

FINAL Progress Report 127097

FINAL REPORT

"CRIMINAL CAREERS AND CRIME CONTROL:
A MATCHED-SAMPLE LONGITUDINAL RESEARCH DESIGN, PHASE I"
(87-IJ-CX-0022)

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I. PROJECT ACTIVITIES:

The project activities described in this final report relate to the first phase of the project (1/1/88 - 12/31/89). As stated in the original grant proposal, the major goal of this two phase study was to code, recode, computerize, and reanalyze the raw data from Sheldon and Eleanor Gluecks' three-wave, matched-sample, prospective study of juvenile and adult criminal behavior that originated with Unraveling Juvenile Delinquency (1950). The Gluecks' longitudinal research design contained a sample of 500 urban male delinquents age 11 to 17 and 500 urban male nondelinquents age 11 to 17 matched case by case by age, race/ethnicity, IQ, and neighborhood socioeconomic status. Over a 25 year period the Gluecks' research team collected information for these 1,000 men with respect to key social, psychological, and biological factors; changes in salient life events; patterns of criminal careers as measured by both official records and personal interviews, and official criminal justice interventions (e.g., arrest, incarceration). The subjects were originally interviewed as juveniles (average age 14), at age 25, and at age 32. Upon their retirement from the Harvard Law School the Gluecks gave their original data files to the Harvard Law School Library. As of October 31, 1986, the Henry A. Murray Research Center of Radcliffe College has acquired on a long-term loan basis the Unraveling Juvenile Delinquency data plus all of the subsequent follow-up data relating to the original 1,000 cases.

The first phase of this research project is devoted to coding, recoding, and computerizing the detailed criminal histories of the 500 original delinquents in the Gluecks' study. From these data, the four fundamental parameters of the criminal career -- participation, frequency, seriousness, and career length -- will be assessed. In addition to coding and recoding the Glueck data for use with modern computers, the project devoted special attention to the construction and validation of measures found in the Gluecks' raw data files. This final report highlights the coding and validation procedures, the data set created, and the resulting publications and presentations.

(a) Dichotomous Variable Tape

Prior to the current project, the authors obtained a subset of the original cross-sectional data from the UJD study already computerized. This sub-file contains 110 variables for both delinquents and nondelinquents between the ages of 11 and 17. The variables were coded by the Gluecks and are all dichotomized. Despite this limitation, the authors successfully utilized the data to examine a series of issues relating to family life and delinquency (see Laub and Sampson, 1988, Attachment A).

Our analysis of the dichotomous variable file was important in two ways. First, the data we generated were totally consistent with published tables in UJD and this extremely high level of agreement increased our confidence in the quality of the preserved files and the overall feasibility of our project. Second, our substantive analysis revealed the importance of key family variables like supervision, attachment, and disciplinary practices in understanding delinquency and the fact that our findings are supported by contemporary research (see references in Laub and Sampson, 1988) added to our confidence in the quality of the Glueck data.

(b) Preliminary Analysis of the Gluecks' Coded Criminal History Data

Early in the Phase I project, we discovered several boxes of computer cards derived from the Gluecks' UJD study plus subsequent follow-up studies. In light of the enormous amount of coding we faced, we decided to first construct a data set of the criminal histories of the Glueck men using the Gluecks' original computer cards. Although the cards were very old and contained multiple punches in a majority of columns (most modern card readers cannot read multiple punched cards successfully), we decided to take the time to see whether the cards could assist us in building a computerized data set. We also spent a considerable amount of time validating the Gluecks' coded data. Our validation scheme contained a number of steps. First, we checked (whenever possible) frequencies for the coded variables to frequencies in the published sources of data. Second, we compared the frequency distributions for each variable (column by column) found on the cards to the original IBM sheets found in the Glueck papers in the Harvard Law School Library. Third, we generated a 10 percent random sample of cases and compared the punched data for each variable to the values found in the raw data files stored at the Murray Research Center. We completed this validation procedure for the delinquent group and found an extremely high level of agreement between the raw data and the coded data (generally 99 percent or higher for the variables examined). Overall, from a technical standpoint, the criminal history data coded by the Gluecks' for the delinquent sample appear valid.

In addition to our technical validation scheme, we examined

the substantive validity of the Gluecks' coded data. Unknown to most criminologists, the Gluecks collected reports of delinquent behavior and other misconduct for juveniles in the sample from parents, teachers, and the sample respondents themselves. The importance of collecting data on crime and other measures of anti-social behavior from a number of different reporters has been pointed out by several researchers. The items collected range from fairly serious offenses like auto theft and arson to less serious (although important) misconduct such as smoking, late hours, and the like (see Laub, Sampson, and Kiger, 1990, Attachment B). We created various scales containing items that were collected across all three groups of reporters. This allowed us to examine the degree of overlap among the reporters and address the issue of concurrent validity. Overall, the degree of overlap is substantial and in the expected direction. For instance, there is a higher degree of overlap among the reports by juveniles, parents, and teachers for an offense like truancy than is found for an offense like vandalism. The correlations are quite high indicating a substantial degree of overlap between the unofficial crime specific measures and the total unofficial composite measure as well as the unofficial and official measures generally. Moreover, our total self, parent, and teacher measures correlate well with each other. Finally, we explored how well these unofficial measures collected at Time 1 predicted official criminal behavior at Time 2 and Time 3. Overall, the Gluecks' self, parent, and teacher-reported data display predictive validity up to age 32 (see Laub, Sampson, and Kiger, 1990, Attachment B).

The Gluecks' coded data can be used in a preliminary way to describe several parameters of the criminal career, namely, rates of participation, age of onset, crude individual arrest frequencies, breadth of involvement, and rates of dropping out. However, as pointed out below, the Gluecks' coding scheme with respect to the criminal histories of the Glueck men contains several limitations. Our examination of the Gluecks' coded data can be found in Attachment C. One of the issues in the criminal career literature is the definition of an active offender. According to the National Academy of Sciences Panel on Research on Criminal Careers, active offenders are those offenders who commit at least one crime during some observation period. Within our analysis, we defined active offenders in four different ways:

1. Any arrest during Wave 2 and Wave 3. N=248
2. Any felony arrest during Wave 2 and Wave 3. N=140
3. Any burglary arrest during Wave 1, 2, and 3. N=47
4. Any robbery arrest during Wave 2 and Wave 3. N=26

Our analysis revealed that rates of participation and individual rates of frequency of offending varied considerably by crime type and age. Moreover, these rates varied even more depending upon the definition used of active offender. Moreover, the breadth of involvement defined as the sum of the number of distinct offenses

declined with age, but less so for active offenders. Finally, with regard to age of onset, our analysis showed that age of onset of misbehavior was as important as age of onset of first arrest in predicting long term offending.

(c) Recoding the Gluecks' Raw Criminal Histories Data

Although the Gluecks' coded some useful data regarding the criminal histories of the men in the study, from a criminal career perspective the coded data are lacking. More precisely, the Gluecks' did not code the exact number of arrests by specific crime type across all three time periods. Moreover, the Gluecks' coded up to 13 arrests in each wave, thus artificially truncating the upper end of arrest history distribution. Furthermore, they did not code any dates of arrests or dates of dispositions (e.g., the dates of incarceration), thus no information is available on the sequence of events in the criminal history, nor is it possible to precisely estimate "time free" when calculating individual rates of offending. At the same time, there is no way to examine the effects of criminal justice sanctions because specific dispositions cannot be linked to specific arrests. The Gluecks also did not code any criminal history data for the control group and we estimate that about 100 members of the control group had some involvement in the criminal justice system after they were originally selected for the study as nondelinquents. All of this information was available in the raw data files and we have coded these data into a format that allows us to examine the criminal career parameters.

Our goal then was to code the dates of all arrests, charge(s), and the exact sequence of arrests plus the dates and types of all criminal justice interventions for each criminal event for all of the Glueck men up to the age 32. Such a scheme captures all of the richness of the Glueck data. In our coding scheme, we coded the three most serious charges for each arrest. This decision was based on a pre-test of 50 cases randomly selected cases wherein we discovered that 99 percent of the cases had three or less charges per incident. Note though when there are more than three charges per arrest event we do code the total number of charges. We also allow up to three incarcerations resulting from parole revocations without a new arrest. This decision was also based on our pre-test revealing that over 99 percent of the cases fit this scheme. Overall, we coded close to 60 different offense types and more than 20 various dispositions for the Glueck men. Moreover, the original delinquents in the Glueck study generated more than 6,500 arrests from birth to age 32. (A copy of our coding sheets and a detailed listing of our codes can be found in Attachment D).

We have begun a preliminary analysis of the newly coded criminal history data for the original delinquents in the study. We are focusing special attention on the construction of new variables relating to the parameters of the criminal career (e.g.,

frequency of offending, seriousness of offending, crime type mix, and career length). Several tables reflecting these initial analyses are provided in Attachment E. These data reveal that rates of participation and individual rates of offending frequency vary by age and type of crime. For example, participation in burglary declines with age whereas participation in robbery peaks in the age 17 to 25 category. At the same time, arrests relating to alcohol/drugs do not seem to decline as offenders age once "time free" is taken into account. Our analysis also showed a strong connection between excessive alcohol use and official criminal behavior especially predatory crimes. In addition, we found that offending in military was related to offending and deviance during the post-military period. Finally, we found that age of onset of misbehavior revealed stronger relationships to later offending than age at first arrest. However, it should be noted that these tables represent only a preliminary analysis of the newly coded data on the criminal histories of the Glueck men. For example, the data shown in Tables 4, 7, 8, and 9 are based on the average number of convictions per month free. We are currently exploring an unrestricted definition of offending using the number of arrests per month free.

As a result of our preliminary analyses on age of onset of arrest and misbehavior, we decided to spend a portion of our time during the Phase I project on coding information on early conduct disorder for the original delinquents in the Gluecks' study. In particular, we coded information relating to the type of misconduct (e.g., smoking, truancy, stealing, etc.) as well as the age of onset for each specific type of misbehavior (whenever such information was recorded by the Gluecks' research team). These data will allow us to analyze a range of issues including the relationship between early conduct disorder and later adult criminality.

II. Data Tape

We will be delivering to the National Institute of Justice a data tape containing the complete criminal histories from birth to age 32 for the original 500 delinquent males in the Glueck study. These criminal records contain the temporal sequencing of over 6,500 arrest events plus official sanctions, including actual dates of imprisonment, probation, and parole. We will also augment the delinquent group criminal histories with the criminal histories of the control group after these data are cleaned and validated.

