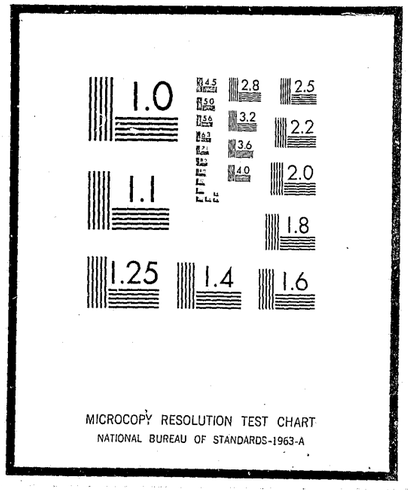

WHO WILL RETURN?

Social and Legal Correlates of Juvenile Recidivism*

by

Charles W. Thomas
Metropolitan Criminal Justice Center
College of William and Mary
&
Department of Sociology
Bowling Green State University

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The Metropolitan Criminal Justice Center of the College of William and Mary was established in September of 1971 as an organization within which a variety of basic and applied research projects of relevance to those with interests in the fields of criminology, corrections, law, and sociology. The primary source of funding for these projects has been the Law Enforcement Assistance Administration and its research-oriented branch, the National Institute of Law Enforcement and Criminal Justice.

This report is one of a series that have been completed under the auspices of a grant from the National Institute of Law Enforcement and Criminal Justice, #75-NI-99-0031. The purpose of the project, which is entitled "The Impact of the Legal Process and Formal Legal Sanctions on Juvenile Delinquents," is to obtain longitudinal data on a large sample of juveniles who appear before the juvenile courts of Portsmouth and Virginia Beach, Virginia and to evaluate the consequences of such appearances on the attitudes and behavior of these children. The design also calls for the collection of data on a substantial number of juveniles who have not been exposed to any official processing by social control agencies, thereby providing a control group for the project.

The scope of the research is obviously quite broad. Among the several issues to be addressed during various segments of the study are an evaluation of the empirical adequacy of selected propositions derived from labeling theory, an assessment of the deterrent effects of formal legal sanctions, an examination of correlates of judicial decision-making by juvenile court officials, ecological correlates of delinquency, and school factors related to delinquency.

The study began in November of 1974 and will continue until November of 1976. At present, the work on the project is being conducted at the College of William and Mary, but in August of this year the project will be moved to the Department of Sociology at Bowling Green State University.

Within the limits of the funds that have been provided for the study, every effort will be made to disseminate the products of our research to professionals in the fields related to our work. We hope that the periodic reports and bibliographic materials that you have been and will be receiving will prove to be of some utility to you in your own work and that you will feel free to make appropriate comments or criticisms when you have had an opportunity to review the reports that you receive.

WHO WILL RETURN?

Social and Legal Correlates of Juvenile Recidivism

Introduction

The assertions of some labeling theorists notwithstanding, the majority of individuals who appear before our juvenile and adult courts do not reappear. Predicting who will and who will not reappear, however, has proven to be an exceedingly difficult task, but recidivism is a sufficiently important issue that a continuation of research on the topic is clearly warranted. Such research, for example, can do much to stimulate the development of more sophisticated models that are capable of accounting for persistant as well as transitory involvement in criminality and delinquency. Further, the contradictory predictions of labeling theory advocates who view the imposition of formal legal sanctions as a contingency that promotes a movement toward secondary deviance[1] and proponents of social control or deterrence conceptualizations who argue that formal sanctions have a specific deterrent effect[2] can be directly addressed within the context of research on recidivism. Further still, the relevance of recidivism research to those with applied interests is obvious. Members of the judiciary, for example,

have a direct interest in such research on at least two levels. They are immediately concerned with the likelihood that an individual who appears before them will subsequently reappear. Second, they have at least an equal concern with the relative efficacy of the various dispositional alternatives that are at their disposal. Similarly, correctional practitioners whose responsibilities lie in the areas of probation, parole, or institutional care have a considerable interest in both predicting the outcome of their intervention and defining high and low risk categories of the offender population prior to determining the type of intervention, if any, which is appropriate.

