A COMPREHENSIVE INVESTIGATION OF RECIDIVISM

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By

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CHAPTER I

Introduction

Purpose of the present project

How is this a "comprehensive" study of recidivism? It is comprehensive in four major ways, each of which sets it apart from most of the prior research on recidivism. First, it is comprehensive in that several different operational definitions of recidivism are employed and their usefulness compared both from the standpoint of the degree to which they contribute to a scientific understanding of the problem of recidivism and from the standpoint of their practicality given the nature of National Criminal Information Center (NCIC) records.

Second, it is comprehensive in the array of data which are related to these criteria of recidivism. Whereas most prior studies have been limited to relating the sorts of demographic data typically found in inmate record files and/or one or two tests administered on intake to a criterion of recidivism, the present research has been able to draw on a much broader array of data collected as part of a larger research project begun in 1970 and carried through to the present.

Third, it is comprehensive in that data from five distinct phases or time periods are related to the criterion measures. Most prior studies have related data collected on intake into an institution to eventual recidivism. A few have combined intake data with measures of adjustment during incarceration. However, the present study is the first to the investigator's knowledge which draws on data from five distinct periods, the early developmental and preincarceration period, the status of the offender upon incarceration, his adjustment and progress during incarceration, his status upon departing from the institution and, finally, the nature of the after-care program. Since a major purpose of incarceration is to change the offender, data collected just

Finally it is comprehensive in that an entire population is studied... everyone who entered the Federal Correctional Institution at Tallahassee from November 3, 1970 to November 2, 1972 was a possible subject. Subjects who transferred to other institutions before release and men released on flat time as well as those on parole are used as subjects in one or more phases of the study, in contrast to previous studies which have often limited themselves to parolees. The use of an entire cohort in this fashion enables us to compare the different definitions of recidivism with respect to the proportion of the population for whom useable data were available from NCIC files.

The goals of the analyses included in the present report are twofold, first to compare 13 different operational definitions of recidivism. In future reports some additional measures will also be investigated. As we shall see, a variety of different definitions of recidivism have been proposed, each with its own assets and limitations. By comparing several of these operational definitions calculated on the same cohort of men, it is hoped that their relative usefulness will be illuminated empirically to assist future investigators in rationally choosing from among those available.

The second major goal is to determine the factors at various phases associated with recidivism, and, incidentally, to determine the optimum point in time at which to collect data that may be predictive of recidivism. As we shall see, there are a number of reasons why predictions of future recidivism are useful. The most obvious is to assist in selection of men for parole, but prognostic estimates are also useful in helping to evaluate programs (i.e. did program X reduce the expected recidivism rate for this sample?), and in selecting those men most or least likely to recidivate for special institutional programs. Identifying developmental and background factors associated with recidivism may eventually have the added benefit of helping us to hypothesize primary prevention programs aimed at reducing criminal careers.

prior to departure are particularly important.

Background of the present project

As noted above, the proposed investigation uses data collected as part of a decade-long program of correctional research. Understanding of the present proposal will be facilitated by brief description of the data collected as part of this larger project. A complete description of the data collection procedure will be presented in Chapter Six.

In 1970, the present investigator embarked on a major longitudinal research program centered at the Tallahassee F.C.I., a medium security facility for approximately 550 young men aged 18-27. In collaboration with Jack E. Hokanson and Charles D. Spielberger, he planned a two-phase program. Phase I was devoted to the establishment of a comprehensive array of data that would support a variety of independent investigations by the researchers and their students. In Phase II, these data were to be analyzed with each investigator using the central data pool to support his independent research goals. Megargee was interested in (1) relating developmental, familial and social data to patterns of criminal behavior, (2) determining the degree to which data collected upon intake into the institution could be used to forecast subsequent adjustment difficulties and accomplishments during incarceration, (3) determining the effect of incarceration on different types of offenders and (4) determining the factors associated with recidivism vs. reintegration into the community. The present investigation focuses on the fourth of these goals.

In Phase I, a laboratory was established at the Tallahassee facility. Supported by a four year NIMH grant, a systematic program of data collection was initiated. Beginning on November 3, 1970, every inmate who entered the institution for the ensuing two years was formed into a cohort; by November 2, 1972, 1345 inmates had entered.

This timing was singularly fortunate for the present recidivism study, because the Federal Bureau of Investigation subsequently interfaced its computer with that of the Bureau of Prisons so that complete FBI computerized fingerprint arrest reports ("rap sheets") were available for the subjects in the cohort who were arrested after January 1, 1970 or who were released after February 1, 1973.

Each inmate went through a standard sequence of data collection procedures. During the first two weeks, each took a variety of psychological tests. Ability tests included the Beta and the General Aptitude Testing Battery (GATB). To assess educational achievement, the Stanford Achievement Test (SAT) was used, and to measure vocational aptitudes, the Minnesota Vocational Interest Inventory (MVII) was administered. Personality assessment devices included the Minnesota Multiphasic Personality Inventory (MMPI), the California Psychological Inventory (CPI), the Gough-Heilbrun Adjective Checklist (ACL), the Quay-Peterson Personal Opinion Survey (POS), the Ballard et al. Interpersonal Personality Inventory (IPI), the Spielberger State-Trait Anxiety Inventory, the Itkin Parental Attitude scale, and a values-prisonization questionnaire. Most of these instruments were scored on a number of scales especially relevant to corrections and criminal justice assessment in addition to the standard scales. In addition, the POS and the MMPI have been used to type the offenders according to the Quay and the Megargee offender typologies. The IPI provide a measure of interpersonal maturity, a construct central to the Warren classification system used by the California Youth Authority.

Each inmate also received a complete physical examination and the results were coded and entered into the system.

In the third week, each offender had an hour-long structured interview with his team psychologist. This interview, which covered the entire developmental

span and social history in addition to providing details about his criminal career, was tape recorded and independently rated on 254 discrete items by two independent raters. These discrete items were combined into global scales reflecting such areas as family cohesiveness, father and mother as socializing influences, childhood nurturance, adequacy of parental discipline, authority conflicts, history of aggressiveness, school maladjustment, vocational problems, military history, drug usage, race relations, interpersonal relations, prison maladjustment, achievement orientation and current marital stability.

Following the interview, the psychologist recorded his clinical impressions of each client using the Adjective Checklist and a Q-sort. The ACL provides scores on 24 scales including a self-concept measure; the Q-sort has been scored on 10 scales of traits such as aggressiveness, passivity, social and emotional constriction, and sociability.

Complete institution records including the probation officer's presentence investigation report and an FBI "rap sheet" were also collected and coded. These formed the basis for classification as to the nature and seriousness of each subject's overall criminal career in addition to providing a complete description of the current offense. Also available were sentence data, information regarding prior imprisonments and paroles and a variety of social and demographic variables including military, social, educational, and vocational histories.

In the present project, the above data will be used to assess the association between background factors and intake status respectively on postrelease adjustment and recidivism.

During his incarceration, systematic records were maintained of each man's adjustment as reflected in the number and the nature of the disciplinary violations he received, in the number of days (if any) he was confined in the cell house, and in periodic quantitative ratings by dormitory officers using the Megargee Interpersonal Adjustment Rating Form (Megargee, 1972; Fowler and

Megargee, 1976). Also, his participation in educational and vocational training programs, his grades in each and his eventual level of accomplishment (such as attaining a GED or college degree) were recorded. Periodic ratings were also made by all work detail supervisors on the Megargee Work Performance Rating Form (Megargee, 1972, Fowler and Megargee, 1976). The number of visits and letters by relatives and friends were also recorded. The data collected during incarceration will be used to determine the degree to which institutional adjustment and program participation relate to eventual recidivism; in particular we will address the question of whether successful adjustment to life inside the institution is related positively or negatively to coping with life outside.

Immediately prior to release, inmates were retested using the MMPI, CPI, ACL, and the values-prisonization questionnaire. They also had another hour-long structured interview which focused on anticipated problems upon release. These data form the basis for studying the association between prerelease status and recidivism. In addition, a comparison between the intake and exit testing will provide a measure of the amount and direction of change over the course of incarceration; this change measure will also be related to recidivism.

Some inmates were released on parole, others to community treatment centers or halfway houses and still others released without supervision on expiration of sentence with time off for good behavior. Although the type of aftercare is confounded with inmate characteristics, an attempt will be made to determine the association of aftercare program with recidivism, controlling as well as possible for inmate characteristics.

Scope of the Present Report

The present report will present the analyses proposed in the LEAA subgrant proposal of December 15, 1975. Subsequent analyses and further reports

will go beyond these to analyze additional data and validate or replicate other studies in the literature.

The present report will compare the operational definitions of recidivism proposed in the LEAA subgrant proposal of December 15, 1975, as well as certain others subsequently suggested by the literature review and consultation.

The major independent variables, with the exception of the educational progress reports, described in the subgrant proposal will be related to each of these feasible operational definitions. For the most promising data sets, multiple regression equations will be defined and crossvalidated. In subsequent reports additional data sets will be examined.

Reviews of the literature have also disclosed a number of multiple regression formulae proposed by other investigators. Crossvalidation of these equations is beyond the scope of the present report but will be undertaken in future studies that are planned using these data.

The organization of the present report is as follows. The first section, of which the present introductory chapter is a part, is devoted to providing the reader with a general background for the present investigation. In addition to the present overview of the project, this section will include a chapter describing the methodological problems faced in this and other studies of recidivism and discussing the relative strength and weaknesses of different approaches. This initial section will conclude with a chapter stating the rationale for the present study.

The next large section will present in detail the procedures and methods used in the present investigation. It will include a description of the setting in which the study took place, the Federal Correctional Institution at Tallahassee, Florida, a detailed specification of the many measuring instruments

used and the variable that they produced, and a report of the data collection procedures employed. This section will conclude with an account of the statistical procedures used to analyze the data.

The third major section will present the results of the investigation. The first chapter in the results section will be devoted to a comparison of the 13 measures of recidivism that were calculated, concluding with a selection of the best-appearing subset to be used in the remainder of the study. The next five chapters will present the results of the investigations into the variables associated with recidivism at Phases I through V.

The fourth and final section will be devoted to the conclusion reached from these data and suggestions for further research with this and other samples.

CHAPTER II

Methodological Problems in Recidivism Research

Several recent reviews of the findings of previous recidivism research over the past half centruy are available, notably those by D'Agostino (1973), Dredge (1973), Neithercutt (1969), Frank (1970), as well as the earlier review by Schuessler (1954), so no attempt will be made in the present report to list the results of the numerous investigations of recidivism that have been reported. Instead, we will discuss the problems confronting those who would investigate recidivism as revealed by such studies. From this, the reader may get yardsticks by which to judge the assets and limitations of the present investigation.

A variety of approaches have been used in recidivsm research, and one reason for the diversity of findings is the corresponding multiplicity of methods that have been employed. To some extent this situation stems from the fact that different investigators have different reasons for studying recidivism.

Recidivism is probably most often thought of in connection with program evaluation, whether it be the effectiveness of some experimental treatment technique or the effectiveness of the overall criminal justice system. The current pesssimism over the effectiveness of rehabilitation techniques in correctional settings -- the so-called "nothing works" dictum -- is based in large measure on Martinson's (1974) rather dated review of studies evaluating the association between a variety of treatment techniques and subsequent recidivism. As recidivism is adopted as the criterion by which the criminal justice system is to be evaluated, those who wish to "view with alarm" or "point with pride" can easily find data to support their respective positions. Someone who wishes to adopt a pessimistic stance, for example, can ask the warden of a maximum security penitentiary the proportion of individuals in his institution who have served time previously, either as juveniles or as adults. Inevitably the majority of this

select population will be found to have committed earlier offenses, in part a result of the "piling up" phenomenon by which repeaters accumulate in prison (as the result of spending many man-years within the wall) whereas those who "go and sin no more" disappear from the population (Blumstein & Larson, 1971).

A more optimistic investigator could go to a minimum security institution for older first offenders and, following up a group of parolees over a short time, find that only a small percentage of them were reconvicted for crimes of equal or greater severity, and thus conclude the institution had a therapeutic effect.

To add to the confusion, a third individual, reading the reports of the first two might then conclude that the programs in the latter institution were "better" than those in the first, when in fact, the differences in sampling and in the operational definitions of recidivism make the two studies wholly incomparable.

In the final analysis, most studies designed for program evaluation are aimed at consumption by politians and, ultimately, the public. For this reason, they must use rather simplistic definitions. A person is or is not a recidivist; saying his recidivism quotient is ".2 lambda" is unsatisfactory. On the other hand, those who are interested in cost-benefit analyses would prefer a finer definition, a definition that would discriminate the person who is out three months without committing a new offense from the person who is out three years; the individual returned from parole because of a technical violation such as losing his job from the one who commits a new felony.

For one analyst, an inmate released from an institution where he had been confined for kidnapping and rape, who two years later is arrested for passing a worthless bank check, is a failure. Another, figuring the social cost of the frequency and seriousness of the pre-incarceration compared with the postincarceration behavior might regard the same individual as a success, since

the institutional commitment had decreased his cost or threat to society.

The purposes for which recidivism research are undertaken go beyond influencing the definition of recidivism employed. They influence the sampling techniques, selection of data to be gathered, the time frame in which they study is carried out (always a crucial factor in recidivism research), the theoretical or empirical orientation of the study, and the methods of data analysis employed. In the pages that follow, some of the major components of a recidivism study will be reviewed - the measurement of the dependent variable (recidivism), the independent variables, the sampling techniques, and the methods of data analysis - and some of the inevitable tradeoffs will be described. It will be seen that increased precision at one point involves decreased generality at another, increased comprehensiveness in one area (as in the present study) involves increased costs and time in another. Given this overview, the reader will be able to appreciate the problems involved in recidivism research and to make better inferences from the results of recidivism studies in the literature.

Dependent Variable: Recidivism

There are two principal procedures used in classifying offenders as recidivists or nonrecidivists. The first, which the present investigator refers to as the "concurrent" method, consists of going into an agency or institution and, on the basis of prior records, classifying those without previous incarcerations or arrests as first offenders and the rest, who have had previous problems with the law, as recidivists. The two groups are then typically contrasted on various demographic variables or test scores. This procedure, which has the advantage of economy of effort and time, has been used by many investigators including Adams (1976), Arnold (1965), Brown (1970), Christensen and Leunes (1974), Craig and Budd (1967), Elion and Megargee (1975), Eysenck and Eysenck (1974), Flanagan and Lewis (1974), Landis, Mercer and Wolff (1969), Sakata and

Litwack (1971), and Singh (1974). In those studies in which the emphasis is on validation of a test scale or personality pattern, this method has some usefulness, although it provides a conservative estimate of the test's validity since some future recidivists are undoubtedly included among the "first offenders" as every recidivist had to be a first offender at some point. But such concurrent designs are of limited utility when it comes to estimating the predictive validity of a test or pattern.

A better procedure, especially for studies attempting to derive or validate predictive indexes, is the longitudinal or follow-up method in which a cohort of individuals who have been released from an institution are tracked over time and their subsequent offenses noted. A critical decision in the longitudinal design is the length of time to be allowed to pass before collecting the follow-up data; times used range from six months to 18 years. Studies cited by Frank (1970, p. 26) indicate that indicate that about 60% of those who are going to recidivate do so within one year and 83% do so by the end of two years.

If the longitudinal approach is to be used, it is necessary to reconstruct the offender's criminal career after his release from the institution or program in question. This in itself is a major methodological problem for recidivism investigators, one now made thornier by provisions of the recently enacted "Privacy Act" which restricts access to and creation of criminal information files.

How does the investigator determine if members of his or her research cohort subsequently fell afoul of the law? Frank (1970) relied on recommitment to the same institution, reactivation of "dead file folders" in the case of parole violators, and requests for inforamtion from other jurisdictions; but it is entirely possible for an individual to be charged, arrested, convicted or even incarcerated in another jurisdiction without that jurisdiction necessarily

writing the original institution for a report of the inmate's adjustment during his previous incarceration. Within a comprehensive state system, it is usually possible to determine if an individual was recommitted to the correctional division, but reports regarding inmates who move to other states are notoriously hard to come by.

For this reason, a large proportion of the recidivism studies in the literature are limited to inmates released on parole; for such individuals records are maintained in the form of parole reports and, after a suitable length of time, it is possible to determine if the inmate satisfactorily completed his parole, violated his parole, or left the area. No such records are maintained, however, on inmates released on "flat time" or at expiration of sentence; for them the problem of reconstructing a criminal career is extremely difficult. With the current move away from parole toward "flat time" sentencing, this problem can be expected to become more serious.

An exception is the FBI fingerprint arrest records stored in the National Criminal Information Center (NCIC).

Glaser optomistically described the comprehensiveness of the data thus produced as follows:

> Every adult in the United States, when formally arrested for a felony, and many when arrested only for a misdemeanor, is supposed to be fingerprinted. . . . The fingerprints are sent to the Federal Bureau of Investigation with information on the reason for the arrest, as well as some identifying information such as name, date of birth, sex, race, and known or reported prior criminal record.
>
> An additional set of fingerprints is usually taken whenever a person is jailed or imprisoned, and frequently when he or she is committed to a State hospital or a public facility for addiction treatment,

> or when placed on probation or parole. The report accompanying the fingerprints usually indicates the reason for the confinement or release, and the sentence. Any change of status of a fingerprinted individual, such as discharge from sentence, and especially issuance of a warrant for the arrest of the individual as wanted (for example, escapees from institutions and absconders from supervision), is also reported to the fingerprint collection agencies . . . .
>
> The record thus produced is useful in determining if an individual is wanted by authorities somewhere, and to assess how trustworthy or dangerous he or she is likely to be.
>
> Obviously, the easiest way to procure the criminal record of a cohort of persons dealt with by a people-changing agency in a past year would be to request from the FBI the current rap sheets of everyone in the cohort. . . . The FBI has the obvious advantage over local or State criminal record files of having information from every State, and even some foreign criminal record information, so its files would be more complete than others on individuals who incurred their criminal record in several different States or countries (Glaser, 1973, pp. 89-90).

However, even the NCIC files, although the most comprehensive available, have drawbacks. They are virtually useless for those who wish to do recidivism research on juvenile populations because most states forbid maintaining juvenile fingerprint records and forwarding them to the FBI. In the case of adult samples, researchers' access to the NCIC records is limited to preserve the individuals' privacy. Moreover, as was discovered in the present investigation, the NCIC records are only as good as the degree to which cooperating agencies have supplied data. All too often crucial dates or events are missing. An individual

may be shown as leaving an institution with no record of his having entered one or vice-versa. Contrary to Glaser's statement, warrants are not listed.

Of course, whether or not an individual's encounters with the law, his arrests, convictions, entries into and departures from various institutions have been faithfully maintained, the written record is only an imperfect reflection of his actual behavior. It is well known that only a fraction of the illegal behavior people engage in ever is officially noted in crime reports, that only a fraction of the crime reports are cleared by arrest, that only a fraction of those arrested are prosecuted, that only a fraction of those prosecuted are convicted (especially of the crimes originally charged), and that only a fraction of those convicted are actually incarcerated. No matter how clean an individual's record appears, there is no guarantee that he or she has not been engaging (successfully) in a vast array of illegal activity. By the same token, although hopefully to a lesser extent, there is no certainty that individuals convicted of crimes actually committed them.

One could simply accept the NCIC records as the best data to be had, but this problem cannot be ignored when one must define recidivism operationally. What does one do when the record shows an individual has been arrested but not convicted of subsequent offenses? If one counts as a recidivist every former convict who is rearrested but not prosecuted or convicted, one is almost surely overestimating the recidivism rate, but if one limits one's scope to those reconvicted, one is just as surely underestimating the rate.

Thus, the investigator who is committed to a dichotomous, success/failure, operational definition of recidivism, must decide where to draw the line. Obviously the released inmate who commits a series of heinous crimes is a failure and the one who goes on to lead an exemplary life replete with good works and civic honors is a success, but between these extremes the definitional issues get sticky. As noted above, further crimes of a lesser degree and a lower

frequency than the pattern which originally brought him to the attention of the law would be regarded by some as evidence of at least partial success. And how does one classify the individual whose probation is revoked because of a technical violation? Behavior that would be perfectly legal for the ordinary citizen, such as entering a bar, losing one's job, getting married without special permission, or even socializing with known criminals can lead to revocation of parole. On the other hand, when a parolee commits a new felony, all too often local authorities simply have his parole revoked rather than go to the trouble and expense of prosecution for the new offense. If one is simply doing a study on parole success, such cases are obvious failures, but if an investigation of recidivism, which implies a renewal of criminal behavior, technical parole violations pose a problem.

Many investigators would prefer to derive a continuous rather than a dichotomous definition of recidivism. . . to deal with relative degrees of recidivism rather than absolutes. Some focus on the seriousness of the subsequent criminal behavior. This means that the record must reflect not only that the individual was rearrested or reconvicted but also the nature of the specific charges. Ignoring for the moment the problem that plea bargaining imposes, all too often the specific offense is not reported or reported in only the most general terms, i.e. "larceny."

Another family of approaches attempts to use temporal differences to help quantify recidivism. The percent of time since release spent in confinement, the interval between new offenses, and the like are used in such definitions.

In these approaches accurate dates of when an individual left an institution, was arrested, reconvicted, reentered or discharged from a subsequent incarceration are crucial. Such data are often lacking.

In short, the more precise and refined the operational definition of

recidivism, the more data regarding subsequent criminal behavior and legal events are required. Since these data are too often missing, then such cases must be estimated or dropped from the study with a resulting restriction in the generality of the eventual findings.

Independent Variables: Factors Associated with or Predictive of Recidivism

Why should behavioral scientists investigate the factors associated with recidivism? Most are probably seeking improved ways to predict in advance who will recidivate and who will not so that parole decisions can be made more accurately. Clearly improved parole prediction motivated the classic studies by Burgess (1928), the Gluecks (1929, 1930), Sanders (1935), Tibbitts (1931), and Vold (1931) as well as many, if not most, of the more recent investigations. Although prediction continues to be the primary reason for identifying the variables associated with recidivism, such data can also be useful in making program assignments so that those most likely to benefit from a treatment program are assigned to it, in program evaluation so that a treatment method can be judged according to the degree to which it improves on the predicted recidivism rate, and, eventually, in primary prevention so that the factors or conditions leading to criminal careers can be minimized or eliminated.

All of these goals have prediction as a common denominator; in any study involving prediction, time must elapse between the time when the predictive data are gathered and the time when the criterion measures are collected. In the case of recidivism research, this typically involves a period of years. The present study, for example, has already consumed eight years and this is by no means atypical. If, as in the present research, offenders are studied upon entry into a prison, time must elapse for them to complete their sentence, and then

further time must pass before a meaningful follow-up can be conducted.

Practical and political considerations often make such long term follow-up studies difficult, inexpedient or impossible. A legislator or administrator may want answers in a matter of weeks rather than years; an assistant professor building his credentials for promotion needs publications in the immediate rather than the distant future. In order to decrease the time elapsing between the conception and the conclusion of a recidivism study, several shortcuts have been devised.

One of those which has already been discussed is what the writer terms the "concurrent" study. Instead of following-up a cohort of released offenders to determine who engages in further criminal activity, the investigator goes to an institution, identifies the first offenders and the "recidivists" (i.e., those who have previously been confined) and compares them on various measures. It has also been pointed out that one drawback of such studies is that some of the first offenders are the recidivists of the future. Another limitation is that the "independent" variables are gathered after the recidivistic behavior of those with prior commitments has already occurred. It is, therefore, questionable, how "predictive" the associated variables are. Whereas most productive studies find that the younger inmates are more likely to repeat their criminal behavior, a concurrent study might easily find that the recidivists are older than the first offenders. Clearly there are serious drawbacks to the use of the concurrent design in predictive research, and it should go without saying that a truly predictive follow-up study must be performed to validate the findings of studies using such a design.

Another way of coping with the temporal problem is to perform a "postdictive" or, to use a term coined by one of the writer's students, a "retrodictive" investigation. In such a study, the investigator examines the records of those

who were released at some specified period in the past to determine who subsequently was rearrested or reincarcerated. For example, in 1978, the records of all those released in 1973 might be examined. The available data on the characteristics of these two groups are then compared. In this manner the same temporal relation between the collection of the inmate characteristic data and the subsequent recidivism data can be preserved that obtains in a longitudinal study, with the advantage that investigation can be completed in a matter of months.

The problem with the postdictive method is that the investigator is forced to rely on data already collected by others for quite different purposes. Some data may have been collected on only a small portion of the population so its generality is immediately suspect. In Went and Emrich's (1972) massive postdictive study, for example, only 257 of the 4146 youths in their parole population had been referred for by psychiatric examination; obviously any data regarding the psychiatric characteristics of the recidivists and nonrecidivists in their study had little generality to the sample as a whole.

To avoid such bias, researchers are forced to rely on these sources of data obtained on virtually everyone in the population of released offenders. Typically, this reduces to the types of routinely obtained demographic data that are commonly found on a face sheet ... age, race, offense, etc. If certain tests such as the MMPI are routinely administered on intake, these scores, too, can be studied. Thous the potential range of independent variables is limited. And, to the extent that records are incomplete nd/or inadequate, the study will suffer.

Moreover, such studies are typically limited to data collected on entry into an institution. It is rare for an institution to devote scarce personnel resources to the testing or interviewing of inmates who are about to leave. It is often all they can do to classify and evaluate those entering for whom treatment

and management programs must be devised without worrying about re-evaluating those about to depart.

This means that additional time elapses between the time when the predictor and the criterion variables are collected, since the time spent in the institution is added to the time spent from release to follow-up. The more correctional program accomplishes its goals, the more the inmates should change over the course of their incarceration and the less accurate the intake data will be. Even if the programs are not making them better educated and more socially conforming, other factors necessarily chage. Every day everyone in the sample becomes a day older. Those who were married on intake may be divorced. Parents, who might provide job opportunities or incomes, may die. Although it is likely that the age, marital status and personality patterns of inmates at the time of their release are more closely related to their subsequent adjustment in the community, retrospective studies are typically limited to preincarceration rather than prerelease variables.

Interestingly, despite the fact that one would suppose that data obtained during incarceration or prior to release might be more predictive than those obtained at the beginning of a sentence, some investigators appear to prefer intake data not only as being more convenient but also as being more desirable. Mack (1969, p. 612) in describing his attempt to postdict recidivism with the MMPI, wrote, "Previous to his placement at the training school, each S was administered the MMPI as part of a routine battery of tests at a reception center ... Because of the possible effects of parole or institutional adjustment on performance, no attempt was made to obtain more recent MMPI results." The present investigator obviously disagrees with this approach, a position that is bolstered by Bennett's (1970) report that he obtained valid MMPI data prior to release even under "fake

good" conditions, and his conclusion, "Thus, test results at time of release can be viewed as being of sufficient reliability to be used for prediction of subsequent adjustment" (1970, p. 31).

Of course, the question of whether intake or exit data are more closely related to eventual recidivism is an empirical question; both types of data included in the present longitudinal study in an effort to help resolve this issue.

Longitudinal research is more expensive and time consuming than concurrent or postdictive research. Considerable effort must often be devoted to following up previously identified cases. And, by the time the study is concluded, some may wonder whether the results are obsolete. Who can say, for example, that the results we obtain on our cohort of youthful offenders entering the FCI between 1970 and 1972 apply to the young men now entering that institution? The programmatic data are certainly dated since the patterns of treatment and classification and even the organization of the institution has altered in the ensuing years.

Despite these drawbacks, the longitudinal method does offer some advantages to those willing and able to devote the time and resources required. Probably the greatest single advantage of investigations such as the present one is that the data collection effort can be designed for the purposes of the research rather than the research being adapted to the available data. Not only does this ensure that the variables deemed important by the investigator will be included, but it also permits a higher degree of quality control as the researcher, already upon the scene, does his best to maintain records that are complete and preserve them for future analysis. Much of the comprehensiveness of the present study stems from the fact that it was longitudinal in design.

Whatever the temporal modality chosen, concurrent, postdictive or longitudinal, all researchers must cope with certain common problems regarding the

independent variables. Although the longitudinal investigator is free to select his own measures, he is faced by financial constraints which may make it impractical to collect all the data he would like. The amount of time required to administer and score projective tests such as the Rorschach placed them out of the purview of even this well-funded project. Although every student of recidivism is aware of the fact that postrelease adjustment depends in large part on situational as well as personal factors, nevertheless few investigators can include systematic prerelease investigations of the home environment to which the offender is returning. At one time the present investigator had planned such a field-study component, but when the costs were calculated, it was found to be so prohibitively expensive that it was not even worth the effort required to write a grant. As with previous researchers he had to be content with the field report contained in the presentence investigation, supplemented in this case by the inmate's reports in the intake and exit interviews.

Another tradeoff, is that the more varied and comprehensive the array of data collected, the more expensive and time consuming will be the task of data preparation and analysis. If we are wise enough to know in advance exactly what variables to study, then we could accomplish our goals much more quickly and easily, but if we knew that, the study might not be necessary. Good theory can assist in the selection of variables; poor theory, however, may ensure that the variables studied will be irrelevant. If broad studies such as the present one are successful, they should assist future researchers by indicating the time periods, data collection methods and types of variables that are most likely to be fruitful.

Sampling

As in any investigation, sampling is an important consideration in recidivism research. Most samples are selected on the basis of availability; a

stratified national sample of incarcerated offenders is hardly practical and, given the manifold differences in the criminal justice systems of the different states, such a sample would be of questionable merit. The fact that different investigators use the facilities and samples available to them presents no particular difficulty as long as one remembers to be cautious in generalizing from one sample to another. Data obtained on juveniles may not apply to adults, results from a predominantly minority or lower class population may not be applicable to a white or middle class group, prisoners studied in a psychiatric facility may not be found to have the same factors associated with recidivism as those in a regular correctional setting, and findings obtained on men may not generalize to women. Thus, it is necessary to replicate studies across settings.

Examining the literature as a whole, the major problem with the use of convenient samples is that some populations are apparently more conveniently, and hence more intensively, studied than others. As already noted, only a small fraction of the offender population ... even the convicted offender population... is sentenced to periods of institutional confinement, the majority being handled through alternatives such as fines, probation, suspended sentence, short jail terms and the like. Yet most of the recidivism studies focus on incarcerated felons and institutionalized delinquents, no doubt because they and their records are more accessible. In fact, as already noted, most of the studies of imprisoned offenders concentrate on those who are paroled, ignoring those released on expiration of sentence, probably because the parolees are perforce followed up in the community by their parole officers while it is difficult to obtain data on those released without supervision. Thus, there is a very uneven distribution of studies on recidivism over the various segments of the criminal justice system, with the vast majority of the recidivism research being performed

on the smallest and least promising, i.e., the incarcerated, segment of the criminal justice population.

The geographic distribution of studies in the literature is similarly uneven. Some state systems, notably California, have had numerous investigations performed whereas numerous others have no studies in the published literature. To the extent that the criminal justice systems differ from state to state in terms of structure, policies and resources, and to the degree that economic opportunities, educational resources, ethnic composition, urban-rural mix and other factors vary from state to state, the results of recidivism research carried out in one jurisdiction must be cautiously applied to others. A narcotics user returning to a farm in Nebraska will encounter a vastly different milieu than one returning to a ghetto in a large city and, even though their test scores may be identical, the likelihood of their recidivating may differ considerably. An auto thief returning to Providence, Rhode Island is probably more likely to repeat the Federal offense of interstate transportation of a stolen motor vehicle than one returning to Autstin, Texas, if only because the state borders are closer to Providence than Austin.

Another aspect of sampling is the temporal context in which a study is performed. Recidivism research has been published for half a century, and the findings on samples studied in different time periods can be expected to differ. The classic study by Burgess (1928) was based on data collected during a period of post-war prosperity which differed substantially from the conditions that obtained during the Great Depression of the 1930s, when little work was to be found for anyone. Similarly, the manpower demands occasioned by total mobilization during World War II could easily have altered the characteristics of the offender population and the factors associated with their recidivism during the

1940s. The expansion of the use of drugs from the streets to the suburbs and the widespread disillusionment with the "establishment" associated with the Vietnam War and the Civil Rights movement differentiated the early 1960s from the early 1950s. So even the best studies will require replication over time.

Analytic Procedures

Surveying the literature, certain analytic problems recur in recidivism research. Most studies begin with a list of potential predictor variables which are correlated with the criterion. Sometimes the significance of these first order relationships are tested, sometimes not. The best variables are then gathered together and combined to form a prognostic device, occasionally in the form of a multiple regression equation, more often in the form of a base expectancy table or checklist.

Given the number of variables typically studied, some will attain "significance" purely as a matter of chance. It is, therefore, essential that such relationships be crossvalidated and those variables which do not hold up eliminated. Similarly, multiple regression equations, checklists and cutting scores must also be crossvalidated. Unfortunately, such crossvalidation research is all-too-often neglected.

The weighting of the various factors is another issue. If multiple regression or multiple discriminant analyses are performed, each variable will be weighted according to its relation to the criterion and its redundancy with other variables. This is fine for purely predictive studies; however, those research consumers who use the differential weights as indicators of the relative importance of variables with respect to recidivism will quickly be led astray. For example, both educational attainment and intelligence may be related inversely to recidivism; they are probably also correlated with each other. In a

multivariate analysis, one of these variables may be selected for the predictive equation. If intelligence is selected, then the fact that educational attainment shares common variance (i.e. is correlated with) intelligence may mean that the addition of the educational attainment variable may not improve the predictive power of the equation significantly. If so, intelligence will not be one of the variables chosen. If a reader then concludes that intelligence is related to recidivism but education is not and on that basis decides that prison educational programs are a waste of time and resources, he would be making a grievous error.

When multivariate procedures are not used, then the research runs the risk of overweighting some variable and underweighting others. Education, IQ, verbal fluency scores and prison grades may all be related inversely to recidivism; so may a history of drug abuse. If all these items are included in a checklist, it would have the effect of weighting the general educational-ability area four times as heavily as the drug abuse area. The reverse problem would obtain there was but one item dealing with education and six or seven dealing with the abuse of various specific substances such as heroin, LSD, marijuana, barbiturates etc.

In any predictive research, the issue of base rates is also important. As Meehl and Rosen (1955) pointed out, and as Megargee (1976) demonstrated with respect to dangerous behavior, predictive ability is substantially impaired whenever rare events are to be predicted. To the extent that the proportions of recidivism and success deviates form a 50-50 split, the more false positive rates will create errors, often to the extent that fewer mistakes would have been made without the predictive device than with it.

Conclusions

Obviously there is no such thing as the definitive recidivism study. Trade-offs and compromises must be made to suit the purposes, resources, time commitments and subject populations available to the investigator. Care must be taken in generalizing from one subject population to another or from studies done at one period to another time. With the advent of multivariate statistical procedures and the availability of large capacity, high speed computers many analytical problems can be resolved, but nonetheless statistical snares such as low base rates or failure to crossvalidate lurk to trap the unwary researcher. Given much of the misinformation that abounds regarding recidivism, as well as the basis of the studies in the literature, it would behoove every research to be as rigorous as possible and every research consumer to evaluate reported findings critically and to be cautious lest they overgeneralize from them.

CHAPTER III

Rationale for the Present Study

The review of the literature which led to the discussion of methodological issues in recidivism research in the previous chapter suggested certain ways in which the comprehensive data base collected as part of the investigator's ongoing longitudinal research at the FCI, Tallahassee could provide the basis, with an appropriate follow-up, for a uniquely comprehensive investigation of recidivism. Over the years an unusually broad array of data had been collected on a cohort of 1345 consecutive admissions admitted to the institution during the two year period from November 3, 1970 through November 2, 1972. Whereas most studies in the literature have been limited to available file data, generally demographic but sometimes including tests, the longitudinal study had been characterized by the use of a variety of data collection methods, including not only the usual file data and intake tests, but also comprehensive interviews upon entry and departure from the institution, medical data, psychologists' observations, and detailed records of institutional adjustment in several areas. The use of such a broad array of potential predictors would enable the investigator to make recommendations as to the optimal sorts of data for use in future studies on the prediction of community success or failure.