III. INTERMEDIATE PRODUCTS:

(a) Journal Articles/Book Chapters:

John H. Laub and Robert J. Sampson. "Unraveling Families and Delinquency: A Reanalysis of the Gluecks' Data" Criminology, Vol.26, No.3, 1988, August, pp. 355-380.

John H. Laub, Robert J. Sampson, and Kenna Kiger, "Assessing the Potential of Secondary Data Analysis: A New Look at the Gluecks' Unraveling Juvenile Delinquency Data" in Measurement Issues in Criminology, Kimberly Kempf, (ed.), 1990. New York: Springer-Verlag, pp. 354-388.

(b) Presentations:

Kenna Kiger, Robert J. Sampson, and John H. Laub, "Patterns in the Careers of the Gluecks' Delinquents." A paper presented at the Annual Meeting of the American Society of Criminology, Reno, Nevada, November 12, 1989.

John H. Laub, "Reanalyzing the Glueck Data." Talk at McLean's Hospital, Waltham, MA, September 14, 1989.

John H. Laub and Robert J. Sampson, "Crime and Delinquency in the Life Course." A paper presented at the Annual Meeting of the American Sociological Association, San Francisco, CA, August 11, 1989.

John H. Laub and Robert J. Sampson, "Criminal Careers and Crime Control." National Institute of Justice Crime Control Conference, The Rand Corporation, Santa Monica, CA, July 20, 1989.

John H. Laub, "Understanding Families and Delinquency: A New Analysis of the Gluecks' Unraveling Juvenile Delinquency." Scholars Day Talk, Northeastern University, Boston, MA, March, 1989.

John H. Laub and Robert J. Sampson, "A Comparison of Official, Semi-Official, and Self-Report Measures of Delinquency in the Gluecks' Unraveling Data." A paper presented at the Annual Meeting of the American Society of Criminology in Chicago, IL, November 12, 1988.

John H. Laub, "Examining Criminal Careers: Reanalyzing the Gluecks' Unraveling Juvenile Delinquency Data," Brown Bag Lunch Series, The Henry A. Murray Research Center, Radcliffe College, Cambridge, MA, October 18, 1988.

John H. Laub, "Crime, Criminal Careers and Crime Control: Reanalyzing the Gluecks' Unraveling Juvenile Delinquency Study," Colloquium, School of Criminal Justice, Rutgers University, Newark, NJ, September 19, 1988.

John H. Laub and Robert J. Sampson, "Crime, Criminal Careers, and Crime Control Policy: Reanalyzing the Gluecks' Unraveling Juvenile Delinquency Study," National Institute of Justice Crime Control Conference, New Orleans, LA, July 18, 1988.

John H. Laub, "Crime, Criminal Careers, and Crime Control: Reanalyzing the Gluecks' Unraveling Juvenile Delinquency Study," Colloquium, Department of Criminal Justice, Indiana University, Bloomington, IN, April 18, 1988.

(c) Other:

Interviews for the Weekly Illini, the University of Illinois Daily, the University of Illinois News Bureau, the Champaign News Gazette, WILL radio statewide, the Northeastern University Edition, and the Northeastern Alumni Magazine.

IV. FUTURE PRODUCTS:

(a) Works in Progress:

Robert J. Sampson and John H. Laub. Pathways to Crime and Conformity. New York: Springer-Verlag. Book manuscript in progress.

Robert J. Sampson and John H. Laub. "Stability and Change in Crime and Deviance Over the Life Course: The Salience of Social Ties," currently in manuscript review.

ATTACHMENT A

**UNRAVELING FAMILIES AND DELINQUENCY:
A REANALYSIS OF THE GLUECKS' DATA**

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UNRAVELING FAMILIES AND DELINQUENCY: A REANALYSIS OF THE GLUECK'S DATA*

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One of the most influential studies in the history of criminological research is Sheldon and Eleanor Glueck's Unraveling Juvenile Delinquency (UJD) (1950). The research design of the UJD study was strong, but the conceptual and statistical analyses performed by the Gluecks were often lacking in both methodological and theoretical rigor. As a result, the Gluecks' study has been criticized from both a methodological and ideological perspective. This research reanalyzes the original Glueck data, with a specific focus on variables relating to family characteristics of 500 officially defined delinquents and 500 nondelinquents. Using multivariate analyses we find that mother's supervision, parental styles of discipline, and parental attachment are the most important predictors of serious and persistent delinquency. On the other hand, background factors (e.g., parental criminality and drunkenness, broken homes, crowding) have little or no direct effect on delinquency, but instead operate through the family process variables. By reanalyzing the original UJD data, this study contributes to the current literature on family life and delinquency and provides an updated assessment of the Gluecks' contributions to criminology.

For more than 40 years, Sheldon (1896-1980) and Eleanor (1898-1972) Glueck performed fundamental research in the area of crime and delinquency at Harvard University. Their primary interests were in discovering the causes of juvenile delinquency and adult criminality and in assessing the overall effectiveness of correctional treatment in restraining criminal careers. The Gluecks' projects in their day were unusually large studies and included

* This is a revised version of a paper presented at the annual meeting of the American Society of Criminology in Montreal, Quebec, November 13, 1987. The data utilized in this study are part of the Sheldon and Eleanor Glueck study materials of the Harvard Law School Library and are on long-term loan to the Henry A. Murray Research Center of Radcliffe College. This project was supported in part by grants from Northeastern University's Research and Scholarship Development Fund and the National Institute of Justice (87-IJ-CX-0022). We gratefully acknowledge the assistance of George Vaillant and Richard LaBrie in gaining access to these data.

and 15% of the delinquents and 17% of the control group resided in areas of high delinquency (50–100 per thousand; Glueck and Glueck, 1968: 3). Hence, all boys grew up in similar high-risk environments with respect to poverty and exposure to delinquency and antisocial conduct.

The delinquent and control groups were also matched case-by-case on age, IQ, and ethnicity. The average age of the delinquents was 14 years, 8 months, and of the nondelinquents, 14 years, 6 months, when the study began. As to ethnicity, one-fourth of both groups were of English background, another fourth Italian, a fifth Irish, less than a tenth old American, Slavic, or French, and the remaining were Near Eastern, Spanish, Scandinavian, German, or Jewish. Finally, as measured by the Weschler-Bellevue Test, the delinquents had an average IQ of 92 and nondelinquents, 94.

A large amount of information on social, psychological, and biological characteristics, family life, school performance, work experiences, and other life events was collected on the delinquents and controls in the period 1939–48. These data were collected through detailed investigations by the Gluecks' research team, including interviews with the subjects themselves and their families, employers, school teachers, neighbors, and criminal justice and social welfare officials. In addition, the original sample was followed up at two points in time—at age 25 and again at age 31. This latter data collection effort took place during the 1949–63 period (see Glueck and Glueck, 1968, for more details).

THE CRITICS OF THE GLUECKS

Despite their collection of a wealth of delinquency data, the Gluecks' substantive research contributions have been largely rejected in contemporary sociological theories of crime. There are several reasons for this. Perhaps most important has been the severe methodological critiques of their work (e.g., Hirschi and Selvin, 1967; Reiss, 1951). The ideological critiques have been equally powerful.

One reason the Gluecks' contributions have been rejected is their now famous fascination with biology and crime. Virtually every citation to the Gluecks in criminology texts refers to their assertion that mesomorphy is a major predictor of delinquency—a finding stemming from the cross-sectional analysis of *UJD* (see, e.g., Siegel, 1986: 150; Vold and Bernard, 1985: 61–62). There exists a long-standing aversion among sociologists to biological explanations of human behavior. With reference to the Gluecks' work, Bordua (1962: 259) has argued that "sociological criticism . . . of the Gluecks often is well taken but seems to have led to an agreement to ignore their findings. The results of *Unraveling Juvenile Delinquency* agree fairly well with those of comparable control group studies."

A major exception to this posture is the work of J. Wilson and Herrnstein

examine in a systematic manner issues relating to causal order and spuriousness (see Hirschi and Selvin, 1967; Robins and Hill, 1966). As Hirschi and Selvin (1967: 54) argued: "In their study of five hundred delinquents and five hundred nondelinquents, the Gluecks fail to distinguish consistently between factors that preceded delinquency and those that may well have resulted from either delinquent acts or institutionalization." Robins and Hill (1966) make essentially the same point. Moreover, few of the many tables presented by the Gluecks examined three variables simultaneously. Yet the issues of causal order and spuriousness can be addressed through a detailed analysis. For instance, by controlling for time spent in correctional institutions prior to measurement of characteristics, the effect of institutionalization (if any) can be empirically assessed. As Hirschi and Selvin (1967: 58) point out: "If institutionalization has an effect on certain personality or physiological characteristics of delinquents, the strength of this effect should vary with the length of time spent in the institution." The issue of spurious relationships can also be handled through data analysis guided by theory. It should be recognized that the larger issue of causal order is a constant problem in social science research, especially in cross-sectional designs. Like measurement error, however, it is a problem that can never be totally resolved and "it is . . . wrong to let some uncertainties about causal order preclude causal inferences" (Hirschi and Selvin, 1967: 69).

The Gluecks' have also been criticized with regard to the quality of their matching design, especially relating to age (see Kamin, 1986; Reiss, 1951). In contrast, as shown above, it is our contention that the overall accuracy and detail of the case-by-case matching are quite impressive. Differences across most individuals in matching variables are negligible (see Glueck and Glueck, 1950: App. B), and minor residual differences with regard to age can be assessed empirically by examining the findings after controlling for age. Other concerns bearing upon the matching design can be examined in a similar manner.

Perhaps the most damaging of the criticisms relating to the *UJD* study concern the Gluecks' attempt to predict delinquency. The Gluecks developed a prediction table based on five factors: the discipline of the boy by the father, the supervision of the boy by the mother, the affection of the father for the boy, the affection of the mother for the boy, and the cohesiveness of the family (Glueck and Glueck, 1950: 261). But while the Gluecks claimed great success with their prediction scheme, they failed to take into account the base rate of delinquency in the population of interest (see, e.g., Gottfredson, 1987). As Reiss (1951: 118) pointed out, given a sampling design that has 50% delinquents and 50% nondelinquents, these proportions must be representative of the general population in Boston or else "the tables will yield very poor prediction." Indeed, using an estimate of 10% delinquency in the general

that attach salience to these variables in fostering delinquent behavior (see, e.g., Elliott et al., 1985).