In view of the theoretical and practical relevance of recidivism, the relative paucity of sound empirical research and predictive models stands as something of a paradox. Although the shortage of previous work is a limiting factor, the purpose of this report, which is one of a series coming from a larger project that is focusing on the impact of legal processing and formal legal sanctions on juvenile delinquency,[3] is to evaluate the ability of juvenile court officials to predict recidivism on the basis of information they routinely attempt to obtain on juveniles at the point of their first appearance in juvenile court.[4]

Previous Research

The preponderance of previously reported research on recidivism among juveniles has focused on official reactions to juveniles who had been released from some type of institutional

care (Mannheim and Wilkins, 1955; Arbuckle and Litwack, 1960; Laulicht, 1962, 1963; Scott, 1964; Little, 1965; Cockett, 1967; Baer, 1970; Uusitalo, 1972; Miller and Dinitz, 1973; Rosenberg, 1973; Buikhuisen and Hoekstra, 1974; Eysenck and Eysenck, 1974; Sepsi, 1974). Not unlike the more immediately relevant research on less restrictively defined populations, varying definitions of recidivism make any comparison of the findings contained in this body of literature problematic. Arbuckle and Litwack (1960: 45), for example, define the term quite restrictively as a "(p)erson on parole from a training institution who is returned to the institution for violation of parole, who is recommitted by the courts, or who appears in a higher court while on parole and subsequently is sentenced to another institution." Others develop definitions based on reconviction (Scott, 1964; Cockett, 1967; Buikhuisen and Hoekstra, 1974; Eysenck and Eysenck, 1974), frequently including a specific time interval within which reconviction must occur. Scott (1964: 527), for example, defines a recidivist as a juvenile whose record shows "(a) further finding of guilt within three years of release." Definitional issues notwithstanding, however useful this body of literature might be to those who wish to evaluate the impact of confinement or specific types of treatment modalities on juveniles who have been committed for institutional supervision, it provides little relevant information for those concerned with recidivism among youths who appear before juvenile courts.

This is not to suggest that no attention has been focused on recidivism at the level of juvenile court operations.

Particularly in recent years there appears to have been an increasing level of interest in this topic, an interest that is attested to by reports from the United States (Hutcheson, et al., 1966; Unkovic and Ducsay, 1969; Thornberry, 1971; Ferster and Courtless, 1972; Meade, 1973), England (Knight and West, 1975), and Australia (Kraus, 1970, 1973a, 1973b; Kraus and Smith, 1973). Thus, a brief review of selected studies is instructive.

Unkovic and Ducsay (1969) report the findings of a predictive attribute analysis that they conducted using a series of twelve variables abstracted from the official court records of 2,548 juveniles who appeared before the Cleveland, Ohio juvenile courts between 1956 and 1965. Six of these variables were significantly linked to recidivism: younger offenders, males, those whose offense involved a victim, blacks, Protestants, and those who committed an offense in the presence of other juveniles were most likely to become recidivists. The typological method they employed identified eighteen groups of juveniles with percentages of recidivism that ranged from a low of sixteen percent to a high of seventy-three percent.

Unfortunately, methodological shortcomings in the analysis that is reported in this study diminishes its utility. Like the preponderance of research on recidivism, including the present report, Unkovic and Ducsay were forced to rely on official records as their data source. The inherent problems presented by such records are well-known and require no detailed comment here. In addition, however, no operational definition of recidivism beyond an indication that they examined "(r)ecords

on recidivism over a ten-year period from Juvenile Court hearings" (1969: 340) is provided. Whether this refers to multiple court appearances, multiple adjudications, or a combination of appearances and adjudications cannot be determined. Even more importantly, no control is reported to adjust for variations in the amount of risk time to which each juvenile was exposed. The significance of this flaw is considerable. An eight year-old juvenile offender who came before the court in 1956 (and who continued to reside in the Cleveland area) was exposed to a full ten years of risk, but if the same child were to have appeared in 1965 he would have only confronted a maximum risk period of one year. Further, on the average, older offenders were exposed to relatively less risk than younger offenders. A seventeen year-old, for example, whose first appearance fell in any of the years sampled could be a risk for no more than one year (after which he would be treated as an adult and not included in the data source employed). Thus, the finding that younger offenders were more likely to recidivate might reflect either a tendancy for those whose initial appearance in court comes at a relatively young age or the fact that the younger elements in the sample were at risk for a longer period of time than was true for their counterparts who were relatively older at the time of their first appearance.

Many of the methodological problems that undermine the Unkovic and Ducsay research were dealt with more effectively in a recent study conducted by Meade (1973) on 439 juveniles who had been randomly selected from a universe of 8,476 cases

on whom official records were available in "a large southeastern metropolitan area" (1973: 478) during the period of of 1968 through 1970. Data were obtained on the age, sex, race, social class, family structure, type of first offense, disposition of first offense, and recidivism status of each case. The subsequent behavior of each juvenile was monitored for a period of at least eighteen months after initial appearance.[5] Recidivism was defined as a delinquent offense that resulted in the filing of an official petition. Meade found that status offenders, juveniles who were relatively older at the time of their initial court appearance, those who were school failures, and those who were subjected to a formal court appearance at the time of their first offense (that came to the attention of juvenile court officials) were more likely to recidivate (67 percent of those who had all four of these traits were recidivists as opposed to only 8 percent of those who had none of these traits). Race, sex, social class (as measured by the economic status of the census block in which the juvenile resided), and whether the juvenile's home was disrupted were not significantly linked to recidivism.

