	.03	.17	.00	.00
Resides in city	.67	.47	.67	.47
Resides in suburb	.18	.39	.25	.44
Physical disability	.07	.25	.08	.28
Suicidal	.31	.46	.19	.40
Multnomah County resident	.69	.46	.69	.46
Clackamas County resident	.17	.38	.17	.38

APPENDIX D

NON-SIGNIFICANT ITEM INTERCORRELATIONS

1 COMMITMENT
2 LIVES ALONE
3 LIVES WITH MATE
4 NEVER MARRIED
5 DIVORCED
6 MILITARY
7 RETIRED
8 HOLDS FULL TIME JOB
9 SUPPORTS SELF
10 RELATIVES SUPPORT
11 HEROIN ABUSE
12 AMPHETIMINE ABUSE
13 DRUG ADDICT
14,+ INCARCERATIONS
15 VIOLENT CRIME CONV.
16 SEX ABUSED ADULT
17 VICTIM OF VIOLENCE
18 VIOLENT IN FAMILY
19 VIOL. OUTSIDE FAMILY
20 CURRENT OFFENSE
21 SEX
22 MANIC DEPRESSIVE
23 SCHIZOPHRENIC
24 PARANOID
25 OBS. KORSIKOFF'S
26 PHYSICAL DISABILITY
27 SUICIDAL ACTION
28 EPILEPSY
29 MINOR PHYS. COMPLAINT
30 MODERATE TO SEVERE PHYSICAL COMPLAINT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	1.0	.04	-.21	.00	.03	.05	.15	-.12	-.13	-.03	-.04	.04	.14	.08	.03	.05	.09	.05	.17	.13	.01	.17	.22	-.11	.08	.01	-.08	.17	.13	-.11
2		1.0	-.36	.06	.17	.02	-.04	.03	.24	-.27	-.02	-.04	.03	-.02	-.09	-.06	.01	.12	.08	-.13	.18	.08	-.07	-.08	-.04	.03	.11	-.13	-.11	.00
3			1.0	-.33	-.21	.04	-.06	.14	-.11	.29	-.09	-.05	-.06	.01	.08	-.00	.00	.09	-.01	.03	-.12	.13	-.06	.03	.07	.04	.05	.21	-.11	.02
4				1.0	-.54	.09	-.16	.14	-.01	.05	.17	.22	.14	-.04	-.12	.07	.03	-.07	.10	.00	-.22	.08	.08	.04	-.07	.12	.16	.02	.01	-.08
5					1.0	.12	.13	.12	.12	.10	-.06	-.10	.00	-.10	-.04	-.08	.00	.00	.14	-.10	.06	.00	-.04	.09	.06	-.20	-.07	.09	.00
6						1.0	.31	.15	.04	.06	.03	.01	.01	.04	-.05	.00	.13	.08	.04	.01	.27	.02	.09	-.12	-.15	-.03	.04	.10	-.10	.11
7							1.0	.08	.03	.03	-.06	-.08	.15	.11	.13	-.07	-.09	.04	-.07	.08	-.05	-.09	.07	-.05	.11	-.06	-.01	.09	-.02	.10
8								1.0	.44	.19	-.11	-.07	-.09	-.14	-.14	-.04	-.16	.02	-.03	-.15	.05	-.02	-.15	-.08	-.03	.02	.04	-.07	-.08	.09
9									1.0	-.27	.00	-.01	.07	-.03	-.10	-.09	-.28	-.04	.00	.11	.24	.12	-.17	-.10	-.07	-.09	-.06	-.14	-.10	-.02
10										1.0	-.11	-.12	.00	-.06	.03	.14	.23	.01	-.09	-.03	-.26	-.14	.11	.01	-.01	-.05	-.08	-.03	.03	-.08
11											1.0	.46	.39	.14	-.06	-.09	-.02	-.02	-.08	-.07	.10	.04	.04	.06	.01	.11	-.08	-.05	-.06	-.04
12												1.0	.10	.04	-.10	-.12	-.02	-.04	-.05	-.02	.11	.04	.02	.12	-.11	.14	.10	-.07	.02	.09
13													1.0	.01	-.08	-.08	-.02	.15	-.02	-.08	.09	.10	-.07	-.03	-.04	.04	.00	-.05	-.01	.00
14														1.0	.78	.06	.04	-.02	.24	.65	-.06	.03	.04	-.02	.03	.09	.02	.20	-.07	.16
15															1.0	.14	.11	-.02	.36	.66	.09	-.01	.01	-.03	.11	.07	.02	.27	.06	.11
16																1.0	.14	.07	.31	-.05	-.01	-.13	.05	.15	.09	.00	.16	.20	-.08	-.01
17																	1.0	.09	.12	.03	-.16	.06	.08	.08	-.13	.02	.03	.13	-.04	.06
18																		1.0	-.07	.00	.07	.00	.02	.17	-.05	.02	.03	.02	.03	.06
19																			1.0	-.02	.15	.07	.14	-.07	.07	-.09	.09	.19	.01	-.08
20																				1.0	.08	.15	.03	.07	.01	.07	-.09	.15	.04	.08
21																					1.0	.04	.10	.01	-.08	.15	.08	-.06	.08	-.01
22																						1.0	-.27	.00	.02	-.12	.01	-.08	-.06	.05
23																							1.0	-.11	-.19	-.01	-.13	-.07	.00	-.15
24																								1.0	-.07	.05	.02	-.04	-.07	.02
25																									1.0	.10	-.17	.21	-.01	.00
26																										1.0	-.04	.23	.00	.20
27																											1.0	.07	-.13	.13
28																												1.0	.05	.16
29																													1.0	.35
30																														1.0