Third, the Gluecks routinely presented tests of significance in their analysis, but the meaning and appropriateness of those significance tests are not clear given that a nonprobability sample was used. Similarly, they often percentaged their tables in the wrong direction (Hirschi and Selvin, 1967). Finally, they used a percentage-point difference to assess the strength of relationships. This analysis is limited because the measure of association used is sensitive to the distribution of the independent variable (Hirschi and Selvin, 1967).

We believe that each of the criticisms raised above can be addressed through a reanalysis of the basic Glueck data. As Reiss wrote more than 30 years ago (1951: 120), the Gluecks "present a body of data . . . which can be reworked and re-evaluated. Thus the scientific study of delinquency can be advanced by the further utilization of the basic data which the Gluecks have provided." To date, no researcher has accepted Reiss's challenge, and as a result one of the largest efforts to study the causes of delinquency has not been fully taken advantage of by the criminological research community.⁶ We now turn to our attempt to replicate the major results of the Gluecks' research. Given the Gluecks' research design in the *UJD* study, we devote special attention to identifying family variables within a social control framework that distinguishes serious, persistent delinquents from nondelinquents.

THE PRESENT ANALYSIS

Recently, we obtained a subset of the original *UJD* data. These data comprise 110 variables for both delinquents and nondelinquents between the ages of 11 and 17. The variables include social, psychological, and biological measures for the total sample of 1,000 delinquents and nondelinquents. The data have been carefully checked for errors and our preliminary analyses have successfully matched the Gluecks' published tables.

These data were used by the Gluecks in *Physique and Delinquency* (1956) and *Family Environment and Delinquency* (1962). The objective in their follow-up studies of the basic *UJD* data was to assess the relative strengths of biological, specifically body type, and environmental variables, especially family characteristics, on delinquency. The criteria for inclusion in the subfile were as follows. First, "subsidiary" variables were excluded. These subsidiary variables, as defined by the Gluecks, refer to variables that further define "primary" variables. Broken home, for instance, is considered a primary variable, and further information regarding the broken home (e.g., age

6. George E. Vaillant has successfully reanalyzed data from the control group of the Glueck *UJD* study in his research on the etiology of alcoholism (see Vaillant, 1983, for more details).

What is especially impressive about the Loeber and Stouthamer-Loeber (1986) review is the general consistency of the findings across a wide range of studies.

Drawing on the family process literature, we identified a set of structural background factors that are relevant to understanding both family functioning and delinquency. Recall that age, race/ethnicity, neighborhood SES, and IQ are controlled via the matching design. Independent of these factors, the *UJD* data enable us to assess directly the relevance of the following structural variables: household crowding, family disruption, economic dependence, nativity (foreign-born), residential mobility, and mother's irregular employment. All of these are dummy variables (see Table 1) for which 1 indexes the presence of the characteristic and a 0 its absence. Specifically, household crowding is defined as more than two persons per bedroom (excluding infants); family disruption indicates the boy was reared in a home in which one or both parents were absent for reasons of death, desertion, separation, or divorce;⁷ economic dependence refers to continuous receipt of outside aid (welfare); foreign-born indexes whether one or both parents were born outside the United States; mobility indicates whether the boy's family moved eight or more times during his childhood. Finally, the Gluecks coded the boy's mother as having an irregular work habit if her employment pattern was not consistent (e.g., went from job to job; worked now and then based on a whim, etc.). Hence, both housewives and full-time workers were classified together and coded 0 (Glueck and Glueck, 1962: 217-220).

These structural background variables were measured through a combination of self-report information gathered during the home interview plus record checks of various relevant agencies. Initial estimates of mobility, for example, were collected during home-visit interviews with the parents. This information was then supplemented, as noted, by investigating the records of the schools, criminal justice agencies, child welfare agencies, and miscellaneous directories (e.g., the Boston Social Service Index). For an in-depth examination of the data collection procedures used by the Gluecks' research team, see the case of Henry W (Glueck and Glueck, 1962; App. A).

The remaining two structural background factors combine dichotomous indicators of the criminality and drunkenness of mother and father. Criminality was determined by past or current official record of arrests and/or proven juvenile delinquency or adult criminality (excluding minor auto violations and violations of license laws). Alcoholism and drunkenness (measured by parental self-reports and agency records) refer to intoxication and include

7. For the sample as a whole, 24% of the cases of family disruption involved parental death. The remainder entailed desertion, separation, or divorce (Glueck and Glueck, 1950: 122-123). Unfortunately, due to the dichotomous coding scheme, we cannot examine the effects of different types of family disruption on serious delinquency (see Rutter and Giller, 1983: 190-191).

and drunkenness influences delinquency of children through family functioning.

The five intervening family process variables are father and mother's style of discipline, parent-child and child-parent attachments, and mother's supervision. Information for these variables was gathered through interviews with parents and the delinquent or nondelinquent child in conjunction with extensive record checks of social service and criminal justice agencies. Note that the behaviors we are calling family process variables (e.g., attachment, supervision, and discipline practices) were not directly observed by the Gluecks' research team, but rather were inferred from the interview materials and the record checks mentioned above. (For more details, see Glueck and Glueck, 1950: 41-53).

The two measures labeled "Ferratic" and "Merratic" were constructed by summing three variables tapping the discipline and punishment practices of the mother and father. The first constituent variable concerns use of physical punishment by the parent and refers to rough handling, strappings, and beatings eliciting fear and resentment in the boy—not to casual or occasional slapping that was unaccompanied by rage or hostility. The second constituent variable measures threatening and/or scolding behavior by mother/father that elicited fear in the boy. The third component taps erratic and harsh discipline; that is, if the parent was harsh and unreasoning, if the parent vacillated between strictness and laxity and was not consistent in control, or if the parent was negligent or indifferent with regard to disciplining the boy (Glueck and Glueck, 1962: 220). Thus, the Ferratic and Merratic scales range from 0 to 3 and measure the degree to which parents used inconsistent disciplinary methods in conjunction with harsh, physical punishment and/or threatening or scolding behavior (see Table 1).

Mother's supervision is coded 1 if the mother provided suitable or fair supervision over the boy's activities at home or in the neighborhood. If unable to supervise the boys themselves, mothers who made arrangements for other adults to watch the boys' activities were still assigned a 1. Supervision was considered unsuitable (code = 0) if the mother left the boy on his own, without guidance, or in the care of an irresponsible person (Glueck and Glueck, 1962: 219).⁸ Parental rejection is coded a 1 if parent(s) were openly hostile to the child or did not give the child much emotional attention or bonding. Attachment to parent refers to whether the boy had a warm emotional bond to the father and/or mother as displayed in a close association with the parent and in expressions of admiration for the parent (Glueck and

8. The Gluecks did not collect any information on father's supervision of children, and thus we are limited to an examination of supervision by mothers. This narrow focus by the Gluecks reflects the era in which this study was conceived, wherein mothers assumed primary responsibility for the supervision of children.

presented by Patterson (1980, 1982). Patterson (1980: 81), for instance, describes a set of parenting skills that include

- (a) notice what the child is doing; (b) monitor it over long periods;
- (c) model social skill behavior; (d) clearly state house rules;
- (e) consistently provide sane punishments for transgressions; (f) provide reinforcement for conformity; and (g) negotiate disagreements so that conflicts and crises do not escalate.

Patterson further argues that "parents who cannot or will not employ family management skills are the prime determining variables. . . . Parents of stealers do not track; they do not punish; and they do not care" (1980: 88-89). These dimensions of family social control—discipline, supervision, and attachment—have rarely been examined simultaneously in previous research. Thus, our model will enable us to assess the relative contributions of family process variables to the explanation of delinquency (see also Cernkovich and Giordano, 1987; Johnson, 1986; Patterson and Dishion, 1985).

The model also posits that structural background factors influence delinquency largely through their effects on family process. Previous research on families and delinquency often fails to account for social structural context and how it influences family life. According to the logic of causal inference, we *expect* structural context to have weak direct effects on delinquency. In other words, the effects of family process are hypothesized to mediate structural background. Note that this specification may shed light on the controversial link between criminality of parents and delinquency of their children. Although such a relationship may appear as *prima facie* evidence for a genetic or biological link (see Rutter and Giller, 1983: 182), in our social control framework, parental deviance is hypothesized to influence son's delinquency through the disruption of family social control. More precisely, we argue that parents who commit crimes and/or drink excessively often use harsh discipline in an inconsistent manner or are "lax" in disciplining their children; their supervision is weak or nonexistent; and the parent-child/child-parent attachments are tenuous (see Hirschi, 1983: 58-60). Thus, there is no need to accommodate biological theory if the direct effect of parental criminality is null.

Our model and data further enable us to ascertain the direct and indirect effects of such key factors as family disruption, economic dependence, household crowding, residential mobility, mother's irregular employment, and nativity of parents. All of these structural background variables have been traditionally associated with delinquency (for a review, see Rutter and Giller, 1983). It is our contention that these structural factors will also affect family social control mechanisms. For instance, it is likely that residential mobility and irregular employment by mothers are related to difficulties in supervising

KEY METHODOLOGICAL CONCERNS

Before turning to the analysis, it is important to reemphasize that the criterion variable is a dichotomy that distinguishes delinquents (code = 1) from nondelinquents (code = 0) as determined by official records. The debate over the use of official records is long and contentious and has been reviewed at length elsewhere (see, e.g., Blumstein et al., 1986). But it is worth stressing a crucial factor that works to the advantage of the Glueck data. The factors controlled by design are exactly those factors that have received the most attention as being "extralegal" or discriminatory in their potential to influence *official reaction*. That is, race, age, neighborhood SES, ethnicity, and IQ have all been hypothesized by various theorists to influence probability of arrest independent of actual delinquency (see, e.g., Sampson, 1986). Since subjects are matched on these variables, however, differential arrest risk cannot be invoked to explain differences in the delinquent and nondelinquent group. Perhaps more important, as a group the delinquents committed quite serious crimes on a persistent basis, with an average of over three court *convictions* (see footnote 2). Given this level of seriousness, it is unreasonable to argue that official delinquents were differentially selected, convicted, and incarcerated based on our independent variables.