Finally, a series of studies conducted by Kraus (1970, 1973a, 1973b) and Kraus and Smith (1973) provide additional information on juvenile recidivism even though potential variations in judicial policies, statutory provisions, and offender populations must be taken into consideration in assessing the relevance of research conducted outside the United States. In 1970, for example, Kraus reported the findings of a project that focused

on recidivism among a sample of juveniles placed on probation by New South Wales juvenile courts during 1962 and 1963. Data were obtained over a five-year period on the offense records of seven separate offense groupings, each of which included fifty juveniles, subsequent to their placement on probation. Some of those in the sample had prior offense records at the beginning of the study; some did not. Three separate indicators of recidivism were employed: the occurrence of a new offense, the rate of offenses committed during the follow-up period, and imprisonment for a new offense after being assigned to probation supervision. The primary object of the analysis that was presented was the determination of the impact of probation supervision on recidivism. Kraus' findings reveal no association between duration of supervision and recidivism nor between age at first offense, age at time of placement on probation, or rural versus urban residence and recidivism. A significant linkage was found between prior criminal record and recidivism. Further, when recidivism rates between the seven offense groupings were compared the differences were significant (a group comparable to status offenders had the highest probability of recidivating; sex offenders were least likely to recidivate). Later, Kraus and Smith (1973) examined the effect of family structure on recidivism among a sample of 1,130 males who appeared before the Sidney Children's Court during 1970. That analysis revealed recidivism to be most likely to occur in "father only" homes and that "mother only" homes were more likely to contain recidivists than homes in

which two parents were present.

These and other relevant studies provide us with inconsistent leads as to how recidivism can best be predicted. Thornberry (1971), for example, found that race and socioeconomic status were predictors of recidivism; Unkovic and Ducsay (1969) suggest that race is a predictor, but that socioeconomic status is not; Meade (1973) found that neither race nor socioeconomic status predict recidivism. Similarly, sex of the offender was a viable predictor for Unkovic and Ducsay, but not for Meade; Knight and West (1975) found no relationship between personality measures and recidivism, but Hutcheson (1973) found that subjective psychiatric judgements were the only sound predictors; Knight and West found more serious subsequent offenses among those who reported having committed a delinquent act by themselves, but Unkovic and Ducsay found that the opposite held among those in their sample. As so it goes. Virtually no variables, with the possible exception of offense type and prior offense record, show a consistent association with recidivism.

In the face of both this inconsistency and the absence of even the most rudimentary theoretical models, researchers are necessarily left in a position that requires them to reduce as many of the methodological problems as they can while conducting analysis that can only be described as highly atheoretical and exploratory. That is exactly the approach taken in this study. The research hypotheses are necessarily tentative because of the contradictory leads that can be derived from

the previously reported literature, but there appears to be direct or indirect support for the following expectations:

(1) With regard to the social and demographic characteristics of juvenile offenders, those who are younger at the time of their first court appearance, males, and blacks will be more likely to recidivate than their counterparts;

(2) With regard to the social circumstances of juvenile offenders, those from lower socioeconomic strata and disrupted homes will be more likely to recidivate than those who lack these characteristics;

(3) With regard to the social adjustment and behavioral characteristics of juvenile offenders, those who are not in school, who present behavioral problems if they are in school, and who have not actively involved in religious activities will be more likely to recidivate than others in the offender population; and

(4) With regard to legal and quasi-legal variables, those who committed a solitary rather than a group-related delinquent act, who committed a status offense, and who received a relatively harsh dispostion at the time of their initial court appearance will be more likely to recidivate than others in the sample.

Numerous other hypotheses could be advanced, of course, but only those expectations that could be evaluated with the data presently available are presented.

Research Methodology

The data employed in the analysis which follows were obtained from a sub-sample of cases that had been abstracted from the official court records of two urban juvenile court jurisdictions that are located within a single Standard Metropolitan Statistical Area in the southeast: Portsmouth and Virginia Beach, Virginia. The original sample consists of randomly selected records on juveniles who appeared before these courts between January 1, 1970 and December 31, 1974. Every fourth case to appear before the Virginia Beach court on the basis of a petition which alleged delinquent behavior was selected; every third case was chosen in Portsmouth because of the relatively lower number of cases processed in that jurisdiction during the time period under examination. This set of data, however, included information on juveniles who: (1) were not residents of the jurisdiction in which their case(s) appeared; (2) had first appearances prior to 1970; (3) appeared at an initial and/or adjudicatory hearing, but not a dispositional hearing; and (4) received a disposition, primarily commitment to institutional supervision, that made a precise measurement of the time period during which they could have recidivated impossible. Thus, it was necessary to restrict this analysis of recidivism to the data obtained on 1,702 juveniles who were residents of the area, whose first appearance in court took place during the sampling period, whose cases were officially disposed of, and for whom exact risk time could be quantified. The manner in which the major

variables were operationalized is described below.