The broad scale of the parent study also enabled us to determine the relative relationship to recidivism of data collected at or pertaining to different segments of time: the developmental period leading up to the offense, the status of the inmate upon entry into the institution, his adjustment and behavior during his incarceration, his status upon departure from the FCI, and, to a limited degree, the nature of supervision following his release. This comparison would have important implications regarding the optimum time at which to collect

data for the prediction of recidivism. Taking these two aspects conjointly, the array of data available in the overall study should permit recommendations to be made concerning the optimum sorts of data to collect and the optimum times at which to collect them for recidivism research and prediction.

With respect to the operational definition of recidivism, two major methodological problems were identified in the literature review. The first concerned the adequacy of the criminal career information available to the researcher. In the current study, the use of a Federal institution enabled us to access the NCIC records which were generally agreed to be the best single source of information regarding subsequent criminal behavior.

The second major issue was the question of the best criterion of recidivism to use, arrests, convictions, incarcerations etc. The availability of a data base as comprehensive as the NCIC files enabled us to apply a number of different operational definitions, so their interrelationships could be determined and the best ones selected.

A drawback to many investigations in the literature was the fact that the researchers were operating under time constraints. The longitudinal nature of the present study guaranteed that the appropriate temporal sequence would obtain between the collection of the predictive and the criterion data. Moreover, the fact that several years had passed since the study was begun ensured an adequate follow-up period had passed so that most of those who were going to recidiviate had recidivated.

Another methodological problem that was identified was the use of multiple, nonindependent, significance tests. Given the broad array of data to be investigated in the present study, this could also have been a major drawback to the present research if the findings were not properly crossvalidated. To cope with

this problem, the sample was divided into two subgroups, with all correlation coefficients computed separately for the two subsamples. Only those variables that attained respectable levels of statistical significance in both groups would be regarded as having reliable relationships to the criteria.

A related problem concerned the optimal weighting of potential predictor variables. To meet this problem, multivariate regression analyses were planned so that the optimal weight could be empirically determined. Again, crossvalidations were planned; two-thirds of the total sample, randomly selected would be used for the derivation of multiple regression equations which would be crossvalidated on the remaining third.

Thus, it was hoped that the use of a longitudinal design, with an unprecedentedly broad array of independent variables collected at, and relating to, different time periods being related to several criteria of recidivism determined from NCIC records, analyzed using multivariate statistical procedures and crossvalidating the results on an independent sample, would help to resolve empirically a number of the issues and problems pertaining to recidivism research and contribute to progress in the field.

CHAPTER IV

Setting: The Federal Correctional Institution, Tallahassee, Florida

When this program of research began in 1970, the Federal Correctional Institution at Tallahassee was a medium security institution for youthful offenders with an average daily census of about 500. During the course of the project the population increased to a peak of 628 during July and August, 1973, when a moratorium on new admissions was imposed, after which the count decreased. By the end of data collection, the mean population had stabilized at about 550.

Physical Plant

The Federal Correctional Institution at Tallahassee is surrounded by two high fences enclosing a little over 21 acres. There are four observation towers manned by armed officers at each corner of the rectangular perimeter.

The institution can be divided into four main areas, the administration area, the central compound, the education-industrial complex and the recreational area.

Administrative Buildings

The Administration Building contained offices for the warden and associate warden, the financial office, the personnel office and the visiting rooms. During the first part of the project, the records office and Classification and Personnel section were also located there. Later these offices were moved to the educational-industrial complex on September 15, 1972.

The Receiving Building housed the cell house, the hospital and the outpatient medical and dental clinics and the receiving-discharge section. At the beginning of the project, the Mental Health Unit was also located in this building but it, too, was moved to the educational-industrial complex in September, 1972.

Central Compound and Dormitories

The central compound consisted of a large lawn bounded on the south by the Receiving Building and in the north by the Utility Building, which contained the mess hall, the theater and indoor recreational and arts and crafts facilities. On both the east and west sides the compound was bounded by two dormitories. These four dormitories, each containing two separate wings, each accommodated about 25% of the residents.

Each wing consisted of a 96' x 39' dormitory area, a 15' x 30' bathroom area, a 19' x 23' day room with a television and a 23' x 13' game room. Entry was provided by a 23' x 7' vestibule. The average population of each wing was about 70 men. Each had his own bunk and night stand except for times when population increases and renovation of dorms forced double bunking. After each dormitory was renovated, the game room was eliminated and the size of the TV room reduced to 20' x 17' to provide on-the-dorm space for the unit staff. As part of the renovation, cubicles were installed to provide greater privacy and the bathing area, which had been open to public view, was screened off.

The renovation of D-North began on January, 1973, and was completed in May, whereupon D-South was begun and completed in July. A-North was begun then and completed in and completed in September and A-South was started in September and completed in November, 1973. Thus, during almost all of 1973 the institution suffered from dislocations caused by the renovation compounded by the highest population count experienced during the project. It is hardly surprising that our data show the most disciplinary infractions occurred during this year, particularly in the hot month of August when we had the highest count.

The dormitory renovation project was not resumed until August, 1974, after data collection was completed. In the interim half the residents lived in renovated dorms and half in the unrenovated dorms.

Educational-Industrial Complex

The educational-industrial complex was located in a hollow below the central compound. Access was provided through a gate in the northeast corner of the compound. This gate was open from 8:00 A.M. when the inmates reported for work or classes until 4:00 P.M. when they returned to their bunks for the count. The area also was open during the evenings on school nights for classes and for study hall. The area was closed during weekends and also during periods of dense fog when the fences could not be adequately observed from the towers.*

At the outset of the project, the educational-industrial (E-I) complex contained the academic classrooms and vocational training shop areas, Federal Prison Industries and our research area.

During 1972 office buildings were constructed for the classification and parole (C&P) unit, the Records Office and the mental health unit, and these units moved from the Administrative area to the Educational-Industrial Complex on September 15, 1972.

The chaplain's office was moved adjacent to the research area. This move placed the treatment personnel in close proximity to the areas where the residents were working and studying so that they would be more accessible during the day. The secretarial staff also moved so that younger women, almost all of whom had been confined to the administrative area, were seen daily walking through the compound en route to the E-I complex. (Two years earlier, when we had employed an

*Inmates in this lower compound, as well as in the recreational area, had direct access to the perimeter fences unlike the central compound where the buildings and fences blocked access to the perimeter.

FSU coed to administer exit tests, she had to be replaced when an inmate wrote the warden complaining that having to watch her walk to work each day constituted "cruel and unusual punishment" in his deprived state.)

The Educational-Industrial Complex also contained shops and buildings serving to maintain the institution: the powerhouse, the warehouse, mechanical services, safety and sanitation and the like.

Recreation Area

Tallahassee is in an area with a mild climate so outdoor recreation is feasible throughout the year. The recreation area contained outdoor basketball courts, a weight lifting area, a horse shoe set, a shuffleboard court, a track, a miniature golf course, tennis courts, a handball court, a boccie court, and two baseball diamonds. In the fall, residents used the baseball fields for touch football. One area is set aside for sunbathing although sunbathing on the compound is also popular. The area is open during almost all the waking hours every day of the week for the use of inmates who are not scheduled for other activities or details.

Community Resources

Historically, correctional institutions have been located in isolated areas. Although this serves to help society ignore the needs and problems of contemporary corrections, such isolation deprives the institution of vital resources needed to rehabilitate the residents.

FCI, Tallahassee is a happy exception to this rule, because it is located in the state capital of Florida and has the resources of two universities and a community college to draw on. The present research project, and the psychology training program with which it is entwined, is a prime example of mutually beneficial collaboration between the FCI and the Florida State University Psychology

Department. However, the FCI also has cooperative programs with and can draw on the resources of the FSU Law School, School of Criminology and School of Social Work. FCI inmates can enroll in college courses offered by all these institutions as well as obtain technical training from Lively Vocational-Technical School

In addition to the resources at the institution of higher learning, the state capital is the headquarters for all the state criminal justice agencies and fruitful consultations with state criminal justice planners and experts are possible for FCI staff.

A unique community resource that developed during the project, was Terrell House at Tallahassee, a community sponsored endeavour that offered help in the forms of meals, child care, transportation and counseling to wives and families of FCI inmates.

Population

The FCI population consists of young men, aged from about 18 to 27, who have been convicted of Federal felonies and sentenced to prison. As a general rule, prison sentences are not imposed on youthful offenders unless the crime, or series of crimes, for which the individual has been convicted are serious and/or his past record indicates that non-institutional alternatives such as probation, have little chance of success in rehabilitating the individual. There are, of course, exceptions. Conscientious objectors who refused induction often had exemplary civilian records and posed no threat to the community but were imprisoned as a deterrant to others. However, for the most part, institutions such as the FCI receive individuals who are perceived as threats to society and/or as being in need of the types of programs that are best offered in an institutional setting.

As already noted, the FCI population was about 500 when the project began but it increased to almost 630 by 1973 before dropping down and stabilizing

at about 550. This increase greatly increased the size of the sample studied.

FCI inmates could enter the institution directly from the courts or by transfer from other institutions. Transfers in (and out) could occur for a number of reasons, such as failure to adapt, need for unavailable specialized programs, health proximity to family or work resources and so forth. Other things being equal, the Bureau of Prisons attempts to locate each inmate in the facility that best meets his needs which is closest to his home. For this reason the bulk of the FCI residents are from the Southeastern states. The population is about 65% white, 35% black. Since the population is relatively young, and therefore presumably more amenable to change, the Tallahassee institution offered a wide variety of educational and treatment programs. In assigning a man to Tallahassee, there was a presumption that he would benefit from such efforts as rehabilitation.

The actual demographic characteristics of the cohort studied in the present project will be described in a later section.

FCI Staff and Personnel

Organizational Structure

During the bulk of the project, the FCI was headed by a warden and one associate warden. Department heads reported to the warden through the associate warden. These department heads included the chief correctional supervisor (captain), the chief of mechanical services, the personnel officer, the business manager, the food service administrator, the chief of classification and parole, the chief of mental health programs, the supervisor of education, the chaplain, and the hospital administrator. Reporting directly to the warden were the superintendent of Federal Prison Industries and the Safety manager.

Treatment Teams

Although the offices such as business and personnel are vital to the

running of an institution, the average inmate's life was primarily conditioned by those staff members with whom he came in contact and who had some measure of direct control over his life. In terms of power, the people the resident was most concerned with were the members of his classification and treatment team. During the project there were four such teams, one for each dormitory. Inmates were assigned to teams upon intake, with the primary concern being to maintain the equal size of the dormitories. This ensured an essentially random assignment of inmates to teams. Each treatment team was comprised of representatives from classification and parole (C&P), education, a custodial officer, and a psychologist. During the first month, while the newly arrived inmate was assigned to Admissions and Orientation, the members of the team interviewed him, studied the results of the various tests that he took and reviewed his records. At the end of this period they met and devised an individual treatment program for the inmate.

Throughout his stay at the FCI, all program changes were made by the team, sometimes in response to the inmate's requests, or to events such as attaining a goal or committing an offense, or as a result of progress reviews held at 90-day intervals.

It was the responsibility of the team, specifically the C&P representative, to prepare the inmate for parole hearings and to make recommendations regarding parole.

During much of the project period, the team also served as the disciplinary committee. Reports of disciplinary violations were referred to the team for action. They met with the inmate, discussed the charges with him, determined his guilt or innocence, and, if the former, decided on an appropriate penalty. This policy varied however, because teams often found it difficult to combine the disciplinary and treatment roles. Moreover, different teams could vary in their response to infractions and such perceived inconsistency or "unfairness" could

make for morale problems. So at other times all disciplinary infractions were handled by a central committee composed of the associate warden, chief of C&P and the Captain. The drawback to this procedure was that the people who supposedly knew the resident best did not make these vital decisions. It was also detrimental when the inmate perceived that his team disagreed with the decision of the institution-wide committee. Over the years the pendulum has swung back and forth between central and team-based disciplinary procedures with neither being entirely satisfactory to all concerned.

Beginning in July, 1971, the treatment teams were also responsible for recommending the amount of Meritorious Service Awards (MSA). These awards, ranging in $5.00 units from $5.00 to $25.00 were designed as incentives to encourage each inmate to develop at his maximum potential. Once an award was made, it continued in effect until the team decided to raise or lower the amount. (In addition to this type of MSA, there was also educational MSA which was handled independently.)

Other Personnel Having Contact with Inmates

Although the treatment team is the group having the most direct control over the inmate's program, there are other staff members with whom he may have more contact. These include his work detail supervisor, his teachers, and the dormitory officer on the evening watch. Dormitory officers generally rotated every 90 days. Whereas the C&P representative and the psychologist generally had to be seen by appointment (by filing a "cop out") these other individuals were always present and their attitudes and styles could profoundly influence a resident's morale and attitude toward authority.

In addition to these individuals, many inmates were also involved in individual and group treatment; in such cases the counselor or therapist, who might also be a team member, could be influential. The chaplain also conducted

an active counseling program.

During the course of the project, the Bureau of Prisons created new case-work counselor positions and special training programs were instituted to upgrade custodial personnel to these counseling positions. These counselors were based in the dorms and were supposed to be more accessible to the residents. This was a forerunner to the present unit management program.

Personnel Changes

The Bureau of Prisons is reminiscent of the military in that personnel are frequently transferred from one facility to another. As a general rule, promotion to a new supervisory position involved a transfer. During the course of the project, changes in key administrative personnel seemed to be unusually frequent. Warden John A. Mayden, who had suggested the project and set aside the space for the on-site laboratory, retired in late 1970 and was replaced by Warden Harold Pryse. Pryse also retired and was succeeded by Warden Sam Britton who was later transferred to Leavenworth. Warden Marshall Holley succeeded Britton, and when Holley was transferred to Terre Haute, Associate Warden Gerald Farkas replaced him. From June 1, 1970 through August 31, 1974, we had six associate wardens (Irl Day, George Diffenbaucher, Gerald Farkas, Richard Waszak, Charles Kramer, and Henry Gilbert), three captains (James Rhoedes, Arthur Groth, and Hubert Ricks), two chiefs of Classification and Parole (George Murphy and Bill Story), three education supervisors (Henry Gilbert, Carl Dooley, and Bob Honsted), and four chief psychologists (Cooper Price, Jerry Meketon, Gil Ingram and Martin Bohn). Since each of these departments was centrally concerned with the data collection process, these changes required continued liaison work on the part of the investigators. Each man naturally had his influence on the goals and operation of his respective department, which makes it difficult to specify a single philosophy or approach for any given department over the course of the project.

Programs

Overall Program

A brochure published by the FCI in 1971 described the program as follows:

"There are four basic elements in the Tallahassee program- (1) diagnosis of the needs of the individual, (2) assigning him to an institutional program designed to meet those needs, (3) evaluation of results and (4) pre-release and post-release planning to help the inmate make a successful adjustment on his return to the community."

"Individual programs are under the guidance of case management teams. These are composed of a caseworker, education specialist, psychologist and correctional counselor. While tests, subjective analysis and community resources make major contributions in guiding the team decisions, stress is placed upon the inmate's participation in planning goals for himself and on the observations of personnel involved in his daily life."

"Program components include education, both supportive and vocational; group and individual counseling; religious participation; medical care; and recreation. Formalized vocational training programs are supplemented by structured on-the-job training programs in several occupational fields and by community training and work-release programs. Group and individual counseling or therapy is supplied by a staff of social workers, psychologists, chaplains, and correctional officers trained in group work. Graduate students in social work, psychology and criminology and upper class law school students add to the effectiveness of the counseling programs."

"The Tallahassee community is an integral part of the institution program. Florida State University and Florida A and M are located in Tallahassee. Both participate in cooperative programs training inmates, students and personnel. They are major resources in research programs. The Florida State University divisions of Social Work, Psychology and Criminology have well established intern programs at the institution and also provide personnel training."

"Ongoing and productive research has been made possible at Tallahassee through the interest of university personnel, the presence of staff with research interests and capacities, and administrative support."

"Work-and study-release are continuing community-based programs. Approximately one-half of the work-releasees sent into the community are employed in fields for which they were trained at the institution. Contacts between employers and institution personnel supply feedback on the quality and effectiveness of training programs."

"Combining the resources of the institution and the community, the Tallahassee staff expects to make significant contributions to correctional knowledge in diagnosis, program building and evaluation. The goal is, of course, an increasing percentage of young men with the desire and the capacity to be productive citizens after release."

Educational Program

During the data collection period, education was one of the major elements in program planning. The goal was to provide each "graduate" with the training he would need to support himself honestly "on the street."

Academic training from primary through college levels was offered as was vocational training.

Academic Training. The Education Department offered academic training at three levels: Elementary (grades 1-6), High School (grades 7-12) and college. The assignment to levels was based partly on previous academic achievement (e.g., graduation from high school), but primarily on the basis of scores on the Stanford Achievement Test. Intelligence as assessed by the Beta and General Aptitude Test Battery (GATB) were also considered.

In the elementary and high school levels, students were expected to move at their own pace. The goal of the department was to individualize the instructional program for each student taking into account his educational assets and deficiencies as well as his ability and motivation. The eventual goal for most students in these programs was attainment of a G.E.D. high school equivalency diploma.

Over the course of the project, and continuing to the present, there has been an increasing emphasis on college level education in cooperation with local institutions of higher learning. The college courses are naturally more structured, running on the same quarter system as the local community college and universities.

At the outset of the project, college level instruction was primarily obtained by means of study-release, with inmates attending classes on the various campuses. For a variety of reasons, there was a decrease in study and work release programs, so by the end of the data collection, most of the college program was based within the institution using outside instructors.

Vocational Training. The education department also offered vocational training (V.T.) in five areas: auto mechanics, auto body, masonry, welding and machine shop. These courses typically involved a combination of classroom and

applied experience. This vocational training is distinct from the on-the-job training afforded by Mechanical Services Department and Federal Prison Industries.

Treatment Programs

The therapy and counseling activities at the FCI were considerably less structured than the educational program. To some extent, this reflected the fact that an education department must keep accurate records of enrollment, grades, and the like to be able to certify the accomplishments of the students. But this lack of structure also reflected the fact that the responsibility for "treatment" was more diffuse and that "counseling" and "therapy" was less defined activities.

At the beginning of the project, in June 1970, there was considerable debate among institutional staff over what constituted "therapy" and "counseling." As is often the case, this was precipitated in part by the introduction of a new form, in this case the BP 6.1 (See Apparatus).

This form required a report of whether an inmate was assigned to individual or group counseling or psychotherapy. This led to discussions as to the differences between therapy and counseling, and counseling and "informal guidance" and as to who was qualified to perform each activity. Professional identities became involved with psychiatrists, psychologists, caseworkers and custodial staff resenting perceived intrusions into their domains or reflections on their competence.

In the last quarter of 1970, the warden retired, the chief psychologist resigned and there were several staff changes in the C&P section. The result was a more laissez-faire attitude in which all members of the staff were encouraged to participate in the treatment program according to their abilities and inclinations. This led to the formation of a number of treatment groups with

different goals and methods. By 1971 the associate warden (later the Mental Health Coordinator) had to expend considerable energy just keeping track of the various group and individual treatment activities and periodically ascertaining which inmates were involved in which activities, much less the nature of the groups.

An inmate's participation in counseling or therapy occurred in a variety of ways. Although no one could be ordered into treatment, the treatment team might suggest that individual or group counseling might be beneficial. Often an individual resident would seek out his caseworker, correctional counselor or psychologist for advice which might develop into a counseling relationship or in a referral for therapy by a graduate student intern or trainee. Or a fellow inmate might suggest participation in a group.

The chaplain along with volunteer assistants also offered counseling. In addition to his role as spiritual advisor, he also formed family-problem groups focusing on helping married residents cope with the family problems engendered by confinement (Swartsfager, 1972). These groups led in part to the founding of Terrell House described above.

There were also other, more informal, groups that got involved with treatment efforts. There was an active chapter of Alcoholics Anonymous. Other religious groups coalesced to help one another, sometimes with community support (as with a draft-resister group that formed with the local ministers as advisors) and sometimes strictly on a peer basis, as with the Black Muslims.

Because it was less formal and structured, participation in the treatment and religious programs was less well documented than educational participation. Moreover, whereas the education department was required to assign monthly grades, no "grades" or evaluations of progress in counseling were maintained. To

evaluate the effectiveness of these programs, it is necessary to use overt behavior, self-reports and measured changes over the course of confinement as the criteria.

Work

All inmates, except for those programmed full-time for education, were assigned to a job in the institution. The work assignments served three principal functions, (1) to maintain the institution, (2) to teach skills, and (3) to keep the residents productivly occupied. Not every job filled all three functions. For example, an inmate assigned to Mechanical Services could be placed on either general or specific maintenance. In general maintenance he would work as a variety of crews--electrical, painting, landscaping, etc.--as he was needed. On specific maintenance, on-the-job training was provided and records kept of his skills.

In general, there were two primary programs for teaching trade or occupational skills, the V.T. program run by Education and the on-the-job training program run by the Mechanical Services and Food Services Department. The latter involved a number of areas including construction cement, plumbing, baking, electrical work, carpentry, landscaping, etc. It existed not only to serve the institutional needs--our lab was built by OJT crews--but also to provide apprenticeship training for future employment in specific skill areas.

Not all on-the-job training came through Mechanical or Food Services. In the Hospital, selected inmates were taught techniques of dental hygiene and x-ray, and others in the financial office might learn the operation of office equipment and the rudiments of bookkeeping.

Although many jobs served as educational capacity, this was not true of all. Inmates assigned as dormitory orderlies, bus boys, food handlers or the like were not expected to learn specific skills although it was hoped they would

acquire good work habits.

Over the course of their confinement inmates' programs varied and they would be assigned to different work details in response to the needs of the institution and the individual. Obviously, there had to be enough men assigned to the kitchen to ensure that everyone was fed regularly. As a man moved into a fulltime educational program, he would be taken off his work assignment. Later, after completion of educational objectives (or dropping out) he might be reassigned to a full or part time work detail.

If someone did an outstanding job in one area, he might be selected for reassignment to a more responsible position, or vice versa.

Work assignments could also be changed for disciplinary reasons. The teams tended to use the more desirable job assignments as rewards for good behavior. On the other hand, someone with a "good" job who committed a serious infraction and spent some time in the cell house could not expect his old job to be waiting for him when he got out, particularly if he showed a poor attitude. As in the military, it would be likely that the team would reassign him to the kitchen or to the laundry until his behavior improved. Of course, instances where misconduct was directly related to the job, such as failure to report to work, insolence to a supervisor or abuse of trust (misusing tools, stealing supplies or records, etc.) often resulted in assignment changes. An important aspect of the research project was keeping track of these various program changes over the course of a period of confinement.

Federal Prison Industries

Tallahassee also had a Federal Prison Industries (FPI) program which specialized in refabricating furniture and making chocks for airplane wheels. F.P.I. is a profit-making enterprise with the products being sold to various units of the federal government rather than being used to maintain the local institution. The advantage of the F.P.I. is that it operates on a profit-sharing

basis that enables residents to earn considerably more money than was possible through the regular M.S.A. program. The amount earned by each inmate varied as a function of the F.P.I. profits, the amount of time he worked, seniority and quality of work. Men beginning the F.P.I. program would earn on the average about $36 per month full time and experienced workers with some seniority averaged $87 a month in 1974.

Generally residents requested assignment to F.P.I. and there was a waiting list. Such assignment would be most desirable for an individual with pressing financial obligations or a need to accumulate a stake for release and who had gone as far as he could in the educational program.

CHAPTER V

Sampling

In the overall longtitudinal research project which provided the data for the present investigation, every inmate who entered the FCI between November 3, 1970 and November 2, 1972, some 1345 young men in all, was a subject. In this chapter, this 1345 men cohort will be described first and then the procedures used to identify those eligible for the recidivism study will be reported.

Description of the Cohort

Of the 1345 subjects, 856 (63.6%) were white, 475 (35.3%) were black, 10 (0.7%) were American-Indians, none were oriental and 4 (0.3%) were classified as "Other." Their ages at time of entry into the FCI ranged from 17 to 32 with a mean of 22.5 and a standard deviation of 2.3.

The data showed that 56% of the sample were single, 26% were married, 7% were divorced and 7% were separated, 4% were reported as living in common-law relationships and one subject was a widower.

Most of the subjects (70.5%) had no military record. Of the 28.6% of the cohort who had served in the armed service, 35% had been given an honorable discharge, 12% a general discharge, 3% a medical discharge, 28% in "other than honorable" discharge, and 22% had not been discharged.

As might be expected, the Southeastern states counted for the bulk of the commitments. Florida led the list with 26% followed by Georgia (18%), Alabama (12%), Tennessee (7%), North Carolina (6%), Louisiana (5%), and South Carolina (5%). Other states represented in this sample, all of which accounted for less than 2% of the cohort, included Arizona, Arkansas, California, Colorado, Connecticut, Illinois, Indiana, Iowa, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New York, Ohio, Oklahoma, Oregon, Pennsylvania,

Texas, Virginia, Washington State, West Virginia, District of Columbia, Puerto Rico, Virgin Islands and the Canal Zone. The sample was quite varied with respect to the number of times they had been arrested. The mean number of total arrest was 7.35, the standard deviation 7.8. Eleven percent had only one arrest, 10% had two, 10% had three, 9% had four, and 10% had five, so 51% had from one to five total arrests. Thirty percent had been arrested from six to 10 times, 13% from 11 to 15 times, and 4% from 16 to 20 times, while 4% had more than 20 arrests. The age at the time of the first arrest ranged from six to 30 and the mean age of 17, and the standard deviation of 5.1. Using the criterion of at least one prior adult commitment of at least six months or more, 38% would be classified as recidivists.

The maximum sentences to be served upon arrival in Tallahassee ranged from 30 days to 30 years with a median of three years. The modal sentence, which was imposed on 233 of the men, was a zero to six year indeterminant sentence or "zip-six" inmate argot. The mean length of stay at FCI, Tallahassee was 11.6 months with a standard deviation of 7.4 months. The range was from zero to 42 months. Of course, some subjects remained confined at the end of data collection on July 1, 1974.

In terms of the highest grade level attained, the mean educational level for this sample was 9.9 with a standard deviation of 3.1. The median grade level was 10 and the range was from the first grade through college and even graduate school.

A comparison of the highest grade level attained with the SAT grade level scores show that the SAT indicated lower achievement than the mean grade level would suggests. The mean of the SAT median score was 7.4 with a standard deviation of 2.6. This would suggest that a sizeable portion of the individuals in the cohort were underachievers who had received age promotions rather than

being held back.

By age 13, 2.5% had left school, 5% left school at the age of 14, 11% at age 15, 20% at the age 16, 25% at the age of 17, 18% at the age of 18, 7% at the age of 19 and then the percentages steadily declined as a function of age. This indicates that most of the subjects attended school at least through the legal mandatory age required rather than being institutionalized at an early age; 47 subjects or about 4% less than the whole sample were reported to have attended college. Turning from educational level to intelligence, the mean Beta IQ was 100.74 with a standard deviation of 14.22. The GATB general score, a verbal intelligence measure, had a mean of 107.7 and a standard deviation of 38.05. The discrepancy between the Beta and the GATB can be attributed to the fact that the education department only administered the GATB to those individuals whose SAT scores showed at least a sixth grade reading ability. Since the GATB was only administered to the upper level of the achievement distribution, it is not surprising that the scores obtained are higher than those obtained on the Beta, which was administered to virtually everybody.

Selection of Subjects

A total of 1345 individuals were studied as part of the overall longitudinal study. Through the efforts of the Research Division of the Federal Bureau of Prisons, the NCIC records were accessed for the 1345 men; "hits" were obtained for 1280 or 95% of the records accessed. The NCIC files showed no records for the remaining men even after several inquiries had been made and all identifiers had been checked for accuracy. A number of factors could account for these failures to get a "hit." An error on the part of the investigators resulted in the loss of 65 cases for which "hits" had been obtained. Thus, after accessing the NCIC files and after the procedural error by the local team, 1215

or 90% of the cohort cases was available for coding and analysis.

Of these 1215 cases, 67 were found to have insufficient data for us to make even our most rudimentary determinations of recidivism. For example, a common problem was an indication that an individual had left prison but with no specification as to the date or mode of departure, thus making it impossible to determine if he had been in the community the requisite 18 months. Another problem that was encountered was a record of an individual entering an institution followed by a record of arrest with no indication whether the person had actually left prison.

This left 1148 cases or 85% of the total cohort for which there were sufficient data to enable a determination of recidivism according to one or more of the 13 operational definitions being tested. Of the 1148, 1011 satisfied the requirement of having been released to the community no later than January 1, 1975; the remainder were still incarcerated or had not been released after the cut-off date. To some extent, this would bias the sample toward the less serious offenders, who were not serving lengthy sentences, and toward those who entered the FCI in 1971 as opposed to 1972. However, it is obviously impossible to include a person who has never been released and hence never had a chance to recidivate in a study of recidivism; to do so would make the institution success rate look better than it actually is; the apparent success rate would also be inflated by the inclusion of men who had only recently been released and had had less than 18 months in which to commit new offenses.

Thus, 1011 or about 75% of the 1345 man cohort had sufficient data and had been released to the community long enough for their recidivism rates and the factors associated with success or failure in the community to be studied. The number of months that had passed from the time these men had been released

until the cut-off date of July 1, 1976 ranged from 18 to 67 months. The mean follow-up period for these 1011 men was 42.81 months with a standard deviation of 10.7 months. Since the literature indicates that 85% of the individuals who are going to recidivate do so within two years of release, this follow-up period should have been sufficient to identify the vast majority, if not virtually all, of the recidivists in the sample.

CHAPTER VI

Measuring Instruments, Apparatus and Variables Studied

Overall Data Collection Strategy

Group Testing. A standard battery of tests was administered to all subjects during the first two weeks of the admissions and orientation.

Individual Interviewing. It was decided from the outset that each inmate should receive an individual structured interview administered by the staff psychologist assigned to his treatment team. The purpose of this interview was to obtain attitudinal measures and personal life history data not routinely available in central files and to provide the team psychologist with information helpful in classifying the inmate. This interview was then rated by two independent raters.

Autonomic Screening Procedures. In addition to the test and interview data, it was decided that all inmates who were willing would be screened on a procedure designed to determine their pattern of autonomic reactivity under stressful conditions.

Central Records Data. Central file data were to be routinely collected. After classification, certain data are routinely collected from the central record jacket. This included the Classification Summary, the Bureau of Prisons RAPS heets, and the Presentence Investigation (PSI).* The RAPS data were punched directly onto data cards; the Classification Summary and PSI were rated on a number of scales by members of this task force.

Progress Reports. A major goal of the project was to relate information obtained upon the inmate's entry into the institution to his subsequent adjustment within the institution. For this to be feasible it was necessary to obtain

* Although the FCI made the PSI available for study and rating by authorized project personnel, this document remained in the possession of the institution.

reliable and systematic data on each inmate's adjustment and progress during his institutional stay.

Exit Data. Upon leaving the institution each inmate had a second interview and was retested on some of the measures that had previously been administered.

Post-release Data. To provide the criterion data for the present investigation of recidivism, the NCIC records were accessed in July of 1976 to provide information on the subsequent criminal careers of all those in the cohort up through July 1, 1976. At this time 75% of the sample had been released for 18 months or more, the mean time being 42.81 months.

In the pages that follow, each of these data bases and the variables they include will be described in detail.

Psychological Tests

Intelligence and Ability Measures

Four tests were administered to determine the ability and achievement levels of each inmate and his pattern of vocational interests:

Revised Beta Examination. The Revised Beta Examination was designed as a measure of general intellectual ability for people who are relatively illiterate or non-English-speaking. The test was designed to provide an intelligence quotient that would be similar in meaning to the WAIS IQ. Unlike most intelligence tests, it was designed for use in penal systems, and 1225 white male adult inmates at the U. S. Federal Penitentiary at Lewisburg were included in this final standardization sample.

From the data, weighted scores are obtained on each of six subjects: Mazes, Digit-Symbol, Error Recognition, Form Board, Picture Completion, and

Identities. These subtest scores are then combined and an overall IQ is obtained.

General Aptitude Testing Battery.* The General Aptitude Testing Battery (GATB) is a factor analytically developed classification inventory developed by the United States Employment Service for use by employment counselors in State Employment Service offices. The standard score norms were derived from a sample of 4000 cases stratified according to age, sex, education, occupation, and geographical distribution to match the 1940 working population of the United States. Subsequent research has shown the score patterns and aptitudes necessary for a variety of occupations. Employment counseling with the GATB is based on multiple cut-off procedure, with a minimum score on each of the various factors required for a given occupation.

More relevant to its use in a correctional setting is the fact that the test is highly speeded. However, a nonverbal measure of the first factor, intelligence, has been developed for use with non-English-speaking or educationally deficient applicants.

In the present study one factor score, G (Intelligence was used.

Stanford Achievement Tests. The Stanford Achievement Tests are a well known set of multilevel achievement tests designed for use from the first through the twelfth grade. At the FCI any one of five tests may be administered:

*Both the GATB and the SAT were administered by the Education Department. Incoming inmates were routinely referred to Education for testing, but those inmates who had had the GATB and SAT recently (i.e., within the last six months) were almost always excused if they objected to taking the tests again.

Primary I, Primary II, Intermediate I, Intermediate II, and Advanced. For each test, several different forms are available.

For most literate inmates, the following SAT scores are available: Paragraph Meaning, Spelling, Language, Arithmetic Comprehension, Arithmetic Concepts, Arithmetic Application, Word Meaning, and Battery Median. For many, scores on the Arithmetic Reasoning test are also available. However, SAT scores are rarely available for the Social Studies, Science, Word Study, or Science Social Studies tests. In the present study the SAT median score was used.

Minnesota Vocational Interest Inventory (MVII). Whereas the Beta, SAT, and GATB are in standard use throughout the Federal Prison System, the MVII was added by the project specifically for research purposes. Until recently, psychologists have had difficulties in measuring the vocational interest patterns of prison inmates because the available tests were geared towards high level occupations often requiring college and postgraduate education. With the development of the MVII, psychologists had available an instrument aimed at skilled and semi-skilled trades requiring no more than a high school education. Therefore, this test, developed and validated on a sample of Navy enlisted men, seemed particularly appropriate for adoption on a trial basis as part of the current research project. While the test does require some reading skills, the language is simplified enough so that most of the FCI population should be able to obtain valid scores; certainly the vocabulary level and sentence construction are much simpler than those on the MMPI, for example. The test consists of 158 items in which the examinee must choose among three alternative tasks or occupations, indicating which one he would like most and which he would like least.

MVII scores are available for 21 different specific occupations as well

as for nine different general vocational areas. Scoring is done at the FSU computer center from item-punched input data. For research purposes, punched item data, punched output data, and printed output data are available.

Personality Inventories

Minnesota Multiphasic Personality Inventory. Required of all inmates by the Bureau of Prisons, this 566-item personality inventory is computer-scored on 96 different scales and indices. The punched output includes raw scores on all scales and printed output includes not only these raw scores but also T-scores based on national and on local norms, a profile, a list of critical items, and the results of the application of certain interpretive rules and formulae. In addition the item responses are stored so new scales can be developed or scored.

California Psychological Inventory. This 480-item-inventory is scored on 24 scales. As with the MMPI, the answer sheets were turned over to a key punch operator who punched the item data in binary fashion. A scoring program developed by Dr. Robert Lushene was then applied. Punched output included the scores on all 24 scales, whereas the printed output is available only on the regularly scored CPI scales. A list of the scales scored for the CPI is presented in Table 1-5.