Causal ordering and reciprocal effects also do not appear to be a major problem. Recent research suggests that although school attachment and delinquency may generate feedback effects, the negative relationship between parental attachment and delinquency "comes about because of the effect of parental attachment on delinquency" (Liska and Reed, 1985: 557). It is also unlikely that serious delinquency is responsible for other family processes (e.g., supervision, discipline) that are known to be stable over long periods of time (Patterson, 1982). In this vein, much of the Gluecks' information on family process spanned several years *before* the onset of delinquency. Family discipline was determined by parental reports, psychiatric interviews, and reports from social workers who had known the family over long periods of time (Glueck and Glueck, 1950: 133). Similarly, emotional ties between parent and child were measured as far back as the boys' early life experiences (e.g., 5-8 years old).⁹ Finally, note that it is logically impossible for delinquency to have determined the structural background factors (as defined and

9. Some researchers have argued (e.g., Blumstein, et al., 1988: 66; and McCord and McCord, 1959: 96) that the *UJD* data derived from the cross-sectional study suffer from "retrospective bias" in that the interviewers employed by the Gluecks to conduct the home investigations knew whether a family included a delinquent or nondelinquent sample member. Moreover, some of the questions in the home interview schedule relied on subjective ratings by the interviewers, and in certain instances, an evaluative coding scheme was utilized. Although a double-blind approach would have been the optimal design, it is important to reiterate that the Gluecks' strategy of data collection focused on multiple sources of information that were *independently* derived. Indeed, the Gluecks' made use of detailed

Table 2. OLS Linear Regression of Family Process Variables Relating to Discipline and Supervision on Structural Background Factors, Reanalysis of *UJD* Coded Data

Background Factors	Family Process: Discipline and Supervision					
	Ferratic		Merratic		Msuperv	
	B	t-ratio	B	t-ratio	B	t-ratio
Hcrowd	.12**	3.64	.11**	3.42	.04	1.28
Fcdrun	.30**	7.59	.22**	5.51	-.16**	-4.28
Mcdrun	.03	.86	.10**	2.64	-.22**	-6.47
Famdis	-.05	-1.43	-.01	-.26	-.11**	-3.24
Ecdp	.11**	3.27	.06*	1.83	-.06*	-1.80
Memploy	-.01	-.22	.00	.12	-.11**	-3.72
Foreignb	.16**	4.89	.14**	4.22	-.05	-1.66
Mobility	.07*	1.79	.12**	3.34	-.17**	-4.94
	R ² = .17		R ² = .16		R ² = .28	

** $p < .05$

* $p < .10$

mothers disproportionately carried the burden of child care and family discipline. Similar to father's discipline, nativity (foreign born), economic dependence, crowding, and mobility increase the use of erratic and harsh discipline by the mother.

The results for mother's supervision are also supportive of a general social control framework. Again, both mother's and father's alcoholism/criminality are important—both independently reducing effective monitoring of the boy by the mother. In fact, mother's criminality/drinking has the largest overall effect on supervision. But the effect of father's drunkenness is also quite strong: it has roughly the same magnitude of effect as residential mobility.

There has been much current debate about the effect of mother's employment and family disruption on delinquency, but relatively little on how supervision might mediate these background factors (see Hoffman, 1974; Maccoby, 1958; H. Wilson, 1980). Although we cannot distinguish working mothers from housewives in the Glueck data, the pattern is nonetheless clear—irregular employment by mothers has a significant negative effect on mother's supervision. Family disruption has a similar negative effect on supervision. This is exactly the pattern supportive of the social control framework and

Table 3. OLS Linear Regression of Family Process Variables Relating to Emotional Ties on Structural Background Factors, Reanalysis of *UJD* Coded Data

Background Factors	Family Process: Emotional Ties			
	Preject		Attachp	
	B	t-ratio	B	t-ratio
Hcrowd	.03	1.02	-.00	-.05
Fcrdrunk	.15**	4.19	-.15**	-3.84
Mcrdrunk	.13**	3.73	-.07*	-1.91
Famdis	.25**	7.42	-.15**	-4.18
Ecdep	.05	1.59	-.09**	-2.65
Memploy	.03	.90	.01	.38
Foreignb	.08**	2.56	-.11**	-3.24
Mobility	.18**	5.20	-.11**	-3.06
	R ² = .29		R ² = .16	

** p < .05

* p < .10

and parent to child appear to distinguish serious, persistent delinquents from nondelinquents.

Overall, the results clearly support the theoretical model in Figure 1. Namely, when an intervening variable mediates the effect of an exogenous variable(s), the direct effects of the latter should disappear. Except for mobility, which has a weak effect anyway, that is exactly what is seen in Table 4. Indeed, examination of the reduced-form results verify that, except for mother's irregular employment, all structural background factors have significant effects on delinquency in the expected manner.¹² But as seen in Table 4, only mobility retains a significant (albeit considerably reduced) effect on delinquency when the family dimensions of discipline, supervision, and attachment are controlled. Not surprisingly, then, calculation of indirect effects (see Alwin and Hauser, 1981) reveals that of the total effect of the vector of structural background factors on delinquency, a substantial portion is mediated by family process (79%).

12. Specifically, the OLS t-ratios associated with the reduced-form direct effects of Hcrowd, Fcrdrunk, Mcrdrunk, Famdis, Ecdep, Memploy, Foreignb, and Mobility on delinquency are 1.92, 5.43, 4.76, 2.28, 2.12, 1.53, 2.52, and 6.10, respectively.

misleading because of the violations of the assumptions of OLS regression. Recall that delinquency was coded as a dichotomous variable. To assess this we re-ran the model using maximum-likelihood (ML) logistic regression (for details see Aldrich and Nelson, 1984). The ML results in Table 4, columns 3 and 4, completely verify the OLS regression. Indeed, the pattern and relative magnitude of effects are essentially identical and, hence, all substantive conclusions remain the same. The only other dichotomous dependent variable in the study was mother's supervision (Table 2). Reanalysis of this model using logistic regression also produced substantively equivalent results. Therefore, the dichotomous nature of the *UJD* data does not appear to affect the test of the theoretical model.

CONCLUSIONS

A major finding of our research is that family process variables are directly related to serious and persistent delinquency in the predicted theoretical direction. These results support our version of social control theory derived from Hirschi (1969, 1983) and Patterson (1980, 1982), and they confirm the recent meta-analysis by Loeber and Stouthamer-Loeber wherein they found that socialization variables, "aspects of family functioning involving direct parent-child contacts," are the most powerful predictors of delinquency and other juvenile conduct problems (1986: 37 and 120). Moreover, these family process variables—supervision, attachment, and discipline—were identified by the Gluecks as the most important family correlates of serious, persistent delinquency (1950: 261). Thus, our study using multivariate analysis essentially confirms the findings generated by the Gluecks over 30 years ago.

Another major finding is that, with the exception of residential mobility, none of the structural background factors had a significant, direct effect on delinquency. Instead, family process mediated some 80% of the effect of structural background on delinquency. The data thus strongly supported the social control model represented schematically in Figure 1. We believe this model has considerable significance for future research in that it explains *how* key background factors influence delinquency. A concern with only direct effects conceals such relationships and leads to erroneous conclusions. Moreover, our model points to the importance of previously neglected variables in criminology—especially the alcoholism and criminality of parents. Parental deviance of both mother and father strongly disrupts family processes of social control, which in turn increases delinquency.

Of perhaps greatest importance is that our analysis reveals the potential of the Glueck data for basic criminological research. Clearly, our study is a modest beginning and more research should be devoted to reanalyses of the available coded data from the *UJD* study. It is especially important to examine some of the substantive and methodological concerns noted earlier

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Assessing the Potential of Secondary Data Analysis:
A New Look at the Gluecks' Unraveling Juvenile Delinquency Data¹

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Introduction

Until recently one of the most neglected areas in research methodology was the secondary analysis of existing data. Attention to the potential strengths and weaknesses of secondary data analysis is especially important at this time in light of recent calls in the field of criminology for conducting more longitudinal research (see Farrington, Wilson, and Ohlin, 1986). For example, the Program on Human Development and Criminal Behavior (1989) is currently designing a series of prospective longitudinal studies. In addition to these primary data collection efforts, the Program encourages the secondary analysis of existing longitudinal data sets. Secondary analysis of existing data sets may well provide a potential gold mine as a method of research.

This chapter examines various issues surrounding the secondary analysis of existing data. First, we briefly outline some of the strengths and weakness of secondary data analysis as a research method. Then, to illustrate this research strategy in action, we discuss our current work which involves coding, recoding, computerizing, and reanalyzing a classic study on the causes of crime and juvenile delinquency. The data we refer to were collected by Sheldon and Eleanor Glueck during the period 1940 to 1965 (see Glueck and Glueck, 1950; 1968). Specifically, we examine several issues regarding the validity of the Glueck data. We believe that our research represents a creative use of archival data and suggests the large potential of this method for

future criminological research.

Secondary Data Analysis

Once a data source has been selected for secondary analysis, the quality of the data must be evaluated. Researchers may have access to the actual raw data that was collected (secondary data) and/or the previously published summaries of these data (secondary sources) (Stewart, 1984). If one is fortunate enough to gain access to both sources of information, these can be jointly used in a cross validation of both the raw data and published figures.

The advantages and disadvantages of secondary data analysis have been systematically examined by only a few researchers (see Stewart, 1984; Kiecolt and Nathan, 1985). One advantage of using secondary data is that the time and costs of obtaining, preparing, and analyzing archival data are usually less compared with the cost and time involved in the initiation of a new data collection effort. Although acquiring and analyzing an existing data set (raw data or machine-readable data) will take time, patience, and effort, the overall time/resource commitment will undoubtedly be less than the original data collection and analysis. This is especially true in the secondary analysis of existing longitudinal data sets (see Colby and Phelps, 1989).

Secondary data analysis can also be used for comparative purposes with newly collected data or combined with other primary data for an assessment of various trends (Stewart, 1984; Kiecolt and Nathan, 1985). For instance, data from earlier studies of

crime may provide a useful benchmark of comparison in two ways. First, secondary data analysis may identify findings that are consistent over time and as a result may increase overall confidence in the findings. Second, secondary analysis of data may provide crucial information on findings that are different from contemporary studies and help to identify findings that seem to be specific to a particular cohort and/or period.

Of course, secondary analysis of existing data sets is not problem free. A major disadvantage is that the original data collection may not be suitable to address the important theoretical, research, or policy questions facing the field. For instance, the existing data may not focus on the appropriate unit of analysis (Stewart, 1984). If the data collected are in an aggregate form, while the present research question concerns individual-level occurrences, then clearly secondary data analysis may not be suited for the research question at hand. As noted by Stewart (1984: 24) "the degree of precision, the types of categories used, and the method by which the data are collected are often dictated by the intent of the study." The original intent of the researchers then may confound interpretations derived from a secondary data analysis. The choice of the data source must be dictated by the research question. One must avoid what Kiecolt and Nathan (1985:14) refer to as the "data set in search of analysis" approach. Researchers using secondary analysis must be even more sensitive to this concern given their lack of control over the original data collection process.