Although all data were coded in the manner that they appeared on the court records, a good deal of categorization of the raw data had to be accomplished in order to perform the analysis. In order to provide a means by which the correlations reported in the analysis can be interpreted, it is necessary to specify the manner in which recoding was conducted. For the dichotomous variables of sex, race, disrupted homes, school attendance, school behavior, and group versus solitary delinquency the arbitrary weights assigned were as follows: females, blacks, those from homes in which both parents were present, those who were still attending school, those whose behavior in school was described as average to good, and those who had no co-defendents (solitary delinquent acts) were assigned values of "1;" their counterparts a value of "2." The type of offense at first court appearance variable was trichotomized into felonies, status offenses, and misdemeanors on the basis of existing Virginia statutes. Values of "1," "2," and "3" were assigned to these categories. Level of religious activity was also trichotomized: 1 = very active; 2 = moderately active; and 3 = not active. Dispositions of first offenses were classified into four categories: 1 = case dismissed or nolle processed; 2 = case continued generally; 3 = fine or restitution required; 4 = some type of supervision required other than institutionalization, primarily standard supervised probation. Socioeconomic status was divided into five ordered categories on the basis of the occupational rating scale

developed by Hollingshead (1957) with the fifth category including the lower three classifications described by Hollingshead. The lower the value of this measure, the higher the socioeconomic status. Six categories were created for age at first court appearance. The lowest value was assigned to those who were twelve years old or less at first appearance and separate ordered categories were used for those who were thirteen to seventeen years old. Recidivism was dichotomized; a value of "1" was assigned to those who had no subsequent court appearances; a "2" to those with one or more subsequent appearances. Finally, in order to control for variations in the length of time during which each juvenile could have recidivated, a risk variable was created by determining the number of months between each juvenile's first court appearance and the end of the sampling period and the number of months between age at first appearance and eighteenth birthday. For those in the sample whose eighteenth birthday occurred prior to the end of the sampling period, months of risk was set equal to the latter computation; for all others the former number of months was employed. This risk months distribution was then dichotomized at its median: eighteen months. Those with less than the median number of months at risk were assigned a risk variable value of "1" and all others a value of "2."

Analysis and Findings

The purpose of the analysis is to address a series of related issues that are associated with the general problem of

recidivism. The initial and most basic problem is to determine which variables that reflect the four categories of hypothetically relevant influences facilitate the prediction of recidivism. Assuming that these predictor variables can be identified, it is essential that we introduce a control for the potentially biasing effect of varying periods during which individual juveniles could have recidivated. Indeed, simple logic as well as prior research on both juveniles and adults would imply that the longer an individual's behavior is monitored the higher the probability that he will become defined as a recidivist. More importantly, however, it is necessary to determine whether generally useful predictors of recidivism take on more or less important roles when the length of risk time is held constant. These two basic analytical tasks having been completed, attention will then be focused on the extent to which significant predictors of recidivism can be usefully merged into a single variable that is capable of identifying categories of juveniles who are most and least likely to recidivate. Finally, the analysis will conclude with an assessment of the relative importance of each predictor variable.

Before turning attention toward these more complex undertakings, a brief overview of the basic findings of our analysis is appropriate in order to communicate something about the type and magnitude of the recidivism problem that confronts the two court jurisdictions within which data were obtained. Specifically, 28.7 percent of those in our sample of juveniles whose first court appearance took place between 1970 and 1974

also reappeared at one or more points during that time period. Thus, almost one out of every three juveniles who appeared once during the five-year period recidivated during that same period. As expected, the overall probability of reappearance was strongly influenced by the duration of the risk period that each juvenile confronted (Yule's Q = .412). The median number of months between first appearance and either the juvenile's eighteenth birthday or the end of the sampling period (the smaller of the two was used as our measure of time at risk) was eighteen months. The probability of recidivism among those with less than the median number of months at risk was lower than the overall rate of 28.7 per hundred appearances (19.6 per hundred), but the rate was significantly higher for those with longer than the median period at risk (36.9) per hundred).

In interpreting these relatively high recidivism rates it is essential that the reader recall that our sampling procedures quite probably had the net effect of making our estimates of recidivism conservative. For example, relying on official court records rather than actual behavioral measures produces lower estimates of recidivism than would have been the case otherwise. Further, migration out of the jurisdiction in which the initial court appearance took place largely eliminated the possibility that any subsequent court appearances would be recorded in the data we obtained. Indeed, even among that segment of our sample who were not geographically mobile during the period under examination, subsequent court

appearances in another court in the several nearby court jurisdictions would not normally be noted in the records of the initial court. On the other hand, other aspects of our sample design introduced a reverse influence. Juveniles who were not residents of the jurisdiction in which the initial appearance occurred, for example, were excluded from our analysis. In addition, juveniles who were committed for institutional supervision who were residents were also excluded. Finally, our definition of recidivism in terms of multiple court appearances rather than multiple adjudications also tends to increase our estimates of recidivism. On balance, however, both our sample selection procedures and our definition of recidivism appear to represent as meaningful a sociological definition, though not a precise legal definition, of recidivism as could be obtained given the constraints of the data at our disposal.