Adjective Check List (ACL). The ACL is a brief, versatile, rather obvious device for the assessment of self-concepts. It consists of 300 adjectives, arranged alphabetically, from "absentminded" to "zany." The respondent's task is to indicate which adjectives he considers self-descriptive. He is told to

work rapidly and not worry about duplications or contradictions. Because of the vocabulary level required, the ACL proved to be the most difficult test for the inmates. Problems in comprehension resulted in low endorsement rates for many Ss.

A set of 24 scales has been devised by Gough and Heilbrun for scoring the Adjective Check List. Three of these scales measure response sets such as the total number of adjectives marked, the number of favorable adjectives marked, and the number of unfavorable adjectives marked. Five other scales were developed by empirical item keying against external criteria. These include the scales for self-confidence, self-control, lability, personal adjustment, and counseling readiness. The remaining 15 scales were rationally derived and designed to reflect traits in Henry Murray's system of personality description.

Specialized and Experimental Measures

In addition to the wide-band personality inventories discussed above, several short tests and scales were included in the battery to measure dimensions or traits of particular interest to the investigators. Some of these measures are well validated; others are experimental.

POS/IPI. This instrument represents a combination of two tests designed to operationalize typological constructs. "POS" refers to the Personal Opinion Study devised and published by Herbert Quay and Donald Peterson. This 100-item paper-and-pencil test was developed to provide measures of the extent of deviance on three dimensions in Quay's typological analysis of deviance: psychopathy, neuroticism, and subcultural deviance. Despite the fact that Quay's typology is based primarily on juvenile delinquents rather than youthful offenders, and

despite the fact that the full typological analysis requires not only questionnaire data but also ratings from case histories and observations of ongoing behavior, it was hoped that the use of the POS would permit tests of certain of Quay's hypotheses and assess the utility of this threefold typological system in the present institution.

The second part of this hybrid instrument consisted of items from the Interpersonal Personality Inventory (IPI) developed by Ballard, Fosen, Neiswonger, Fowler, Belasco, and Tyler (1963) to measure the construct of "interpersonal maturity" proposed by Marguerite Q. Warren and Theodore Palmer as a basic dimension underlying differences among juvenile delinquents. Ideally, it would have been desirable to devise a system whereby the complete California typological classification could have been imposed. Unfortunately, this requires intensive individual interviewing by personnel specifically trained in this frame of reference. Not having such personnel available, the IPI items relevant to interpersonal maturity were extracted in order to provide a rough measure of the gross interpersonal maturity level.

The POS/IPI, then, consists of 148 items, the first 100 being the POS and the remaining 48 consisting of the scored items from the IPI. The 45 buffer items on the original IPI were deleted. From this instrument scores were obtained on psychopathic delinquency, neurotic delinquency, subcultural delinquency, and interpersonal maturity level.

State-Trait Inventory. This brief questionnaire measures two concepts of central importance in Spielberger's program of research, State Anxiety and Trait Anxiety. Spielberger and his students have maintained that the distinction between trait anxiety, a relatively stable and enduring predisposition, and state anxiety, a more transitory, temporary mood, are crucial for the understanding of the relationship between anxiety and other behaviors and personality dimensions.

The STAI consists of two scales, each consisting of 20 items. The State scale describes various feelings and the respondent indicates on a four-point scale whether this feeling is one that he has "not at all," "somewhat," "moderately so," or "very much so." The instructions emphasize that he is to respond on the basis of how he feels at the very moment he is taking the test. The Trait anxiety measure consists of 20 descriptions of typical feelings or behavior patterns and the respondent indicates whether these apply to him "almost never," "sometimes," "often," or "almost always." The instructions emphasize that he is to respond on the basis of how he generally feels.

Itkin Attitude-Toward-Parents Scales. A quantitative measure of each inmate's attitude toward his mother and his father was desirable because parental attitudes and identification are central to many theories of delinquency. The Attitude-Toward-Mother and Attitude-Toward-Father scales developed by Itkin (1952) and described by Shaw and Wright (1967) were chosen for this purpose, partly because they have been found to discriminate among different types of inmates in previous research at the FCI and partly because they were highly recommended by Shaw and Wright.

The original Itkin scale consisted of 35 items asking the subject to evaluate his mother in various ways. The same 35 items, with different instructions, were used to evaluate the subject's attitude toward his father. The corrected split-half reliabilities were reported by Shaw ans Wright to be .92 for the mother form and .96 for the father form. In order to decrease the amount of time required for the group testing program, the Spearman-Brown Prophecy Formula was used to determine how many items could be deleted while still retaining satis factory reliability. These calculations indicated that ten items could be deleted from each scale and the reliability would still be .80 or better. In deleting the items, an effort was made to retain an adequate balance among the

three subsections of the scale and to avoid biasing the remaining items in either the positive or the negative direction. Other things being equal, those items that were the most complex and appeared to require the highest vocabulary level were those dropped. The items deleted included items 6, 7, and 9 from the first section, item 14 from the second section, and items 21, 26, 28, and 34 from the third section.

In order to make the scales applicable to the FCI population, Itkin's instructions were modified as follows:

> "A person's relationship with his mother and father is very important in determining his later adjustment. As part of a research project we are interested in the kind of relationship you had with your parents. The information that we get may be helpful in advising parents on how to raise their children.
>
> Please answer the questions about your feelings toward your father and mother on the following pages. If you were raised by someone other than your own father or mother--by grandparents or foster parents, for example--answer about those who acted as mother and father toward you while you were growing up. Mark all your answers on the special answer sheet."

Because of the personal nature of the items, the greatest number of refusals were encountered with this attitude scale.

The Values Test. It was felt, on a completely a priori basis, that some measure of inmate attitude toward the "prison culture," his loyalty to fellow inmates as opposed to adherence to the rules, and his willingness to report approval of officially disapproved behaviors and attitudes, might well relate to whether or not he became a disciplinary problem within the institution. The

Values test was constructed to get at attitudes such as these. Most of the items are based on ones previously used by investigators who have studied "prisonization" in various Federal and state institutions (Atchley and McCabe, 1968; Wheeler, 1961). The original items were modified by adding four-point scales to each. In addition, in an attempt to predict who might be involved in racial unrest, three items dealing with appropriate behavior when there is trouble between "two groups of inmates" were added.

Barbara Young in her Masters' research devised a "prisonization" scale for the Values Test in which responses are weighted according to their divergence from empirically determined staff attitudes.

Structured Interviews

Two structured interviews, each lasting from 44 to 75 minutes, were devised to be administered to inmates entering and leaving the institution. Both were designed to be tape-recorded for later rating by independent raters using rationally revised scales and checklists.

Prior to the official beginning of data collection, during the month of October, the test battery was administered on a pilot basis. At that time the inmates were told the Values questionnaire was "confidential for research purposes only." This heightened resistance to the test so this wording was dropped. Subjects continued to endorse socially undesirable response options despite the fact that the data might influence the classification team negatively.

Intake Interview

Considerable time and effort were expended in developing a standard structured interview schedule. First, basic textbooks and summaries of the research findings on interviewing were studied and reviewed (e.g., Sullivan, 1954; Kahn and Cannell, 1957). Next a number of standard history-taking forms and structured interviews were studied to suggest areas to be covered; staff members also "brainstormed," discussed the problem with FCI personnel, and met with project consultants. The result was a list of items so comprehensive that an entire weekend of intensive interrogation would have been required to elicit all the information.

The next step was to reduce the interview to manageable proportions. First, the least important questions were eliminated. For example, it might have been interesting to analytically oriented psychologists if we had inquired into the nature of subjects' early weaning experiences; however, the likelihood of obtaining useable data on this variable was so remote and the chances of its relating significantly to prison adjustment were so slight that it was not deemed advisable to spend valuable interview time chasing this particular wild goose. Second, the redundancy was minimized by not inquiring about material already contained in the central records or in the psychological test battery. The Kahn-Clausen interview schedule, for example, has a lengthy section devoted to a searching exploration of the subject's past employment record including all of his former employers, places worked, salary levels, reasons for leaving, and so forth. Past employment history is probably an extremely important predictor of adjustment to the vocational opportunities available in the community, but we saw no need to spend 20 or 30 minutes obtaining this information when similar, if less detailed, data were generally reported in the Presentence Investigation. The

same considerations eliminated lengthy reconstruction of the educational history or compiling lists of prior offenses. Instead the interview was used to complement the Presentence Investigation data by asking each man how he felt about his previous employers, for incidents of authority problems, perceived racial unrest, and other information that might not be contained in the PSI. Third, eliminating data that could not be converted easily to quantitative form. If the information could not be rated or stored in a computer-based information storage and retrieval system, the complications associated with its inclusion generally were too great to overcome. A few items of this type were retained but this was done only rarely and only when there were special reasons.

From this point on the interview schedule was developed by actually formulating trial schedules which were administered to selected inmates on a pilot basis. The effectiveness of certain questions and ways of phrasing the queries were then evaluated by observing the interviews through the one-way mirrors, listening to tapes, and by asking the inmates themselves their opinions about the questions after the interview was completed.

For each section of the interview, scales and checklists were devised to evoke independent raters to code and quantify the data.

Observational Ratings

On psychological tests and structured interviews, inmates are, in essence, providing their own evaluation of their behavior in their reports of their typical attitudes, feelings and behavior. As valuable as their data are, independent observations and evaluation of behavior were also needed. Several instruments were devised to record these observations.

Psychologists' evaluation based on observations during the intake interview. During the structured interview, the interviewer, a clinical psychologist, had an ample opportunity to formulate an evaluation of the inmate based on what he said and how he said it. Several devices were used to record these impressions.

Scales evaluating interview behavior

1. Extent to which subject knowingly tried to lie, conceal information or make a good impression
2. Extent to which unconscious defensive processes impaired subject's responses.
3. Emotional involvement in interview
4. Overall validity of information obtained.
5. Prognosis: Extent to which subject should improve while here
6. Appearance--Health and physical appearance
7. Grooming
8. Femininity
9. Presence of nervous mannerisms such as facial tics or twitches (beyond usual indicators of anxiety such as sweaty palms, nerous laughter, etc.)

Adjective Check List

Following the interview, the psychologist recorded his impressions of the interviewee by checking off all the applicable adjectives on the Gough-Heilbrun Adjective Check List, the same instrument the inmate had previously checked describing himself.

Q-sort

The final instrument used to record the psychologist's observations and impressions was the Q-sort devised by Little and

Shneidman (1959). This Q-sort was chosen because it emphasizes behaviors more than psychodynamics and many of the items are relevant to adjustment in a correctional setting.

The 76 items in the Q-sort were sorted into a forced quasi-normal distribution as follows:

1. (Least characteristic): 3 statements
2. 5 statements
3. 9 statements
4. 13 statements
5. 16 statements
6. 13 statements
7. 9 statements
8. 5 statements
9. (Most characteristic): 3 statements

Work Performance and Dormitory Adjustment Rating Forms. Originally it had been anticipated that ratings of dormitory adjustment and work performance could be made by the team psychologist during the 90-day review meetings when the members of the case management team meet to discuss each man's progress. However, it was soon found that the data being supplied to the teams were not adequate for the team psychologist to make valid ratings. Written replies to a standard set of questions were being received from dormitory officers but on the one hand the descriptions by some observers were often too stereotyped to discriminate among inmates, and on the other hand the lack of standardization made it difficult to compare evaluations made by different observers. Reports from work crew supervisors were often transmitted orally by a team member who had talked with the supervisor. It became apparent that we had to devise standardized evaluation forms for work performance and dormitory adjustment to be

filled out by the work crew supervisor and dormitory officer respectively. The primary goal was to assess behavioral dimensions relevant to the research project. From the outset, however, an effort was made to construct devices that could also be used by the case management teams. If the teams chose to accept these scales, it would save line personnel from the need to fill out one set of forms for the research project and a second set for the team.

The first step in development of these forms was to determine the dimensions to be assessed. Members of the research staff and case management teams, as well as key individuals such as the Associate Warden, the Chief of Mechanical Services and the Chief of Classification and Parole were asked what aspects of behavior they thought should be assessed.* Members of the research staff also sat in on team meetings and noted the types of questions that were typically raised about an inmate's adjustment and progress. The written and verbal reports submitted to the teams by dormitory officers and work supervisors were also studied. From this, a preliminary set of dimensions was derived.

Once the dimensions to be rated were determined, a series of five-point scales were written. As with writing test items, this is more of an art than a science. Care was taken to use simple, unambiguous language, including terms commonly used in correctional settings, and to provide concrete behavior referents. Once tentative scales were developed, they were shown to various people on the institution staff, including not only upper level personnel such as the Warden and Associate Warden, but also custodial officers and work crew supervisors. Their suggestions and comments were noted and the scales revised accordingly. Some scales were scrapped and some new ones were added. This

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*The investigators are most grateful to Messrs. Irl Day, George Murphy and Ralph Thompson for their assistance and advice.

procedure not only improved the instruments by reducing ambiguity and increasing meaningfulness, but it also laid the foundation for later acceptance of the scale by the men who would actually have to make the ratings.

The form for reporting work performance employed nine five-point scales with space provided for additional comments. These scales should not be regarded as equal interval scales because no formal scaling procedures were undertaken to ensure that anything more precise than ordinal measurement was being achieved. (For example, on Scale 9, Overall Job Proficiency, a worker rated "a" is perceived as better than one rated "b", and one rated "b" is in turn better than one rated "c", at least when the same man is doing all the ratings. However, we must not infer that the difference between a man rated "a" and a man rated "b" is equivalent to the difference between one rated "b" and rated "c").

Eight five-point scales were developed for dormitory officers to record their observations of the behavior of inmates in their areas. As with the work ratings, it should be remembered that these are ordinal and not interval scales and that it is unlikely that the statistical properties of the eight scales are equivalent.

In discussing dormitory adjustment with correctional officers, a number of problem areas were mentioned that did not prove readily amenable to scaling. Moreover, including scales for all these dimensions would have posed an extensive burden on the dormitory officer. Therefore, a "problem check list" was included by means of which the officer could simply bring various areas of difficulty to the attention of the team.

Once the report forms were developed in their final form, they were printed by a commercial printer on distinctively colored paper (green for the adjustment ratings and blue for the work performance ratings). By using printed

rather than mimeographed forms it was possible to reduce the bulk of the schedules to one page, thereby minimizing rater resistance. Color coding not only makes it easier to locate the documents in a file but also caused them to stand out from the array of white papers on an observer's desk, thus making it harder for him to forget to fill them out.

Initially, the items on these scales were intercorrelated and factor analyzed. Factor score coefficients were used to produce a single global score for each inmate at each rating period (Fowler & Megargee, 1975).

Subsequently, empirical analyses showed these factor scores were not discriminating as well as had been hoped. A new procedure was then developed in which each person's mean score on each item was computed for the total period of his incarceration. The scores thus produced have proved much more satisfactory and are the ones used in the present investigation.

Teacher's Ratings of Educational Performance

The Education Department had already developed a standard set of scales for evaluating progress and response to institutions. Copies of these scales were used to evaluate academic performance in the current project.

These five scales were as follows:

(a) Goal motivation

(b) Response to supervisor

(c) Emotional stability

(d) Achievement

Exit Interviewer's Ratings of Interview Behavior

As with the intake interviewer, each exit interviewer recorded his observations of each subject's interview behavior on the following scales:

1. Conscious distortion in interview
2. Unconscious distortion in interview
3. Emotional involvement in interview
4. Validity of information
5. Prognosis on parole
6. Prognosis (nonparole cases)
7. Health and physical appearance
8. Grooming
9. Femininity
10. Nervous mannerisms

Institution Records

One of the most important sources of data was the inmate's central records jacket. It was from this file that information regarding his current offense and sentence, and his previous record of arrests, convictions and incarcerations was obtained, along with his family, educational and employment history. To some extent, these topic areas overlapped with those covered in the intake interview. This redundancy allowed us to compare the inmate's subjective report of his own background and behavior with the objective report submitted by such trained observers as caseworkers and probation officers.

There was, however, an important difference in emphasis between the two data sources. Because we could rely on the central records to provide detailed factual information on many topics such as birthdate, number of children, military history and the like, it was possible to design the intake interview so that it emphasized the inmate's attitudes and feelings toward significant people,

institutions and events in his life. Thus, the two data sources complemented one another.

As noted in an earlier report, the first four weeks, after an inmate had been admitted to the FCI, were set aside for special Admissions and Orientation (A and O) procedures. It was during this time that the group testing, intake interviews and physiological data collection procedures described in an earlier report (Megargee, Hokanson and Spielberger, 1971) took place. During this period each inmate also received medical and dental examinations and was interviewed by the caseworker assigned to his treatment team. After four weeks a classification meeting was held. The team members discussed the data collected in their interviews and observations, as well as the personality and educational tests and mapped out a treatment and rehabilitation program for the inmate.

After this classification meeting the caseworker prepared a Classification Summary, and filled out certain standard Bureau of Prisons data forms. Copies of these documents, along with a copy of the Presentence Investigation Report were forwarded to the Research Area.

Periodically, the case jackets were reviewed by Mr. Wade Whitman, Laboratory Technologist; when one or more of these documents was missing, a check was made of the Central Record jacket; if the missing material was found, copies were made for the project.

Bureau of Prisons Records Forms

In connection with its own ongoing Bureau-wide research projects, the Bureau of Prisons had devised several standard forms on which salient data were recorded and forwarded to the Central Office. Copies were also sent to the research project. These documents were designed so that they could be keypunched directly. However, because the format was not compatible with that

used in the present project, and because we were not interested in all the material on these forms, only the following variables were extracted from each form.

Form BP 5: Sentence Computation Record. As its title indicates this form provided detailed data regarding the judicial proceedings and the imposed sentence so that the appropriate officials could determine when each inmate was eligible for parole or release. From this form, we recorded each inmate's date of birth, his FBI number, his sentence number, his race, the date he was sentenced, the date he was committed, the judicial district from which he was sentenced, the minimum and maximum prison sentences imposed, and any fines or costs he was required to pay. We also noted whether or not he was a parole violator and the data when he was eligible for parole.

Form BP 6: Social Data. From this form, the code of the state in which the inmate had established his legal residence and the state in which he was to be released were recorded. It was next noted whether or not he had served in the armed forces; if so, the length of military service and the type of discharge were transcribed. It was also recorded whether the inmate was a Selective Service violator and, if so, the type of violator. Next, his marital status and citizenship were indicated. The rest of the document was concerned with his history of previous arrests and confinements. This included his age at the time of his first arrest, his total number of arrests, his age at the time of his first commitment for a year or less, his age at the time of his first commitment for more than a year and the total number of commitments (not counting the present one) for which he had served six months or more. Next his prior commitments were broken down into (1) the number of Bureau of Prisons (BOP) commitments for one year or less, (2) other commitments for one year or

less, (3) BOP commitments for more than one year and (4) other commitments for more than one year. This information was provided separately for (1) those prior commitments which occurred when he was under age 18, and (2) for those which occurred when he was 18 or over. Finally, the longest time he had been free since his first commitment was recorded along with the longest amount of time he served on any one commitment.

Form BP 6.1: Program Analysis Sheet. According to Bureau of Prisons policy, inmates at all BOP institutions are classified according to the "RAPS" system, and acronym standing for Rating, Age level, Prior commitments, and Sentence. This classification is designed to guide program planning. For example, an inmate who is rated as having good potential to benefit from intensive efforts at rehabilitation, who is less than 30 years of age, who had had no prior commitments and who is sentenced to serve 3 to 6 years would, when the RAPS factors are summed up, be placed in "Category 1" indicating that he has the highest priority for being placed into appropriate programs when openings become available. On the other hand, a 50 year old inmate, with a rating indicating a poor prognosis, serving a 20 year sentence with several prior commitments, would have a very low priority.

Form BP 6.1 summarized these RAPS data. After the custody level (minimum, medium, or close) was noted, the prognostic Rating, Age level (under 30, 30-45, or over 45), Prior commitments (none, one, or two or more), and the Sentence were all classified and the Program Category indicated by this RAPS classification was noted.

The Bureau of Prisons also required each institution to forward to the Central Office an analysis of each individual's needs in certain areas and the institutional program prescribed to meet these needs. Need level is classified on a four point scale (none, low, medium, high) for two environmental areas

(economic status and family conditions), for two health areas (mental health and physical health), for two skills areas (educational and vocational) and for four character traits (self-control, interpersonal relationships, standards and values, and aspirations). For each of these 10 areas, it was then noted whether or not a program was being planned to meet this need. If not, the reason was noted. This could be because of (1) custody reasons, (2) the institution lacked an appropriate program, (3) because of his RAPS category, (4) because the program was filled, (5) because he had too little time left to serve, (6) the program was closed, (7) he was unqualified, or (8) it was not regarded as a problem area. On the other hand, if a program was planned, the specific activities prescribed to meet each particular need were noted. The list of possible activities included (1) education, (2) religious instruction, (3) vocational training, (4) on-the-job training, (5) prison industries, (6) individual psychotherapy, (7) group psychotherapy, (8) individual counseling, (9) group counseling, (10) informal guidance, (11) health services, (12) voluntary groups (such as Alcoholics Anonymous), (13) community programs, (14) social services, and (15) general maintenance. This list was designed to be used throughout the Bureau, but Tallahassee was fortunate in that all of these activities were available.

This systematic record of the classification meeting and the planned program was a valuable research tool. Given these data, it was possible to follow up and determine how well the perceived needs were met and whether the planned program was carried out.

Form BP-7: Educational Data. Much of the information recorded on BP-7 consisted of the test scores on the Stanford Achievement Test, the General Aptitude Testing Battery, and the Beta. These scales were described in that section of the present reports dealing with group testing. BP-7 also indicated

the highest school grade completed and the inmate's age when he completed it. The number of semester hours and the number of quarter hours of college level work were also recorded. Regarding his employment history, BP-7 listed the Directory of Occupational Titles (DOT) code of the job he held at the time of his arrest and the number of months he had worked at that job. It also indicated the job title code for his longest previous work experience and the number of months he worked at that job.

Form BP-8: Medical and Related Data. This form reported the results of the medical examination. For up to three medical diagnoses, the ICDA (International Classification of Diseases Adapted) code of the maladies were recorded, along with the treatment priority and the recommended place of treatment. (Space was provided for up to six diagnoses, but we found that among youthful offenders it was only necessary to record three.) The results of the dental examination were also recorded, specifically the number of decayed teeth, missing teeth, filled teeth and total teeth.

In terms of any drug dependency, it was noted whether the inmate was a "non-user," a "former user," a "recent user," a "user" (immediate past) or a user who was still not withdrawn. The type of drug (marijuana, narcotics, hallucinogens, barbiturates, psychostimulants, or other) was also reported. The degree of alcoholism ("non-significant use," "former excessive use," "binge use," "habitual excessive use," or "other") was also evaluated. These reports on chemical dependencies by the examining physician can be compared with the reports of the caseworker, the investigating probation officer and the inmate's own self-report.

Presentence Investigation Report

After a defendent has been found guilty, by plea or by trial, in a Federal Court, a United States Probation Officer is assigned

". . . the important task of gathering information about the defendant; evaluating, assimilating, and interpreting the data; and presenting them in a logically organized, readable, objective report" (Division of Probation, 1965). This report is known as the This report is known as the "Presentence Investigation Report" (PSI).

"The presentence investigation report is a basic working document in judicial and correctional administration. It performs five functions: (1) to aid the court in determining the appropriate sentence, (2) to assist Bureau of Prisons institutions in their classification and treatment programs and also in their release planning, (3) to furnish the Board of Parole with information pertinent to its consideration of parole, (4) to aid the probation officer in his rehabilitative efforts during probation and parole supervision,* and (5) to serve as a source of pertinent information for systematic research.

The primary objective of the presentence report is to focus light on the character and personality of the defendant, to offer insight into his problems and needs, to help understand the world in which he lives, to learn about his relationship with people, and to discover those salient factors that underlie his specific offense and his conduct in general (Division of Probation, 1965, p. 1)."

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* The Federal probation officer also supervises persons released from Federal correctional institutions and the U.S. Disciplinary Barracks.

The probation officer is trained to be objective and impartial in conducting his inquiry and in writing this report. He is instructed to make every effort to check the accuracy and to verify the information he develops. It is therefore an extremely valuable research document.

Its value as a research instrument is enhanced by the fact that the United States Courts have adopted a uniform format and outline of the PSI. As a result the same basic topics are covered in all PSIs written by United States Probation Officers, whether they be serving Federal Courts in Maine or Hawaii, Florida or Alaska. To be sure, there are individual differences in the completeness of PSIs in different inmates, partly because individual officers differ, but mostly because the inmates differ greatly in what can be learned about them. Nonetheless, the PSI is an extremely important source of data about the inmate in his natural setting and is essential for any research involving the prior offense record as a variable.

Copies of the PSI were made available to the research project. Because of its confidential nature, listing as it does names and addresses of the defendant, his family, his victims and codefendants as well as many other personal details, special safeguards were adopted to preserve its confidentiality. Whereas most data reduction procedures, such as rating the tapes of the intake interviews, took place on the FSU campus, copies of the PSI never left the institution. When the project terminates, these PSIs will be removed to some place such as the National Archives where the investigators may have continued access to them while their security is maintained.

The uniform PSI outline adopted by the Judicial Conference Committee on the Administration of the Probation System on January 11, 1965, included fifteen headings which the probation officer was suppose to follow in sequence: (1) offense, official version, (2) offense, defendant's version, (3) prior record, (4) family history, (5) marital history, (6) home and neighborhood,

(7) education, (8) religion, (9) interests and leisure-time activities, (10) health, (11) employment, (12) military service, (13) financial condition, (14) evaluative summary, and (15) recommendation. Within each section, the Conference agreed that certain data were essential and should be included in every report, whereas other data were optional, their inclusion depending on their significance in the particular case.

From this outline, and from a preliminary study of a number of PSIs, the present investigators devised a series of scales to code and quantify the PSI data. In most cases the scales are coarser than those used to evaluate the intake interview because of the greater variability of the PSIs. Instead of a five point scale of adjustment in a particular area, there might be a two point scale (i.e. some problems noted; no problems noted). The list of scales used from the PSI can be found in Chapter VIII.

Each PSI was rated independently by two trained raters. At the outset the three individuals doing ratings each rated the same PSIs, discussing any discrepancies, until they had achieved what they felt was a satisfactory degree of interrater reliability. Raters who were subsequently appointed were trained by raters already on the job, rerating already coded PSIs until their ratings agreed with those of the more experienced individuals. Training was facilitated by the fact that the PSI is a permanent document that can be scored and rescored, unlike the taped interview which is eventually erased.

Case Worker's Analysis

After each inmate had entered the institution and had gone through the A and O evaluation routine, the Classifications & Parole member of the team prepared a summary of his evaluations based on all the data available including the PSI, reports from team members, and his own impressions. Copies of these reports were rated along with the PSIs. The data recorded were the goals and

the program implemented with respect to each of four areas: Environmental Factors, Health, Skills, and Character Traits.

The institutional records discussed thus far were all prepared during the initial month of confinement in conjunction with classification process. For the most part they provided us with background and demographic information on each inmate.

Institutional records were also used to chart inmates' adaptation to the institution and the extent of their participation in the various institutional programs.

Surveying the institutional scene, it became apparent that three basic types of information were available: participation records, conduct reports, and progress ratings.

Records of Participation

A basic requirement for any research involving institutional adjustment is a record of the activities in which each inmate took part. The Classification and Treatment team may recommend that an inmate be assigned to the Vocational-Technical training program in masonry, work as a clerk in the warehouse, and participate in individual psychotherapy. This does not necessarily mean that this actually occurred. The masonry program may be filled, food services may have a greater need for workers than the warehouse, and although he is referred for individual treatment the inmate may fail to show up for any appointment. Therefore, it was necessary to keep track of what actually did occur for each inmate. This information was scattered throughout the institution. Records of class assignments and attendance were maintained by the Education Department, therapy assignments by the coordinator of Mental Health programs, work rosters by the caseworker, sicknesses by the hospital, etc. Such information was obtained only through the full cooperation and support of

personnel throughout the institution and by means of a good deal of legwork by the research staff members directly responsible for this aspect of the data collection.

These data were generally collected by having the people concerned with a particular area duplicate the relevant records. The "Work Assignment Record," for example, listed by date each and every change in custody level, job placement and quarters assignment. Copies of these documents were sent to the research area where they were transcribed onto a master program sheet for each inmate. In this manner, information about the following areas was systematically recorded:

a) dormitory assignment

b) work assignment

c) educational program

d) work or study release

3) participation in individual therapy

f) participation in group therapy

g) participation in chaplain's programs

h) attendance at educational assignment

i) attendance at work assignment

j) program reviews

k) changes in custody status

Conduct Reports

The second basic kind of information regarding subsequent adjustment to the institution consisted of disciplinary reports filed by FCI personnel. When an inmate engaged in inappropriate behavior, a Conduct Report (referred to as a "shot") was written by the officer observing the incident.

This report noted the date, time and place of the incident, along with the inmate's name, number, dormitory and detail assignments. Then the offense was described, the officer signed his name, and the report was submitted to the Lieutenant of the Watch. The Lieutenant then investigated the incident, typically talking with the officer and with the inmate. He decided whether a major or a minor rule infraction was involved and noted this on the report. Then he added his comments, noting what the facts of the matter appeared to be and his recommendations for further action. In cases where the behavior disrupted the smooth running of the institution, he often took immediate action such as placing the offender in the cell house. This too was noted on the report.

The matter was then referred to the disciplinary committee which conducted a hearing and decided on a penalty. The findings of the disciplinary committee ("guilty" or "not guilty") and the disposition were noted on the report along with comments regarding the inmate's attitude and excuses for his behavior.

The research project received copies of most of these reports after the disciplinary committee's findings had been reviewed. (A limited number of these "shots" were withheld for security reasons, typically because they divulged the identity of an informant who might be subject to retaliation.)

The Conduct reports were evaluated as follows. First, it was recorded whether the infraction was considered a major or a minor offense. Then the place where the incident took place and the time of day were noted. Next the infraction itself was coded.

It was next recorded whether or not some immediate action was taken and, if so, the nature of the action. Next, the results of the disciplinary committee were recorded, specifically whether the offender was deemed guilty or

innocent, the nature of his attitude, and the penalty assessed if any.

Records of participation simply noted what activities an inmate is engaging in. Conduct reports are more evaluative, but present a very one-sided picture since they record only failures to adjust. In order to evaluate progress more adequately, reliable, quantitative records of typical behavior patterns, both adaptive and maladaptive, in various areas had to be obtained on a systematic basis for every inmate. In the case of the educational program, data already being collected, in the form of grades and teachers' evaluations, could be used. For work and dormitory adjustment, special rating schedules had to be devised.

Educational Summary

A variety of educational programs were available to the FCI inmate. They included academic training up to and including a high school equivalency (GED) certificate as well as a few selected college level courses. Vocational training was also available in auto mechanics, auto body repair, machine shop, masonry and welding. Monthly evaluations of each inmate's progress in each course in which he is enrolled were forwarded to the research project.

For each inmate, an educational progress sheet was maintained for each course in which he enrolled. It noted the date he enrolled and the date he completed the course. Then for each month it was noted whether he was eligible for a cash award and whether or not such a reward was recommended by his instructor. The evaluation forms next listed instructors' ratings on four bipolar scales: "goal motivation," "response to supervision," "emotional stability," and "achievement level." Vocational training students were also rated on an additional scale which stated, "If this man was working for me as a private employee, on the basis of his work this month I would: (a) promote him to a more responsible job and a raise in pay; (b) give him a raise in pay but not

a promotion, (c) continue him in his present position with no pay raise, (d) decrease his salary and responsibility, (e) discharge him."

All these ratings were transcribed onto the summary sheets, along with the instructors' notations of the number of excused and unexcused absences and incomplete days. If the instructor noted additional accomplishments, such as completion of a GED or significant improvement on the Stanford Achievement Test (SAT), these too were recorded. The result was a comprehensive, month-by-month record of each inmate's progress and achievements in every course in which he enrolled during his stay.

Other Documents

In addition to the documents already noted, the project regularly collected Index Register Cards for each new inmate, Assignment and Visiting records for each departing inmate, and on a daily basis the institution's Midnight Count Sheet and the Transfer sheet, and the hospital's Sick Call Roster. These records were used to generate the participation records already noted. In addition these documents were used to record each new inmate's dates of arrival and departure, the nature of his entry (i.e. transfer or from court) and departure (parole, outright release, transfer, etc.), and such indices of adjustment as days spent in the cell house, number of days reporting for sick call and number of visits.

Psychophysiological Apparatus

As part of the overall FCI research project, a psychophysiological laboratory was established on the institutional grounds. As employed in Phase I of this project, each inmate-volunteer engaged in a set of standardized lab procedures in an individual 60-90 minute work-stress session, some time during the latter part of his first month at the institution. Data collected in this initial phase were to be utilized in two general ways: (a) as part of a larger

intake assessment program in which, hopefully, an innovative and [illegible]rically based diagnostic approach to offenders will be evolved; and (b) to provide behavioral and physiological data with respect to theories of aggression, violence, and stress.

National Crime Information Center Files

As part of the follow-up to be described in the next section, the National Crime Information Center (NCIC) computerized data banks were accessed by research personnel attached to the research division of the Bureau of Prisons (BOP) in Washington, D.C. Using such identifying information as the Bureau of Prison number, the FBI number, the name, and the birthdate, the NCIC records were accessed. When a record was found or, in BOP parlance, "hit," the information contained in the computerized data bank was printed out and made available to the researchers. When records were not found, additional attempts were made to access the record by checking the correctness of the identifying information and making additional access runs.

The criminal history information printout consisted of four segments. The first segment consisted of identifying information which included all formal identifiers as well as height, weight, scars, etc. regarding each subject. The second, third, and fourth segments consisted of the historical data that were of primary interest to the present investigation. The second segment consisted of arrest data which included dates and charges for all reported arrests. The third segment was the court segment which included data regarding the nature, prosecution, and disposition of any charges filed against the subject. The fourth custody segment included the subject's entry into, transfer away and departures from institutions other than jails.

In the printout the second, third and fourth segments often were repeated throughout the file, depending on the reports filed with the NCIC. Not every arrest segment was necessarily followed by a court segment. Nor was every court segment necessarily followed by a custody segment. In part, this was because not all arrests were followed up by prosecution nor were all prosecutions necessarily followed up by terms of confinement, but it also reflects the failure of various segments of the criminal justice system to report complete data to the NCIC.

Inspection of numerous printouts suggests that the data are stored in the NCIC in the order in which they are received and entered into the computerized file. Thus, the basic order is chronological, but examining the dates in the various segments shows that not everything is in strict chronological order. Since a number of our definitions of recidivism depended upon accurately reconstructing the series of events in a criminal history, close attention and scrutiny had to be paid to the records in order to obtain the basic data required.

Within each segment, certain basic information was supposed to be present. In the arrest segment, among the data to be included were the various identifiers, the date of the arrest, the NCIC four-digit offense code, and additional arrest data. Within the court segment was included information regarding the number of counts or charges, the statute citation or NCIC offense code under which the individual was prosecuted, the disposition of the prosecution, and the sentence kneeded out, if any imposed. If the sentence or the prosecution was appealed this, too, was supposed to be noted.

In the custody segment was the code of the agency or institution in question, date custody began, any changes in custody status during incarceration, transfers to other institutions, and the date of such changes. Included within this should be the record of the entry into and departure from each institution.

These data were essential in formulating the time-based measures. It was only through these records that it was possible to determine when an individual was released from custody and, in the case of failure, when he was returned to custody.