In addition to this major disadvantage, there are several key concerns regarding the validity of the secondary data. One of the most fundamental concerns in criminological research is the validity of the phenomenon we seek to explain. Specifically, are our measures actually capturing the theoretical construct of interest? The validity of a particular set of data may be suspect due to errors in the original data collection and compilation that may have occurred during the interviewing, coding, and/or keypunching processes. More importantly, validity may also be "of concern to the extent that survey items [used] are imprecise measures of the concepts a secondary analyst has in mind, or that variables [selected] have been poorly operationalized" (Keicolt and Nathan, 1985: 14). Again, to the extent that one has access to secondary data rather than secondary sources, some of these potential stumbling blocks can be addressed through rigorous analysis of the raw data.

Overall, there are a number of different data sets available for secondary data analysis. Stewart (1984) provides a list of both governmental (e.g., Census data, the National Crime Survey) and nongovernmental (e.g., the Gallup polls) sources. In addition, Boruch and Pearson (1988) present a description of a series of national longitudinal surveys in the United States which are available for secondary analysis (e.g., the High School and Beyond Survey). There also exists numerous data archives in the U.S., some of which provide machine-readable social science data like the Inter-University Consortium for

Political and Social Research at the University of Michigan and others like the Henry A. Murray Research Center of Radcliffe College which collects the raw data files of numerous studies (Colby and Phelps, 1989; see also Kiecolt and Nathan, 1985 which contains a complete listing of data archives in the U.S. and abroad). Also, the National Institute of Justice provides a listing of data sets from the various projects funded by the Institute as a way of encouraging secondary data analysis and fostering continued use of collected data beyond the life of the original project (see Wiersema, Loftin, and Huang, 1988).

The Glueck Data

As indicated above, a key question when assessing the usefulness of secondary data is the extent to which these existing sources can address the current research questions facing the field. A recent report by a National Academy of Sciences (NAS) panel on Criminal Careers strongly recommended that prospective longitudinal studies be implemented that would examine: (a) the developmental experiences engendering compliant behavior, (b) behavioral precursors of subsequent criminality, (c) influence on subsequent behavior of interactions with the juvenile and criminal justice systems, and (d) factors associated with career termination (Blumstein et al., 1986: 200). In our project (Laub and Sampson, 1987), we proposed a research strategy that would address the concerns of the NAS report, but with existing data. Our research entails a reanalysis of a major prospective data base that contains nearly all of the data

elements and design characteristics noted by NAS panel as ideal (Blumstein et al., 1986). The data we are currently reanalyzing are drawn from the classic study of juvenile delinquency by Sheldon and Eleanor Glueck -- Unraveling Juvenile Delinquency (UJD). Published in 1950, UJD was a cross-sectional study of 500 official delinquents matched with 500 non-delinquents on the basis of low income residence, age, race/ethnicity, and IQ (see Glueck and Glueck, 1950). After publication of this work, for over a fifteen year period, the Gluecks conducted an extensive followup of all delinquents and non-delinquents in the original UJD study, resulting in a longitudinal data set covering the life events of all the boys in the sample up to age 32 (see Glueck and Glueck, 1968). These data offer a potentially rich source of information on the causes and correlates of crime and delinquency over the life course.

Overall, Sheldon and Eleanor Glueck adopted an eclectic approach to the study of the causal processes involved in human motivation and behavior. Not only did they engage in a multi-disciplinary approach, but they also believed that a meaningful integration of various disciplines such as sociology, economics, psychology and biology would be best achieved through the integration of data from several levels and sources of inquiry (Glueck and Glueck, 1950).

The Gluecks' research team collected data on the 500 delinquent and 500 non-delinquent male subjects over a 25 year period. The delinquent sample contained persistent delinquents

recently committed to two correctional schools -- the Lyman School for Boys located in Westboro, Massachusetts and the Industrial School for Boys in Shirley, Massachusetts (Glueck and Glueck, 1950: 27). The nondelinquent sample was drawn from the public schools in the city of Boston. Their sampling procedure was designed to maximize differences in delinquency -- an objective that by all accounts succeeded (1950: 27-29).

In addition to the features discussed above, one unique aspect of the study was that the Gluecks utilized a matched sample research design. Specifically, all of the delinquent boys were matched on a case by case basis with the non-delinquent boys on four characteristics: age, general intelligence, race/ethnicity, and residence in low socio-economic status neighborhoods -- all classic criminological variables thought to influence both delinquency and official reaction (see Sampson, 1986). Both the delinquents and non-delinquents were white males who grew up in lower-class neighborhoods of central Boston. These neighborhoods were regions of poverty, economic dependency, physical deterioration, and were usually adjacent to areas of industry and commerce -- what Shaw and McKay (1942) would have termed socially disorganized neighborhoods (Glueck and Glueck, 1950: 29). Hence, all boys grew up in similar high-risk environments with respect to poverty and exposure to delinquency and anti-social conduct (Laub and Sampson, 1987).

The average age of the delinquent boys at the time this study began was 14 years, 8 months and the average age for the

non-delinquents was 14 years, 6 months. The age range for all of the boys at the initiation of the study was 9-17 years. As for ethnicity, 25 percent of both groups were of English background, another fourth Italian, a fifth Irish, less a tenth old American, Slavic, or French, and the remaining were Near Eastern, Spanish, Scandinavian, German, or Jewish. Finally, as measured by the Wechsler-Bellevue Test, the delinquents had an average IQ of 92 and the nondelinquents 94.

Data for each subject were collected in three waves: data at first interview (average age 14)), at the subject's 25th birthday and at the subject's 32nd birthday. A wealth of information on social, psychological, biological, developmental, family, SES/employment, school performance and life events were collected on the delinquents and controls in the period 1939-1948. For example, some of the key items regarding family life include parental criminality and alcohol use, parental education and intelligence, family mobility, economic status, family structure (e.g. divorce/separation) and patterns of discipline and supervision by parents. Theoretically relevant items for school/employment include onset and nature of school misconduct, educational attainment, employment history, work habits, and educational/occupational ambitions. Among others, there are also numerous indicators of recreational and leisure time activities, peer relationships and influence, church attendance, and personality profiles gleaned from psychiatric interviews (Laub and Sampson, 1987). These data were collected by examining a

variety of official sources including criminal justice agencies (e.g., police, court, and correction) as well as school records, social welfare, and mental health records.

With the support of the National Institute of Justice, the authors are currently restoring, coding, computerizing, and reanalyzing the Glueck longitudinal data files. One unexpected discovery was the existence of boxes of computer cards that contained data from the Glueck study. Although quite old and in a multiple punch format (most modern card readers cannot read cards containing multiple punch codes), we were able to read the cards and re-create the basic data as derived from the Gluecks coding scheme. A considerable amount of time was spent validating this coded data. Our validation scheme contained a number of steps. First, frequencies were checked (whenever possible) for the coded variables with the published secondary sources of data. Also, the logic and substance of each variable was examined. In addition, we selected a 10 percent random sample of cases from the raw data files and for each case checked the values generated by the computer card to the values for those variables found in the raw data files. Overall, we found an extremely high level of agreement between the raw data and the coded data (generally 98% or higher).

In addition, and unknown to most criminologists, the Gluecks collected data regarding delinquent acts and other forms of misbehavior from parents, teachers and the subjects themselves. This serves as an example of the serendipity that can result when

an investigator has access to raw records from the original study. Moreover, we believe the combination of self, parental, and teacher reports plus official records provide an excellent opportunity to develop valid measures of delinquent and anti-social conduct for our substantive analysis as well as assist us in validating the Glueck data overall. Thus, in addition to the previously mentioned technical validation strategy, we examine the construct and predictive validity of the Glueck data by comparing the self, parental, teacher and officially-reported indicators of the misbehaviors of the boys. As noted by Keicolt and Nathan (1985) when data can be presented by multiple independent sources, confidence in the validity of the data is increased if these sources arrive at similar conclusions.

Self-reported Data

During wave 1 of the Gluecks' data collection, psychiatric interviews were conducted with each of the boys in the study. These interviews dealt with personality and behavioral characteristics and were intended to supplement information that had been derived from the extensive social investigation of the home environment as well as other investigations (e.g., Rorschach Tests). In addition to asking questions concerning the boy's various activities, such as club memberships, play places, academic/vocational ambitions, and church attendance, the psychiatrist also questioned the boys with respect to their

misbehaviors.² As noted by the Gluecks, the initial hesitancy on the part of the boys in discussing their misbehaviors (particularly those that had not yet come to the attention of the police) seemed to dissipate as the boys realized the confidential nature of the study (1950: 61).

The interviews of the boys regarding their own misbehavior was initiated in 1939. It is interesting to note that virtually all existing literature reviews of the early self-report studies cite Short and Nye (1957, 1958) as the first definitive self-report study and Porterfield (1947) and Wallerstein and Wyle (1947) as the earliest but crude version of this method (see Hindelang et al., 1981; O'Brien, 1985; Weis, 1986). As with many of the Gluecks' contributions to criminology, their early use of the self-report method as well as the breadth of their use of this method has been overshadowed by the concern for their lack of a singularly sociological focus as well as by perceived methodological inadequacies in their research (Laub and Sampson, 1988).

Parent-reported Data

The Gluecks' research team conducted interviews with parents (usually mothers) in the homes of each boy in the study in order

² These self-report data sometimes resulted in transferring a previously designated non-delinquent to the delinquent group or eliminating the boy from the study altogether. In fact, 36 cases originally selected as non-delinquents were eliminated from the study. This is not to say that boys in the non-delinquent group did not report any misbehavior whatsoever. In fact, about 25 percent reported some misbehavior during the interview (Glueck and Glueck, 1950: 29).

to obtain information about the home atmosphere, family finances, family background and geneology as well as the boy's developmental health history and his leisure time habits. Within the context of this interview, there were also questions asked about the boy's misbehaviors. These home interviews were also supplemented by information from the records of various social agencies (Glueck and Glueck, 1950: 160).

Teacher-reported Data

In addition to obtaining the written school records for each boy in the study which contained information on their grades, truancies, and other possible misbehaviors, the Gluecks' investigator also interviewed the boy's most recent teacher. The focus of the interview was to "determine how the delinquents and non-delinquents behaved in school during their most recent full year" (1950: 149). Inquiries were made with respect to the boy's adjustment to his schoolmates and participation in curricular and extra-curricular activities as well as his misbehavior in school (1950: 51). Teachers were provided with a list of behavioral characteristics relating to conduct at school and were asked to record which characteristics described the subject (1950: 149).