A more detailed examination of our findings reveals that the probability of recidivism is related to a series of social and legal variables independent of the influence of risk time. Moreover, many of the variables which have statistically significant associations with recidivism are also related to one another. Table 1 provides a summary of the magnitude of the overall interrelationships between all variables under study; Table 2 focuses on the linkages between hypothetically meaningful predictor variables and recidivism both before and after the dichotomized time at risk variable is held constant in order to obtain conditional measures of association.

//INSERT TABLES 1 AND 2 ABOUT HERE//

As indicated in both Tables 1 and 2, the single best predictor is risk time (Yule's Q = .412). The other significant predictors, in order of their magnitude of association, are school behavior (Yule's Q = .374), presence of co-defendants at first court appearance (Yule's Q = -.335), age at first court appearance (Yule's Q = -.329), school attendance status (Yule's Q = .232), offense type on first offense (gamma = -.216), type of disposition received at initial appearance (gamma = .212), and level of religious acitivity (gamma = .210).[6] This, in turn, indicates that the rate of recidivism per hundred juveniles was highest among those with above the median number of months at risk (37.0); those with behavioral problems in school (54.0); those who had no co-defendants at their initial appearance (38.4); those who were younger at their first court appearance (the highest recidivism rate was 41.7 per hundred among those who were thirteen years old); those who had dropped out of school (52.2); those charged with a status offense (42.3); those who were placed on some form of formal supervision by the court after their initial appearance (39.3); and those who were not active religiously (49.9).[7] Thus, the preponderance of the exploratory hypotheses advanced earlier are supported by this segment of the analysis.

Despite this level of support for the hypothesized linkages, four of the variables that were expected to predict recidivism, and that have done so in some previous studies, have

low and statistically non-significant associations with the recidivism variable: race, sex, family situation, and socioeconomic status. Race does approach the pre-set .05 significance level, but the level of the association (Yule's Q = -.094) is obviously weak and the difference between the recidivism rate of black juveniles (31.2) is only slightly greater than that for whites (27.3). Similarly, the variation in rates between males (29.6) and females (26.4) is not great nor is that noted between those from intact homes (37.6) and those from disrupted homes (40.4). Perhaps the most surprising non-significant association is that noted between socioeconomic status and recidivism, but the data failed to reveal any significant differences in rates of recidivism unless the rate among those from the highest socioeconomic category (29.0) is compared with that of the lowest of the five categories (35.3).

Shifting attention from the uncontrolled analysis to the conditional associations that were calculated after time at risk was held constant, some interesting changes, as anticipated, can be noted. First of all, as one would expect because of the significantly higher rates of recidivism noted previously among those with above and below median risk times, the recidivism rates among each grouping with a longer risk period is higher than that for the same grouping that was exposed to a shorter risk period. Thus, for example, although the level of association between the co-defendant variable and recidivism is roughly the same (Yule's Q = -.337 for the low risk group; -.320 for those in the high risk category), the rate of

recidivism among those in the low risk group who had no co-defendants (30.5) is a good deal lower than that noted for the same group who had a longer risk period (48.2). Indeed, to pursue this example just one step further, the recidivism rate among the high risk cohort who did have co-defendants (32.5) is slightly higher than that found for the low risk group who did not have co-defendants (30.5).

Equally if not more important, however, is the finding that variables which serve as significant overall predictors of recidivism are not necessarily equally good or even significant predictors when risk period is held constant. As can be seen in Table 2, these differences are more apparent under the high risk condition than under low risk. First, under the low risk condition, every predictor variable that was significantly associated with recidivism under the uncontrolled condition remains significant. Moreover, in five of the seven cases involving significant initial associations, the magnitude of the conditional association actually increased. Second, under the high risk condition, the religious activity variable became insignificantly associated with recidivism, the magnitude of the association with age was considerably reduced (from -.392 to -.193), and, overall, in five of the seven comparisons the conditional associations are of less magnitude than the initial associations. Thus, it would appear that the quality of the predictions of recidivism that can be obtained by taking each individual predictor variable into consideration are reduced as the period of risk increases and as the influences

of unmeasured variables are felt.