From the printouts the rater recorded for each individual the date and institution at which the individual began the current sentence which brought him into the study along with the code of the entry offense and the entry sentence in months. Next was recorded the institution from which the individual had been discharged, the departure date, and the nature of the departure, i.e. flat time, parole to retainer, etc. If the individual was sent to a community treatment center or a half-way house the code of the half-way house was recorded and the date of departure and departure code from the half-way house was included. Next the record was scanned for what was termed street-failures for half-way house failures. These were records of arrests or legal violations subsequent to being released to the street. For each such failures, it was found that the sequential number of the failures (1, 2, ...) was recorded along with the arrest date, the offense code for the charge for which the individual was arrested, the date of any conviction stemming from that arrest along with the offense code for which the conviction was obtained and the maximum sentence in months. If the individual as a result of subsequent offenses was reincarcerated, the time at which the individual entered the institution, which institution he entered and the entry offense were all duly recorded.

From this file the following variables were then extracted: (1) the number of failures at any time after release. This included warrents issued, parole violations, arrests, convictions, and incarcerations. (2) The number of arrests after release. (3) the number of convictions after release. (4) the number of reincarcerations for any reason including parole violations.

(5) the severity of the most severe charge after release. (6) the number of lines of information on the NCIC printout following discharge from the current offense. In addition, in order to calculate the time-based measures, the number of months at risk for recidivating was determining along with reciprocal number of months in jail subsequent to release.

In this fashion all the time from the individual's release date through June 30, 1976 was accounted for if the record was complete.

From the above data, several measures of recidivism beyond the number of arrests, convictions, reincarcerations, etc. were derived. The first was the dichotomous recidivism measure (DICHR). According to this definition, an individual is classified as a recidivist if he was returned to custody or reincarcerated for a new offense for a period of at least 60 days. This definition, which conforms to one of the most widely used definitions in the literature, would classify as recidivists people returned for new offenses and parole violators who were returned to custody for violations of parole. However, it would not classify as recidivist individuals who were rearrested but not subsequently incarcerated.

The second operational definition which was scored from these data was an Ordinal Recidivism Measure (ORDR) devised in a rational basis by the present investigator. According to this definition, an individual got a score of "0" if there was no subsequent criminal behavior listed in the record, he obtained a score of 2 if he was accused or arrested for a new offense without a subsequent conviction, a score of 3 if he was convicted of any new offense less severe than the one which occasioned the initial incarceration which brought him into the study, and a score of 4 if he was convicted of a new offense equal to or more severe than the initial offense which brought him into custody.

The third measure, suggested by Dr. Dan Glaser, was the proportion of

time redefined since release (PTR). The total number of months from the time of release to the cut-off date of June 30, 1976 was determined and then from the NCIC files the number of months spent in custody was determined, insofar as that was possible. (Since not all records contained dates, this could not be calculated for every individual.) Undoubtedly, this measure is a conservative measure because the NCIC files do not include any data regarding time spent in jail awaiting a trial.

The next measure was the recidivism rate (RR), namely the number of subsequent offenses (NOFF) of any type divided by the total number of months that the individual had been at risk, i.e., the number of months on the street. Time spent in custody or in jail or prison was not considered to be time spent at risk.

The next measure was the recidivism index (RSINDX). It was similar to the recidivism rate except that each offense was weighted by tis severity so that an individual who committed bank robbery or homicide subsequent to his release would be evaluated as being a more serious recidivist than someone who simply went joyriding in a car.

The next measure was an extremely simple one which was suggested by the NCIC records themselves. It was noted that the more active an individual's criminal career is, the more lines of computer printout that individual had in his file. Hence, the next measure of recidivism was simply the number of lines (NL) of information appearing subsequent to the notation of the individual's release.

The final operational definition was not calculated directly from the above data. Instead, it was the clinical judgement of the rating coder, a man with lengthy experience in the Federal Bureau of Prisons, as to the seriousness of each individual's subsequent behavior. This subjective estimate was used to complement the more objective, quantitative estimates in the above definitions.

CHAPTER VII

Data Collection Procedures and Methods

The previous section described in detail the measurement instruments used in the Behavior Research Project and the variables that were obtained from each data source. The present section will indicate how these instruments were used.

One of the overriding principles was that the Behavior Research Project should be as unobtrusive as possible, fitting in and meshing with the regular institutional routine as smoothly as possible. This was done quite successfully; one warden when asked how it was to have such a massive research effort housed in his institution replied that he was never really aware of our presence. The advantage of this mode of operation was that it enabled us to study the institution as it naturally functioned. Of more practical concern was the fact that by adapting ourselves to the institutional routine, we did not wear out our welcome over the four year period during which data were collected. A disadvantage was that we were not always able to collect all the data we would have liked on all the subjects. If a man was confined to the cell house, we could not have him brought to the lab for autonomic testing; if someone suddenly was scheduled for release or transfer there was no way to forestall his departure until he had completed the exit testing and interview program.

This principle also influenced the manner of data collection. The work reports for example had originally been planned for administration by research staff personnel who could discuss the ratings with the supervisor, helping to forestall a halo effect. When the institution decided to adopt them as part of their regular 90-day review process, they were distributed through the usual channels. Moreover, they became part of the individual's institutional record so that supervisors were more reluctant to give negative ratings that might adversely influence a man's chances for parole. This lessened the variability

of these ratings and their adequacy as criterion measures; however, it was unrealistic to expect hard-pressed work supervisors and dorm officers to fill out two sets of evaluations, one for the FCI and one for the research project. So in some instances, procedures most desirable from a research design standpoint had to be compromised in order to ensure the continued harmonious relationship between the project and the institutional staffs.

It should be pointed out, however, that not all these modifications were adverse. We had not planned to analyze disciplinary reports because we had not anticipated that they would be made available. When the Captain offered to provide us with duplicate copies of these "shots" we were delighted to incorporate them into our design and they became one of our most valuable sources of information.

Psychological Tests

Intake Testing

The first four weeks after an inmate's arrival at the FCI were set aside for Admissions and Orientation (A and O). During this time inmates were not assigned to permanent jobs or educational programs so that their time was free for interviews, testing, and the like. When the study was begun, new inmates were assigned to the dormitory in which they would reside immediately. Starting in July 1971, inmates entering a federal institution for the first time were assigned to a special A & O unit for a period before being integrated into the overall prison community. At the end of this period, each man went before his classification team composed of a psychologist, classification and parole officer, educational representative, and the dormitory counselor. At this time he was classified under the Bureau of Prisons RAPS system and a detailed program plan drawn up. The overall procedures were designed so that the bulk of the background and personality data could be collected during this

initial A and O period. This was done so that it would be least disruptive of the institutional routine and also because it was desirable to use many of the data collected in the actual classification procedure. Thus subjects were all told that the test scores, interview material, and the like could be used by the classification team in an effort to improve the team's decision-making.

Group tests were administered by the project staff as part of the regular FCI admissions and orientation program, starting with the first Monday after the first Wednesday that the inmate entered the institution and ending two weeks later. Group tests were conducted in large, well-lighted rooms with inmates seated at individual tables or in classroom-type chairs equipped with wide arms for writing.

At the initial testing session, the group of new inmates was met by one or more of the project staff. The following instructions were read to them:

"Good afternoon men."

"During the next two weeks or so, each of you will be taking some tests and be interviewed. These tests are important to you, because your job placement and treatment plan here will be decided, in part, by the results."

"Some tests will be based on factual material, will be timed, and will be scored based on the correctness of your answers. Other tests will ask for your opinions and feelings. On these tests there are no right or wrong answers and you may work at your own pace. Be sure you read each item carefully and put your answer in the right location on the answer sheet. Also, include your identification number--your 5-digit number and the number of your first federal institution (120, if FCI Tallahassee is the first)-- with your name and the other information asked for on the answer sheet.

CONTINUED

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There is nothing to be gained by faking your answers or just putting down anything without reading the items. If you do, it will simply show that you did not cooperate. But it can be to your benefit to answer each item honestly according to your abilities, interests, and opinions so that your team can come up with the best plan to help you."

"Are there any questions before we begin?"

If an inmate asked why he must take these tests, he was told that the purpose was to help the treatment team in classification. If he objected to taking the tests, the test administrator did not argue with him or coerce him in any fashion, but instead referred him to his team psychologist who discussed the problem with him. The purpose of the tests and their value to him were pointed out, but if the inmate still refused he was not disciplined nor was he forced to participate in the testing program.

During the testing it became apparent that some inmates lacked the reading skills necessary to understand the test materials. When this occurred, they were then placed in a reduced testing schedule for functionally nonliterate men. In this program the MMPI and the POS/IPI were administered to them orally by means of a tape recorder in the small testing room at the laboratory. The Beta was also given. Study and Observation cases took only those tests required for their count evaluation. If they returned to the FCI they received the remaining tests.

Inmates entering the institution began the testing program on the first Monday after the first Wednesday at the institution and completed the program two weeks later. Inmates who were unable to attend the regular group testing sessions because of illness or disciplinary confinement in the cell house

received their group tests at the earliest practicable date. A few inmates, however, were found to be so disturbed or so violent that no testing was possible.

Exit Testing

The major purpose in the re-evaluation of subjects who were about to leave the institution was to collect data to help us assess the impact and effects of imprisonment. However, a secondary goal was to pave the way for our proposed Phase II of our long-range research program in which we planned to conduct a follow-up study to determine what happened to our subjects after their return to society.

Our original intent was to re-evaluate every subject prior to departure, whether he was being released or transferred to another institution. The rationale was that by comparing transfers, who apparently were not yet "rehabilitated," with releases who had "completed" the treatment program, we might be able to conduct an "experiment" of sorts on the effects of the institution and on the time required to produce certain changes.

The major problem with this plan was the difficulty in obtaining data on transfers.* Transfers often occurred on extremely short notice--sometimes a matter of hours--and there simply was no time to interview and test the men. Security was also a problem. Some transfers came about as a result of serious rule violations and the inmate was kept in close custody making evaluation difficult.

* Of course, many of the transfers were men who had been at the FCI less than three months and who would not have been included in the sample had we known how brief their stay would be.

Compounding these problems was a decision to have all exit interviewing and testing done by project staff rather than by institutional personnel. The reason for this decision was quite sound; inmates could hardly be expected to give a frank, untrained appraisal of the institutional programs to someone who was a member of the institutional staff. If, for example, the team psychologist administered the exit interview, how could this fail to influence the inmate's comments on the psychotherapy program on his evaluation of the psychological services afforded?

However, our reliance on research staff members, all of whom were students, meant that the interviewers could be available only at certain times during the week because of their class schedules. Not having someone immediately on hand meant that we were often unable to respond adequately if we suddenly got word at noon that seven inmates would be leaving on a bus for another institution at 8:00 A.M. the next morning.

Men being released on parole or at expiration of sentence and men being transferred to community treatment centers or "half-way houses" did not present such difficulties because these changes were typically programmed several weeks in advance so that adequate plans could be made. As a result we were more successful in re-evaluating men prior to release than we were in assessing men prior to transfer.

Exit evaluations continued on those men who were part of the cohort until all data collection was phased out in June, 1974. During May and June, 1974, those men in the cohort remaining in the institution were tested even though they did not have release dates. Of course, for these men the section of the interview dealing with post-release plans were modified.

The exit testing battery consisted of the MMPI, the ACL, the Values questionnaire and the CPI (See Megargee, Hokanson & Spielberger, 1971). In these dimensions, this procedure should enable us to compare self-perception

with the perception of others and thereby develop a measure of insight. In addition, each man was given a blank copy of the Adjustment Ratings and Work Performance Ratings that are usually filled out by the Dormitory Officer and Work Supervisor respectively. The inmate was told that such ratings had been made on him during his stay and he was asked to rate himself on procedure.

Structured Interviews

Intake Interview

The intake interview was generally scheduled for the third or fourth week of the Admissions and Orientation period. The names of individuals scheduled for interviews were placed on the FCI's daily "call out" list with times that they were to report to the research area. There they were greeted by Wade Whitman, the lab technologist, and by their team psychologist, who was to conduct the interview. The interview rooms were comfortably furnished with wall-to-wall carpeting and walnut paneling. The waiting room, too, was paneled and comfortably furnished with a sofa, easy chairs, and occasional tables. Paintings adorned the walls and recent magazines were provided for men waiting to be interviewed. This atmosphere was designed to reinforce each person's feeling of being treated as a worthwhile human being rather than as an object to be studied or manipulated. It had been decided from the outset that the intake interview would be administered by the team psychologist, and naturally it was desirable that this important relationship should start off in a positive way. In addition, the investigators feel that an interview (as opposed to an interrogation) is a mutually beneficial cooperative enterprise between two individuals that can take place only in an atmosphere of joint respect.

The interview schedule was designed to foster this positive attitude. At the outset the interviewer explained to the respondent frankly the ground rules governing the session and the use that would be made of it. The fact that

the interview was being recorded and that it might be observed were pointed out. If the inmate was reluctant to have the interview recorded, the tape recorder was not turned on and the interviewer proceeded with the interview, making the ratings himself as he went along.

Frequently the interviewer and the subject found it mutually profitable to explore some areas in greater detail than was required by the interview schedule. Feelings were sometimes aroused that the subject wanted to express or areas of conflict were indicated that the psychologist wanted to discuss. In such instances the interviewer was free to deaprt from the schedule, work through this area, and then return to the regular sequence of topics. The tape recording of the interview was turned over to two research assistants. They independently listened to the interview and record data and make ratings on 243 variables and scales devised by the project staff.

The independent ratings were punched separately onto IBM cards so that interrater reliability would be determined. In subsequent analyses the ratings were combined to form nine-point scales ranging from 2 to 10 (i.e., if a subject received a 4 from one rater and a 5 from another, his final score was 9).

Exit Interview

Whereas the intake interview and test battery were a standard aspect of the Admissions and Orientation routine, this was not the case with the exit assessment. The man who is entering the FCI is motivated to cooperate because he knows the results of the test and the interview was used by the treatment and classification team to help in planning for his program and, eventually, his release. The man who is about to leave or who is being transferred elsewhere has no such incentive. Instead of relying on extrinsic rewards, we instead depended on whatever intrinsic rewards there were in helping the research staff and, possibly, ultimately benefiting future prisoners.

Altruism, however, was a surprisingly powerful incentive among inmates about to be released. Sometime during the week or two before his scheduled departure, each inmate was given a "call out" to report to the research area. There he was met by Mr. Wade Whitman, Laboratory Technologist, who congratulated him on his impending release and asked him if he would help us out by engaging in an interview and taking some tests. He pointed out that hopefully the inmate would never be back, but it is possible that what we learned may help us improve things for future inmates. The vast majority agreed. Indeed, the exit interview became something of a ritual, like a graduation ceremony, and it was not uncommon for inmates nearing release to drop by the lab and remind us to schedule them. To some extent this was because the inmates enjoyed having a chance to tell someone what they think of the FCI and how it can be improved, but it was also a measure of the respect with which Mr. Whitman, a retired correctional supervisor, was regarded by inmates and staff alike.

Those inmates who agreed to participate were introduced to a staff member who took them to an interview room. He assured them that the interview was for research purposes and that the inmate's comments would not be revealed to any member of the FCI staff. A tape recorder was in plain view on the desk and they were told that the interview would be recorded for later study by the project staff.

Tapes of the exit interviews were turned over to a staff member for quantification on scales devised for this purpose.

The ratings of the intake interview had proved quite reliable, so to consume funds, the bulk of the exit interviews were rated by a single rater.

Observational Ratings

Psychologists evaluations based on intake and interview observations

At the end of the intake interview, before removing the tape from the

machine, the psychologist verbally recorded onto the tape, his ratings of the subject's veracity and the other observations required.

Following the intake interview, the team psychologist went to another room where he filled out the Adjective Check List and performed the Q-sort.

Work Performance and Dormitory Adjustment Ratings

Once the rating schedules were printed they were introduced at a regular Warden's meeting for all department heads. The importance of the information obtained by these questionnaires was stressed and the full cooperation of the staff was enlisted to insure that each rater in their respective areas would complete the questionnaire carefully. This was followed up by visits to the various department heads to implement the use of the rating schedule in their areas.

These instruments quickly won great acceptance from the institutional staff. The raters preferred the checklist format to the open ended questions they had been writing answers to. The Classification and Parole staff felt the responses were more meaningful in reviewing inmates' progress. Therefore, these forms, which had originally been devised as research instruments, were adopted as a standard part of the institution's record-keeping procedure.

Most of the residents at FCI fell into RAPS Category I. Bureau of Prisons Regulations stipulate that such individuals must have their progress reviewed at 90 day intervals beginning with the day of classification. Accordingly, each month the Classification and Parole staff distributed Adjustment and Work rating forms to the evening dormitory officers and the work crew supervisors of these inmates coming up for 90-day reviews. The original of each form was given to the project and a copy inserted in the central record jacket.

Teacher's Ratings

The teacher's ratings were all administered by the FCI education department. Prior to the project several scales for evaluating educational progress had been devised. These scales were filled out on every student in every course by the teachers on a monthly basis. Research staff members regularly reviewed the education department files and copied the ratings assigned to those in the cohort. These ratings were copied on OPSCAN scoring sheets. Unfortunately, because of the merger of the company that manufactured the optical reader that converts the OPSCAN records to computer data cards with another company, the hardware necessary to interpret these data was rapidly phased out. In January 1978, a machine was located in the possession of the Escambia County School Board and a trip was made in which the teacher's ratings were ready for the computer; however, because of the due-date of the present report, these ratings cannot be included since they have yet to be analyzed.

Institutional Records

Those responsible for preparing the various institutional records typically set copies aside to be picked up by research staff members. Inevitably some omissions occurred. A good deal of energy was expended in cross-checking and tracking down missing documents. The captain's log, for example, was checked against the list of disciplinary violations received to determine if some were missing. In some instances where records were sent out before the staff could extract copies of pertinent documents, recall notices were filed to have the jackets returned. Inevitably there was some missing information, but every effort was expended to keep this to a minimum.

Psychophysiological Procedure

An extensive and elaborate procedure was used to obtain psychophysiological

data regarding each inmate's volunteers reaction to a stress inducing task. A complete account of these procedures will be found in Megargee and Hokanson (1974). Since no psychophysiological variables were used in the recidivism phase of the study, this material will not be included in the present report.

Follow-up Data Collection

In the initial proposal for the present comprehensive study of recidivism, it had been planned to access the National Criminal Information Center data for all those offenses committed by members of the cohort who had been released to the streets by July 1, 1974 for subsequent arrests, convictions, incarcerations, and the like occurring through December 31, 1975. Thus, each individual could have had no less than 18 months from the time of release and most would have considerably more.

However, since the start of the project was delayed while conditions attached to the LEAA subgrant were satisfied, these dates were changed. Instead of requesting the records of those released by July 1, 1974, we requested the records of all those individuals released no later than December 31, 1975 for any offenses or subsequent legal activity up through June 30, 1976. In this way, the 18-month minimum follow-up was maintained. When it was possible to proceed with the access request, we learned that the NCIC format does not conveniently allow to access by dates. Therefore, the records for the entire 1345 man cohort were requested.

These files were initially accessed in July of 1976 by the Bureau of Prisons Research Staff. The principal investigator traveled to Washington, D.C. and met with research officials in the Bureau of Prisons from July 25 - July 28, 1976, during which time the NCIC coding format was explained to him and to Mr. Wade Whitman, who actually carried out the ratings. The printouts for those individuals whose records have been successfully accessed ("hits") were turned over

to Mr. Whitman for coding.

Several passes were necessary in order to obtain as many "hits" as possible. Additional passes were made by the Bureau of Prison Staff for those not hit on the first run after the birthdates, the FBI numbers, etc. had been double-checked. In the case of certain individuals for whom critical dates and events were missing, additional passes were made. Information for the last 165 of these cases was provided to the investigators in December of 1977.

At all times every effort was made to safe-guard the confidentiality of the records. In addition to obliterating names and other identifiers, all sets of data were kept in locked files or in locked offices throughout the course of the project. Only project identification numbers were used to identify the computerized data files and the data keys were also kept secure.

Not all of the NCIC records were complete. For example, in some records it would be noted that an individual had entered an institution and subsequently there appeared an arrest without any record of whether that individual had left the institution. Since the operational definition of recidivism used throughout presupposed the individual had been discharged from custody, it was necessary to determine whether or not these subsequent offenses had occurred inside or outside institutions. Sometimes this could be determined by consideration of maximum sentence on entry. Other times notations of escapes accounted for the apparent discrepancy. In other cases, additional data had to be requested from Washington.

Some clinical judgement was also required when the date of departure from an institution was missing as was all too frequent in the case of certain institutions and half-way houses. If this could not be determined adequately, such individuals could not be used in the time-based measures. Although it might have

been possible to estimate departure dates fairly accurately based on data collected on other individuals serving similar sentences, in the present study such individuals were discarded if accurate dates could not be determined.

After the various dates and events have been determined as accurately as possible by studying the NCIC printout and subsequent responses to requests for further information, computerized scoring programs were devised by E. Walter Terrie to classify each individual's criminal record according to the 13 operational definitions of recidivism being compared in the present study.

CHAPTER VIII

Data Processing and Analyses

In the preceeding section, the procedures used to collect the data that formed the basis for the independent and dependent variables in the present recidivism study were described in detail. In the present section the way in which these data were processed and analyzed will be discussed.

It will be recalled that the information from the NCIC records was used to derive variables indicative of the degree of recidivism. The statistical properties and interrelationships of these eleven indicators of recidivism were studied in order to answer the first question, namely, the most practical and valid operational definition of recidivism.

Next, the overall design of the study called for selecting data from five points in time: the developmental history, the status of the offender upon entering the institution, the behavior of the offender during incarceration, the status of the offender upon departure of the institution, and the nature of the after-care program, and relating these data to the criteria of recidivism. These data analyses will be described in detail in this section.

Analyses of the Dependent Variable: Thirteen Measures of Recidivism

Thirteen possible measures of recidivism were used in the current study. Five of these were taken directly from the NCIC data, namely, the Total Number of Street Failures (NF), the Total Number of Arrest (NA), the Total Number of Convictions (NC), the Total Number of Incarcerations (NINC), and the Number of Lines on the NCIC printout following the release record (NL). As with all the recidivism data, these measures refer to events occurring after the individual was released to the street for the incarceration which brought him to FCI at the time of the study and prior to July 1, 1976. From these data a sixth measure, Number

of Offenses (NOFF) consisting of Number of Convictions (NC) plus Parole Violations was computed.

The seventh definition consisted of severity rating of the Most Severe Offense (MSEV). Severities were determined on the basis of a substudy conducted by the present investigator in which the severities ranging from 0 to 100 were attached each of the offenses listed in the NCIC dictionary of offenses. These estimates were made on the basis of interpolating and extrapolating from empirical studies of ratings of offense severity conducted by Sellin and Wolfgang (1964), Rossi (1974) and the NCCD severity studies.

The next five definitions were all computed from the data contained in the NCIC files. The first was a dichotomous definition (DICHR) of recidivism in which individuals who were reconfined for 60 days or more subsequent to their release were classified as recidivists and the balance of the population was classified as nonrecidivists or missing data. The second was an ordinal definition of recidivism which differentiated those with no subsequent records (0), those who had technical parole violations (1), those who were charged, arrested or prosecuted but not convicted of subsequent offenses (2), those who were convicted of subsequent offenses of lesser severity in the offense that originally brought them to the FCI (3), and those who were convicted of equal or greater severity (4). This ordinal definition was labeled ORDR.

The next measure was the Percent of the Time Spent Reconfined (PTR). In addition, the Recidivism Rate or the number of new offenses per month at risk (RR) and a recidivism index consisting of the number of offenses times the severity of the most severe offense divided by the time at risk (RSINDX) were investigated.

The thirteenth recidivism indicator was a Subjective Judgement made by the rater who studied and coded the NCIC file (RJ).

For each of these operational definitions, the number of subjects for whom the operational definition was scored was determined. As was noted in the section describing the data collection procedures, the NCIC records are no better than the diligence with which various agencies reported the events in criminal careers. To the extent that dates and events were missing, it was impossible to score some of the above definitions. Thus, the number of individuals excluded was a direct measure of the practicality of each possible definition.

In order to determine the interrelationships among the 13 variables, all 13 were intercorrelated and subjected to a principal axis factor analysis. Unities were retained in diagonals and factoring was stopped when the item values dropped below one. Factors were rotated using a nomalized varimax procedure. This analysis was designed to determine the interrelationships among the variables and to identify which variables were most representative of the underlying factor structure.

Analyses of the Independent Variables: Potential Predictors of Recidivism

As noted above, five time-periods were selected and data referring to each were related to the several measures of recidivism. Within each phase, the first step was identifying the subject population who met the criteria for inclusion within that particular analysis. This pool of subjects was then randomly divided into a derivation sample consisting of two-thirds of the Ss and a crossvalidation sample consisting of the remaining one-third.

Once the samples had been identified, the variables referring to that particular time-phase for which there were adequate data were identified. The first step in analysis was then correlating each of these variables with the criteria of recidivism.

The next step was to determine whether selected combinations and variables could improve upon the predictive power of the individual variables as indicated by the correlation predictions. Multiple regression analyses were undertaken using homogeneous data subsets within each phase.*

Naturally, correlational and multiple regression procedures, and particularly a series of such analyses such as those delineated above, capitalize heavily on chance configurations within the data. For this reason every correlation or equation derived on the two-thirds subsample was subsequently cross-validated on the one-third subsample. The validity of the r's and multiple R's on the one-third crossvalidation sample is the true indicator of the usefulness and validity of each of the derived correlations and each of the derived equations.

The rest of this section will be devoted to a detailed description of procedures used for selecting the subjects in each phase and a listing of the variables included in the analyses in each phase.

Phase I: Developmental Period

In the present study a somewhat arbitrary distinction was made between the "developmental" phase and "the intake phase." Both of these referred to background data but included in the developmental phase is material derived from case worker analyses and from the detailed intake interview which is generally not readily available in most institutions upon intake. The Phase II data consists of the test scores and demographic variables more commonly used in recidivism research.

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* Future studies are planned exploring heterogeneous data sets within and across phases such as a combination of intake and exit data or a mixture of tests and demographic data.

Subject Selection

Included in the Phase I analyses were all subjects who had entered the Federal Correctional Institution at Tallahassee from November 3, 1970 through November 2, 1972 who were released to the community from Tallahassee or some other institution, or from a state or federal half-way house or community treatment center, prior to January 1, 1975. Excluded were those who had not been released by the cut-off date and those men who were released on detainers and were subsequently incarcerated in other institutions.

Data to be Analyzed

The data to be analyzed in phase one can be subdivided into four general categories, developmental history, educational and vocational data, lifelong personality patterns, and adult adjustment.

Developmental history. One of the variables studied in reference to the developmental history were five scales based on the intake interview: Past Family Incohesiveness (INIXPFI), Nurturance(INIXNUR), Adequacy of Discipline (INXADQD), the Father as a Socializing Influence (INIXFSI), and the Mother as a Socializing Influence (INIXMSI). Eight additional scales were based on the presentence investigation items: Physical Adequacy of the Childhood Dwelling (PSIXPACD), the Juvenile Conviction Record (PSIXJCVR), Family Incohesiveness (PSIXFAMI), Childhood and Adolescent Maladjustment and Deviance (PSIXCAMD), Overall Social Deviance of the Family (PSIXSDFO), Social Deviance of the Father (PSIXSDFF), Social Deviance of the Mother (PSIXSDFM), and Social Deviance of the Siblings (PSIXSDFS).

Two additional scales were based on both the intake interview and the PSI. These were Social Marginality (IXSOM), and Delinquent Associates (IXDAS).

Educational and vocational data. Two scales referring to educational and vocational background were derived from the Intake Interview, School Problems and Adjustment (INIXSPA) and Negative Work Attitudes (INIXNWAH). Two others were derived from the Presentence Investigation, School Problems (PSIXSCHP), and Employment (PSIXEMPL).

Personality patterns. Six scales referring to life-long personality patterns were derived from the intake interview. These were Achievement Orientation (INIXACHO), Interpersonal Difficulties with Peers (INIXIDP), Negative Race Relations (INIXNRR), Conservative Religious and Sexual Attitudes (INIXCRSA), Physical Violence (INIXPHYV), and Authority Conflicts (INIXAUTC). In addition, there are three scales based on the Presentence Investigation, Achievement Motivation (PSIXACHM), Problems in Interpersonal Relations (PSIXPIPR), and Group Influences on Illegal Behavior (PSIXGIIB).

Adult adjustment patterns. Six scales referring to adult adjustment patterns were used in the Phase I analyses. These included Problems in Military Service (INIXPMS), Prior Record (INIXPREC), Marital Instability (INIXMARI), Drug Use (INIXDRUG), and Negative Attitudes Regarding the Criminal Justice System (INIXNCJS).

In addition two Presentence Investigation scales referred to Adult Maladjustment and Deviance (PSIXAMD) and Adult Arrest Record (PSIXAACR).

Phase II: Status on Intake to Institution

Whereas the emphasis in the developmental phase was on life-long or early developmental patterns, the emphasis in Phase II is on data that can easily be obtained upon an individual's entry to an institution such as social and demographic data, offense data, and test data. In the present investigation, four

general data sets were used in the Phase Two analyses, the demographic data obtained from the Bureau of Prison records, the Presentence Investigation scales, the test data and the psychologists' observations as recorded in the post-interview Q-sort.

Subject Selection

The subject pool for the intake data phase was the same as the subject pool in Phase I.

Data to be Analyzed

Three basic types of data were associated with the criteria of recidivism in Phase II: (1) demographic and social data including data on criminal background and the instant offense data on educational data, vocational data, and personality patterns. The variables used in each area will be listed below.

Demographic and social data. The demographic and social data used in the Phase II investigation were all obtained from the BOP forms described in Chapter VI. The selection of variables was guided in part by their potential relationship to recidivism and in part by their statistical distributions. Since nominal scale data such as marital status are not readily useable in the multivariate analyses that were to be performed, they were generally not included.

Eleven variables were selected. They included the individual's age when he was committed to the FCI (AGECOM), his race (RACE) which was scored as 2 for Black and 1 for Other, the number of prior commitments (PRCMM), the maximum sentence to be served (MAXSENT), whether he had a prior history of recidivism (RECID), the age at the time of his first arrest (AGE1STAR), the total number of prior arrests reported (TOTARR), the highest grade he had completed HIGHGR), his IQ as measured by the Revised Beta (BETAIQ), his median grade level as assessed by the

Stanford Achievement Test (SATMED), and the number of months of his longest work experience (NMOSLNGW).

Test data. Two tests were chosen from the intake testing battery to be related to the various criteria of recidivism. Selection was based partly on their use in previous research by other investigators and partly on their potential for predictions.

The first test selected was the Minnesota Multiphasic Personality Inventory (MMPI). In addition to the regularly scored clinical and validity scales, the average elevation of the MMPI scores was used. Several special scales were also scored. Included among them were Welsh's Factor A and Factor R scores.

Several MMPI scales have been derived specifically for the prediction of recidivism and all were used in the present study. These included Panton's Parole Violator (PAV) scale and his Habitual Criminalism (Hc) scales. In addition, Clark's Recidivism (Rc) scale as well as Black's Recidivism-Rehabilitation (RMN) scale were used.

Finally, four scales relating to alcohol and drug abuse (DAS, ROS, He, and ICAS) were used.

California Psychological Inventory (CPI) was also used. Included were the 18 regularly scored CPI scales as well as the California Ameanability (AME).

In future research additional tests including the MVII, the IPI, the STAI, the Itkin scales and the prisonization scale will be employed.

Typological data. In addition to relating individual test scales to the criteria of recidivism, all inmates were classified into types according to two classification systems, the present investigator's MMPI based system (Megargee, 1977; Meyer & Megargee, 1977; Megargee & Dorhout, 1977; Megargee & Bohn, 1977; Megargee, 1977). Megargee's classification system is based on MMPI

scores and the intake MMPI form the basis for this system. Although the Quay system is based on the behavior check list, a case history rating schedule and a test, only the test, the Personal Opinion Survey, was used in the present investigation. Inmates were classified into neurotic, psychopathic, and sub-cultural categories based on their scores on the POS.

Observational data: Q-Sort. As noted in the previous section, the intake interview was administered by a trained clinical psychologist. After the interview, the psychologist sorted a Q-deck in order to record his observations and perceptions of each client. Based on the manifest content of the items, the present investigator constructed several scales for scoring the Q-sort data. The following Q-sort scales were used in the present investigation: Expression versus Repression of Aggression (QSTEVRA), Authority Conflict (QSTAUT), Social Withdrawal (QSTSCOCW), Sociability (QSTSOCB), Social-Emotional Constriction (QSTSEC), Adaptation to Environment(QSTADPT), Passivity (QSTPASS), and Dominance (QSTDOM).

Phase III: Process and Programmatic Data

A major factor in parole decision-making is the inmate's adjustment and behavior within the institution. How predictive of parole success is institutional adjustment? Is the inmate who adapts smoothly to the institutional program the one most likely to remain out of trouble upon release? The Phase III investigation was undertaken to answer these questions and also determine the programmatic elements related to recidivism.

Subject Selection

In order to be included in the Phase III investigation, subjects had to be at the Tallahassee FCI long enough to obtain ratings of their adjustment and progress, i.e. at least 90 days and be (a) released from Tallahassee to the streets

by January 1975 or (b) transferred from Tallahassee to other Federal institutions and released to the community by January 1975 or (c) transferred from Tallahassee to Federal or State community treatment centers (CTCs) and released to the streets by January 1, 1975 or (d) released on detainers which were not exercised. Excluded were those who were not in the community by January 1, 1975, those who had served additional state or federal time as a result of a detainer before their release to the community, and those who were not at Tallahassee 90 days or more. Five types of data were used in the Phase III investigation: institutional adjustment data, educational and vocational adjustment data, therapy and counseling participation records, other programmatic variables, and the degree of home contacts.

Institutional Adjustment

Institutional adjustment was assessed by means of the records of disciplinary infractions, the number of days spent in the cell house, and the number of days reporting to sick call, as well as the dormitory officers' quarterly ratings. The variables that were included were the average number of disciplinary infractions per quarter (Shot rate), the average number of days spent in the cell house per quarter (Cell house days) and the average number of days reporting to sick call per quarter (Sick days).

As noted in the procedure section, dormitory officers made ratings quarterly on a standardized form for all inmates in BOP Category 1. These ratings are made at six-month intervals for inmates in BOP Category 2 and annual intervals for inmates in BOP Category 3. It will be recalled that these categories were based on the RAPS system as coded by the case worker.

The Interpersonal Adjustment Rating form contained eight five-point scales: (1) Relations with Other Men, (2) Relation with Authorities and Staff, (3) Verbal and Physical Aggressiveness, (4) Emotional Control Under Stress, (5) Cooperativeness: Willingness to Work for Common Good, (6) Need for Supervision: Dependability,

(7) Response to Supervision, and (8) Maturity: Efforts to Improve Self and Resolve Problems. The number of reports filed on each individual subject varied as a function of the length of time he had been confined to the FCI in Tallahassee and the RAPS category to which he had been assigned. For each individual, the mean rating on each of the eight items was determined; if only one report was on file, the "mean" consisted of that report. The mean scores on these eight items were then related to the criteria of recidivism.

Educational and Vocational Adjustment

Work Performance Ratings were obtained from the work crew supervisors on the same schedule that the Interpersonal Adjustment ratings were obtained. The Work Performance Rating form designed for the present study, which has now been widely implemented in other states and federal institutions around the country, had nine scales: (1) Quality of Work, (2) Quantity of Work, (3) Initiative, (4) Interest: Eagerness to Learn, (5) Ability to Learn, (6) Need for Supervision: Dependability, (7) Response to Supervision and Instruction, (8) Ability to Work with Others, and (9) Overall Job Proficiency. The data from these forms were analyzed in the same fashion as the data from the Interpersonal Adjustment Forms; for each individual, the mean rate on each of the nine items was determined and related to the criteria of recidivism.