Official Data

Criminal history data for each boy were gathered from extensive record checks of police, court, and correctional files and covers the period from first arrest to age 32. Some of the information available includes: the number of arrests, the number

of convictions, correctional experiences over time, the type of dispositions, offense specific arrest sequences, and the length of time of all correctional experiences as well as the number of probation/parole revocations (see Glueck and Glueck, 1950; 1968).

In sum, the Gluecks' collected information from a variety of different sources on a wide range of delinquent and other anti-social behaviors. Moreover, the Glueck data come very close to the suggestion by Farrington et al. (1986: 18-19) that "data about crime should include arrest reports, self-reports, and (to the extent possible) the reports of peers, parents and teachers. Moreover, these reports should focus not only on crime and delinquency, but other measures of misconduct like truancy, drug and alcohol use, problems at school, etc." (see also Weis, 1986). The range of data collection by the Gluecks is truly impressive and the restored Glueck data provide a potentially rich secondary data source for reanalysis. At the same time, the multiple sources of information on crime and other misbehaviors allow for extensive analysis of the validity of the basic Glueck data. More precisely, both the construct and predictive validity of the Glueck data can be examined through a comparison of the multiple sources of unofficial and official data collected across the similar domains of behavior.

Validity

Cook and Campbell (1979: 38) state that construct validity is established when an empirical variable is a valid measure of the underlying theoretical notions under discussion. The ideal

situation in establishing construct validity is to find "convergence across different measures" and "divergence between measures ... of related but conceptually distinct 'things'" (Cook and Campbell, 1979: 61). In the field of criminology, this test of validity typically entails a comparison of an official data source with an unofficial data source like self-report data. Because the data collection by the Gluecks focused on a variety of different reporters (e.g., official, semi-official, and self-report), we can initially assess the extent of construct validity at a number of different levels.

Construct validity in our case would be established to the extent that our multiple measures of delinquent and anti-social behavior are consistently interrelated. Boruch and Pearson (1988) outlined the criteria for assessing the usefulness and quality of existing longitudinal and cross-sectional surveys and suggested that analysis should be done concerning the extent to which different measures of the same concept yield similar results. Although most unofficial delinquency such as self-reports are validated by a comparison to official records, external validation criteria can also include criteria other than official records such as teacher and parental reports of delinquent and/or deviant behavior. With the Glueck data then, we can potentially establish construct validity not only across settings such as official versus self-report, but also within unofficial sources as well through a comparison of parental and teacher reports of juvenile misconduct. Farrington (in press)

has noted that an analysis of multiple measures of behavior reduces the likelihood that relationships among constructs that are found are due to measurement bias.

On the other hand, predictive validity concerns a future criterion and assesses whether or not it is correlated with our relevant measures. This form of validation measures our ability to predict future events. With the Glueck data, we can use the data collected at time 1 to predict events at time 2 and time 3. For instance, does self-reports collected at time 1 predict official criminality at time 2? at time 3?

Construct Validity

Table 1 displays the complete list of delinquent conduct and other anti-social behavior reported by the three types of respondents. As is evident, the offenses range from the less serious, although important, items (e.g., smoking, drinking) to the more serious items (e.g., stealing, arson). In addition to covering many types of misconduct across varying levels of seriousness, the domain of behavior studied is in many cases similar for each reporter.

We created various scales containing items that were collected across all three groups of reporters. This allowed us to examine the degree of overlap among the reporters and address the issue of construct validity. Table 2 presents the correlations between parent, teacher and self-reported indicators across several types of crime. Overall, the degree of overlap is substantial and in the expected direction. For

instance, the cross-setting validity of misbehaviors that inherently involve both parties (such as truancy) have the strongest relationships. At the same time, there appears to be some divergence between items that represent different concepts, like teacher reports of behavior at school and parental reports of behavior at home or in the neighborhood. In all cases (except the correlation between parent and teacher-reported vandalism), these coefficients are significant at the .01 level.

We also created a total unofficial measure of delinquency which is a composite of all self, parent and teacher reports as well as a summary measure of the unofficial reports for each particular offense (e.g., truancy as reported by parents, teachers and self). Scales were also constructed which relected the total amount of delinquency (all types) within in a setting and are designated as "self-report total," "parent-report total," and "teacher-report total." The scale "total official delinquency" is operationalized as the presence of an official (police) record for the juvenile.

In establishing the validity of our measures across settings, we can compare both unofficial and official reports for the same individuals. Again, due to the rich nature of the Glueck data, we can compare these two sources not only in general, but by specific crime types as well. In Table 3A, we display the correlations between the specific types of unofficial delinquency summary measures with a total composite measure of unofficial and official delinquency. All of the

correlations between our crime-specific unofficial summary measures and our totals of unofficial and official delinquency are significant, thus illustrating a high degree of concurrent validity among the Glueck measures. Truancy has the highest correlation with both official and unofficial total delinquency, while the summary variable reflecting auto-theft has the lowest concurrent validity for both official and unofficial delinquency.³ These results are not surprising as we would expect the cross-setting agreement to be greater for those offenses inherently involving both parties. It is less likely that auto-theft would come to the attention of school officials compared with an offense like truancy or theft.

Table 3B displays the cross-setting convergence of the total reports of delinquency for each unofficial source. The reports of the boys themselves and their parents were more likely to agree than those between the boys and their school officials or the school officials and the parents. Overall, our total self, parent, and teacher measures correlate well with each other.

Predictive Validity

Much of the previous assessments of the validity of measures across settings, i.e. cross-situational consistency, has been a psychological assessment of the extent to which individuals maintain certain characteristics across various conditions, sources, or time. As with the delinquency literature, the study

³ Auto-theft and incorrigibility have equally low correlation coefficients (.41) with total official delinquency.

of the longitudinal nature of cross-setting consistency has been limited, the focus being the cross-sectional nature of the consistency of various personality dimensions (Olweus, 1979; Loeber and Dishion, 1984; Tremblay et al., 1988). A review of longitudinal data sets of aggressive behavior and reaction patterns as reported by individuals other than the subjects themselves found a greater degree of cross-setting consistency across time than had been previously suggested (Olweus, 1979). Teacher assessments of various antisocial behaviors and personality traits in their students have been shown to be good predictors of future social adjustment (Loeber and Dishion, 1984). Tremblay et al. (1988) recently tested the predictive utility of teacher and peer ratings and found that unofficial indicators of conduct could be used to predict self-reported aggression and antisocial behavior. Farrington (1985) assessed the extent to which later official records could be predicted by earlier data gathered from parents, teachers, peers as well as the subjects. This study found that the best single predictor of adult official criminality was self-reported juvenile delinquency.

As previously noted, the Glueck research design was longitudinal in nature and therefore provides criminal history data for the boys from first arrest until age 32. Although official records were collected across all time periods, the amount of self-reported behavior at time 2 (age 25) and 3 (age 32) is limited. A few questions were asked concerning

participation in illicit occupations and bad habits which included various illegal activities, but overall the later self-report data is, relatively speaking, lacking in detail. Thus, it is not possible to test the predictive capacities of self-report data with reference to delinquent and criminal behavior across all three time periods. However, it is possible for us to test the predictive strength of our self-report measures at time 1 with official criminality at time 2 and 3.

Tables 4 and 5 display the results of our analysis. First, within the original delinquent group, we correlated our measure of total reported delinquency and misconduct at time 1 with later arrests for misdemeanors, felonies, and a crude measure of lambda (the number of crimes per month free), respectively, both at time 2 (age 17 to 25) and time 3 (age 25 to 32). The Glueck data in Table 4 illustrate that not only can official delinquency be predicted by the self-reports of the boys at age 14, but our predictive capacity holds with respect to specific types of crimes at 25 and 32. Only the coefficient for felonies at age 25 to 32 was not significant at the .01 level. In addition, the frequency of offending during both of the later time periods was significantly correlated with the early self-report measures.

Although by design there was a control group of 500 boys who were designated as non-delinquent according to their lack of an official record and self-reported delinquency, some of these boys did self-report delinquent acts during the interview at wave 1. Similarly, parents and teachers reported misbehaviors for these

boys as well. Based on the level of unofficial reported delinquencies, we can assess the degree to which the original non-delinquent boys were likely to gain an official record by age 17. Table 5 indicates that for those boys whose total reported level of delinquency was low at time 1, those same boys were the least likely to have a future official record (3.5 percent). Conversely, and as would be expected if our measure of delinquency is stable across time, those boys whose total reported delinquency was at the highest level at time 1, those same boys were the most likely to have a later official record (13.4 percent). The gamma coefficient between total reported unofficial delinquency at mean age 14 and official delinquency at age 17 is .47 and significant at the .01 level.

Overall, then, the Gluecks' self, parent, and teacher-reported data display good predictive validity up to age 32 within the original delinquent group. Moreover, these same data display predictive validity for the original nondelinquent group up to the age 17. Unfortunately, at this time, data on the criminal activity of the control group up to age 32 is not yet available for analysis. As noted by Farrington (1973), the usefulness of our predictive abilities at this level have theoretical rather than practical implications. It would be unlikely that if respondents knew that their self-reports of criminal behavior were to be used by the criminal justice system in the identification of candidates for selective incapacitation or some other criminal justice system intervention, that we would

have valid self-reports from respondents.

Limitations

Prior discussions of validity in criminological research have centered on the measurement of both official records and self-reports. The general limitations of both sources of data are well-known and need not be repeated here (see Hindelang et al., 1981 and O'Brien, 1985 for reviews). However, there are some specific limitations in the Glueck data set (and as a result our subsequent analysis) that should be noted.

Overall, the Gluecks' were not particularly concerned about measurement error in their use of the self-report technique. This measurement error could result from respondent bias, interviewer effects, and/or poor question construction in the Glueck interview schedule. This insensitivity to methodological concerns by the Gluecks has potential implications for our study. For instance, it is not possible to trace patterns of communication between parents and teachers regarding each boy's behavior. If such communication occurred, it could have influenced reporting practices and our interpretation of the parental and teacher reports as independent measures of delinquency and other misconduct would be inaccurate.

There also could be variation among teachers, parents, and the boys themselves in the interpretation of the behavioral characteristics asked about in the study. Similarly, we have no way of assessing the extent of differential validity among the various respondents. The Gluecks' themselves have stated that,

"The delinquents' parents certainly knew far less, or were perhaps unwilling to admit what they actually knew, than the parents of the non-delinquents in regard to the bad habits of the boys" (1950: 130).