Until this point in the analysis attention has been focused on which variables under examination facilitated the prediction of recidivism and the extent to which the quality of predictions obtained varied when the influence of risk time was held constant. This initial series of questions having been addressed, the next major task is to determine whether the several predictor variables that were significantly linked to recidivism can be combined into a single predictor variable that is capable of accounting for a significant proportion of the variation in recidivism even when the obviously important risk time variable is held constant. There are several ways to approach this task, perhaps the most frequent way in recent studies being predictive attribute analysis. Predictive attribute analysis suffers from at least two shortcomings, however, even when the size of the sample being analyzed is large. First, in its most typical form all variables must be dichotomized. This wastes information provided by measurements at above the level of nominal scales and ignores non-linear trends that might be revealed by such alternative methods as more sophisticated regression models. Second, as anyone who has ever had the misfortune to rely on official records data can quickly attest to, those assigned the task of collecting records data are not among the most meticulous people in the world nor are they invariably sensitive to the needs of behavioral science researchers. Thus, missing data is often the rule rather than the exception. This, in turn, creates

serious problems in the application of the predictive attribute analysis technique.

The virtues and liabilities of alternative methods of analysis notwithstanding, several problems, particularly that presented by a high proportion of missing data on several of the predictor variables for which data is not systematically obtained unless a background investigation is ordered by the court, demanded that some option to more standard methods be employed in this study. The desired measure was computed in the following manner. First, the initial levels of association between the predictor variables and recidivism were examined. Those with insignificant associations with recidivism were excluded from consideration. Second, each of the relevant contingency tables were examined in order to obtain three types of information: the simple probability of recidivism, the conditional probability of recidivism for each category of the predictor variable, and the conditional probability of recidivism for those cases for whom data on the predictor variable was missing. A weight was then computed by calculating a ratio in which the conditional probability was the numerator and the simple probability was the denominator. Thus, a weight of "1" indicated that the probability that an individual who had a particular attribute would recidivate was neither higher nor lower than chance; a weight of less than unity indicated that the presence of the trait depressed the probability of recidivism to a level lower than chance; and a weight of greater than unity indicated a probability of

recidivism greater than chance.[8] Once the appropriate weights for each category of each variable were computed in this fashion, each juvenile was assigned a recidivism prediction score that was equal to the summation of the weights calculated for each of the predictor variables. The lower the value of the prediction measure the lower the predicted rate of recidivism. The range of the values obtained on this composite variable was from 3.63 to 15.36; the median of the distribution was 9.36. The distribution on the prediction scores was then divided into five categories, each of which included roughly twenty percent of the cases, and correlated with recidivism.

//INSERT TABLE 3 ABOUT HERE//

As can readily be seen from the information presented in Table 3, the composite variable is strongly associated with recidivism (gamma = .551). Recall that the probability of recidivism in the total sample was 28.7 per hundred cases. Those with the lowest prediction scores show a considerably lower recidivism rate (only 7.5 per hundred) and those in the highest risk category show a much greater probability of recidivism (53.1 per hundred appearances). Thus, the composite variable appears to categorize those in our sample quite efficiently. Still, because of the previously demonstrated significance of the amount of time that the juveniles were at risk, it is important to control for this potential bias. When time at risk is held constant, however, the magnitude of the association

between recidivism prediction scores and actual recidivism remains strong under both conditions of high risk (gamma = .548) and low risk (gamma = .509).

At this point the analysis has shown that many of the hypothetical correlates of recidivism are, in fact, significant predictors of reappearance, that the insertion of time at risk as a control variable alters the quality of the predictions obtained, and that it is both possible and useful to merge the significant predictors of recidivism into a single composite measure that has been termed a recidivism prediction score. The only remaining analytical task is an exploration of the relative importance of the predictor variables. In order to do so a series of stepwise multiple regression equations were computed: one for an assessment of the importance of each predictor variable when time at risk was not held constant; one for each category of the dichotomized risk time variable. The magnitude of the standardized regression coefficients was employed as an estimate of the relative importance of the predictor variables. In each case the values of the predictor variables were set equal to the ratios of simple to conditional probabilities used to construct the recidivism prediction scores.

//INSERT TABLE 5 ABOUT HERE//

As is illustrated by the material presented in Table 5, and as our earlier discussion implied, race, sex, and

socioeconomic status have a generally insignificant influence on recidivism. To a somewhat lesser extent, the same can be said with regard to the importance of family situation, the presence or absence of co-defendants, and the type of disposition received. The most consistently influential variables appear to be offense type, level of religious activity, age at first offense, and school attendance. Two basic qualifications should, however, be noted. First, the stepwise procedure represents a technique for arriving at a least squares solution by taking the best predictor variable into the equation first, then the next best predictor variable as measured by the variable that has the greatest impact <u>after</u> the initial variable has accounted for some proportion of the variance in the dependent variable, and so on. An alternative method which altered the order of inclusion of predictor variables <u>would not</u> change the magnitude of the multiple correlation coefficient, but <u>would</u> change the size of the standardized regression coefficients. Second, even though the presence of a dichotomized dependent variable suggests that the level of multiple correlation will be somewhat lower than what might be expected were this not the case, the multiple correlation coefficients obtained in this segment of the analysis are only moderate (the overall multiple correlation was .428; in the low risk situation the coefficient reduces to .381; in the high risk situation it is .429).