At the time this report is being prepared, the data regarding teachers' ratings of academic work are not yet available because of the problems delineated earlier with respect to the scoring of the OPSCAN sheets on which these data were recorded.

Program Participation

As noted in the original grant application, therapy and counseling participation records were not accurately maintained at the FCI during the time this

investigation was carried out; however, two items in the exit interview inquired whether the inmate had participated in group (XIGROUP) or individual (XIINDRX) therapy. The inmates' self-reports of therapy participation as noted in the pre-release interview were also related to the criteria of recidivism.

In the exit interview the inmate was also asked about his participation in other aspects of the FCI program. His participation in extra curricular activities or clubs (XICLUBS) and the religious (XIRELIG) was related to recidivism. Also related to recidivism was the portion of the sentence served (PROPTS).

Home Contacts

Although most studies of recidivism focus on the inmate's character, personality and past history, and occasionally, institutional adjustment, the situation to which the inmate is returning is also of paramount importance. One indication of the home environment to which the inmate is returning is the number of visits he has received. Although this was naturally confounded to some extent by the distance between Tallahassee and the inmate's home, this is nevertheless overcome by family members who move to Tallahassee to be close to the offender during his incarceration. In the exit interview the inmate was asked who had visited and the average frequency of the visits from each of these visitors. These data were combined in an overall frequency of visitation scale (VISITS).

Although visiting is in part a function of distance from home, distance composes no restraints on correspondence. Each inmate was asked who had written him during his incarceration and the average frequency of these letters. These scales were combined to an overall frequency of correspondence scale (LETTERS).

Phase IV: Prerelease Data

Although the men and women are admitted to prisons for the purposes of punishment, deterance, and incapicitation as well as rehabilitation, everyone in the

criminal justice system hopes that they will change for the better as a result of incarceration. Despite this hope for change, it is rare for recidivism studies to use data reflecting the inmate's adjustment and status upon release from the institution. Virtually all have been limited to background variables referring to adjustment prior to incarceration and a few have examined his adjustment within the institution as well. To the extent that the inmate changes as a function of incarceration, these data will be inaccurate.

One of the major advantages of the present longitudinal study was the opportunity to reassess many of the inmates prior to their departure from Tallahassee. It was expected that these prerelease data would bear a stronger relation to recidivism than would the background and intake data. The Phase IV investigation was designed to determine the validity of this assumption.

Subject Selection

Subjects included in the Phase IV investigation were those who had participated in the prerelease evaluation program who were (a) released from Tallahassee to the community by January 1, 1975 or (b) transferred from Tallahassee to other federal institutions no more than 90 days prior to release to the streets by January 1, 1975 or (c) released on detainers from Tallahassee and were in the community within 60 days of their Tallahassee release and prior to January 1, 1975 or (d) were transferred from Tallahassee to federal or state community treatment centers and thence to the community within three months. (The latter requirement was imposed so that the exit interview would not be separated too far in time from becoming at risk for recidivism.)

Excluded were those who were not released to the community by January 1, 1975, those who served additional state or federal sentences after departure from Tallahassee and prior to release, those who did not arrive in the community within

three months of leaving Tallahassee and those who did not participate in the prerelease evaluation.

Data to be Analyzed

It will be recalled that before release, subjects were asked to volunteer for the prerelease assessment program consisting of a structured interview, the MMPI, the CPI, the ACL, and the Values Questionnaire. The prerelease data to be analyzed in Phase IV all stem from these sources. They can be subdivided into psychological test data, data reflecting change over the course of the sentence, exit interview scales reflecting plans or anticipated problems on release, and demographic or checklist type data.

Psychological Test Data

As noted above, the MMPI, the CPI, and the Values Questionnaire were readministered shortly before release. At the time of these analyses, not all the special MMPI and CPI scales studied in Phase II had been scored. For the MMPI, the regular validity and clinical scales and the special recidivism scales RMN, PAV, Hc and Rc were related to recidivism. The CPI was limited to the 18 regular scales.

Change or Improvement

For those inmates for whom both intake and exit MMPIs were available, the intake profile and exit profile were plotted simultaneously on the same profile sheet. Without knowing which profile was the intake and which was the exit profile, the present investigator indicated whether both profiles were essentially the same or one was better than the other. If the intake profile was better than the exit profile, the subject was classified as having gotten worse; if both were the same, the subject was classified as having no change; if the exit profile was better than the intake, the subject was classified as having improved. The same

procedure was followed independently for the California Psychological Inventory profiles. The classification of an individual as improved, unchanged, or worsened on the basis of the MMPI or CPI was then related to the criteria of recidivism. Obviously, no multiple regressions were possible on these data.

Exit Interview Scales

A section of the exit interview dealt with the offender's plans with respect to work, education, renewed family relations and the like upon release. It also inquired as to some of the difficulties that might be awaiting him. A few questions dealt quite forthrightly with whether the inmate thought he was likely to get into further difficulties and the likelihood of his commiting further felonies. From the items in these sections, five scales were derived. These reflected Self-perceived Change (XISPCHG), Optimism Regarding Community Adjustment (XISOPTM), and Employment Plans (XISJOBP). In addition, a Negative Prognosis for Release scale (XISNPRG) was derived incorporating items the investigator believed boded ill for future community adjustment. The fourth scale derived from the exit interview was Negative Attitudes Regarding FCI Staff and Program(XISNATT).

Demographic and Check List Data

In addition to the comprehensive scales several specific items were extracted from the exit interview to be related to recidivism. For the most part, these dealt with characteristics that might have changed since the intake, such as marital status, and specific problems which might be awaiting the inmate. Among these variables was the inmates' current marital status (XIMRSNW), whether inmate had financial obligations to meet while on parole (XIDEBTS), whether or not the inmate had any children (XICHILD), and whether or not the inmate had a job waiting for him on release (XIJOBOR).

Phase V: Aftercare Data

When the longitudinal study of which this investigation is a part was originally designed, it was hoped that a systematic follow-up in the community would be possible. Unfortunately funds were not available to permit this. About the only data which are available with respect to after-care consist of the degree of supervision the inmate received upon release. Thus, the Phase V investigation was essentially limited to a comparison of those inmates who were released to parole, those released on flat time without supervision, those sent to halfway houses followed by parole and those sent to halfway houses and then released without further supervision.

Subject Selection

Included in the Phase V data investigation were all those inmates released on flat time, parole, or via halfway houses from the Federal Correctional Institution or other federal prisons by January 1, 1975. Excluded were those not released by January 1, 1975, those who did additional state or federal sentences on detainers after being released from their current federal sentence, and those who were released on writs or in some other fashion so that the nature of the supervision could not be determined.

Data to be Analyzed

The only data to be analyzed in the Phase V investigation were the type of aftercare supervision: none, parole supervision, community treatment center followed by parole, and community treatment center not followed by parole.

CHAPTER IX

A Comparison of the Thirteen Measures of Recidivism

One of the two major goals of the present investigation was to compare various operational definitions or measures of recidivism to select those that would be most useful in the second phase of the study in which the relationship of various factors to recidivism would be explored. Twelve different measures were recorded, or calculated and considered. Each was based on the period from the time the individual was released from the sentence being served at the time of his arrival at FCI, Tallahassee to the cutoff date of July 1, 1976. Events occuring while an individual was still in prison or in a halfway house or community treatment center were not considered since the individual was still in custody and hence not eligible to be a recidivist.

Thirteen different possible criteria of recidivism were considered and compared. They were:

1) Number of Failures (NF): the total number of recorded street failures of any type including parole violations, arrests, convictions and incarcerations.

2) Number of Arrests (NA): the total number of recorded arrests for apparently new offenses in the critical period, whether or not these arrests led to prosecution or conviction.

3) Number of Convictions (NC): the total number of recorded convictions during the period.

4) Number of Incarcerations (NINC): total number of recorded reincarcerations during the period, whether they stemmed from parole violations, or new convictions. Based on an NCIC notation showing re-entry into an institution, no minimum time is specified (unlike definition DICHR). (It should be noted that jail confinements pending trial were seldom if ever recorded.)

5) Number of Offenses (NOFF): the total number of convictions (NC) plus the

number of parole violations; the denominator for the determination of recidivism rate (RR).

6) Maximum Severity (MSEV): The severity rating of the most serious offense for which a conviction was obtained as determined from the severity ratings attached to the NCIC offense codes.

7) Dichotomous Definition (DICHR): One of the most widely used definitions found in the literature, a recidivist is anyone who at any time after release was reincarcerated for at least 60 days. Anyone else is a nonrecidivist.

8) Ordinal Definition (ORDR): Classified people into one of five categories: 0 = no new entries; 1 = technical violations of parole only; 2 = arrests or charges without convictions; 3 = convicted of an offense less severe than that which brough him into the cohort; 4 = convicted of an offense equal to or more severe than that which brought him into the cohort.

9) Percent Time Reconfined (PTR): The number of days reincarcerated from the time of release until the cutoff date divided by the total number of days from release to the cutoff date. Jail time awaiting trial was not included since it rarely, if ever, appeared in the NCIC reports.

10) Recidivism Rate (RR): The number of offenses (NOFF) divided by the number of months at risk, i.e., the number of months from release to the cutoff date less the number of months reconfined.

11) Recidivism Index (RSINDX): The number of offenses (NOFF) times the maximum severity (MSEV) of those offenses divided by the number of months at risk.

12) Rater's Judgement (RJ): A subjective recidivism rating on an 11-point scale model by Wade Whitman, retired Lieutenant and veteran custodial officer at FCI, Tallahassee, who coded the NCIC reports.

13) Number of Lines (NL): The number of printed lines in the NCIC report following the report of the man's release to the community.

Descriptive Statistics in Recidivism Rates

The first step in comparing the 13 recidivism measures was to compute descriptive statistics and frequency distributions for all the variables. The results of these analyses can be found in Table 9-1. The first column of this table shows the number of individuals for whom each measure could be scored. It can be seen that the time-based measures (PTR, RR, AND RSINDX) could be scored on approximately 950 individuals whereas the other measures, with the exception of RJ, could be scored on virtually the entire sample. This was because the dates needed to compute the time base measures were occasionally missing from the NCIC file.

Three measures of central tendancy, the median, the mean and the mode as well as the frequency of the total score are presented in the next four columns. For virtually all the measures the mean was higher than the median and the modal score was zero. Moreover, the frequency of that modal score typically ranged from 47 to 72 percent of the sample. This resulted in significantly skewed distributions.

In nonstatistical terms, what these data show is high success rate for the FCI, Tallahassee. Four-hundred sixty-six of the 1,008 subjects (46.2%) were never rearrested, 720 (71.4%) had not been convicted of new offenses, and 730 (72.4%) had not been reincarcerated. These subjects not only all received zero scores on such variables as NA, NC, and NINC, but also on the various indices and time-based measures which were derived from these variables. If one's criterion of success is never being rearrested, then it appears that after a mean follow-up of time of 42 months (42.6%) of the FCI releasees could be regarded as successes, and if one accepts as his criterion not being reconvicted or reincarcerated, the success rate is better than 70%.

Table 9-1

Descriptive Statistics for the 13 Recidivism Measures

Measure	Number of Valid Cases	Mean	Median	Modal Score	Frequency of Modal Score	Skew	Standard Deviation	Range	
								Minimum	Maximum
NF	1008	1.26	.66	0	466	2.44	1.79	0	16
NA	1008	1.26	.66	0	466	2.45	1.79	0	16
NC	1011	.37	.20	0	720	2.35	.69	0	5
NINC	1011	.32	.19	0	730	1.74	.56	0	3
NOFF	1008	.36	.20	0	724	2.30	.67	0	5
MSEV	1008	18.58	.19	0	725	1.18	30.73	0	95
DICHR	1011	.26	.18	0	742	1.07	.44	0	1
ORDR	1011	1.58	1.65	0	466	.35	1.61	0	4
PTR	950	.09	.0	0	722	2.36	.21	0	100
RR	949	.02	0	0	718	20.33	.16	0	3.75
RSINDX	949	1.55	0	0	718	20.54	13.03	0	300
RJ	987	3.49	3.01	2.0	264	.94	2.03	1	10
NL	1011	2.77	1.01	0	454	2.07	3.91	0	31

These findings should please administrators and treatment personnel since their failure rates of 65 to 85% are commonly bandied about in the literature and in the popular press. However, from a research standpoint, such heavily skewed distribution present major problems for the correlational analyses planned in the next five chapters. With half to three-quarters of the subject population all falling on the same data point, namely zero, Pearson r correlations and the multiple correlations based on these first-order correlations will naturally be limited in magnitude. Moreover, the greater the skew of the distribution, the more assumptions of a multiple regression model are being violated. In the present report the data analyses in the subgrant proposal will be carried through, but the magnitude of the obtained relationships will have to be evaluated in the light of the dependent variables. The future analyses, which are beyond the scope of the present report, stepwise multiple discriminant analyses will be performed after the recidivism criteria has been collapsed into two or three categories.

Intercorrelations of the Measures

The 13 recidivism measures were intercorrelated; pairwise deletion was used for missing values. The Ns for the correlations ranged from 998 to 1080. The resulting 13 x 13 matrix is reproduced in Table 9-2. It can be seen that, as one would hope, all 13 variables were positively correlated.

A principal factor analysis with iterations, followed by normalized varimax rotation, was performed to further clarify the interrelationships of the 13 recidivism measures. Unities were retained in the diagonals and factoring ceased when the eigenvalues dropped below 1. As one would expect from such a matrix, communalities were high, ranging from .69 to .99 with a median of .86, and three factors were extracted which accounted for 100% of the variance. The rotated factor loadings are presented in Table 9-3.

Table 9-2

Intercorrelations of the 13 Recidivism Measures

	NF	NA	NC	NINC	NOFF	MSEV	DICHR	ORDR	PTR	RR	RSINDX	RJ	NL
NF	-	.99	.66	.52	.64	.51	.44	.64	.31	.06	.05	.60	.82
NA	.99	-	.66	.52	.64	.51	.44	.66	.31	.06	.05	.60	.82
NC	.66	.66	-	.69	.98	.83	.60	.74	.54	.21	.19	.62	.69
NINC	.52	.52	.69	-	.69	.66	.77	.65	.69	.19	.18	.69	.67
NOFF	.64	.64	.98	.69	-	.85	.60	.74	.54	.21	.20	.62	.68
MSEV	.51	.51	.83	.66	.85	-	.68	.83	.64	.27	.25	.67	.57
DICHR	.44	.44	.60	.77	.60	.68	-	.67	.74	.22	.20	.71	.57
JRDR	.66	.66	.74	.65	.74	.83	.67	-	.60	.21	.19	.71	.66
PTR	.31	.31	.54	.69	.54	.64	.74	.60	-	.39	.36	.65	.52
RR	.06	.06	.21	.19	.22	.27	.22	.21	.39	-	.99	.19	.10
RSINDX	.05	.05	.19	.18	.20	.25	.20	.19	.36	.99	-	.17	.09
RJ	.60	.60	.62	.68	.62	.67	.71	.71	.65	.19	.17	-	.72
NL	.82	.82	.69	.67	.68	.57	.57	.66	.52	.10	.09	.72	-

Table 9-3

Rotated Factor Loadings of 13 Recidivism Measures on Three Factors

	Factor		
Variable	1	2	3
NA	.30	.95	.00
NC	.71	.50	.09
NINC	.78	.30	.07
NOFF	.72	.48	.09
MSEV	.81	.31	.14
DICHR	.82	.18	.09
ORDR	.72	.46	.09
PTR	.78	.07	.26
RR	.16	.02	.99
RSINDX	.14	.01	.99
RJ	.71	.39	.07
NL	.54	.68	.01
% Variance Accounted For	70.9	19.5	9.7

The largest factor, accounting for 71% of the variance, was defined by high loadings from NC, NINC, NOFF, MSEC, DICHR, ORDR, and PTR. It appeared to be primarily a recidivism measure based on convictions and incarcerations.

The second Factor, accounting for 20% of the variance, was clearly defined by extremely large loading from the two virtually identical variables NF and NC, as well as a lower but still noteworthy loading from NL. This factor appeared to be a recidivism measure based primarily on arrests.

The third factor was defined by the two time-based measures, RR and RSINDX. This appeared to be a recidivism rate factor.

Evaluations of the 13 Measures

Several criteria must be born in mind in evaluating the relative usefulness of the various criteria. The first is the data required to score the measures. Obviously, the more data that are required, the more the absence of a critical date or events will impede the definition. Another consideration is the ease with which the data can be extracted from the NCIC record. A measure such as the number of lines following the notation of the individual's release requires no expertise to compute, whereas a complex measure such as the recidivism rate may demand considerable sophistication on the part of the data coder.

The interrelationships among variables is another important consideration. Obviously, if two variables are highly correlated with one another, there is no need to use both. Still, criteria must be chosen in such a way that all the factors identified in the factor analyses are represented.

A third consideration is the clarity with which a definition can be communicated. If two variables have similar properties but one refers to a relatively straight-forward aspect of the data, whereas another is relatively arcane, the simpler, more easily understood, measure will be preferred.

A fourth consideration is the statistical properties of each variable and

the degree with which the variables lend themselves to correlational or other forms of analyses.

With these general guidelines in mind, we shall examine each of the 13 variables to select those that will be used in the subsequent investigation of the factors related to recidivism at each phase.

Number of Failures (NF). The number of failures prove to be virtually identical to the number of arrests. Not only did the two variables correlate almost perfectly, but they also had almost identical statistical properties.

It had been intended that the two variables would be related but not identical. A "failure" was supposed to refer to an event resulting in a parole violation, an arrest, a conviction, or an incarceration. One reason NF and NA were virtually identical was because no one was convicted or incarcerated without being first arrested. Nevertheless, the two variables should have differed since NF was supposed to include technical parole violations as well as arrests. Unfortunately, parole violations not involving an arrest were difficult, if not impossible, to extract from the NCIC records. As will be seen in the discussion of the ordinal definition (the ORDR), the computer program was unable to identify any parole violations in which an arrest had not taken place. Therefore, NF was reduced to and became identical to NA.

Number of Arrests (NA). As noted above, NA was virtually identical with Number of Failures as operationally defined in this study. Given their almost perfect correlation, there was no point in including both NF and NA in subsequent analyses; since NA is more easily understood, it is preferable.

The Number of Arrests could be determined for almost everyone in the recidivism subject sample. (The only three individuals for whom NA could not be determined were three men who were deported from the United States following their release from prison.) The statistics showed that 46.2% were arrested once, 13.6% were arrested twice, 10.3% were arrested three times and the remaining 10%

were arrested anywhere from four to 16 times. The discrepancy between the Number of Arrests and the Number of Convictions show many of the arrests were not followed by prosecution or conviction.

The Number of Arrests had a highly significant (.95) loading on the second factor that emerged in the factor analysis. For this reason and because of its conceptual clarity, NA was one of the criteria of recidivism chosen for further study.

Number of Convictions (NC). The Number of Convictions seemed to be virtually identical with the variable number of offenses (NOFF). The reason for this unanticipated similarity was the same as the reason for the similarity between NF and NA, namely, the inability of the computer program to identify technical parole violators (See NOFF). Because of its greater simplicity and conceptual clarity, NC is preferred to NOFF.

As noted above, 71% of the sample had no convictions following release, 22.4% had one subsequent conviction, 4.3% had two, and the remaining 2% had three to five subsequent convictions. Thus, NC is more highly skewed than NA. NC had its principal loading on Factor 1, which was identified as a conviction and an incarceration factor, and it also had a substantial loading (.50) on Factor 2.

Number of Incarcerations (NINC). The number of incarcerations was highly correlated with all of the other recidivism measures except the two time-based measures, RR and RSIND. Like the other measures discussed thus far, NINC was highly skewed with 72.4% of the sample having a score of zero, signifying no subsequent incarcerations; 23.7% had one subsequent incarceration, 3.4% had two, and 5 individuals representing 0.5% of the sample had three subsequent incarcerations.

NINC had a high (.78) loading on Factor 1 and a low loading on the other two factors. Although two other variables (MSEV and DICHR), also had high loadings on Factor 1, NINC was chosen to represent this factor because of its greater conceptual clarity and because as a continuous measure, although highly skewed, it seemed a better choice than DICHR for correlational analyses.

Number of Offenses (NOFF). As noted above, the number of offenses proved to be virtually identical with the number of incarcerations. The descriptive statistics for the two variables were essentially identical and their correlation was .99. NOFF had been intended to reflect convictions (NC) plus technical parole violations. However, since parole violations in the absence of arrests or convictions could not be detected by the program, NC and NOFF proved to be essentially identical.

Maximum Severity (MSEV). This variable referred to the severity of the maximum offense for which a conviction had been obtained based on the severity ratings of the NCIC offense codes. Since it depended on a conviction occuring, it naturally correlated highly (.83) with the Number of Convictions (NC). However, because MSEV assumed values ranging from 0 to 95, it was less skewed than NC (1.18 vs. 2.35). Nevertheless, the fact that 725 individuals had scores of zero made for wide discrepancy between the mean (18.58) and the median (0.19) and a high standard deviation (3.73). These statistical properties, plus the fact that MSEV requires more data and computational effort, and is more subjective indicated that MSTEV would be less desirable to investigate than NINC despite the fact that MSEV had a somewhat higher loading (.81) on Factor 1 than did NINC (.78).

If zero entries are excluded, MSEV ranged from 20, which is the severity assigned to such offenses as disorderly conduct or disturbing the peace, to 95, which is the code number assigned for willful homicide. Unfortunately, there was

only one individual with a score as low as 20, while there were eight with scores of 95. The mean severity for those having some convictions was 66 which is a severity rating assigned to offenses such as burglary.

Dichotomous Definition (DICHR). The dichotomous definition of recidivism is one used widely in recidivism studies. According to this definition, people were classified as recidivists if they were reincarcerated for any reason for 60 days or more after release. To score this definition, one needs to know not only the fact that an individual was returned to an institution, but also the duration of that subsequent incarceration. Unlike NINC, there is no distinction made in DICHR as to whether the individual is returned once or several times. According to this definition, 74% of the sample were successes and 26% were recidivists.

As a dichotomous measure, DICHR violates a number of the assumptions required for correlational and regression analyses and therefore was not selected for the Phase I through Phase V computations. However, it would lend itself to the discriminant analyses that are planned for future research.

Ordinal Definition (RDR). The ordinal definition was designed to provide a five-point ordinal scale of recidivism. The failure to identify technical violations eliminated one category so, in effect, it became a four-point scale. Four hundred sixty-six individuals representing 46.2% of the sample had no subsequent entanglements with the law, 254 (25.2%) were accused or arrested for new offenses but not convicted, 72.1% were convicted of new offenses of less severity than the crime for which they had originally been incarcerated at the FCI, and 216 (21.4%) were convicted of new offenses of equal or greater severity.

After all the definitions studied, ORDR had the least skew. Its principal loading was on Factor 1 (Incarceration) but also had a noteworthy loading (.46) on Factor 2 (Arrests).

Because it required information regarding severity of the original as well as the subsequent offenses, it was less practical than some of the other measures discussed thus far. As an ordinal measure it lends itself more to administrative reporting than does to correlational analyses for research purposes.

Percent Time Reconfined (PTR). PTR places rather heavy demands on the NCIC record. It requires that a complete reconstruction be made of the post-release history since every month must be accounted on determining whether or not the individual is in or out of an institution. PTR, as calculated in the present study, undoubtedly underestimates the amount of time spent behind bars subsequent to release since the NCIC records do not include jail time. This variable ranged from those who had no subsequent time reconfined (722 individuals) to 99% (three unfortunate individuals).

Recidivism Rate (RR). Recidivism Rate is another time-based measure which consisted of the number of offenses (NOFF) divided by the number of months at risk. Like PTR, RR could not be scored on every individual because the requisite information was missing for approximately 60 people. RR, along with the virtually identical measure (RSINDX), was one of the two most highly skewed measures in a highly skewed group of variables.

With the exception of its almost perfect correlation with RSINDX, the correlations with the other recidivism variables ranged from .06 to .39 with a median of .21. With RSINDX, RR served to define the third factor. If RSINDX had not been included with RR in the matrix, this factor would not have emerged. A factor analyses run on the 12 variables excluding RSINDX showed RR having a small loading (.35) on the incarceration factor and minimum loading (-.01) on the arrest factor.)

Recidivism Rate was the most independent of the 13 variables studied.

Because RR represented a different appraoch to the scaling of recidivism, as shown by the intercorrelation matrix and the factor analytic results, it was selected as one of the variables to be investigated in the analyses in Phases I through V.

Recidivism Seriousness Index (RSINDX). Most complex of the criteria of recidivism considered, RSINDX differed from the Recidivism Rate (RR) in that the seriousness of the most serious offense was included in the equation. This was done so as to weight differentially serious and less serious subsequent offenses. The correlational data showed, however, that RSINDX was almost perfectly correlated with RR. Like RR, RSINDX was strongly skewed and its standard deviation was almost eight times its mean. Along with RR, it served to define the third factor that emerged from the factor analysis.

Because RSINDX was almost perfectly correlated with RR but required more information and employed more complex computational process it was not included among the variables selected for the investigation of the factors associated with recidivism.

Rater's Judgement (RJ). Of the 13 measures considered, 12 were purely quantitative summaries or indices of data contained in the NCIC file. An exception is the Rater's Judgement (RJ) which was a purely subjective rating on a ten-point scale made by an individual who studied the NCIC record as he coded the data required for the other measures. As noted in Chapter VII, this individual was thoroughly experienced, having spent many years as a custodial officer prior to spending five years as a laboratory technologist before the project. It was he who generally served to clarify rap sheets, sentences, federal code provisions and similarly arcane legal items for other members of the staff. Prior to coding

the NCIC printouts, he received several days of training in their interpretation from the research staff of the Bureau of Prisons in Washington, D.C.

Interestingly, the data in Table 9-1 showed the Rater's Judgement to be superior to all the other measures in several important statistical aspects. Whereas, anywhere from 454 to 725 individuals shared the modal score for the 12 measures, only 264 scored at the modal rating for RJ. It was the only measure on which the standard deviation was lower than the mean, and, of all the measures, there was the least relative discrepancy between the mean and the median. Except for ORDR, it had the least amount of skew. Thus, of all the variables, RJ was the one which most closely approximated the assumptions required for the proposed correlational and regression analyses.

RJ was unique because the rater was able to use his clinical judgement to differentiate among those who had no subsequent offenses. Those individuals whose records were clear and who had been in the community for a long time were rated more favorably than those individuals with similarly clear records who had not been in the community as long.

Inspection of the correlation coefficients in Table 9-2 shows that the Rater's Judgement correlated about equally with all the other criteria except for RR and RSINDX. It appears that the rater was influenced as much by convictions as arrests, and by incarcerations as convictions.

In the context of the variables included in the present study, RJ represented a unique approach to the definition of recidivism and the comparative data indicated that RJ had unique statistical attributes as well. For this reason, it was selected for inclusion among the variables to be studied in the subsequent phases in this investigation.

Number of Lines (NL). As the NCIC records were studied, it was noted that the more arrests, convictions, incarcerations, transfers, and so forth, the

more lines there were in the printout. It appeared that perhaps the number of lines of information in the printout subsequent to the release notation might serve as a simple but effective global measure of recidivism.

Unfortunately, NL shared the major deficiency common to the other measures, namely, a heavy concentration of zero scores. Although it appears paradoxical to bemoan the fact that 454 of the 1111 men released for 18 months or more had no subsequent notations in their record, from a statistical point of view this accumulation of zero scores is a set-back since it truncates the maximum correlation coefficients that can be obtained.

One argument for including NL in the investigation is that it had a factoral pattern with substantial loadings on both factors 1 and 2. On the other hand, the correlation matrix showed that NL was so highly correlated with NA that it appeared redundant to include both variables. Moreover, since NL is specific to NCIC records, it is less generalizable than NA to other investigations. Therefore, NL was not included in the final set of analyses.

Summary

The 13 different measures and indices of recidivism were scored or computed from the data basis in the NCIC files. Descriptive statistics showed them all to be highly skewed; the modal score in every instance was zero. On the basis of the practicality, conceptual simplicity, and overlap among the variables, as shown by the correlational by factor analyses, four variables were chosen to be related to the various potential predictors of recidivism in Phases I through V. These variables were the Number of Arrests (NA), which was the marker variable for the second factor accounting for 20% of the variance, Number of Incarceration (NINC), which was chosen as the marker variable for the first factor, accounting for 71% of the variance, and Recidivism Rate (RR) which was the marker variable

for the third and smallest factor, accounting for 10% of the variance. In addition to these purely quantitative indicesk a fourth variable, Rater's Judgement (RJ), which represented a clinical and subjective approach to operationalizing recidivism and which had statistical properties superior in some respects to the other variables, was also included.

CHAPTER X

Results of the Phase I Investigation

The second goal of the present investigation was to identify the factors related to recidivism and to determine if data collected at, or referring to, different points in time differ in their relationships to the criteria of recidivism. This chapter presents the results of the "Phase I" investigation referring to measures of the developmental period and behavior patterns prior to the commission of the instant offense. It will be followed by chapters reporting the results of the Phase II, III, IV and V studies respectively.

Each of these five chapters will have the same basic organization and format. First, the Pearsonian correlation coefficients of each potential predictor variable with the four criteria will be presented for both the original (two-thirds) and the crossvalidation (one-third) samples.

Next the results of the regression analyses will be reported; first, the results of the "full" or "forced" multiple regression analyses using all the potential variables in each homogeneous data set will be presented to provide the reader with an indication of the maximum multiple R that might reasonably be expected from these data. The full regression model will be followed by the results of stepwise regression analyses in which shorter and more practical equations were derived. Both the full and the stepwise equations were derived on the two-thirds derivation samples. (These samples were generated randomly and independently for each phase.)

Finally, the correlations of the predicted values of NA, NINC, RR and RJ computed from the stepwise equations will be correlated with the actual values of these variables using the one-third crossvalidation samples to provide an indication of their shrinkage and generality.

Correlational Results

It will be recalled that "Phase I" dealt with the developmental period, i.e. scales dealing with family backgrounds, childhood and early adolescence, and educational and vocational experiences leading up to the offenses which brought the inmates to the FCI. The scales were based on the structured intake interviews and Presentence Investigation.

Developmental scales. Table 10-1 reports the correlations of 15 scales reflecting various aspects of the early developmental period with the four criteria of recidivism for the original and the crossvalidation samples. The scales included five intake interview scales, Past Family Incohesiveness (INIXPFI), Nurturance (INIXNUR), Adequacy of Parental Discipline (INIXADQD), Father as a Socializing Influence (INIXFSI), and Mother as a Socializing Influence (INIXMSI). With pairwise deletion of missing data, the sample sizes in the derivation sample ranged from approximately 499 to 587, so correlations of approximately .10 and higher were generally statistically significant at the .01 level, and correlations of .13 and higher were generally significant at the .001 level. In the crossvalidation sampling the sample sizes ranged from 225 to 275, so correlations of approximately .14 or higher were needed for significance at the .01 level and correlations of .19 or higher were needed for significance at the .001 level.

Despite the relatively low magnitude of the correlations needed to attain statistical significance, none of the developmental intake interview scales correlated significantly with any of the criteria of recidivism in both the original and cross validation samples.

Eight developmental scales based on the Presentence Investigation were correlated with the four criteria of recidivism: Family Incohesiveness (PSIXFAMI),

Table 10-1

Correlations of Phase I Developmental Scales with Four Criteria of Recidivism in Two Subsamples of Youthful Offenders

	Number of Arrest (NA)		Number of Incarcerations (NINC)		Recidivism Rate (RR)		Rater's Judgement (RJ)	
Scales	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation
INIXPFI	.03	.05	.05	.03	.10	.03	.08	.10
INIXNUR	-.06	-.06	-.12*	-.07	-.01	-.04	-.14**	-.10
INIXADQD	-.06	-.03	-.11*	.00	-.06	-.09	-.09	-.03
INIXFSI	-.04	-.05	-.11*	.00	-.04	-.05	-.10*	-.05
INIXMSI	.01	-.03	-.01	-.07	-.04	-.11	-.02	-.09
PSIXFAMI	.07	.14*	.05	.12	.05	.10	.14**	.18*
PSIXSDFF	.02	.18*	.05	.11	-.01	.09	.10*	.19*
PSIXSDFM	.02	.17*	.04	.16*	.03	.13	.15**	.23**
PSIXSDFS	.08	.14	.13*	.01	-.01	-.04	.13*	.04
PSIXSDFO	.04	.22**	.08	.14*	.01	.09	.17**	.22**
PSIXPACD	-.13*	-.10	-.09	-.10	-.01	-.05	-.17**	-.13
PSIXCAMD	.20**	.21**	.11*	.20**	-.03	.14	.15**	.24**
PSIXJCVR	.22**	.21**	.11*	.20**	.12*	.20**	.20**	.27**
IXSOM	.12*	.19*	.11*	.17*	-.01	.22**	.13**	.24**
IXDAS	.06	.08	-.01	.01	-.02	.00	.05	.03

* $p < .01$

** $p < .001$

Social Deviance of the Family: Father (PSIXSDFF), Social Deviance of the Family: Mother (PSIXSDFM), Social Deviance of the Family: Siblings (PSIXSDFS), Social Deviance of the Family: Overall (PSIXSDFO), Physical Adequacy of the Childhood Dwelling (PSIXPACD), Childhood and Adolescent Maladjustment and Deviance (PSIXCAMD), and Juvenile Conviction Record (PSIXJCVR). The Presentence Investigation Report, it will be recalled, was prepared by the investigating Federal Probation Officer to guide the Judge in sentencing. PSIs were not always forwarded to the Federal Correctional Institution, and the PSIs that were received varied in the coverage of the various content areas. Therefore, as a general rule, there were more missing data from the PSI than from the Intake Interview. With pairwise deletion of missing values the size of the derivation sample entering into individual correlations coefficients varied, ranging from an N of 375 to an N of 555. The significance level of the attained correlation coefficients naturally varied as a function of the sample size, but generally speaking, a correlation of .10 or greater was significant at the .01 level and a correlation of .13 or greater was significant at the .001 level for the derivation sample. The sample sizes for the crossvalidation sample ranged from 222 to 262 subjects so the correlation coefficients required significance at the .01 level and .001 level were naturally somewhat higher. Generally speaking, correlations of .14 or higher were significant at the .01 level and correlations of .20 or higher were significant at the .001 level.

Inspection of the data in Table 10-1 shows that the PSI scales generally had stronger and more significant relations with the criteria of recidivism than did the Intake Interview scales. The scale reflecting Family Incohesiveness (PSIXFAMI) was correlated significantly with the Rater's Judgement in both the original and crossvalidational samples, as were scales reflecting the Social Deviance of the Family of the Father (PSIXSDFF), and of the Mother (PSIXSDFM) as well as the Overall Social Deviance of the Family (PSIXSDFO). The scale assessing Childhood and Adolescent Maladjustment and Deviance (PSIXCAMD) correlated

significantly with three of the four criteria of recidivism, Number of Arrests (NA), Number of Incarcerations (NINC), and the Rater's Judgement (RJ) in both the original and crossvalidation samples. The scale bearing the strongest relationship with recidivism, however, was the scale summarizing juvenile convictions (PSIXJCVR) which was related to all four criteria of recidivism in both the original and the derivation samples. Since PSIXJCVR is the developmental scale most closely related to the past criminal history of the offender, it is logical that it should have the highest relationship to recidivism of the 12 developmental scales studied.