Moreover, given the design of the study, most of the delinquents had not been in the classroom and under the observation of teachers for some months (i.e., since their commitment to a correctional facility). At the same time, the nondelinquents were currently known to their teachers (Glueck and Gluecks, 1950: 149). This raises the possibility of retrospective bias and a possible "halo" effect. Kerlinger (1973: 549) has defined a halo effect as "a tendency for the rating of one characteristic to influence the ratings of other characteristics." To the extent that teachers knew the subject under discussion was incarcerated, how did this knowledge affect their reporting of behavioral characteristics concerning school conduct for that subject while he was in school? Conversely, if it was known that the Gluecks' were inquiring about non-delinquents in the school setting, did this knowledge affect reporting practices among teachers? Unfortunately, we have no way of systematically addressing these methodological concerns.

Concluding Remarks

This chapter presents a variety of themes for consideration by the reader. Three points bear repeating. First, and foremost, our research reanalyzing the basic Glueck data illustrates the unlimited potential of secondary data analysis

in the field of criminology. With careful attention to the important theoretical and methodological questions, secondary research can be a cost effective alternative to original data collection and in timely manner be used to address some of the key issues facing the field of criminology. Such secondary data analysis will be enhanced to the extent that investigators have access not only to machine-readable data, but also the raw data as well. As noted by Colby and Phelps (1989: 8), one obstacle to secondary data analysis is the "perception that reanalyses involve simple recombinations of existing information and ... are atheoretical and uncreative." Colby and Phelps (1989: 9) also point out that many graduate programs discourage secondary data analyses for doctoral dissertations, thus, a golden opportunity for experience in conducting secondary data analysis is lost.

Second, our analysis of the self, parent, and teacher-reports of delinquency and other antisocial behavior among the subjects in the Glueck study shows that the basic Glueck data are indeed valid and can be used in a substantive analysis. Specifically, both the construct and the predictive validity of the Glueck data were established in our analysis above. Moreover, our results are consistent with other research using the self-report technique as well as parental and teacher reports (e.g., Farrington and West, 1981; Farrington, 1989; Hindelang et al., 1981). Therefore, various types of reporters can provide valid information with regard to the underlying construct of juvenile delinquency and other juvenile misconduct.

Third, our analysis of predictive validity suggests a linkage between antisocial and delinquent behavior in early adolescence (14 years of age) and late adolescent and young adult criminality. This finding held true for both those originally assigned to the delinquent group and those originally defined as nondelinquent controls. Recall though that at this time follow-up data on the official criminal histories of the control group are only available up to age 17. Of course, our finding is not unique to the Glueck data (see e.g., West and Farrington, 1977; Farrington and West, 1981; Farrington, 1989; Loeber, 1982; Olweus, 1979).

In sum, the Glueck data drawn from parental, teacher, and self-reports can be used as independent measures of behavior or as general assessments of the juvenile's overall conduct. Such information is quite helpful to an investigator both from a theoretical and methodological standpoint. At the same time, the longitudinal data collected by the Gluecks allow us to explore the predictive validity of their data over time. Such an analysis is crucial both for the sake of data preparation for further secondary data analysis and for the theoretical import such findings have for the study of crime generally.

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Table 1 Self-reported, Parental-reported, and Teacher-reported
Items in Unraveling Juvenile Delinquency Coded Data

<u>Self-reported</u>	<u>Parental-reported</u>	<u>Teacher-reported</u>
Smoking	Smoking	Smoking
Drinking	Drinking	Untruthfulness
Running away	Running away	Stubbornness
Bunking out	Bunking out	Profanity
Gambling	Gambling	Quarrelsomeness
Late hours	Late hours	Cheating
Truancy	Truancy	Truancy
Stealing rides	Stealing rides	Disobedience
Sneaking admissions	Sneaking admissions	Impudence
Begging	Begging	Disorderliness
Destructive mischief	Destructive mischief	Destroys school
Auto stealing	Auto stealing	materials
Impulsive stealing(m)	Impulsive stealing(m)	Stealing
Impulsive stealing(s)	Impulsive stealing(s)	Cruelty, bullying
Planful stealing(t)	Planful stealing(t)	Tantrums
Planful stealing(fbg)	Planful stealing(fbg)	Defiance
Arson	Arson	
	Lying	
	Stubbornness	
	Vile Language	
	Pugnacity	
	Tantrums	

(m)= minor
(s)= serious
(t)= trivial
(fbg)= for big gain

Table 2 Relationships Among Self, Parent, and Teacher-reported Indicators of Delinquency, by Type of Crime/Misconduct (N=1,000)^a

A. SMOKING/DRINKING	SELF	PARENT	TEACHER
	PARENT	TEACHER	
B. TRUANCY	SELF	PARENT	TEACHER
	PARENT	TEACHER	
C. VANDALISM	SELF	PARENT	TEACHER
	PARENT	TEACHER	
D. THEFT	SELF	PARENT	TEACHER
	PARENT	TEACHER	

^a Cell entries are gamma coefficients.

* $p < .01$

Table 3 Pearson Correlation Coefficients Among Official and Unofficial Summary Delinquency Measures (N=1,000)^a

A. UNOFFICIAL SUMMARY MEASURES	TOTAL UNOFFICIAL DELINQUENCY	OFFICIAL DELINQUENCY
TRUANCY (S+P+T) ^a	.86*	.80*
RUNAWAY (S+P)	.83*	.72*
THEFT (S+P+T)	.84*	.79*
SMOKE/DRINK (S+P+T)	.74*	.60*
VANDALISM (S+P+T)	.59*	.47*
CAR-HOP (S+P)	.81*	.66*
AUTO-THEFT (S+P)	.44*	.41*
INCORRIGIBLE (P+T)	.56*	.41*
SELF-REPORT TOTAL	.92*	.82*
PARENT-REPORT TOTAL	.88*	.76*
TEACHER-REPORT TOTAL	.67*	.54*

B.	<u>SELF</u>	<u>PARENT</u>	<u>TEACHER</u>
SELF-REPORT TOTAL	--	.72*	.45*
PARENT-REPORT TOTAL	--	--	.44*
TEACHER-REPORT TOTAL	--	--	--

a S= Self-report
P= Parent-report
T= Teacher-report

* p<.01

Table 4 Predictive-Validity Correlation Coefficients Within the Original Delinquent Group (N=438)^a

<u>LATER OFFICIAL DELINQUENCY</u>	<u>TOTAL REPORTED DELINQUENCY (at mean age of 14)</u>
Misdemeanors age 17-25	.24*
Felonies age 17-25	.19*
Lambda age 17-25	.22*
Misdemeanors age 25-32	.22*
Felonies age 25-32	.10
Lambda age 25-32	.20*

^a Data are available at all three interview waves for 438 of the original 500 delinquents.

* $p < .01$

Table 5 Predictive Relationship Between Total Reported Delinquency (mean age of 14) and Later Official Delinquency Within the Original Non-delinquent Group (N=500)^a

PROPORTION OFFICIALLY DELINQUENT BY AGE 17	TOTAL UNOFFICIAL DELINQUENCY:		
	LOW	MEDIUM	HIGH
	3.5 (N=7)	6.3 (N=9)	13.4 (N=21)

Gamma= .47 ($p < .01$)

ATTACHMENT C

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CRIMINAL CAREERS AND CRIME CONTROL

John H. Laub

Robert J. Sampson

A presentation at the 1989 National Institute of Justice Crime Control Conference, July 20-21, The Rand Corporation, Santa Monica, California

Table 1 Number of Persons Arrested by Type of Crime

	<u>Wave 1</u>	<u>Wave 2</u>	<u>Wave 3</u>
	(Age 17)	(Age 25)	(Age 32)
Sample Size	500	463	438
Deaths	X	17	8
<hr/>			
Arrests (persons)	Age 7-17	Age 17-25	Age 25-32
Robbery	34	100	56
Burglary	299	172	74
Violent	33	83	37
Theft	389	240	108
Alcohol/Drugs	9	154	124
Public Order	374	250	179

Table 2 Rates of Participation by Type of Crime, N=438

	<u>Age 7-17</u>	<u>Age 17-25</u>	<u>Age 25-32</u>
Total	100%	81%	61%
Violent	8%	19%	8%
Robbery	8%	23%	13%
Theft	89%	55%	25%
Burglary	68%	39%	17%
Alcohol/Drugs	2%	35%	28%
Public Order	85%	57%	41%

Table 3 Rates of Participation by Selected Crime Types for Active Offenders

	Age 7-17	Age 17-25	Age 25-32
Robbery	8%	23%	13%
Actives	10%	32%	23%
Active Felons	13%	42%	39%
Active Burglars	6%	43%	28%
Active Robbers	19%	100%	100%
Violent Offenses	8%	19%	8%
Actives	9%	25%	14%
Active Felons	9%	29%	19%
Active Burglars	6%	30%	13%
Active Robbers	12%	27%	23%
Burglary	68%	39%	17%
Actives	73%	55%	28%
Active Felons	74%	71%	47%
Active Burglars	100%	100%	100%
Active Robbers	65%	65%	35%

Table 4 Individual Arrest Frequencies

	Age 7-17	Age 17-25	Age 25-32
Mean # of Arrests	3.73	4.32	2.25
Actives	3.97	6.07	3.87
Active Felons	4.07	6.91	4.73
Active Burglars	4.66	7.16	5.34
Active Robbers	4.81	7.40	3.44
Arrest Frequencies (mu)	X	1.15	.50
Actives	X	1.75	.88
Active Felons	X	2.30	1.14
Active Burglars	X	2.71	1.34
Active Robbers	X	2.65	1.33
Conviction Frequencies	X	.84	.36
Actives	X	1.32	.60
Active Felons	X	1.68	.84
Active Burglars	X	2.04	.96
Active Robbers	X	1.92	.96
<hr/>			
Total (mu)			
Washington D.C. Adults		1.07	
Detroit SMSA Adults		.56	
Philadelphia Juveniles		.84	
Brooklyn Adults		1.20	

Table 5 Age of Onset, N=438

Mean Age of Onset of Persistent Misbehavior	7.96
Mean Age of Onset of Persistent Misbehavior for Actives	7.79
Mean Age of Onset for Active Felons	7.56
Mean Age of Onset for Active Burglars	7.45
Mean Age of Onset for Active Robbers	7.85
Mean Age of Onset of Arrest	12.06
Mean Age of Onset of Arrest for Actives	11.96
Mean Age of Onset for Active Felons	11.96
Mean Age of Onset for Active Burglars	11.68
Mean Age of Onset for Active Robbers	12.08