Summary and Conclusions

The purpose of the analysis presented in this paper has been to assess the extent to which data that is frequently maintained in official juvenile court records can be employed to predict recidivism. Toward that end, attention has been focused on data derived from the official records of a sample of 1,702 juveniles who appeared before two juvenile court jurisdictions one or more times during the period between January 1, 1970 and December 31, 1974.

Several of the findings noted in the analysis merit special mention here. First, it is clear that the amount of time during which a juvenile is eligible to be returned to the juvenile court exerts a very significant influence both because it clearly alters the probability that recidivism will occur and, more significantly, because it alters the relative importance of variables that have traditionally been employed as predictors of recidivism. For example, the regression analysis shows that school attendance is the most important predictor variable when the analysis focuses only on that segment of the sample that had an above the median time at risk (beta = .146), but the same variable is not nearly so important when those with less than the median risk period are examined (beta = .087). Second, despite the frequent relevance of such social characteristics as race, sex, and socioeconomic status in much of the criminological research, these variables appear to play a very insignificant role in the determination of recidivism. The only immediate interpretation

of this finding is that the screening process that is obviously manifested in, for example, the decision to arrest and the decision to file a formal petition is sufficiently selective that the importance of such variables is minimized when attention is directed toward the selective group of juveniles whose alleged misconduct results in a formal court appearance.

Finally, and unfortunately, the moderate magnitude of the multiple correlations reported in the analysis rather clearly underscores the fact that general social background and offense characteristics provide a highly imperfect means of predicting who will and will not return to the juvenile court because of additional delinquent involvement. This, in turn, brings the need for longitudinal studies that measure the impact of influences were not made a matter of official record, particularly those whose affect is not manifest until after the initial court appearance, into sharp relief. As noted previously, this is one of the major goals of the larger project for which the data reported in this paper were collected. Hopefully the analysis of data presently being collected will allow the resolution of some of the questions that are beyond the limits of the data now available. Regardless, it is essential that subsequent studies of recidivism move toward the establishment of conceptual models and the collection of data that will facilitate reductions in the rather substantial proportions of unexplained variation in recidivism described in both this and previous analyses.

FOOTNOTES

1. Edwin Lemert, Thomas Scheff, and a variety of other contemporary advocates of the labeling perspective have suggested that the imposition of sanctions, particularly formal legal sanctions, encourage the development of career deviance. The point is made most explicitly, however, by the following quote from the discussion provided by Frank Tannenbaum in his now-classic Crime and the Community (1938) that is cited in a recent examination of labeling theory by Hawkins and Tiedeman (1975: 44):

> The process of making the criminal, therefore, is a process of tagging, defining, identifying, segregating, describing, emphasizing, making conscious and self-conscious; it becomes a way of stimulating, suggesting, emphasizing, and evoking the very traits complained of.. .The person becomes the thing he is described as being. (Emphasis added.)

2. Regardless of whether the origins of contemporary deterrence models are linked to the works of the classical school of criminology, reinforcement learning theory, the rationalistic assumptions of many economic models, or sociological examinations of social control, such models are in many ways a direct contradiction of the most basic assertions of the labeling approach. For a lengthy and current bibliography of theoretical and empirical research on deterrence, see Thomas and Williams (1974).

3. Of the several recent research reports that have been prepared as part of this larger study, the most immediately relevant are those by Thomas and Cage (1975) and Thomas, Kreps, and Cage (1975).

4. It should be carefully noted that some types of information are most frequently obtained when the juvenile has a prior offense record or when the alleged offense is serious. For example, the two jurisdictions within which the data for this study were collected often failed to gather information on such variables as school attendance, social adjustment in school, home situation, and socioeconomic status when the first offense was not particularly serious. Thus, the mere presence of these types of data in the official records suggests that the case was defined as relatively serious.

5. This monitoring procedure significantly reduces the risk time bias noted in the work of Unkovic and Ducsay by specifying a minimum risk period, but the minimum period appears rather short. Moreover, no controls were reported to adjust for the fact that some elements in the sample were presumably at risk for a period in excess of eighteen months. Still, because Meade employed the same basic definition of recidivism as is used in this study, his research provides a direct point of comparison between earlier research and the present analysis.