Two scales were based on both the Intake Interview and the PSI, Social Marginality (IXSOM) and Number of Delinquent Associates (IXDAS). For these two variables, the derivation sample sizes ranged from 504 to 534. Correlations of .10 or greater were significant at the .01 level and correlations of .13 or greater were significant at .001 level. For the crossvalidation sample, the sample sizes ranged from 206 to 226 and the correlation coefficients required for significance were approximately .16 at the .01 level and .21 at the .001 level.

The data in Table 10-1 show that the scale of Delinquent Associates (IXDAS) had no significant relationships with the four criteria but overall Social Marginality (IXSOM) did relate significantly to the Number of Arrests (NA), the Number of Incarcerations (NINC), and the Rater's Judgement (RJ) in both the original and crossvalidation samples.

Taking the data in Table 10-1 as a whole, several patterns can be discerned which will be interesting if they are repeated in subsequent analyses. First, there was a general tendency for more of the PSI scales than the Intake Interview scales to correlate significantly with the criteria of recidivism. Since it is much easier and less expensive to obtain Presentence Investigation Reports than to

administer structured Intake Interviews, this trend is encouraging. Secondly, there was a tendency for the various scales to relate more closely to the Rater's Judgement (RJ) than to the other criteria of recidivism. This probably reflects the fact, pointed out in Chapter 9, that the statistical properties of RJ conform more nearly to those required for correlational analyses than the more heavily skewed variables NA, NINC, and RR.

Another trend that was noted was for the Recidivism Rate (RR) to have the fewest significant correlations with the various developmental scales. It will be recalled that RR and its twin variable RSINDX correlated less with the other 11 criteria of recidivism than any of the other measures examined. This, too, is encouraging since it means that the most commonly used criteria of recidivism such as Number of Arrests and Number of Incarcerations appear to be more predictable than the less commonly used and more difficult to compute RR.

Overall, the most noteworthy aspect about the data in Table 1 is that all the correlations are quite low, the highest being only .27, indicating that less than 9% of the variance was shared between the developmental scales and the criteria of recidivism. It had been anticipated that the developmental scales assessing early childhood and adolescent patterns would have relatively low associations with subsequent recidivism, and these data are consistent with that premise.

Educational and Vocational Scales

Two intake interview scales reflecting educational and vocational adjustment and attitudes were correlated with the four criteria of recidivism, School Problems and Adjustment (INIXSPA) and Negative Work Attitudes and History (INIXNWAH). On both of these scales, high scores indicated maladjustment, so positive correlations with recidivism were expected. Sample sizes for these two scales ranged from 552 to 601, so correlations of approximately .09 were significant at the .01 level and correlations of .13 or better were significant at the

Table 10-2

Correlations of Phase I Educational and Vocational Study with Four Criteria of Recidivism in Two Subsamples of Youthful Offenders

	Number of Arrests (NA)		Number of Incarcerations (NINC)		Recidivism Rate (RR)		Rater's Judgement (RJ)	
Scales	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation
INIXSPA	.14**	.17*	.12*	.09	.00	.13*	.15**	.14*
INIXNWAH	.07	.05	.05	.06	.01	.07	.07	.03
PSIXSCHP	.17**	.18*	.15**	.11	-.03	.11	.19**	.10
PSIXEMPL	-.18**	-.23**	-.19**	-.21**	-.06	-.20**	-.29**	-.31**

* $p < .01$

** $p < .001$

.001 level for the derivation group. Sample sizes for the crossvalidation group ranged from 244 to 274 with correlations of approximately .14 or better being required for significance at the .01 level and correlations of .19 or better required for significance at the .001 level.

Somewhat contrary to expectations, the scale reflecting Negative Work Attitudes and History (INIXNWAH) did not correlate significantly with any of the four criteria of recidivism. However, the scale assessing School Problems and Adjustment (INIXSPA) correlated significantly with the Number of Arrest (NA) and with the Rater's Judgement (RJ) in both the original and crossvalidational samples. (See Table 10-2.)

Two scales based on the Presentence Investigation also assessed scholastic problems and employment history. PSIXSCHP assessed School Problems and PSIXEMPL reflected Employment. On the latter scale, positive scores reflected a good work history so negative correlations with recidivism were expected. Sample sizes for these two scales in the original sample ranged from 497 to 538 so that correlations of approximately .10 or greater were significant at the .01 level and correlations of .13 or greater were significant at the .001 level of significance. In the crossvalidation samples, the Ns ranged from 216 to 244 so that correlations of approximately .16 or greater were significant at the .01 level whereas correlations of .21 or greater were required for significance at the .001 level.

The PSI scale reflecting School Problems was positively correlated with the Number of Arrests, thus replicating the pattern in the intake interview data. The PSI School Problem scale also replicated the intake interview School Problem and Adjustment scale insofar as significant correlations with the Number of Incarcerations and with the Rater's Judgement were noted in the derivation sample but not in the crossvalidation sample.

The PSI scale reflecting positive employment patterns had significant negative correlations in both the original and crossvalidation samples with the criteria Number of Arrests, Number of Incarcerations, and Rater's Judgement. Summarizing these findings, the scales reflecting education and vocational adjustment patterns had a somewhat stronger relationship with recidivism than did those reflecting earlier developmental patterns. The trend for the PSI to be more closely related to the criteria of recidivism than the intake interview was continued.

As with the developmental scales, correlations of low magnitude were obtained. This could be because of the remoteness in time from Phase I to eventual recidivism, but it could also reflect the severe skew and truncation noted in Chapter IX occasioned by the large number of inmates without subsequent recidivism records.

Personality Pattern Scales. Nine scales reflecting relatively enduring patterns of personality and behavior, six from the intake interview and three from the PSI, were correlated with the four criteria of recidivism. All of these scales made use of intake interviews or PSI items from a number of different stages and areas of functioning including early childhood, school behavior, and work behavior, as well as descriptions of current functioning.

The six intake interview scales reflected Achievement Orientation (INIXACHO), Negative Race Relations (INIXRR), Interpersonal Difficulties with Peers (INIXIDP), Authority Conflicts (INIXATC), Conservative Religious and Sexual Attitudes (INIXCRA), and Physical Violence (INIXPHYV). Sample sizes in the original sample ranged from 398 to 599 so the correlation coefficients required for significance at the .01 level had to exceed .10 and those at the .001 level. The sample sizes in the cross validational sample ranged from 176 to 275, so correlations of .13 and .19 were required for ps of .01 and .001 respectively.

Table 10-3

Correlations of Phase I Personality Pattern Scale with Four Criteria of Recidivism in Two Subsamples of Youthful Offenders

	Number of Arrests (NA)		Number of Incarcerations (NINC)		Recidivism Rate (RR)		Rater's Judgement (RJ)	
Scales	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation
INIXACHO	-.16**	-.12	-.18**	-.14*	.01	-.10	-.20**	-.13
INIXNRR	.07	.02	.06	.01	.01	.03	.09	.03
INIXIDP	.09	.11	.09	.09	.04	.12	.11*	.12
INIXAUTC	.10*	.11	.09*	.05	.00	.15*	.09*	.04
INIXCRSA	-.03	-.10	-.03	-.08	-.04	.04	.05	-.14*
INIXPHY	-.13*	.12	.14**	.09	.08	.16*	.16**	.09
PSIXACHM	-.20**	-.25**	-.21**	-.23**	-.06	-.19**	-.32**	-.32**
PSIXPIPR	.18**	.24**	.15**	.19**	-.02	.16*	.24**	.29**
PSIXGIIB	.03	.03	-.04	.01	-.07	.03	.01	.02

* $p < .01$

** $p < .001$

Of the six interview intake scales, only one, Achievement Orientation (INIXACHO), was correlated significantly with any of the criteria of recidivism in both the original and crossvalidation samples. Achievement Orientation also had significant negative correlations for the Number of Arrests and the Rater's Judgement in the derivation sample, but these correlations only approached significance in the crossvalidation sample (See Table 10-3).

Three PSI scales were also correlated with the four criteria of recidivism, Achievement Motivation (PSIXACHM), Problems in Interpersonal Relations (PSIXPIPR), and Group Influences on Illegal Behavior (PSIXGIIB). Sample sizes for these scales in the original sample ranged from 512 to 560 so a correlation of approximately .10 was required for significance at the .01 level and a correlation of .13 or better for significance at the .001 level. In the cross validation sample the sample sizes for these scales ranged from 229 to 256 and the associated magnitude of the correlation coefficients required for statistical significance were approximately .14 or greater at the .01 level and .19 or greater at the .001 level.

As was the case with the other Phase I variables studied thus far, the PSI scales had a closer relationship with the criteria investigated than did the interview scales. Of the intake interview scales, it was the scale assessing achievement orientation that bore the closest relationship with the four criteria and this pattern was repeated with the PSI. The Achievement Motivation scale (PSIXACHM) had significant negative correlations in both the original and crossvalidational samples with the Number of Arrests, the Number of Incarcerations and with the Rater's Judgement. The same pattern, albeit with somewhat lower correlations, was noted for the scale assessing Problems in Interpersonal Relations (PSIXIPR). Since PSIXIPR reflected a negative attitude, it correlated positively with recidivism, whereas the scale of Achievement Motivation, reflecting a positive attitude, correlated negatively with the criteria.

Adult Adjustment Patterns. Five scales from the intake interview and two scales from the PSI reflecting adult adjustment patterns were correlated with the four criteria of recidivism. The results are reported in Table 10-4.

Five intake interview scales assessed Problems in Military Service (INIXPMS), Prior Criminal Record (INIXPREC), Drug Abuse (INIXDRUG), Negative Attitudes toward the Criminal Justice System (INIXNCJS), and Marital Instability (INIXMARI). These sample sizes for INIXPREC, INIXDRUG, and INIXCJS were similar to those presented thus far, ranging from 567 to 599 in the original subsample and from 261 to 275 in the crossvalidation sample. The associated correlations required for significance at the .01 level and the .001 level were thus similar to those presented thus far.

The sample sizes for the scales reflecting Problems in Military Service (INIXPMS) and Marital Instability (INIXMARI) were considerably lower because only a minority of the research cohort had been inducted into military service or had been married. The sample size for INIXPMS ranged from 175 to 183 in the original sample and from 75 to 80 in the crossvalidation sample. Therefore, correlations of approximately .19 or better were required for significance at the .01 level in the derivation sample and correlations of approximately .28 or better were required for significance at the .01 level and in the crossvalidation sample. The sample sizes for Marital Instability were slightly larger, ranging from 218 to 229 in the original sample and from 83 to 90 in the crossvalidation sample. Higher correlations were also required for significance for this variable, with approximately 16 being required at the .01 level in the original sample and .26 for significance at the .001 level in the crossvalidation sample.

Only one of the five intake scales attained statistical significance in both the original and crossvalidation samples. As one might expect, it was the scale bearing the closest relationship with prior criminal behavior, namely the

Table 10-4

Correlations of Adult Adjustment Patterns with Four Criteria of Recidivism in Two Subsamples of Youthful Offenders

	Number of Arrests (NA)		Number of Incarcerations (NINC)		Recidivism Rate (RR)		Rater's Judgement (RJ)	
Scales	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation
INIXPMS	.12	.01	.04	.03	-.04	-.03	.04	-.14
INIXPREC	.14**	.22**	.14**	.20**	-.01	.06	.22**	.34**
INIXDRUG	-.01	.01	.04	.09	.01	.11	.04	-.03
INIXNCJS	.00	.03	.00	.00	-.01	.05	.03	-.02
INIXMARI	.09	.18	.14	.28*	.07	.12	.12	.23*
PSIXAMD	.19**	.23**	.17**	.24**	.00	.18*	.27**	.35**
PSIXAACR	.10*	.26**	.13**	.11	.01	.09	.18**	.20**

* $p < .01$

** $p < .001$

intake interview scale assessing the Prior Criminal Record (INIXPREC) which was significantly correlated with the Number of Arrests, the Number of Incarcerations, and with the Rater's Judgement.

Turning to the two PSI scales, one reflected Adult Maladjustment and Deviance (PSIXAMD) and the other the Adult Arrest and Conviction record (PSIXAACR). The sample sizes for these two scales range from 502 to 557 in the original. Correlations of approximately .10 were required at the .01 level and correlations of .13 or better were needed for significance at the .001 level. In the cross-validational sample, the Ns for these two variables ranged from 232 to 252. A correlation of approximately .15 was required for significance at the .01 level and .19 or greater for significance at the .001 level.

Both of these PSI variables correlated significantly with two or more of the criteria of recidivism. The scale reflecting Adult Maladjustment and Deviance (PSIXAMD) was correlated significantly with the Number of Arrests, the Number of Incarcerations and the Rater's Judgement, and the scale assessing the Adult Arrest and Conviction record (PSIXAACR) was correlated with the Number of Arrests and with the Rater's Judgement in both the original and crossvalidation samples.

These data thus continued the trend for those scales most directly reflecting prior criminal behavior to be the ones most closely associated with recidivism. In the present data, the trend for the highest correlations to be with the criterion Rater's Judgement was continued, although correlations for Number of Arrests and Number of Incarcerations approached the magnitude of RJ. As with the previous data sets, the criterion of Recidivism Rate (RR) had generally zero order correlations with the various potential predictors.

Summary of Correlational Analyses

It had not been anticipated that Phase I variables would have strong correlations with criteria of recidivism, referring for the most part as they did to

behavior patterns and events considerably removed in time from the eventual behavior after release. The correlational data certainly conformed to this expectation, but whether the temporal gap or truncation because of the high number of zero order scores was responsible can not be ascertained until the Phase II, III and IV investigations are carried out.

Several consistent trends were evident in the Phase I correlational analyses. The first was that the Presentence Investigation scales related more closely to the criteria of recidivism than did the intake interview scales. The intake interview and the PSI differed in two respects, so it is not possible to determine why the PSI was superior. It could be that the PSI is a more valid document than the intake interview since it is based on an observer's analysis rather than the inmate's self-report, which is naturally subject to distortion. However, it could also be because the structured interview used in the present investigation was deliberately designed to elicit opinions, feelings and attitudes while the Presentence Investigation was relied on to supply the "facts." Thus, with respect to vocational adjustment, the intake interview focused on an inmate's self-report of his attitudes and feelings regarding his employers and his own evaluation of his performance in work settings, while the PSI indicated the nature of his employment record in terms of jobs held, job stability and so forth. In any case, since Presentence Investigation reports are routinely written on all federal offenders, it is encouraging to the investigator that these documents appear as good, and probably better, than the much more expensive structured interview as a device of collecting information relevant to the eventual recidivism. (It should be pointed out that for other research purposes, the intake interview has proved superior.)

Generally speaking, the developmental scales that had the closest relationship to the criteria used in the present investigation were the PSI scales

assessing prior maladjustment and deviant behavior, namely, the scales for Childhood and Adolescent Maladjustment and Deviance, Adult Maladjustment and Deviance, Juvenile Conviction Record, and Adult Arrest and Conviction Record. The scales assessing employment record and achievement orientation were also among those emerging as the best predictors of recidivism in the present study.

A similar pattern was noted for the intake interview with the scales for School Problems and the self-report of the Prior Criminal Record being the best predictors. On the other hand, the scales assessing Family Incohesiveness, Parental Child Rearing Practices, Problems in Interpersonal Relations and Authority Conflicts did not emerge as being significantly associated with recidivism in the present study.

Of the four criterion measures, Rater's Judgement emerged as the one that was most closely associated with various independent variables, followed by the Number of Arrests and Number of Incarcerations. The criterion of Recidivism Rate, which it will be recalled from Chapter IX was largely independent of the other measures, had few significant associations with the independent variables used in the Phase I investigation.

Regression Analyses

The next step in the investigation was to determine whether scales could be combined to improve on the prediction obtainable from single scales alone. Large samples are important in multivariate analyses. When different data sets such as the intake interview and PSI are combined, sample sizes decrease because individuals who are missing intake interviews are rarely the same individuals who are missing information from the PSI. For this reason the regression analyses were carried out on homogeneous data sets, i.e. one set of regression analyses was performed using only the intake interview scales and another regression analysis was undertaken using only the Presentence Investigation scales.

Regression Analyses Based on the Intake Interview

It will be recalled that because only a relative small proportion of the subject population served in the military or was married there were considerable missing data for the scales Marital Instability (INIXMARI) and Problems in Military Service (INIXPMS). Therefore, these two scales were deleted before the regression analyses were performed.

The first set of regression analyses used a full regression model in which each and every scale entered into the predictive equation. Such an analysis, optimally weighting all the possible sources of information, serves to give an approximation of the maximum multiple correlation that can be obtained. Such full regression equations are rarely efficient, however, because they require considerable computation. So the full regression modals were followed by stepwise regression analyses in order to obtain the most practical possible equation for each criterion of recidivism. In the stepwise model variables are entered sequentially and entered only when they can improve significantly on the multiple correlation.

The results of the regression analyses can be seen in Table 10-5. For each data set the multiple R and associated probability value for the full regression modal and for the stepwise modal are presented for each of the four criteria of recidivism. In the final columns there appears the correlation of the predicted and the obtained recidivism scores based on data from the crossvalidation group. It is this crossvalidation r that most accurately reflect the degree to which these variables predict recidivism in new samples. The stepwise equations used to predict these values may be found in Table 10-6.

Regression Analyses Based on the Intake Interview

The full regression model of the intake interview data resulted in multiple Rs ranging from .18 to .29 for the four criteria of recidivism. As anticipated,

Table 10-5

Multiple Correlations of Phase I Intake Interview and PSI Variables with Four Criteria of Recidivism

Data Set	Criterion	Full Regression Model		Stepwise Model		Cross-validation	
		R	p	R	p	r	p
Intake Interview	NA	.21	.47	.18	.003	.20	.000
	NINC	.25	.14	.21	.002	.10	.117
	RR	.18	.75	.15	.045	.10	.091
	RJ	.29	.01	.27	.000	.26	.000
PSI	NA	.30	.02	.29	.000	.27	.001
	NINC	.21	.000	.25	.000	.18	.010
	RR	.22	.468	.17	.011	.14	.018
	RJ	.38	.000	.37	.000	.38	.000

* $p < .01$

** $p < .001$

Table 10-6

Stepwise Multiple Regression Equations for the Prediction of the Four Criteria of Recidivism from the Intake Interview and Presentence Investigation Scale

Intake Interview Equations

NA = -.0259 INIXACHO + .0305 INIXPREC + 1.6596

NINC = -.0098 INIXACHO + .0155 INIXPHYV - .0110 INIXIDP - .0083 INIXADQD + .7914

RR = .0026 INIXPFI + .0043 INIXPHYV - .0022 INIXSPA - .0209

RJ = .0669 INIXPREC - .0270 INIXACHO - .0454 INIXNUR + .0519 INIXSMI + 3.936

Presentence Investigation Equations

NA = .0673 PSIXJCVR - .0267 PSIXACHM - .1042 PSIXPACD - .0550 PSIXSDFF
+ .0290 PSIXAMD + 1.6011

NINC = -.0214 PSIXACHM + .0367 PSIXSDFS - .0115 PSIXGIIB + .0046 PSIXAACR + .4826

RR = .0067 PSIXJCVR - .0047 PSIXCAMD + .0039

RJ = -.0865 PSIXACHM + .0426 PSIXAMD - .0812 PSIXPACD + .0135 PSIXAACR
+ .0481 PSIXJCVR - .0418 PSIXCAMD + 3.991

the stepwise model resulted in slightly lower multiple Rs ranging from .15 to .27. On crossvalidation the stepwise equations resulted in predicted values, which when correlated with the attained values resulted in rs ranging from .10 to .26.

Of the four criteria, Rater's Judgement (RJ) and Number of Arrests (NA) were the most predictable. INIXCHO and INIXPREC proved to be the two interview scales that optimally predicted Number of Arrests whereas RJ was best predicted by these two scales plus INIXNUR and INIXSMI.

Since few of the intake interview scales had correlated significantly with the criteria of recidivism it was noteworthy that by combining selected scales, significant multiple correlations could be obtained that held up on cross validation. Nevertheless, this cannot obscure the fact that the actual magnitudes of the correlations were quite small. The maximum crossvalidated correlation was .26, accounting for less than 9% of the variance on the criterion variable.

No doubt all these correlations were truncated by the large incidence of zero scores; when there is little variability in the criterion variable it is naturally difficult to predict variance. This interpretation is supported by the fact that RJ, which most nearly conformed to the statistical assumptions required for correlational analyses, was the most predictable variable.

In further research with the intake interview, it would be desirable to dichotomize variables such as NA and NINC and use multiple discriminant analysis to derive potential predictor equations. If this procedure does not result in higher association, then these results suggest that it is not worth administering a lengthy structured intake interview to provide data for predictions of eventual recidivism.

Regression Analyses Based on the Presentence Investigation

The presentence investigation proved to be a better basis for predictions of recidivism, as would be expected from the pattern of first order correlations

already reported. The multiple Rs based on the full regression model ranged from .21 to .38, and the stepwise Rs ranged from .17 to .37. All of the predicted values for the four criterion variables correlated significantly with the obtained values, but the actual magnitude of the correlations was low ranging from .14 to .38. As was the case with the intake interview data, the criteria NA and RJ proved to be more predictable than NINC and RR (See Table 10-5).

The stepwise multiple regression equations are presented in Table 10-6. These equations show that for the purpose of predicting eventual recidivism, the most useful part of the presentence investigation are the "rap sheet," which lists the number of juvenile and adult offenses, and the reports of behavioral difficulties and maladjustment in childhood, adolescence and adult life. The most useful parts of the social background data are the reports of educational and vocational attainment.

In interpreting the equations, the reader should bear in mind that the scales for School Problems (PSIXSCHP) and Employment History (PSIXEMPL) correlated highly with the overall scale of Achievement Motivation (rs = -.60 and + .90 respectively). Thus, PSIXSCHP and PSIXEMPL were not included, not because they were irrelevant to the criteria (See Table 10-5), but because of their overlap or redundancy with PSIXACHM.

Summary of the Regression Analyses

Significant multiple correlations with the criteria of recidivism were obtained from the regression analyses of the intake interview and Presentence Investigation scales. Most of these equations held up, producing significant correlations on crossvalidation. Nevertheless, the magnitude of these crossvalidated correlations was so low that individual prediction of reicidivism from Phase I data would be hazardous. The findings are more useful in providing inferences

regarding the etiology of recidivism and for their implications for differential programming, rather than as practical predictor of parole success.

The overall pattern of the data in the Phase I analysis suggested that the Presentence Investigation report is superior for the purpose of predicting recidivism than the particular intake interview used in the present study. The data also suggested that the most salient areas for assessment in order to predict eventual reicdivism are the nature and extensiveness of the individual's prior record, his overall problems in adjustment and deviance, and an assessment of the individual's adjustment in school and vocational settings.

The low magnitude of the correlations obtained in the present set of analyses was no doubt due in part to the highly skewed and truncated distributions on the criteria of recidivism, in which 50% to 70% of the sample obtained zero scores on the various criteria. This interpretation was strengthened by the fact that the least skewed measure, Rater's Judgement, was the one which had the highest correlation. In further analyses of these data, it is suggested that the highly skewed criterion measures be collapsed and multiple discriminant analyses be performed to determine if predictability can be improved using a multivariate model better suited to the distributional characteristics of the recidivism data.

CHAPTER XI

Results of Phase II Investigation

The Phase II investigation focused on research and variables that are typically recorded or collected upon an individual's entry into a correctional institution. Thus, this is the phase most closely resembling previous studies in the literature which have examined the factors associated with recidivism.

The data included in Phase II are divided roughly into three broad categories, Demographic and Social Variables, Personality Test Data, and Psychologists' Observations as recorded in the Q-Sort. As was the case in Phase I, correlation coefficients for all the variables were computed in both the derivation and crossvalidation samples; then multiple and stepwise regression analyses were performed on homogeneous subsets of data using the larger (derivation) number with the results of the stepwise equations being crossvalidated in the smaller (crossvalidation) sample.

Correlational Results

Demographic and Social Variables

Eleven demographic and social variables were selected from the institutional records compiled by the Bureau of Prisons to be related to the four criteria of recidivism. They were the Age at Admission to the Institution (AGECOM), Race (RACE), Number of Prior Commitments to Correctional Institutions (PRCMM), Maximum Sentence to be Served (MAXSENT), Prior Recidivism (RECID), Age First Arrested (AGE1STAR), Total Number of Prior Arrests (TOTARR), Highest Grade Completed (HIGHGR), IQ as measured by the revised Beta (BETAIQ), Stanford Achievement Median Grade Level (SATMED), and Number of Months of Longest Work Experience (NMOSLNGW). The correlations of these 11 variables with the four criteria of recidivism are presented in Table 11-1. Only those correlations in which a significant r was

Table 11-1

Correlations of Demographic and Social Variables
with Four Criteria of Recidivism in Two Subsamples of Youthful Offenders

	Number of Arrests (NA)		Number of Incarcerations (NINC)		Recidivism Rate (RR)		Rater's Judgement (RJ)	
Scales	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation
AGECOM	-.11*	-.04	-.12*	-.09	[illegible]	-.08	-.08	-.06
RACE	-.13**	-.22**	-.08	-.12*	-.06	-.10	-.11*	-.18**
PRCMM	.01	.03	.16*	.01	.06	-.08	.10	.04
MAXSENT	-.14**	-.20**	-.11*	-.07	-.03	-.07	-.01	.04
RECID	.11*	.15*	.13*	.20**	-.02	.10	.18**	.29**
AGE1STAR	-.21**	-.15*	-.17**	-.10	.05	-.14*	-.21**	-.17**
TOTARR	.16**	.18**	.07	.09	-.02	.00	.14**	.13
HIGHGR	-.11*	-.11	-.16**	-.08	.00	-.04	-.20**	-.12
BETAIQ	-.05	.04	-.01	.00	.07	-.06	-.03	.02
SATMED	-.20**	-.16*	-.18**	-.10	-.06	-.17*	-.25**	-.18**
NMOSLNGW	-.08	-.06	-.06	-.03	.02	-.07	-.07	-.01

* $p < .01$

** $p < .001$

obtained in both the original and crossvalidation samples for a given criterion should be regarded as reliable.

Turning to the first three variables reflecting general demographic characteristics, quite varied sample sizes were noted. AGECOM had Ns ranging from 450 to 475 over the four criteria, RACE had Ns ranging from 613 to 652 and PRCMM had Ns ranging from 253 to 269 in the derivation sample. In the crossvalidation samples Ns ranged from 249 to 265 for AGECOM, from 336 to 356 for RACE and from 130 to 145 for PRCMM. Thus a correlation of approximately .09 would be signficant at the .01 level in a derivation sample for RACE but a correlation coefficient of approximately .14 or better would be needed for significance at the .01 level for PRCMM. Of course, the correlation coefficients required for significance in the smaller crossvalidational samples would be even higher, with a correlation of .12 or better being required for significance for RACE and a correlation of .22 or better being required for significance for PRCMM.

Of these three variables, only RACE had reliable significant associations with one or more of the criteria, correlating significantly with Number of Arrests and with the Rater's Judgement in both the original and crossvalidational samples. In all instances the correlation of RACE with recidivism was negative indicating that "white or other" races (Scored 1) were more likely to recidivate than blacks (Scored 2). Of course, this association could be tested more adequately using analysis of variance.

The four variables dealing with prior criminal record, MAXSENT, RECID, AGE1STAR, and TOTARR, had more reliable significant correlations with the criteria of recidivism. The sample sizes for these variables ranged from 369 to 493. MAXSENT was correlated significantly with NA in both the original and crossvalidation samples. RECID proved to be the best of the social and demographic variables,

correlating significantly with NA, NINC, and RJ. AGE1STAR had significant negative correlations with NA and RJ, while TOTARR had significant positive correlations with NA. Thus, the more extensive the criminal history and the earlier criminal behavior began, the more likely the individual was to recidivate as indicated by the criterion Number of Arrests and, to a somewhat lesser extent, the Rater's Judgement.

The Educational and Ability scales had fewer significant reliable associations with recidivism. The sample sizes for HIGHGR, BETAIQ, SATMED, and NMOSLNGW ranged from 366 to 521 in the derivation sample and from 184 to 285 in the cross-validation sample. Of these four scales, only one, SATMED, met the criterion of having significant correlations with one or more of the recidivism measures in both the original and crossvalidation samples. SATMED had significant negative correlations with both NA and RJ, indicating the higher the tested educational attainment upon intake, the lower the eventual rate of recidivism. Interestingly enough, HIGHGR, the Highest Grade Level Attained, did not have a reliable pattern of significant correlations, perhaps because social promotion policies did not reflect the actual knowledge obtained. If this is correct, then correctional educational planners would be wise to pay more attention to tested achievement level than to school reports.

Although vocational history is traditionally regarded as one of the better predictors of recidivism, the Number of Months at the Longest Work Experience (NMOSLNGW) did not have any significant correlations with eventual recidivism. Perhaps the relative youth of the present sample precluded the establishment of substantial career records.

Summing up the correlational findings on social and demographic data variables, it was observed once again that those measures most directly reflecting past criminal behavior were most closely associated with the various criteria of

recidivism. Unlike the Phase I data, there was no clear distinction as to the best measure of recidivism. Whereas RJ had clearly been more closely correlated with Phase I measures, NA had more significant correlations than RJ in the present Phase II data. As was the case with the Phase I variables, RR had the lowest correlations of any of the four criteria measures.

The general magnitude of the correlations obtained was similar to that in Phase II, which is not too surprising since both Phases I and II are equally remote in time from the eventual recidivist behavior. If an improvement over time is to be observed it would more likely to occur in Phase III and most likely in Phase IV

Personality Test Data

As noted in Chapter VIII, two personality tests, the MMPI and the CPI, were selected to be related to the four criteria of recidivism. Both were scored on the standard scales plus selected additional scales (See Chapter VIII, p. 110).

MMPI. The correlations of the regular and special MMPI scales with the criteria of recidivism are presented in Table 11-2. The sample sizes for the derivation sample ranged from 556 to 652 with a correlation of .09 or greater significant at the .01 and of .12 or greater at the .001 level. In the crossvalidation sample, the sample sizes ranged from 301 to 356; correlations of .12 or greater were significant at the .01 level and correlations of .17 or greater at the .001 level.

The regular clinical scale having the closest relationship to the criteria of recidivism explored in the present study was, as might be expected, Pd + .4k, which was significantly associated with the Number of Incarcerations and with the Rater's Judgement in both the original and derivation samples. In addition, scales D and Pt were significantly correlated with RJ in both samples. Since both D and Pt reflect negative affective feelings, it appears that both subjective distress

Table 11-2

Correlations of MMPI Scales with Four Criteria of Recidivism in Two Subsamples

Scales	Number of Arrests (NA)		Number of Incarcerations (NINC)		Recidivism Rate (RR)		Rater's Judgement (RJ)	
	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation
Qu	.03	.01	.01	.01	-.02	.11	.04	.00
L	-.03	-.02	-.05	-.08	-.05	.01	-.09	-.10
F	.11*	.09	.10*	-.01	.01	.06	.13**	.08
K	-.07	-.02	-.07	-.03	-.07	-.07	-.09	-.04
Hs+.5K	-.01	.00	.03	-.06	.01	-.04	.02	.01
D	.04	.13*	.06	.04	.06	.06	.10*	.14*
Hy	-.07	-.03	-.03	-.06	.02	-.04	-.04	-.02
Pd+.4K	.09	.10	.11*	.13*	.01	.14*	.16**	.20**
Mf	-.03	-.01	-.09	.01	-.03	-.06	-.08	-.02
Pa	.01	-.02	.03	-.04	.01	.01	.03	-.02
Pt+1K	.08	.08	.13**	.03	.01	.01	.13**	.13*
Sc+1K	.08	.05	.11*	-.02	-.01	.01	.13**	.08
Ma+.2K	.15**	.09	.04	.03	.02	.02	.10*	.07
Si	.00	-.01	.05	.03	.00	.06	.08	.05
AVEL	.06	.06	.07	.00	.00	.02	.10*	.10
A	.09	.06	.11*	.05	.03	.06	.14**	.09
R	-.07	-.06	-.02	-.01	-.08	.06	-.02	-.05
RMN	-.02	.07	-.12**	.08	-.02	-.01	-.07	.07
PAV	.06	.10	.04	.12*	.05	.06	.12**	.12*
Hc	.03	.08	-.01	.12*	.01	.09	.08	.15*
Rc	.04	.04	-.03	.10	-.02	.08	-.06	.10
DAS	.00	-.05	-.03	-.01	.00	-.01	.01	-.04
ROS	-.11*	.02	-.06	.16*	.00	.04	-.02	.12*
He	.08	.02	.04	.11	.02	-.05	.12*	.07
ICAS	.11*	.17**	.10*	.13*	-.01	.15*	.11*	.13*

* $p < .01$

** $p < .001$

and antisocial tendencies (as reflected in Pd) are associated with recidivism. However, although significant, all the correlations between the regular scales and recidivism were uniformly low, the highest being .20.

Despite the fact that a number of these special scales were typically derived to predict recidivism, none of them did any better than Pd. The only recidivism scale correlating significantly with any of the criteria in both the original and derivation samples was Panton's Parole Violation Scale (PAV) which had correlations of .12 with Rater's Judgement in both the original and derivation samples. In fact, of the special scales studied, it was the Institutional Chronic Alcoholic Scale (ICAS) that had the best and most consistent correlations with recidivism, correlating significantly with Number of Arrests, Number of Incarcerations, and the Rater's Judgement in both the original and derivation samples. None of the other substance abuse scales was reliably associated with recidivism.

CPI. The 18 regularly scored CPI scales plus the California Amenability (AME) Scale were also correlated with the four criteria of recidivism. Sample sizes ranged from 523 to 555 in the derivation sample, so a correlation of approximately .10 was required at the .01 level and a correlation of .13 or greater was significant at .001 level. In the crossvalidation sample, sample sizes for the CPI variables ranged from 275 to 292, so that correlations of approximately .13 or greater were significant at the .01 level and .18 or greater at the .001 level.

The intake CPI scales fared little better than those for the intake MMPI. The only CPI scale correlating significantly with two or more criteria in both the original and derivation samples was Socialization (So), which had significant negative correlations with NINC and RJ. Self-control (Sc) had significant negative correlations with RJ in both samples. None of the other 16 CPI scales had reliably

Table 11-3

Correlations of CPI Scales with Four Criteria of Recidivism
in Two Subsamples of Youthful Offenders

	Number of Arrests (NA)		Number of Incarcerations (NINC)		Recidivism Rate (RR)		Rater's Judgement (RJ)	
Scales	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation
Do	-.05	.00	-.09	-.08	-.01	-.06	-.13**	-.06
Cs	-.05	.06	-.10	.02	-.01	-.02	-.09	.01
Sy	.01	.05	-.05	.01	-.02	.03	-.09	.01
Sp	-.03	.06	-.08	.04	-.04	-.03	-.09	.02
Sa	.02	.05	-.04	.00	.02	-.02	-.06	-.01
Wb	-.15**	-.07	-.15**	-.05	-.04	-.04	-.17**	-.08
Re	-.14**	-.06	-.12*	-.12*	-.05	-.01	-.15**	-.11
So	-.15**	-.12	-.16**	-.15*	.00	-.02	-.20**	-.18**
Sc	-.09	-.09	-.09	-.13*	-.03	-.03	-.10*	-.14*
To	-.10*	-.05	-.15**	-.09	.01	-.03	-.14**	-.10
Gi	-.03	-.01	-.05	-.09	-.03	-.03	-.05	-.06
Cm	-.20**	-.09	-.19**	-.07	-.13*	-.07	-.20**	-.07
Ac	-.13**	-.03	-.14**	-.08	-.05	-.08	-.17**	-.07
Ai	-.12*	-.04	-.12*	-.03	.00	-.05	-.10*	-.08
Ie	-.13**	-.05	-.15**	-.05	-.06	-.08	-.16**	-.11
Py	-.06	-.04	-.11*	-.01	.03	.01	-.05	-.04
Fx	-.02	.01	-.02	.05	.10*	.01	.05	.06
Fe	.00	-.01	-.01	-.14	.03	-.01	.00	-.09
Ame	.09	.00	.12*	.05	-.02	.01	.10*	.07

* $p < .01$

** $p < .001$

significant correlations nor did the California Amenability Scale. Thus, the CPI data resembled the MMPI in which Pd was the only significant regular scale.

Q-sort data. It will be recalled that following the intake interview, the examining psychologists sorted the Little and Shneidman (1959) Q-deck to describe their impressions of the interviewee. The present investigator instructed several rational scales using the Q-sort items, eight of which were used in the present study: Expression vs. Repression of Aggression (QSTEVRA), Authority Conflict (QSTAUT), Social Withdrawal (QSTSOCW), Sociability (QSTSOCB), Social and Emotional Constriction (QSTSEC), Adaptability to the Environment (QSTADPT), Passivity (QSTPASS), and Dominance (QSTDOM).

The sample sizes for the Q-sort data ranged from 545 to 574 in the derivation sample and from 296 to 315 in the crossvalidation sample. Thus, the magnitude of the correlation coefficients needed to obtain a statistical significance was comparable to those cited for the other Phase I variables discussed thus far.

The correlation coefficients obtained for the Q-sort variables scales represented a slight improvement over those obtained for the MMPI and CPI. Three scales, Expression vs. Repression of Aggression (QSTEVRA), Social and Emotional Constriction (QSTSEC), and Adaptability to the Environment QSTADPT) had reliable significant correlations with the Number of Arrests (NA). QSTADPT also had significant negative correlations with RJ in both samples. Thus, those who were later found to be highest in recidivism had been described by the psychologists as being lowest in adaptability to the environment and highest in aggression and social constriction.

Continuing the trend established with the MMPI and CPI, the maximum correlation coefficient was again only .20. Thus the data showed that none of the Q-sort scales would be capable of predicting individual recidivism adequately despite the statistical significance of the obtained correlation coefficients.

Table 11-4

Correlations of Q-sort Scales with Four Criteria of Recidivism in Two Subsamples of Youthful Offenders

	Number of Arrests		Number of Incarcerations		Recidivism Rate		Rater's Judgement	
Scales	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation
QSTEVRA	.13**	.18**	.11*	.05	.00	.05	.18**	.10
QSTAUT	.14**	.09	.11*	.00	.06	.04	.18**	.02
QSTSOCW	.03	.01	.02	.03	-.11	.04	.04	-.02
QSTSOCB	-.12*	-.10	-.12*	-.07	.02	-.09	-.17**	-.06
QSTSEC	.11*	.14*	.11*	.07	.00	.09	.18**	.08
QSTADPT	-.12*	-.20**	-.07	-.12	-.07	-.09	-.17**	-.18**
QSTPASS	.03	-.03	.00	.03	-.02	.01	.01	.03
QUSDORM	-.01	.12*	-.05	.02	.04	.04	.00	.08

* $p < .01$

** $p < .001$

Summary of the Correlational Analyses

The Phase I correlations represented no improvement on those obtained in Phase II. Analyses thus far indicate that of the information obtained on entry into the institution, the global scales based on the Presentence Investigation Report bear the closest correlation to the measures of recidivism discussed in this investigation. While intake MMPI and CPI scales may be useful in classifying the offender population for management and treatment purposes, they do not appear useful in forecasting eventual recidivism. It is possible, of course, that when combined optimally in multiple regression equations, that better predictions may be obtained. To examine this point, we will now turn to the results of the regression analyses.

Results of the Regression Analyses

Regression analyses were carried out on four relatively homogeneous data sets, the demographic and social data obtained from the BOP records, the MMPI scales, the CPI scales, and the Q-sort scales. The multiple correlations are presented in Table 11-5 and the derived stepwise equations presented in Table 11-6.

Demographic and Social Data

The multiple correlational coefficients for the full regression equations for the four criteria of recidivism ranged from .15 for RR to .32 for RJ. Stepwise equations were derived for only three of the recidivism criteria, NA, NINC, and RJ because none of the social and demographic variables was correlated with RR sufficiently to be entered into a stepwise equation. The obtained stepwise equations yielded multiple Rs that were remarkably similar, ranging from .27 to .29. However, only the multiple correlation predicting NA held up on cross-validation, predicting values that correlated .25 to those actually obtained.

Table 11-5

Multiple Correlations of Demographic, MMPI, CPI and Q-Sort Data with Four Criteria of Recidivism

Data Set	Criterion	Full Regression Model R	Full Regression Model p	Stepwise Model R	Stepwise Model p	Crossvalidation r	Crossvalidation p
Demographic Data	NA	.30	.12	.28	.002	.25	.000
	NINC	.29	.16	.27	.004	.04	.364
	RR	.15	.97	NC[a]	NC[a]	NC[a]	NC[a]
	RJ	.32	.08	.29	.000	.18	.002
MMPI	NA	.30	.001	.33	.000	.09	.049
	NINC	.27	.009	.23	.000	.10	.038
	RR	.31	.000	.10	.066	-.02	.371
	RJ	.31	.000	.38	.000	.14	.005
CPI	NA	.29	.001	.27	.000	.17	.001
	NINC	.27	.004	.25	.000	.12	.021
	RR	.24	.041	.18	.002	.05	.215
	RJ	.30	.000	.27	.000	.18	.001
Q-SORT	NA	.20	.007	.18	.000	.11	.025
	NINC	.20	.006	.19	.001	.05	.173
	RR	.18	.017	.18	.001	.08	.088
	RJ	.24	.000	.23	.000	.05	.209

[a] NC: Stepwise equations not computed or crossvalidated because no variables met criterion of significance.

Table 11-6

Stepwise Multiple Regression Equations for the Prediction of the Four Criteria of Recidivism from the Demographic, MMPI, CPI and Q-Sort Scales

Demographic (BOP) Equations

NA = -.0906 AGE1STAR - .0100 SATMED - .0001 MAXSENT + 3.8138

NINC = -.0039 SATMED + .1877 PRCMM - .0293 AGECOMM + .9936

RR: No variables met criterion of significance

RJ = -.0992 AGE 1STAR - .0165 SATMED + 6.372

MMPI Equations

NA = .0198 Ma + .0855 ROS - .2359 ICAS + .3421 PAV - .0334 Hy + .1834 Pd + .0807 He + .0971R + .0120 Qu - 11.6710

NINC = .0083 Pt - .0054 Mf - .0163 RMN + .0056 Pd - .0066 Hy - .0063 Si + .5978

RR = -.0032 R + .0010 Hy + .1820

RJ = 5.043 Pd - .0250 Hy - .2403 Pt - 7.418 Hc + 15.0789 PAV - 4.144 Pa + 4.0523 ROS + .6599 D - 318.8100

CPI Equations

NA = -.0169 Cm - .0257 So + .0205 Sy - .0211 Ai + .0216 Gi + 1.7299

NINC = -.0046 Cm - .0069 So - .0017 Fx + .0073 Gi - .0062 To + .0035 Sy + .5365

RR = -.0009 Cm + .0015 Fx + .0020 Sa - .0016 Sp - .0484

RJ = -.0371 So - .0132 Cm + .0311 Gi - .0163 To + 4.404

Q-Sort Equations

NA = .0170 QSTAUT + .0241 QSTEVRA - .0190 QSTDOM + .1699

NINC = -.0082 QSTSOCB - .0075 QSTSOCW - .0093 QSTDOM + .0070 QSTEVRA + 1.2232

RR = -.0029 QSTSOCW - .0019 QSTADPT - .0018 QSTEVRA + .0013 QSTAVT + .2820

RJ = .0233 QSTAUT + .0347 QSTEVRA - .0225 QSTDOM + 1.708

The rs for NINC and RJ shrank to .04 and .18 respectively. AGE1STAR, SATMED, and MAXSENT were the most useful predictors of the Number of Arrests, and AGE1STAR and SATMED were the most useful predictors of the Rater's Judgement. The other two criteria, NINC and RR proved to be unpredictable using the social and demographic data.

MMPI equations. The MMPI-based multiple regression equations using the full model obtained quite similar Rs over the four criteria, ranging from .27 NINC to .31 for RR and RJ. However, the picture changed dramatically when the stepwise equations were derived. As had usually been the case, the equation predicting RR had the lowest multiple R, .10. The equations for NINC and NA were .23 and .33 respectively. The fact that NA and RJ had higher stepwise multiple Rs than they did full scale multiple Rs is evidence of some of the statistical abnormalities found in the distributions of the recidivism variables. RJ had the highest stepwise R (.38) but on crossvalidation, it shrank to .14. Still this was the highest crossvalidation r obtained, the others ranging from -.02 to .10. Thus, none of the stepwise multiple correlation coefficients did as well as on crossvalidation as the Pd scale did along, and the best stepwise equation did only fractionally better than Panton's PAV scale. Combining MMPI scales using multivariate analyses did not improve the ability of the MMPI to predict recidivism in the population.

CPI scale. The results of the CPI were somewhat better. The full-scale multiple Rs ranged from .24 to .30 and the stepwise multiple Rs from .25 to .27. On crossvalidation the equations for NA and RJ attained respectable levels of statistical significance although the absolute magnitude of the correlations (.17 and .18) was far from the values needed for any useful prediction.

Q-sort. Multivariate analyses of the Q-sort proved to be little better than the other Phase II data sets. The full scale multiple Rs ranged from .18 to .24, and the stepwise functions ranged from .18 to .23, all of which were statistically significant. However, none of these equations survived cross-validation since the rs between the predicted and actual values of the four measures of recidivism ranged from only .05 to .11, none of which was statistically viable.

Summary of the Regression Analyses

The Phase II variables, whether they were demographic, test, or observational variables, yielded dismal relationships with the four criteria of recidivism, both in terms of first order correlations and multiple correlations. Even scales specifically designed to predict recidivism failed to do so. This is particularly distressing because it is these sorts of data that have been most commonly used in the recidivism literature. None of the Phase II data collection methods provided correlations as good as could be obtained from carefully rating and scaling the information contained in the comprehensive case history included in the Presentence Investigation Report. It is hoped that data obtained closer to the time of release might yield better relationships.

CONTINUED

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CHAPTER XII

Results of the Phase III Investigation

The Phase III investigation related various measures of institutional adjustment and program participation to the four criteria of recidivism. Like the other investigations, Phase III was concerned with the degree to which post-release adjustment in the community can be predicted, but in addition, it also focused on the relationship between institutional and community adjustment. In their decision-making, parole boards weight negatively disruptive and maladaptive behavior in the instituion (Elion, 1978). On the other hand, there is a certain degree of folklore on the part of staff and inmates in correctional institutions to the effect that those inmates who are best adapted to the institution are most likely to have problems adjusting to the outside community. Of course, this is most likely to be the case in a long term institution; an individual who has been incarcerated for 10 or 20 years would naturally be expected to have difficulties readjusting to life outside. Nevertheless, even among youthful offenders, it is important to know whether behavior in the institution is related to behavior in the community and, if so, whether the nature of that relationship is positive or negative.

Information regarding institutional adjustment and program participation came from several sources. The institutional assignment records, maintained on a daily basis, provided information as to which members of the research cohort had been confined to the cell house and the duration of their cell house stays. Copies of all disciplinary violations ("shots") were provided to the project and entered into the data pool, as were reports of sick call attendance.

The two primary instruments for evaluating institutional adjustment were the Interpersonal Adjustment Ratings, which were filled out at 90-day intervals

by the dormitory officers, and the Work Performance Ratings, which were filled out at similar intervals by the work crew supervisors. Each of these instruments contained several scales by which progress could be reported.

The inmates' self-report in the pre-exit interview was another source of information. As part of the interview, the inmate was asked about the extent of his participation in a variety of institutional programs including group and individual psychotherapy, religious programs, and various club type activities. The exit interview also served to provide information about the frequency and extent of home contacts as reflected in visits and correspondence.

Another important source of Phase III data is not currently available but will be analyzed in future research. This is the educational summaries filled out on a monthly basis by teachers of the various academic and vocational training courses.

The data included in the present chapter have been divided into roughly four segments, the first dealing with institutional adjustment, the second with work performance, the third with program participation, and the fourth with home contacts. As in previous chapters, the correlational results will be reported first, followed by results of multiple regression analyses.

Correlational Results

Institutional Adjustment Measures

Data regarding institutional adjustment were available from a variety of sources. The first was the disciplinary reports for each offender. From these data the number of reports per quarter (Shot Rate) was calculated. From these data the mean number of infractions per quarter was computed and correlated with the four criteria of recidivism. Shots, it should be pointed out, were rare events. Most of the research cohort never received any shots and the overall mean

quarterly rate of disciplinary violations was .41.

The second adjustment measure was the average number of days spent confined in the cell house per quarter. Inmates were confined in the cell house not only for disciplinary purposes but also at their own request if they were having difficulties getting along with their fellows in the regular population. Thus, at any given time, the cell house population would include not only the disruptive individuals, but also some of the weaker inmates who were seeking protection. Like the Shot Rate, Cell House Days was a heavily skewed variable.

The third adjustment measure was Sick Call. Obviously, the typical reason an inmate reported was because of some illness or injury. However, some inmates were chronic sick-call reporters so this variable, too, was included as a potential adjustment measure.

All the preceeding variables were heavily skewed. This would naturally limit the magnitude of the correlation coefficients that could be obtained since both the independent and dependent variables had a high proportion of zero entries. Skew was less characteristic of the fourth data source, mainly, the Interpersonal Adjustment Ratings filled out at regular intervals by the dormitory personnel. The Interpersonal Adjustment Rating form (Megargee, 1972, Fowler & Megargee, 1976) consisted of eight five-point scales: (1) Relations with Other Men, (2) Relations with Authorities and Staff, (3) Verbal and Physical Aggressiveness, (4) Emotional Control Under Stress, (5) Cooperativeness: Willingness to Work for the Common Good, (6) Need for Supervision: Dependability, (7) Response to Supervision, and (8) Maturity: Efforts to Improve Self and Solve Problems. Each of these scales was a five-point scale with a low score indicating maladjustment and a high score indicating positive adjustment. For each inmate the mean of his various ratings was computed for each institutional adjustment scale. For example, for IAR Item 1, an inmate who was confined for a year and had been there

for an accumulated four quarterly reports, received the mean of the four quarterly reports for his mean score on Item 1. Another inmate confined for four months and receiving only one report received the score on that one report. If adjustment in the institution is associated with adjustment outside of the institution, negative correlations between these scales and recidivism would be expected.

The results of the correlations in the original and crossvalidation samples are reported in Table 12-1. Sample sizes for Shot Rate, Cell House Days, and Sick Call Rate ranged from 487 to 514. Correlations of approximately .10 were significant at the .01 level and correlations of .13 or greater were significant at the .001 level in the derivation sample. Sample sizes of 243 to 256 were obtained in the crossvalidation sample, requiring correlations of .14 for significance at the .01 level and .20 for significance at the .001 level.

For the eight institutional adjustment rating items, sample sizes ranged from 395 to 415 in the derivation sample, requiring correlations of .11 for significance at the .01 level and .17 for significance at the .001 level. In the crossvalidation sample, the sample sizes for the eight adjustment items ranged from 211 to 219 with rs of .16 required for significance at the .01 level and .21 for significance at the .001 level.

Shot Rate, Number of Days in the Cell House, and the Number of Sick Call Visits per quarter failed to correlate significantly with any of the criteria of recidivism in both the derivation and crossvalidation samples. Considering the truncation of both the independent and dependent variables, these negative findings are not too surprising.

An unusual and interesting pattern of correlations was found with the eight institutional adjustment scales. All eight of the scales were correlated significantly ($p < .001$) with NA and RJ in the crossvalidation sample, but significant correlations were virtually nonexistant in the derivation sample despite its

Table 12-1

Correlations of Institutional Adjustment Measures with Four Criteria of Recidivism in Two Subsamples of Youthful Offenders

	Number of Arrest (NA)		Number of Incarcerations (NINC)		Recidivism Rate (RR)		Rater's Judgement (RJ)	
Scales	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation
MSHOPRT	.05	.14*	.02	.10	-.02	-.01	.04	.14*
MCHDAYS	.13**	.04	.09	-.01	.02	-.02	.11*	.00
MSICKRT	.04	-.01	.07	-.07	.00	.05	.02	-.03
MIAITM1	-.09	-.22**	-.08	-.15*	-.05	-.15*	-.08	-.24**
MIAITM2	-.08	-.27**	.02	-.18*	-.03	-.13	-.04	-.26**
MIAITM3	-.10	-.31**	-.07	-.15	-.01	-.16*	-.11*	-.31**
MIAITM4	-.09	-.26**	-.10	-.20*	-.05	-.15	-.12*	-.29**
MIAITM5	-.05	-.23**	.04	-.14	.02	-.15	-.03	-.23**
MIAITM6	-.07	-.29**	-.03	-.21**	-.04	-.15*	-.07	-.30**
MIAITM7	-.06	-.34**	.00	-.22**	-.03	-.14	-.07	-.32**
MIAITM8	-.07	-.28**	-.04	-.21**	-.04	-.14	-.06	-.29**

* $p < .01$

** $p < .001$

larger N. Consequently, only two institutional adjustment scales, Verbal and Physical Aggressiveness and Emotional Control Under Stress, were significantly correalted with any of the criteria of recidivism in both the original and cross-validation samples. The criterion in both instances was RJ.

Although the magnitude of the obtained correlations is too low and too unreliable to be used for predictive purposes, the direction of the data is clear, showing that better adjusted individuals in the institution tend to do better in the community.

Work Performance Ratings

At regular intervals the work supervisors filled out the Work Performance Rating sheet on the inmates assigned to their work crew. The Work Performance Ratings had nine five-point scales: (1) Quality of Work, (2) Quantity of Work, (3) Initiative, (4) Interest; Eagerness to Learn, (5) Ability to Learn, (6) Need for Supervision; Dependability, (7) Response to Supervision and Instruction, (8) Ability to Work with Others and (9) Overall Job Proficiency. On the first eight scales, high scores reflected positive adjustment; or the ninth scale the positive scores reflected negative adjustment. If the pattern established by the Interpersonal Adjustment Ratings continues, we would expect negative correlations for scales one through eight and a positive correlation of scale nine with the criteria of recidivism.

The Work Performance Ratings were analyzed in a manner similar to those of the Interpersonal Adjustment Ratings. For each individual the mean on each of the nine scales was obtained, reflecting his total performance over the entire period of his incarceration. These mean scores were correlated with the four criterial of recidivism. Sample sizes ranged from 397 to 416 in the derivation sample, requiring correlations of .11 or greater for significance at the .01 level

Table 12-2

Correlations of Work Performance Ratings with Four Criteria of Recidivism in Two Subsamples of Youthful Offenders

	Number of Arrest (NA)		Number of Incarcerations (NINC)		Recidivism Rate (RR)		Rater's Judgement (RJ)	
Scales	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation
MWPITM1	-.13*	-.12	-.14*	-.13	-.18**	.03	-.08	-.12
MWPITM2	-.07	-.12	-.13*	-.14	-.17**	.02	-.07	-.08
MWPITM3	-.12*	-.16*	-.15**	-.13	-.20**	.07	-.10	-.11
MWPITM4	-.08	-.14	-.13*	-.09	-.19**	.07	-.09	-.05
MWPITM5	-.13*	-.15*	-.15**	-.17*	-.14*	.02	-.10	-.12
MWPITM6	-.09	-.07	-.13*	-.11	-.17**	-.04	-.10	-.08
MWPITM7	-.12*	-.18*	-.11*	-.13	-.22**	.04	-.08	-.16*
MWPITM8	-.11*	-.07	-.13*	-.10	-.18**	-.07	-.12*	-.07
MWPITM9	.13*	.16*	.13*	.14	.22**	-.01	.11*	.16*

* $p < .01$

** $p < .001$

and .17 or greater at the .001 level. The size of the crossvalidation samples ranged from 205 to 215, so correlations of .16 and .22 were required for significnace at the .01 and .001 levels respectively.

The Work Performance Scales were more consistent than the Interpersonal Adjustment Ratings; four scales correlated with one or more of the criteria of recidivism in both the original and crossvalidation samples. Scale 3, Initiative, had significant correlations with the Number of Arrests, Scale 5, Ability to Learn, had significant negative correlations with Number of Arrests and Number of Incarcerations, Scale 7, Response to Supervision and Instruction, had significant correlations with NA and Scale 9, Overall Job Proficiency, (which was keyed in the opposite direction from the other scales) had significant positive correlations with Number of Arrests and Rater's Judgement in both the original and derivation samples.

The importance of crossvalidation in multivariate studies such as the present one was further illustrated; all nine of the Work Performance Rating Scales correlated significantly with NINC and with RR in the derivation sample but only one of these correlations was successful replicated in the crossvalidation sample. If the data had not been crossvalidated, unreliable findings would have been erroneously accepted.

Program Participation

Participation in various FCI programs was assessed through each inmate's report in the pre-release interview as to whether or not he took part in Group Therapy (XIGROUP), Individual Therapy (XIINDRX), Clubs (XICLUBS), or Religious Activities (XIRELIG). Another programmatic variable that was studied was the proportion of the sentence actually served (PROPTS), which was calculated by dividing the number of months actually served at the Federal Correctional Institution at Tallahassee and other federal institutions as part of the current sentence by the maximum sentence time imposed.

12-3

Two participation variables were quite truncated, a factor which would serve to limit the magnitude of the obtained correlations. Only 11% of the subjects indicated that they had taken part in individual therapy and only 14% indicated that they had joined or participated in any of the club activities such as Toastmasters, Alcoholics Anonymous, or Jaycees while at the FCI.

Based as they were on the exit interview, sample sizes for the program participation variables was smaller than is usually the case in the derivation samples, ranging from 292 to 328. Thus, these variables required correlations of .13 or better for significance at the .01 level and .18 or better for significance at the .001 level. The size of the crossvalidation samples ranged from 157 to 168, requiring a correlation of .18 for significance at the .01 and .26 at the .001 level.

The sample sizes were higher for PROPTS ranging from 483 to 510 in the original and from 240 to 253 in the crossvalidation samples. For this variable, correlations of .10 and .13 were required for the .01 and .001 levels respectively in the derivation sample and correlations of .14 and .19 in the crossvalidation sample.

The results in Table 12-3 show that none of the five variables obtained statistically significant correlations with any of the four criteria of recidivism in both the original and crossvalidation samples. Although these correlations were no doubt truncated by the skew on both the independent and dependent variables, nonetheless there is no evidence in the present findings that program participation as assessed by the exit interview is associated with eventual adjustment in the community.

Home Contact. All the variables discussed this far in this report deal with some aspect of the individual inmate. An exception is the home contacts.

Table 12-3

Correlations of Programmatic Variables with Four Criteria of Recidivism in Two Subsamples of Youthful Offenders

	Number of Arrest (NA)		Number of Incarcerations (NINC)		Recidivism Rate (RR)		Rater's Judgement (RJ)	
Scales	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation
XIGROUP	-.09	-.07	-.10	.02	-.06	.19*	-.03	.00
XIINDRX	-.05	.00	-.04	.05	-.02	-.04	.02	-.01
XICLUBS	.06	-.08	-.06	-.03	-.03	-.03	-.01	-.04
XIRELIG	-.05	-.08	-.14*	-.07	-.12	-.08	-.18**	-.08
PROPTS	.06	.17*	.02	.15*	.12*	.09	.03	.12

* $p < .01$

** $p < .001$

Table 12-4

Correlations of Home Contact Measures with Four Criteria of Recidivism in Two Subsamples of Youthful Offenders

	Number of Arrest (NA)		Number of Incarcerations (NINC)		Recidivism Rate (RR)		Rater's Judgement (RJ)	
Scales	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation
VISITS	-.03	.04	-.06	-.07	-.01	-.04	-.06	-.03
LETTERS	.02	.02	.03	-.03	.03	-.05	-.01	.02

It seemed reasonable to suppose that the stronger the home ties, the better the prognosis for adjustment in the community. Not having the resources available for a field study, indirect measures of community support had to be relied on. Two such measures are assessed in the present section, the Frequency of Visits and of Letters. In the exit interview, each respondent was asked the identity up to five people that visited him during his incarceration and the frequency of their visits. The Frequency of the Visits was coded on eight-point scale scores up to five different visitors were added, thereby producing a scale with theoretical extremes ranging from zero to 40 reflecting the frequency of visitation. The same such scheme was used on correspondents, assessing the number and frequency of the degree to which individuals at home wrote to the inmate.

Sample sizes for VISITS and LETTERS ranged from 487 to 514 in the derivation sample and from 243 to 256 in the crossvalidation sample. Although a correlation of only .10 was required for significance at the .01 level in the former sample and a correlation of only .14 was required for significance in the latter, none of the obtained correlations met this criteria. All were on the order of zero indicating that there was no significant or reliable relationship between Frequency of Visits or Letters from Home and eventual recidivism in the present sample.

Summary of the Correlational Results

Only two of the various measures used in the Phase III investigation had any significant reliable associations with recidivism. These were the Institutional Adjustment Rating forms and the Work Performance Rating forms. Of the two, the Work Performance Ratings had more significant and reliable associations with the criteria of recidivism. Since our general experience has been that the work crew supervisors, dealing as they were with smaller groups of men on a more

intensive basis, were able to make more accurate judgements of behavior than the dormitory officers, who were responsible for approximately 125 men each, this is not surprising. Since both the Interpersonal Adjustment and Work Performance Rating Schedules have been published (Megargee, 1972; Fowler & Megargee, 1976) and implemented at other institutions, it is gratifying that it was these two measures which, of all the institutional adjustment variables, proved to have the best correlations with eventual recidivism. Nevertheless, the magnitude of these correlations was too small for these scales to be used for individual prediction of recidivism.

A secondary goal of Phase III investigation was to explore the question of whether positive adjustment in the institution was related to positive or negative adjustment upon release. In the present study of youthful offenders, the pattern of correlations that was obtained was consistent with the assumption that those individuals who are better adjusted in prison are also better adjusted after release from prison. Whether these findings can be generalized to older offenders who had served greater lengths of time is not known.

Regressional Analyses

Regression analyses were carried out on four data sets, the adjustment data, the Work Performance Ratings, the Program Participation Variables, and the Home Contacts. Results of each set of analyses are presented below.

Adjustment Data

With respect to the criterion Number of Arrests, the full scale model produced a multiple R of only .17 and the stepwise model a multiple R of .15. The latter was statistically significant ($p < .012$). The optimal stepwise equations consisted of a weighted combination of the Number of Days Spent in the Cell House and the average ratings on Interpersonal Adjustment Item 3, Verbal and Physical

Table 12-5

Correlations of Adjustment Data, Work Performance Ratings, Programmatic Variables and Home Contacts with Four Criteria of Recidivism

Data Set	Criterion	Full Regression Model R	Full Regression Model p	Stepwise Model R	Stepwise Model p	Crossvalidation r	Crossvalidation p
Adjustment Data	NA	.17	.397	.15	.012	.20	.001
	NINC	.25	.007	.24	.000	.06	.182
	RR	.14	.757	NC[a]	NC[a]	-	-
	RJ	.20	.134	.19	.003	.04	.304
Work Performance Ratings	NA	.18	.162	.13	.008	.18	.003
	NINC	.17	.288	.15	.003	.17	.005
	RR	.24	.006	.22	.000	-.02	.382
	RJ	.15	.473	.12	.013	.08	.136
Programmatic Variables	NA	.13	.421	.09	.136	.07	.170
	NINC	.17	.138	.16	.019	.05	.262
	RR	.17	.144	.16	.019	.12	.067
	RJ	.19	.072	.18	.002	.08	.156
Home Contacts	NA	.05	.609	NC[a]	NC[a]	NC[a]	NC[a]
	NINC	.08	.181	.08	.181	.05	.228
	RR	.04	.697	NC	NC	NC[a]	NC[a]
	RJ	.06	.424	.06	.202	.03	.294

[a] NC: Stepwise equations not computed or crossvalidated because no variables met criterion of significance.

Aggressiveness. When this equation was applied in the crossvalidation sample, the predicted Number of Arrests correlated .20 with the obtained Number of Arrests, a correlation which was statistically significant ($p < .001$), although certainly not substantial. This proved to be the only equation involving the adjustment data that obtained significance upon crossvalidation.

At the outset, the multiple regression prediction of the Number of Incarcerations was more impressive, with a multiple R of .25 obtained in the full model which was closely approximated by multiple R of .24 obtained in the stepwise procedure. Both of these multiple Rs were statistically significant, but the predicted number of incarcerations was correlated only .06 with the actually obtained Number of Incarcerations when the stepwise equation was crossvalidated.

As usual, the Recidivism Rate (RR) criterion was the poorest. The full scale model lead to a multiple R of only a .14 and the stepwise model could not be computed because no variables met the criteria for inclusion.

Multiple correlations of .20 and .19 were obtained with Rater's Judgement (RJ) by the full and stepwise models respectively. However, on crossvalidation the correlation of the predicted Rater's Judgements with those actually obtained was only .04 which was far from significant.

Thus, combining the various measures of institutional adjustment did not result in any substantial improvement in the predictability of the eventual recidivism rates.

Work Performance Ratings

The multiple regression analyses produced equations which correlated significantly with Number of Arrests and with Number of Incarcerations in both the derivation and crossvalidational samples. However, although they were physically significant, they were low in magnitude. Multiple Rs of .18 and .13 were obtained

Table 12-6

Stepwise Multiple Regression Equations for the Prediction of the Four Criteria of Recidivism from the Adjustment, Vocational, Programmatic and Community Contact Data

Adjustment Equations

NA = .0567 CHDAYSQ - .1928 MIAITM3

NINC = -.2215 MIAITM4 + .2017 MIAIT5 - .1685 MIAITM1 + .0125 CHDAYSQ + .1289 MIAITM2 + .4639

RR: Not computed

RJ = -.7868 MIAITM 4 + .4956 MIAITM5 + .5763 CHDAYSQ + 4.2831

Vocational Equations

NA = -.3421 AVWITM5 + 2.434

NINC = -.1186 AVWITM5 + .7277

RR = .6806 AWITM9 - .5408 AVWITM7 + .0195

RJ = -.3986 AVWITM8 + 4.984

Programmatic Variables

NA = -.1854 XIGROUP + 1.5269

NINC = -.1099 XIRELIG - .0598 XIGROUP + .5580

RR = .0183 PROPTS - .0059 XIRELIG + .0152

RJ = -.5589 XIRELIG + 4.316

Home Contacts

NA: Not computed

NINC = -.0060 VISITS + .0034 LETTERS + .3010

RJ = -.0175 VISITS + 3.606

RR: Not computed

with NA using the full and stepwise models respectively. The predicted Number of Arrests calculated from the stepwise equations correlated .18 with the actual Number of Arrests, a correlation which though low, was statistically reliable ($p < .003$).

Similarly, the Number of Incarcerations had multiple Rs of .17 and .15 by the full and stepwise models respectively and the predicted Number of Incarcerations was correlated .17 with the actual Number of Incarcerations ($p < .005$). For both NA and NINC, the optimal equation consisted of one variable, namely, the mean average rating on the Work Performance item number 5, Ability to Learn.

The next criterion, Recidivism Rate, had a multiple R of .24 using the full model and .22 the stepwise model. Although these multiple correlations in the derivation sample were highly significant, they both washed out completely on crossvalidation. The predicted Recidivism Rate correlated -.02 with that actually obtained. The reason for this is clearly discernable from the data in Table 12-2, in which, it will be recalled, all the work performance items correlated in a highly significant fashion with RR in the original sample, but none of the nine scales had a significant correlation in the crossvalidation sample.

Rater's Judgement had multiple Rs of only .15 and .12 in the original sample in the full and stepwise models respectively. The predicted RJ correlated .08 with the actually obtained RJ. The regression analyses of the Work Performance Ratings thus showed that although significant correaltions could be obtained for Number of Arrests nad Number of Incarcerations, and despite the fact that these correlations held up on crossvalidation, the magnitudes were too small to permit any sort of actual prediction to be made from them.

Programmatic Variables

None of the five programmatic variables correlated significantly with any

of the four criteria in the original derivation sample, so little hope was held for noteworthy correlations to be obtained. Number of Arrests (NA) had correlations of only .13 and .09 in the full and stepwise models respectively and the predicted values correlated only .07 with the actual values of NA. NINC had multiple Rs of .19 and .18 which shrank to an r of .08 on crossvalidation. Thus, by and large, the programmatic variables as assessed by the inmate's self-report at the time of the exit interview did not correlate adequately with any of the four criteria of recidivism.

Home Contacts

Since there were only two measures of Home Contact, VISITS and LETTERS, and neither had correlated significantly with any of the criteria of recidivism in either the original or crossvalidational sample, it did not seem likely that multiple regression analyses would yield any significant results. This proved to be the case. None of the multiple Rs based on either the full or stepwise models proved to be significant. In fact, no stepwise equations could be computed for either NA or RR because neither of the original correlations was sufficient to meet the criteria for inclusion in the equation. Although NINC and RJ both had stepwise equations computed, neither of the crossvalidation rs remotely approached significance. Thus, although VISITS and LETTERS from home may be good for morale, there is no evidence in the present study that they bore any relation whatsoever to eventual recidivism or community adjustment.

Summary of the Regression Analyses

The data indicate that recidivism cannot be predicted through multiple regression analyses of institutional adjustment data such as those used in the present study. Although some statistically significant correlations were obtained

on crossvalidation, as well as derivation, the magnitude of these coefficients was too low to permit a practical application of them.

It is interesting to note with respect to the comparison with the different operational definitions of recidivism that, whereas RJ was the most predictable criterion in Phase I, NA was clearly more predictable in Phase III.

CHAPTER XIII

Results of the Phase IV Investigation

It was anticipated that the data collected in Phase IV would bear the closest relationships with the criteria of recidivism because of the proximity in time between data collection and release. The prerelease testing data, it was felt, would incorporate any personality changes stemming from incarceration and would correlate more closely with the criteria of eventual recidivism. Similarly, those measures on the prerelease interview that dealt with plans for adjustment into the community and such factors as whether or not the individual had a job awaiting him would, it was felt, provide one of the best sources of data on which to base predictions of eventual recidivism.

This did not prove to be the case. The correlational data were uniformly low and nonsignificant. The regression analysis did prove to yield higher multiple correlations than were typically found in the derivation samples, but upon crossvalidation these equations did not improve substantially on those collected in other phases.

Perhaps sampling had something to do with these disappointing results. To be included in the Phase IV study, individuals had to be evaluated within three months of their eventual street date. Moreover, the exit evaluation program was on a strictly voluntary basis. During the course of data collection it was difficult to arrange a time when individuals being transferred to other facilities could be asked to volunteer; this was particularly true in the case of rapid transfers which took place for disciplinary reasons. Because of these sampling constraints, the size of the prerelease sample was smaller than those used in the Phase I and II investigations. More important, it is possible that the sample was more homogeneous. Given greater homogeneity, smaller correlation coefficients

would be expected. Whether or not this was the reason, small correlations were what was found.

Correlational Results

Three general types of data were used in the Phase IV investigation, test data, demographic data and prerelease interview data. The test data included the MMPI and the CPI. The demographic variables were limited to those which were likely to change from entry to exit, such as marital status, and to factors that seemed directly relevant to adjustment to the community, such as whether or not a job was awaiting for the individual upon his release. The exit scales were those that were based on questions inquiring as to postrelease plans and prognosis.