6. Yule's Q is a measure of the degree of association that exists between two dichotomized variables; gamma is essentially an extension of Q to the somewhat more complex problems involved in gauging the association between ordered variables when one or both variables is a polytomy. Both may be interpreted as the proportion of improvement in predictions that is obtained beyond chance when the ordering of pairs of observations are taken into consideration.

7. The fact that there is a relationship between offense type, offense record, and type of information that is made a matter of official record has already been noted. That bias becomes obvious when these rates of recidivism are examined. For example, information on school attendance is most frequently obtained when the court orders a background investigation on a juvenile whose offense and/or offense record are defined as relatively serious. Thus, the rate of recidivism is greater than the overall rate in the entire sample for both those who are in school (40.5) and those who are not (52.2). An adjustment for the bias created by the missing data is described later in the text of the paper. The point that should be noted here is that many common methods of estimating values for missing data (e.g., using the mean or median of the distribution observed for the valid cases as an "unbiased estimate" of what the value of missing cases would have most probably been) are totally inappropriate when systematic biases of this type contribute substantially to the volume of missing data.

8. The manner in which these computations were calculated on the school attendance variable provides a clear illustration of both the weighting procedure and the need for determining an unbiased estimate for missing data. An examination of the appropriate contingency table shows that 45.9 percent of the sample (N = 782) were in school, 9.2 percent were not in school (N = 157), and no data on the school status on the remaining 44.8 percent were recorded (N = 763). The recidivism rates on these three groups is 40.5, 52.2, and 11.7. The rate of recidivism for the entire sample is 28.7. This illustrates the point that the mere presence of this particular bit of information is significant: those for whom no data was recorded are significantly less likely to recidivate. The weights for the recidivism prediction score were then computed by dividing each of these three conditional probabilities by the simple probability of recidivism (28.7). Thus, those in school were assigned a weight of 1.411; those who had dropped out of school a weight of 1.819; and those for whom no school attendance was recorded a weight of .408.

TABLE 1

INTERCORRELATION MATRIX

	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}
X_1	1.000	.121	-.035	-.528	.003	.054	-.092	-.142	-.727	.176	.359	-.084	-.094
X_2		1.000	.394	-.157	-.078	.061	-.103	.220	-.106	.066	-.083	.004	.078
X_3			1.000	-.075	-.233	-.128	-.173	.041	.151	-.040	-.128	-.091	-.335
X_4				1.000	.154	.116	.062	.094	.279	-.148	.104	-.080	.059
X_5					1.000	.701	-.131	-.024	.164	-.065	.307	-.115	.374
X_6						1.000	-.024	-.070	.168	.436	.421	-.187	.232
X_7							1.000	-.144	.062	.121	-.109	-.102	-.216
X_8								1.000	-.024	-.115	-.064	.032	.212
X_9									1.000	-.026	-.044	.145	.029
X_{10}										1.000	.099	-.537	-.329
X_{11}											1.000	-.004	.210
X_{12}												1.000	.412
X_{13}													1.000

X_1 = race

X_2 = sex

X_3 = co-defendants

X_4 = family situation

X_5 = school behavior

X_6 = school attendance

X_7 = type of first offense

X_8 = dispostion first offense

X_9 = socioeconomic status

X_{10} = age at first offense

X_{11} = religious activity

X_{12} = time at risk

X_{13} = recidivism

TABLE 2

RELATIONSHIPS BETWEEN PREDICTOR VARIABLES AND RECIDIVISM

	Variable Categories											
	Social/Demographic			Social Context		Adjustment/Behavior			Legal Influences			Risk
	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}
Overall	-.392	-.094[1]	.078[1]	.028[1]	.059[1]	.232[1]	.374	.210	-.335	-.216	.212	.412
High Risk	-.193	-.167	.132[1]	.089[1]	.118[1]	.287	.393	.149[1]	-.320	-.174	.149	N/A
Low Risk	-.358	.070[1]	.003[1]	-.160[1]	.021[1]	.280	.326	.330	-.337	-.249	.312	N/A

[1] Indicates relationships not significant at or less than the .05 level.

X_1 = age

X_2 = race

X_3 = sex

X_4 = socioeconomic status

X_5 = home

X_6 = school attendance

X_7 = school social

X_8 = religious activity

X_9 = co-defendants

X_{10} = offense

X_{11} = disposition

X_{12} = risk

TABLE 3

RECIDIVISM BY RECIDIVISM RISK

		Recidivism Risk					
		low				high	
Recidivism	No	92.5 (320)	84.1 (284)	72.5 (232)	61.4 (213)	46.9 (164)	
	Yes	7.5 (26)	15.9 (54)	27.5 (88)	38.6 (134)	53.1 (186)	
	Totals:	100.0 (346)	100.0 (339)	100.0 (320)	100.0 (347)	100.0 (350)	N = 1,702

gamma = .551, X^2 = 226.57, df = 4, α = .002

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