MMPI

At the time this report was being written, the prerelease MMPI had been scored on all the standard scales and on some of the special scales. Data were not available, however, on all the scales used in the Phase II investigation. The MMPI scales used in the Phase IV investigation included all the regular clinical and validity scales plus the special recidivism scales RMN, PAV, HC and RC.

The first order Pearson correlations of these 18 scales with the four criteria of recidivism in both the original and crossvalidation samples are presented in Table 13-1. Sample sizes in the derivation sample ranged from 275 to 440. Thus, correlations of approximately .13 or greater were required for significance at the .01 level whereas correlations of .18 or greater were required for significnace at the .001 level. In the crossvalidation sample, the Ns ranged from 154 to 162 with correlations of .18 and .26 being required for significance at the .01 and .001 levels respectively.

None of the 18 scales correlated significantly with any of the four criteria of recidivism in both the original and crossvalidation samples. This was

Table 13-1

Correlations of MMPI Scales with Four Criteria of Recidivism
in Two Subsamples of Youthful Offenders

	Number of Arrest (NA)		Number of Incarcerations (NINC)		Recidivism Rate (RR)		Rater's Judgement (RJ)	
Scales	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation
Qu	-.03	.09	.02	.01	-.02	-.02	-.03	.06
L	.07	.09	.05	.06	.01	.10	.03	-.01
F	.21**	.04	.12*	.12	-.02	.13	.13*	.09
K	-.11	-.04	-.08	-.10	-.03	-.04	-.03	-.14
Hs+.5k	.03	.02	.05	.06	-.03	.11	.06	-.03
D	.20**	.09	.17*	.16	.02	.19*	.20**	.08
Hy	.02	-.09	.08	.00	.03	.01	.11	-.10
Pd+.4k	.10	.03	.09	.10	.01	.05	.17*	.06
Mf	.10	-.05	.06	.12	-.02	.03	.10	-.02
Pa	.20**	.00	.13*	.11	.01	.11	.14*	.06
Pt+1k	.20**	.04	.18**	.06	.01	.04	.22**	.04
Sc+1k	.20**	-.01	.18**	.04	.01	.15	.17*	.01
Ma+.2k	.14*	.02	.07	-.13	.06	-.03	.09	.04
Si	.08	.01	.09	.09	.03	.13	.10	.06
RMN	.06	.04	.03	.06	.05	.04	.00	.09
PAV	.15*	.04	.11	.04	.05	.07	.11	.10
Hc	.10	.02	.10	.13	-.02	.05	.16*	.10
Rc	.04	.07	.11	.04	.05	.07	.09	.13

* $p < .01$

** $p < .001$

true of the four scales that had been derived specifically to predict recidivism as well as the regular clinical scales.

CPI

The prerelease CPI had been scored on the 18 regularly scored scales but not on any special scales at the time this report was being written. The correlations of these 18 CPI scales with the four criteria of recidivism in the original and derivation samples are presented in Table 13-2. The sample sizes in the derivation sample ranged from 241 to 257. Correlations of .14 and .19 were needed for significance at the .01 and .001 levels respectively. In the crossvalidation sample, sample sizes ranged from 136 to 143. To be statistically significant at the .01 level, a correlation coefficient had to be approximately .18 and at the .001 level it had to be approximately .26.

As was the case with the MMPI, none of the 18 CPI scales correlated significantly with any of the four criterion in both the original and derivation samples.

Demographic Data

Four demographic variables were studied in the Phase IV analysis. These were whether or not the individual had a job awaiting on release (XIJOBOR), whether or not there were any financial obligations that had to be met during the community adjustment period (XIDEBTS), the present marital status (XIMRSMW), and whether or not the offender had children waiting for him on the outside (XICHILD).

Sample sizes for these variables in the derivation group ranged from 103 to 274. To be significant, correlation coefficients had to exceed .16 for the .01 level. In the crossvalidation sample, the sample sizes ranged from 46 to 155. Correlation coefficients to be significant had to exceed .23 at the .01 level.

The demographic data are reported in Table 13-3. It can be seen that none

Table 13-2

Correlations of CPI Scales with Four Criteria of Recidivism
in Two Subsamples of Youthful Offenders

	Number of Arrest (NA)		Number of Incarcerations (NINC)		Recidivism Rate (RR)		Rater's Judgement (RJ)	
Scales	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation
Do	-.05	-.06	-.06	-.09	-.01	-.13	-.04	-.08
Cs	.03	.01	-.01	.03	.05	-.07	.08	.00
Sy	-.02	-.03	-.03	-.06	.06	-.12	.02	-.06
Sp	-.07	-.10	-.10	-.15	.03	-.13	-.04	-.11
Sa	-.08	-.05	-.12	-.13	-.01	-.09	-.08	-.04
Wb	-.16*	-.07	-.06	-.14	-.06	-.05	-.07	-.10
Re	-.07	-.08	-.07	-.08	.04	-.08	-.04	-.14
So	-.14*	-.04	-.14*	-.08	.00	-.03	-.16*	-.13
Sc	-.09	-.03	-.03	-.07	.07	.03	-.01	-.14
To	-.06	-.13	.02	-.12	-.01	-.05	.03	-.19*
Gi	.00	.02	.01	-.04	.14*	.02	.08	-.05
Cm	-.18*	-.12	-.12	-.09	-.19*	-.10	-.14*	-.09
Ac	-.08	-.05	-.06	-.13	.06	-.16	-.04	-.13
Ai	-.07	-.11	.01	-.08	-.06	.08	.02	-.12
Ie	-.11	-.11	-.08	-.14	-.08	-.21*	-.06	-.15
Py	-.08	-.08	-.04	-.15	.00	-.08	-.04	-.17
Fx	.06	-.08	.11	-.06	.09	-.08	.10	-.04
Fe	.14*	.01	.10	.11	.04	.23*	.14*	.15

* $p < .01$

** $p < .001$

Table 13-3

Correlations of Demographic Data with Four Criteria of Recidivism in Two Subsamples of Youthful Offenders

	Number of Arrest (NA)		Number of Incarcerations (NINC)		Recidivism Rate (RR)		Rater's Judgement (RJ)	
Scales	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation
XIJOBOR	-.06	-.10	-.09	-.13	-.06	-.05	-.08	-.15
XIDEBTS	-.08	-.04	-.09	.18	.08	-.01	-.02	-.06
XIMRSNW	-.03	-.06	-.07	.01	-.04	-.13	-.06	-.04
XICHILD	.05	.06	-.04	.07	-.08	.00	.00	.05

of the four demographic variables correlated significantly with any of the four criteria in either the original or crossvalidation samples.

It should be recalled that only a narrow and limited range of demographic variables was studied in Phase IV analysis. Demographic variables not likely to change were not included. In future analyses, the present demographic data collected on intake will be combined with prerelease data. This will determine whether the variables studied in Phase IV can add to the predictions obtainable from past history information such as criminal record, academic achievement and the like.

Prerelease Interview Scales

Five global scales were constructed by combining items from the prerelease interview. These included scales for the Inmate's Self-perceived Change (XISPCHG), the Inmate's Employability and Job Plans (XISJOBP), Negative Attitude Towards the FCI (XISNATT), a Negative Prognosis Scale (XISNPRG) combining items the present investigator felt were indications of likely recidivism, and an Optimism Regarding the Street scale (XISOPTM). The correlations of these five scales with the four criteria of recidivism in the two samples are presented in Table 13-4. The sample sizes in the derivation sample ranged from 166 to 436 so correlations of .11 to .17 or greater were required for significance at the .01 and correlations of .15 to .21 or greater were required for significance at the .001 level. In the crossvalidation sample, Ns ranged from 94 to 232. The correlations required for significance varied, ranging from .19 to .26. In any case, none of the correlations was significant in either the derivation or the crossvalidation sample.

Change

In addition to the more or less continuous data analyzed thus far, the amount of change from intake to departure reflected on the MMPI and CPI was also

Table 13-4

Correlations of Exit Interview Scales with Four Criteria of Recidivism in Two Subsamples of Youthful Offenders

	Number of Arrest (NA)		Number of Incarcerations (NINC)		Recidivism Rate (RR)		Rater's Judgement (RJ)	
Scales	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation	Original	Cross-validation
XISPCHG	.00	.00	.07	.00	.07	-.02	.15	.03
XISJOBP	-.03	.06	-.07	-.08	-.07	.01	-.09	-.08
XISNATT	.01	.08	.06	.02	.00	-.01	.07	.08
XISNPRG	.02	-.03	.00	.05	.00	.13	-.01	.12
XISOPTM	.00	.06	.13	.13	.09	.02	.09	.11

related to the criteria of recidivism. In conjunction with another study (Cadow, 1977), the only CPI profiles administered upon intake were plotted simultaneously on a profile sheet and the present investigator made a judgement as to whether one profile was better than the other or if they were both the same. This procedure was done without the identification of either profile as an intake or an exit profile. Later when the profiles were identified, if the intake profile had been deemed superior to the exit, that individual was classified as having gotten worse, whereas if the intake profile was poorer than the exit, then the individual was classified as improving. A similar procedure was followed for the CPI.

Cross-tabulations were made with respect to whether individuals had gotten worse, stayed the same, or improved versus the four criteria of recidivism in both the original and derivation samples. For these analyses, the recidivism criteria were all dichotomized into that group with no further record (i.e. no arrests, no incarceration, zero recidivism rate and ratings of 1, 2, and 3 through 10 on RJ). The resulting contingencey tables were tested for significance by Chi-square. None of the Chi-squares remotely approached significance for either the MMPI or the CPI change variables in either the derivation or crossvalidation groups.

Thus, the first order relationships of the Phase IV variables with the criteria of recidivism were extremely discouraging. By and large, none of the variables studied had any significant consistent first-order relationships with any of the recidivism criteria.

The next question was whether or not any of these variables could yield significant and reliable multiple correlations when optimally combined.

Results of the Regression Analyses

Meehls' famous paradox states that even when you have two or more variables that are totally unrelated to the criteria, it is possible in certain unlikely

Table 13-5

Multiple Correlations of Phase IV Exit Interview and Test Variables with Four Criteria of Recidivism

Data Set	Criterion	Full Regression Model R	Full Regression Model p	Stepwise Model R	Stepwise Model p	Crossvalidation r	Crossvalidation p
MMPI	NA	.35	.013	.32	.000	.12	.057
	NINC	.30	.133	.24	.003	.13	.051
	RR	.21	.866	NC[a]	-	NC[a]	-
	RJ	.31	.100	.29	.000	.08	.154
CPI	NA	.33	.088	.30	.001	.17	.021
	NINC	.33	.103	.27	.003	.15	.038
	RR	.39	.005	.35	.000	-.04	.334
	RJ	.36	.027	.33	.000	.23	.002
Demographic Data	NA	.13	.866	NC[a]	-	NC[a]	-
	NINC	.15	.795	NC[a]	-	NC[a]	-
	RR	.14	.844	NC[a]	-	NC[a]	-
	RJ	.10	.948	NC[a]	-	NC[a]	-
Exit Interview Scales	NA	.03	.999	NC	-	NC[a]	-
	NINC	.18	.470	.13	.134	.13	.109
	RR	.14	.764	NC	-	NC[a]	-
	RJ	.23	.195	.19	.085	.05	.295

[a] NC: Stepwise equations not computed or crossvalidated because no variables met criterion of significance.

cases to obtain a perfect multiple correlation with that criterion through optimal combinations of the scales. Bearing this in mind, multiple regression analyses were carried out on the Phase IV data using both the full and stepwise models on four homogeneous data sets: the MMPI scales, the CPI scales, the demographic items and the exit interview scales. The results were crossvalidated by correlating the predicted recidivism values with those actually obtained. The results of these regression analyses are to be found in Table 13-5.

Multiple correlations ranging from .21 to .35 were obtained by applying the full regression model to the MMPI scales. Stepwise equations were derived for NA, NINC and RJ. These multiple Rs ranged from .24 to .32. No such equation could be computed for RR because none of the MMPI variables had an F ratio sufficiently high for it to be entered into the equation. Although these multiple Rs are among the highest obtained in the study thus far, on crossvalidation the predicted values of NA, NINC, and RJ did not correlate any better with the actual values of these variables than had been the case in previous phases. The obtained rs ranged from .08 to .13, and although rs of .12 for NA and .13 for NINC were marginally significant, they were too small to be of any use.

In the derivation sample, the CPI scales yielded some of the highest multiple correlations obtained in the investigation. The multiple Rs using the full-scale model ranged from .33 to .39 and the stepwise model yielded multiple Rs ranging from .27 to .35. All the stepwise multiple regression equations were highly significant. However, there was considerable shrinkage on crossvalidation for most of the scales. RR shrank from a multiple R of .35 to a crossvalidation r of -.04, NA shrank from .30 to .17 and NINC from .27 to .15. Although the correlations between the predicted and obtained values for NA and NINC were statistically significant (p = .021 and .038 respectively) the absolute magnitudes of .17 and .15

Table 13-6

Stepwise Multiple Regression Equations for the Prediction of the Four Criteria of Recidivism from the Demographic, MMPI, CPI, and Q-Sort Scales

MMPI Equations

NA = .0145 F + .0432 D - .0305 Hs + .0170 Ma + .0650 RMN - 2.348

NINC = .0073 Pt + .0259 Rc + .0080 D - .0050 Hs - .5720

RR: Not computed

RJ = .0362 Pt + .0400 Hc - .0438 Hs + .0271 D + .0294 Hy - .7343

CPI Equations

NA = .0117 Cm - .0282 So + .0286 Fe + .0351 Cs - .0292 Py + 1.2167

NINC = -.0121 So + .0055 Fe + .0073 Fx - .0125 Sp + .0125 Sy + .1737

RR = -.0003 Cm + .0006 Sy + .0005 Gi - .0010 Ai + .0007 Fx + .0011 Ae - .0005 Ie - .
-.0005 So - .0239

RJ = -.0576 So + .0294 Gi + .0405 Fe + .0202 Sy - .0111 Cm - .0346 Py + .0289Cs
+ 2.0131

Demographic Equations

NA: Not computed
NINC: Not computed
RR: Not computed
RJ: Not computed

Exit Interview Scales

NA: Not computed
NINC = .0209 XISOPTM + .1858
RR: Not computed
RJ = .0781 XISPCHG + .0380 XISNATT + 2.518

were not adequate for useful prediction. RJ shrank less than the other three variables, going from an R of .33 to a crossvalidation r of .23 ($p = .002$). It is noteworthy that it was RJ, the recidivism criterion having the highest conformity to the statistical expectations of the multiple regression model, that had the highest crossvalidation coefficient. However, although a crossvalidation coefficient of .23 looks substantial in the context of the generally zero order, correlations obtained throughout the present investigation, nevertheless, it must be remembered that this mean equation counts for less than seven percent of the variance on the criterion variable, hardly an impressive finding.

As expected, the small number of rather disconnected demographic variables (some of which had quite small sample sizes) did not yield any significant multiple correlations. The multiple Rs using the full scale model ranged only .10 to .15 and no stepwise equations could be derived.

Considerable hope had been held out for the exit interview scales, but these, too, proved to be insignificant. Full scale multiple Rs ranged from .03 to .23. Stepwise equations could be computed for NINC and RJ, but the multiple Rs were only .13 and .19 respectively. On crossvalidation, NINC continued to have a .13 correlation with the criterion but RJ shrank from .19 to .05. Neither of the latter crossvalidation rs was statistically significant.

The stepwise equations that were derived are presented in Table 13-6. It is interesting that the special recidivism scales frequently entered into the MMPI equations despite the fact that they did not correlate significantly with the criteria individually. A homogeneous array of CPI scales entered into the stepwise equation. The Factor 4 scales Cm and So were common to all four equations.

Summary

Although it had been anticipated that the Phase IV variables would relate more closely to the criteria of recidivism than the Phase, I, II, or III variables

had, this did not prove to be the case. None of the Phase IV variables had consistently significant correlations with any of the criteria of recidivism, in both the original and crosswise samples. Nevertheless, the multiple regression models yielded some of the highest multiple Rs obtained in this entire investigation. However, it should be pointed out that these multiple Rs were high only in a relative and not an absolute sense, none of them equaling or exceeding .40. Moreover, the derived equations did not produce predicted values for the variables that had any substantial correlation with the actual obtained values.

Does this mean that those who would predict recidivism should confine themselves to the data usually obtained on intake as they have in the past? Not necessarily. As already pointed out, the multiple regression model is not well suited to the heavily skewed recidivism data being analyzed. In institutions with higher recidivism rates than the FCI, prerelease data may be useful. It should also be borne in mind that in the present study, prerelease data were obtained only on volunteers who were about to be released. This volunteerism may have restricted the range of the sample with respect to both the dependent and independent variables. Finally, further analyses are planned using combinations of intake and exit data. It is possible that the inclusion of the prerelease demographic data might improve on predictions obtained with the Phase II demographic data, or the combinations of test, demographic, and interview data could yield higher correlations than those obtained in the homogeneous data sets.

All the above, however, are speculations in the absence of further data analysis. For the time being, the only conclusion that can be made is that the Phase IV data as analyzed in the present report, did not have sufficiently high relations with the criteria of recidivism to warrant the time and effort spent in collecting them, if the goal is prediction of eventual recidivism.

CHAPTER XIV

Results of Phase V Investigation

The Phase V investigation examined the relationship between the type of aftercare program to which the inmates were discharged and subsequent recidivism. Four types of aftercare programs were identified. The first was no aftercare program whatsoever. This group consisted of inmates who were released upon expiration of sentence or expiration of mandatory good time and who went into the community without any parole supervision. Two-hundred and twenty-five individuals (34.7%) in the derivation sample, and 126 (42.3%) in the crossvalidation sample were released without any aftercare program.

The second and largest group was those men who were released on parole. Release on parole required positive action by the United States Parole Board. Factors associated with release in the present cohort have been studied by Elion (1978). Three hundred and seven men (47.3%) of the original sample and 130 (43.6%) of the crossvalidation sample were released on parole.

The next two groups consisted of men who were transferred from a correctional institution to a community treatment center or "half-way house" before release. In the community treatment centers they received close supervision and had group programs available in the evening while during the day they were employed in regular free world occupations. During the time in the CTC, they could take furloughs to visit home and make arrangements for permanent jobs upon discharge. The CTC sample is subdivided into one group of men who were discharged directly from the CTCs and the second group who were paroled from the CTCs, thereby combining CTC with parole supervision. In the derivation sample, there were 43 men (6.6%) who were in the "CTC/out" group while 17 individuals (5.7%) in the crossvalidation group were discharged in this manner. Seventy-four men (11.4%) in the derivation sample were paroled from CTCs while 25 men (8.4%) in the crossvalidation sample had parole

supervision following time in a half-way house.

There is currently considerable controversy regarding the effectiveness and desirability of parole as a mechanism of release. Proponents look to parole boards as a way of balancing sentencing inequities and of timing each individual's release optimally. Opponents of parole maintain that parole encourages inmates to play games and pretend to involve themselves in costly educational and rehabilitative programs solely to impress parole board authorities. Rather than mitigating sentences, they maintain that highly indeterminant sentences with responsibilities for release placed on the parole board actually result in more time being served than fixed sentences would. Moreover, they feel that the indeterminancy necessarily involved when parole is used as a means for release has a destructive impact on inmate morale and makes it difficult for an inmate to plan how to use his incarceration time most constructively. They advocate definite "flat time" sentences that are imposed from the outset so program participation can be on a purely voluntary basis, the sole motivation being some desire to learn or to change.

Although Phase V of the present investigation is relevant to this controversy, it cannot provide definitive answers because it was impossible to use an experimental design. The only way to study the effects of these four modes of aftercare vigorously would be to assign inmates to the four conditions on a purely random basis. Naturally this was not done. Those who were in the no aftercare sample had not chosen to apply for parole or had had their applications for parole denied by the parole board. The sample that was paroled had to apply and meet the criteria imposed by the parole board. Significant differences exist between these two groups (Elion, 1978). Those men sent to the community treatment centers were sent there because correctional authorities felt this experience would help their reintegration into the community. It can be expected that these men differed, at least in the eyes of the correctional

authorities who made these decisions, from those who were released directly on parole or who were released directly to the community. Because of these sampling differences, if significant differences in recidivism that should be found among the groups it would be impossible to determine whether these differences stemmed from the aftercare programs, from the selective factors which entered into these assignments or from an interaction of the two. Similarly, no significant differences could be interpreted as definitive evidence that parole or CTC placement "don't work" because it is always possible that initial differences that existed amongst the groups were ameliorated through the treatment process.

Nevertheless, an examination of the differences in success rates according to the four criteria chosen for study is a necessary first step on the road to more definitive studies.

Given the classifacatory nature data, the correlational and multiple regression analyses used in Phases I through IV were abandoned in favor of nonparametric contingency tables tested by means of Chi-square. In order to reduce the number of degrees of freedom, the first four variables, NA, NINC, and RR were dichotomized. One category for each of these variables consisted of inmates who had zero scores, i.e. no arrests, no incarcerations or subsequent recidivism. The other, generally less frequent, category consisted of inmates who had one or more arrests or convictions or some indication of subsequent recidivism.

The case of the fourth criterion, RJ, the ratings on the ten-point scale were reduced to three categories, ratings of 0-2, 3-4 and 5 or more on the 10-point scale. Forty percent of the derivation group fell in the first category, 34% in the second and 26% in the third. On the crossvalidation group the percentages in the three categories were 38%, 38%, and 24% respectively.

Number of Arrests

The contingency table showing the association between type of Aftercare

Table 14-1

Number of Arrests (NA) Associated with Different Types of Aftercare in the Derivation and Crossvalidation Samples

Type of Aftercare	Original Sample*			Crossvalidation Sample**		
	No Arrest	One or More Arrest	Total	No Arrest	One or More Arrest	Total
None						
Number	89	136	225	50	76	126
Percent	39.6	60.4		39.7	60.3	
Parole						
Number	163	144	307	63	67	130
Percent	53.1	46.9		48.5	51.5	
CTC/Out						
Number	20	23	43	6	11	17
Percent	46.5	53.5		35.3	64.7	
CTC/Parole						
Number	36	38	74	10	15	25
Percent	48.6	51.4		40.0	60.0	
TOTAL	308	341	649	129	169	298
Percent	47.5	52.5	100	43.3	56.7	100

* $x^2 = 9.60$; df = 3; $p = .022$

** $x^2 = 2.64$; df = 3; $p = .45$

and Number of Arrests is presented in Table 14-1. A significant association was found in the derivation sample. The highest rate or rearrest was found in the group released without supervision (60.4%). The two groups sent to CTCs before release had arrest rates quite similar to the overall population average with 53.5% being observed in the CTC out-group and 51.4% in the CTC parole group. The lowest rate of recidivism was found (46.9%) in the group that was paroled from the institution. These results support either the sagacity of the parole board or the effectiveness of the parole supervisors. Unfortunately, they were not replicated in the crossvalidation sample. Although the group released on flat time had a recidivism rate almost identical to that observed in the original sample and, once again, the paroled group had the lowest recidivism rate, the differences were not statistically reliable. The major difference between the derivation and crossvalidation sample was the increased arrest rate observed in the two CTC subgroups on the crossvalidation. The recidivism rate of the paroled group rose from 46.9% to 51.5%.

Number of Incarcerations

In contrast with the Number of Arrests, the data on the number of reincarcerations associated with the four types of aftercare showed no association between the independent and dependent variables (See Table 14-2).

Recidivism Rate

The recidivism rate was originally designed to be a continuous variable incorporating the number of convictions as a function of time elapsed. As noted above, for the present analysis this continuous variable was dichotomized to a simple comparison of those with and without further offenses. Nevertheless, the data presented in Table 14-3 show that the clearest associations between aftercare and recidivism were on the Recidivism Rate variable.

Table 14-2

Number of Reincarcerations (NINC) Associated with Different Types of Aftercare in the Derivation and Crossvalidation Samples

Type of Aftercare	Original Sample*			Crossvalidation Sample**		
	No Arrest	One or More Arrest	Total	No Arrest	One or More Arrest	Total
None						
Number	155	70	225	96	30	115
Percent	68.9	31.1		76.2	23.8	
Parole						
Number	229	78	307	96	34	122
Percent	74.6	25.4		73.8	26.2	
CTC/Out						
Number	30	13	43	13	4	17
Percent	69.8	30.2		76.5	23.5	
CTC/Parole						
Number	50	24	74	19	6	24
Percent	67.6	32.4		76.0	24.0	
TOTAL	464	185	649	224	74	298
Percent	71.5	28.5	100	75.2	24.8	100

* $x^2 = 2.82$; df = 3; $p = .42$

** $x^2 = 0.22$; df = 3; $p = .98$

In the derivation sample, significant differences were noted among the four groups ($\chi^2 = 9.60$, $p = .022$). The group released without any aftercare supervision had the highest recidivism rate on RR (30.8%) followed by the group sent to CTCs and then released without supervision (28.6%). The group that went to CTCs and had parole supervision thereafter ranked third on recidivism (23.6%) and the group released on parole had the lowest recidivism rate (19%) in the original sample. The same rank order was observed in the crossvalidation sample, but here the results were only marginally significant ($\chi^2 = 6.83$, $p = .078$).

Since RR in the present dichotomized analyses was functionally equivalent to the Number of Convictions (NC), it can be inferred from these data that the mode of aftercare supervision is most clearly associated with subsequent convictions. Comparing these data with those in Table 14-2, it would appear that aftercare is more associated with conviction than it is with reincarceration. This may be an artifact of the judicial process. The low rate of subsequent convictions for the paroled samples may be because many of those parolees who get into difficulty simply have their parole provoked without the state going to the trouble and expense of additional prosecutions. These individuals would then be reincarcerated but not reconvicted. This interpretation is supported by comparing RR and NINC. Ordinarily, one would expect convictions to equal or exceed incarcerations, since not everybody who is convicted of an offense receives a sentence of confinement. This is generally the case for those released on flat time and for those who were released without further supervision from CTC. However, this relationship is reversed for those released on parole and those for whom parole was granted following a stay in a CTC. In these groups, reincarcerations actually exceed new convictions. Thus, the diminished rate of reconvictions, as indicated by RR, for those under parole supervision may not have anything to do with their subsequent behavior, but instead reflect the fact that local authorities have simply seen fit to reconfine many of

Table 14-3

Recidivism Rates (RR) Associated with Different Types of Aftercare in the Derivation and Crossvalidation Samples

Type of Aftercare	Original Sample*			Crossvalidation Sample**		
	No Arrest	One or More Arrest	Total	No Arrest	One or More Arrest	Total
None						
Number	144	64	208	79	36	115
Percent	69.2	30.8		68.7	31.3	
Parole						
Number	238	56	294	101	21	122
Percent	81.0	19.0		82.8	17.2	
CTC/Out						
Number	30	12	42	12	5	17
Percent	71.4	28.6		70.6	29.4	
CTC/Parole						
Number	55	17	72	19	5	24
Percent	76.4	23.6		79.2	20.8	
TOTAL	467	149	616	211	67	278
Percent	75.8	24.2	100	75.9	24.1	100

* $x^2 = 9.60$; df = 3; $p = .022$

** $x^2 = 6.83$; df = 3; $p = .078$

them by revocation of parole rather than by further prosecution.

Rater's Judgement (RJ)

It will be recalled that one of the advantages of the Rater's clinical judgement as a criterion of recidivism was that the rater was able to discriminate among those without subsequent offenses by giving more favorable ratings to those who had accumulated a long period of time without further difficulties than he did to those who had been out only a relative short time without further trouble. Ratings could also be given not only on the basis of the number of subsequent offenses but also on their seriousness as reflected in the NCIC offense codes.

The type of aftercare was significantly associated with the Rater's Judgement in the original sample, but these differences failed to be replicated in the crossvalidation sample. The rater evaluated the sample released on parole as having the most favorable community adjustment.. Relatively little difference was observed between the group released on flat time and the group released without supervision from the CTCs, but the group for whom parole supervision was imposed after leaving the CTC appeared to have the worst subsequent adjustment.

The differences observed in the original sample were not replicated in the crossvalidation sample, however. Not only were the differences not significant, but the same ordinal relationships were not maintained. The primary difference between the crossvalidation and the original samples was that in the crossvalidation sample there was a lower rate of parole success and a higher rate of more serious difficulties in the community for the parole group. An opposite trend was observed for the CTC/Out group with greater success in the community being observed in the crossvalidation than the original sample. In any case, the data make it clear that the findings observed in the original sample, although statistically significant, were

Table 14-4

Raters' Judgement (RJ) Associated with Different Types of Aftercare in the Derivation and Crossvalidation Samples

Type of Aftercare	Original Sample*				Crossvalidation Sample**			
	0-2	3-4	5-10	Total	0-2	3-4	5-10	Total
None								
Number	80	77	63	220	47	53	25	125
Percent	36.4	35.0	28.6		37.6	42.4	20.0	
Parole								
Number	137	99	64	300	31	43	34	128
Percent	45.7	33.0	21.3		39.8	33.6	26.6	
CTC/Out								
Number	17	11	15	43	7	5	4	16
Percent	39.5	25.6	34.9		43.8	31.3	25.0	
CTC/Parole								
Number	19	32	22	73	6	10	6	22
Percent	26.0	43.8	30.1		27.3	45.5	27.3	
TOTAL	253	219	164	636	111	111	69	291
Percent	39.8	34.4	25.8	100	38.1	38.1	23.7	100

* $x^2 = 14.70$; df = 6; $p = .023$

** $x^2 = 4.01$; df = 6; $p = .67$

not reliable or repeatable.

Summary

In the larger derivation sample significant associations between the type of aftercare program and three criteria of recidivism, Number of Arrests, Recidivism Rate (which dichotomized became essentially Number of Convictions) and Rater's Judgement were obtained. In each incidence the group released on parole had the lowest recidivism rate and the group in which CTC placement was followed by parole, the next lowest. The highest recidivism rate in each instance was found in the group released on flat time and the second highest in the group in which flat time followed CTC placement. In the case of Recidivism Rate (RR), the low incidence of subsequent convictions was no doubt in part an artifact of the tendency of authorities to revoke the parolees who got into trouble, whereas those released on flat time had to be prosecuted. This, however, would not apply to the criteria Number of Arrests or Rater's Judgement.

Unfortunately, in this smaller crossvalidational sample, the findings associated with the Number of Arrests and with the Rater's Judgement were not replicated. There was a trend toward significant differences in the same direction for the criterion Recidivism Rate, but as noted, this could have been an artifact of the reluctance to prosecute parolees.

Even if consistent significant differences favoring the parolees had been found on the crossvalidation, thereby replicating the original findings, it would have been premature to attribute these to parole supervision per se because, as noted above in the present study, the type of aftercare was confounded with parole board and self-selection since the subjects were not assigned to aftercare supervision, conditions in a random fashion. It may be possible that further analyses can tease out additional information if subsamples within each group are matched

on salient independent variables. An attempt will be made to explore this possibility, but it is likely that selective factors will be found to be too closely intertwined with aftercare mode for this to be done.

CHAPTER XV

Directions for Further Research

Although further data analyses are planned, the findings reported in the previous sections enable us to address several of the issues that first prompted the present study.

One of the first problems in recidivism research, as revealed by the review of the literature in Chapter 2, is obtaining an adequate data base concerning subsequent criminal behavior. It was hoped that the use of the computerized National Criminal Information Center (NCIC) files would largely overcome this problem. Although the NCIC records did eliminate the lack of information that results in a local (i.e. county or state-based) study when subjects move to other jurisdictions, nonetheless, it was found that the NCIC records are not a panacea for the problems of recidivism research. Putting aside the legal problems in gaining access to the records, it was found that the information contained within the files that were located required considerable sophistication to interpret. It seems likely, given the mass of data inserted daily, that keypunching is not routinely verified or validated; as a result errors naturally occur. Omissions of critical dates and events too often makes it difficult to reconstruct accurately the subsequent criminal career; the most damaging type of omission, of course, is the failure of some agency to report an arrest or conviction so that a recidivist is actually classified as a success. The extent of such omissions is, of course, impossible to determine.

The project did afford a valuable opportunity to compare a number of different operational definitions of recidivism based on a common information source and sample. Recidivism Rate, which prior to the study had been considered one of the most sophisticated and promising measures proved to be

virtually useless, whereas Rater's Judgement, which had been included primarily because it represented a "different" approach, turned out to be one of the best measures.

The biggest difficulty with the operational definitions that were contrasted in the present report was that they had all been devised for samples with higher recidivism rates than those found at the FCI. Percent Time Reconfined, the Ordinal Definition, Recidivism Rate and the like were all designed to improve on the traditional dichotomous definitions by providing gradations of seriousness among the recidivists. That would have been fine if recidivism rates had been 60% to 80% as much of the literature had lead us to expect. However, the recidivism rates, as recorded in the NCIC files, were considerably lower, so that 50% to 75% of the sample had identical scores of zero. From a research standpoint this was unfortunate because the distributions were highly skewed and leptokurtic, thus truncating the Pearsonian and multiple correlations that were obtainable. Thus, the efforts at providing gradations were focused on the wrong end of the distribution...on the recidivists rather than on the successes.

One way to alleviate this problem in future analyses is to devise definitions which provide gradations of success rather than just gradations of failure. The relative success of RJ probably stemmed in part from the rater discriminating among nonrecidivists who had been out for different lengths of time. Techniques that can be tried are failure rate analysis, giving more "points" for people out longer periods of time without an arrest, or giving greater weight to successes among those inmates who were more serious or chronic offenders.

Until such differentiations can be made among the large pool of "successes" in the present sample, the search for factors that differentiate

successful from unsuccessful releases will probably be more successful if correlational appraoches such as those used in the present set of analyses are abandoned in favor of multiple discriminant analyses. The next set of analyses that will be undertaken using the present data will employ this approach and will be the subject of a future report.

Turning to the correlational analyses of the data in Phases I through V, some scientists might object that the reason so few variables were found to be significantly related to the criteria in both the original and crossvalidational samples might simply stem from the fact that the investigator set an unreasonably high standard for statistical significance, i.e. requiring that a variable equal or exceed the .01 level in both the original and crossvalidational samples. Obviously, lowering the significance level to .05 would have led to many more variables being regarded as "significant," and it is possible that in our efforts to avoid Type 1 errors we needlessly increased the rate of Type 2 (Beta) errors. Be that as it may, the choice of significance level cannot alter the fact that the actual correlations that were obtained were extremely low, rarely exceeding .20. Correlations of .20, whether they are "significant" or not, are simply too low to serve any practical purpose.

The overall homogeneity of the samples is another factor that may have mitigated the magnitude of the obtained correlations. The restriction in the range of offenses and ages that stemmed from the use of a Federal institution for youthful offenders might have diminished the heterogeneity of the sample and, thereby, the magnitude of the correlations. Perhaps the obtained equations might be more useful in a setting with a higher recidivism rate. In any case, parole board members are expected to make discriminations within this population and do so regularly. If valid discriminations are not possible within this cohort, then the ability of the paroling authorities to make meaningful judgements must

necessarily be questioned.

Recidivism is, of course, an extremely complex criterion. The first set of regression analyses reported in the present report was restricted to single phases and to homogeneous data sets with each phase, such as the Presentence Investigation, the Intake Interview, the Intake MMPI and the like. Although each of these instruments is factorially complex, it is to be expected that the use of more heterogeneous sets of predictors should improve the predictability of the criteria. In the next set of analyses, different sets of variables within phases and across phases will be used in an effort to sample more fully the factors represented within the criteria of recidivism.

Until these multiple discriminant analyses using heterogeneous data sets are carried out, it would be premature to conclude that recidivism is unpredictable in this population, or in similar populations with low recidivism rates. However, if the further analyses which are now being undertaken prove to be no better than those in this report, the findings would have implications for the current debate over indeterminant sentences and parole.

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