Pearson Correlation Coefficients (N=438)

Age of Onset of Misbehavior and Age of Onset for First Arrest	.41*
Onset of Misbehavior and First Arrest for Actives	.40*
Onset of Misbehavior and First Arrest for Active Felons	.34*
Onset of Misbehavior and First Arrest for Active Burglars	.26*
Onset of Misbehavior and First Arrest for Active Robbers	.50*
Age of Onset of Misbehavior and the # of Arrests at T1	-.12*
Age of Onset of Misbehavior and the # of Arrests at T2	-.04
Age of Onset of Misbehavior and the # of Arrests at T3	-.16*
Age of Onset of Misbehavior and Mu at T2	-.06
Age of Onset of Misbehavior and Mu at T3	-.12*
Age of Onset of Misbehavior and Desistance at T2	.06
Age of Onset of Misbehavior and Desistance at T3	.09*
Age of Onset of First Arrest and the # of Arrests at T1	-.32*
Age of Onset of First Arrest and the # of Arrests at T2	.00
Age of Onset of First Arrest and the # of Arrests at T3	.01
Age of Onset of First Arrest and Mu at T2	-.02
Age of Onset of First Arrest and Mu at T3	-.04
Age of Onset of First Arrest and Desistance at T2	-.01
Age of Onset of First Arrest and Desistance at T3	.05

Table 6 Pearson Correlation Coefficients

	Wave 1 # of Arrests	Wave 2 # of Arrests	Wave 3 # of Arrests
Age of Onset of Misbehavior			
Actives	-.10	-.06	-.18*
Active Felons	-.14	-.01	-.23*
Active Burglars	-.06	-.25*	-.36*
Active Robbers	-.46*	.26	-.10
Age of Onset of Arrest			
Actives	-.30*	.01	.06
Active Felons	-.41*	.01	.10
Active Burglars	-.42*	-.17	.08
Active Robbers	-.65*	-.02	.07

Table 7 Breadth of Criminal Involvement

	Age 7-17	Age 17-25	Age 25-32
Sumfelony (Mean)	1.78	1.42	.71
Actives	1.88	1.98	1.21
Active Felons	1.96	2.51	2.02
Active Burglars	2.17	2.83	2.40
Active Robbers	1.93	2.96	2.61
Summisdemeanor (Mean)	1.98	1.41	.91
Actives	2.14	1.84	1.53
Active Felons	2.17	1.88	1.64
Active Burglars	2.08	1.83	1.53
Active Robbers	2.46	1.85	1.15

Table 8 Percent Distribution of Time Incarcerated By Month

	<u>Total</u>	<u>Active Felons</u>
	<u>Age 7-17</u>	<u>Age 7-17</u>
<6 months	3%	5%
6-12	9%	6%
12-18	32%	21%
18-24	19%	17%
24-30	16%	22%
30-36	9%	16%
36-42	6%	6%
42-48	3%	3%
48 or more	3%	4%
	<u>Age 17-25</u>	<u>Age 17-25</u>
None	36%	5%
<12 months	23%	18%
12-24	10%	12%
24-36	7%	13%
36-48	6%	10%
48-60	5%	13%
60-72	7%	14%
72-84	4%	10%
84-96	2%	6%
	<u>Age 25-32</u>	<u>Age 25-32</u>
None	64%	22%
<12 months	14%	22%
12-24	5%	11%
24-36	4%	9%
36-48	5%	15%
48-60	4%	11%
60-72	2%	8%
72 or more	2%	1%

HEADER RECORD [code *one* for each case]Begin Card 1/

Case #	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>		
Record type	<u>5</u>					
Birthdate	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>
Exam date (time 1)	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>
Time 2 date	<u>18</u>	<u>19</u>	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>
Time 3 date	<u>24</u>	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>	<u>29</u>
Date of death (if applicable)	<u>30</u>	<u>31</u>	<u>32</u>	<u>33</u>	<u>34</u>	<u>35</u>
Status at time selected for study:	<u>36</u>					
						1 = Lyman (L.S.) 2 = Shirley (I.S.B.) 3 = Other delinquent 4 = Nondelinquent
Total # contacts	<u>37</u>	<u>38</u>				

 Coder _____ 39 /End Card 1

Time start

Time end

Date

CRIMINAL HISTORY [code *one* for each and every arrest event]

Case # 1 2 3 4
 Record type 5
 Time period 6
 Arrest sequence # 7 8
 Date of contact 9 10 11 12 13 14
 Court location 15 16

	CHARGE	COUNTS	DISPOSITION
#1	<u>17</u> <u>18</u>	<u>19</u> <u>20</u>	<u>21</u> <u>22</u>
#2	<u>23</u> <u>24</u>	<u>25</u> <u>26</u>	<u>27</u> <u>28</u>
#3	<u>29</u> <u>30</u>	<u>31</u> <u>32</u>	<u>33</u> <u>34</u>
Correctional violation?	<u>35</u>		
Total # charges	<u>36</u> <u>37</u>		

CUSTODY EVENTS [code *actual time*]

PROBATION 38 39 40 41 42 43 to 44 45 46 47 48 49

INCARCERATION #1 50 51 52 53 54 55 to 56 57 58 59 60 61

PAROLE #1 62 63 64 65 66 67 to 68 69 70 71 72 73

Revocation of parole #1? 74 75 76 77 78 79 /End card 1,
Begin card 2

INCARCERATION #2 1 2 3 4 5 6 to 7 8 9 10 11 12

PAROLE #2 13 14 15 16 17 18 to 19 20 21 22 23 24

Revocation of parole #2? 25 26 27 28 29 30

INCARCERATION #3 31 32 33 34 35 36 to 37 38 39 40 41 42

PAROLE #3 43 44 45 46 47 48 to 49 50 51 52 53 54

/End card 2

CHARGES

VIOLENT CRIMES

- 1 Assault and Battery (A&B)/ Simple Assault/ Threats
- 2 Assault and Battery (A&B) on Wife
- 3 Assault and Battery (A&B) with weapon/ Aggravated Assault
- 4 Homicide/Manslaughter
- 5 Rape/ Assault with intent to rape/ Sodomy
- 6 Sex offence (non-rape) / abuse of a female child/ indecent assault
- 7 Robbery (armed)
- 8 Robbery (unarmed and nonspecific)
- 9 Extortion
- 10 Kidnapping

PROPERTY CRIMES

- 11 Burglary/ B&E/ B&E&L in Daytime or Nighttime
- 12 Possession of Burglary Tools
- 13 Forgery/ uttering/ embezzlement/ fraud/ other theft
- 14 Larceny (grand and petit)
- 15 Larceny from person
- 16 Larceny of auto (including Dyer Act)
- 17 Unlawful use of auto/ use of auto w/o permission/ joyriding
- 18 Receiving Stolen Goods (R.S.G)
- 19 Stealing rides/ sneaking admission/ theft of services
- 20 Trespassing
- 21 Arson
- 22 Property Damage/ Vandalism

JUVENILE STATUS OFFENSES

- 23 Runaway
- 24 Stubborn/ Incurable/ Profanity
- 25 Truancy
- 26 Other Juvenile Status Offenses

PUBLIC ORDER OFFENSES

- 27 Curfew and Loitering law violations
- 28 Disorderly Conduct/ malicious mischief/ false alarms/ affray
- 29 Drugs
- 30 Drunkenness; violation of liquor laws
- 31 Gambling
- 32 Vagrancy
- 33 Weapons; carrying, possession, etc.

TRAFFIC OFFENSES

- 34 Driving While Intoxicated (D.W.I.)/ D.U.I.
- 35 Leaving Scene of Accident/ Hit and Run
- 36 Moving Violations/ speeding, not slowing down, running red lights, reckless driving, operating to endanger.
- 37 Technical Violations/ no license, no registration, unregistered plates

OTHER OFFENSES

- 38 Conspiracy (not specified)
- 39 Licensing Violations
- 40 Military related offenses (e.g., unlawful use of a military uniform).
- 41 Offenses against family and children (desertion, nonsupport, illegitimacy, adultery).
- 42 Suspicion -- Violent crime investigation
- 43 Suspicion -- Theft crime investigation
- 44 Suspicion -- Other crime investigation

- 45 Contempt of Court
- 46 Escape (custody)/ jailbreak/ fugitive
- 47 Violation of Probation/ Surrender

- 48 Contributing to the Delinquency of a Minor
- 49 Conspiracy to Commit a Violent Crime
- 50 Conspiracy to Commit a Theft Crime
- 51 Accessory Before or After the Fact
- 52 Perjury
- 53 Fornication
- 54 Allowing an Improper Person to Operate an Auto
- 55 Lewdness/ Exposure/ Peeping Tom
- 56 Violation of City Ordinance
- 57 Resisting Arrest/ Failure to Cooperate with a Police Officer
- 58 Bribery

DISPOSITIONS

- 1 Release including release w/o prosecution
- 2 Dismissed/ Nolle Prossed/ No Bill/ Discharged/ No Probable Cause
- 3 Not guilty/ Not delinquent
- 4 Filed (w/o a finding & with a finding)/ On file
- 5 Fine/ Restitution
- 6 Probation
- 7 Suspended sentence (ss) with probation
- 8 Probation & Jail/ Split sentence/ probation Department of Child Guidance
- 9 Commitment to a juvenile correctional facility (L.S./I.S.B.)
- 10 Commitment to a nonpenal institution (DCG & DPW)
- 11 Commitment to House of Correction/ Jail
- 12 Commitment to Mass. Reformatory (M.R.)/ Reformatory/ Farm
- 13 Commitment to State Prison
- 14 Concurrent commitment to a juvenile correctional facility (L.S./ I.S.B.)
- 15 Concurrent commitment to House of Correction/ Jail
- 16 Concurrent commitment to M.R./ Reformatory
- 17 Concurrent commitment to State Prison
- 18 Sentence deferred, released to military prison
- 19 Sentence deferred, released to mental institution
- 20 Filed, committed to state hospital
- 21 Filed, committed to military authorities
- 22 Committed to an institution for Defective Delinquents
- 99 Disposition missing/ default/ defendant missing/ unknown

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PATTERNS IN THE CAREERS OF THE GLUECKS' DELINQUENTS

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Table 1. Glueck Sample Sizes by Wave of Interview

	Wave 1: Age 11-17	Wave 2: Age 25	Wave 3: Age 32
Sample Size	500	463	438
Deaths	X	17	8

Table 2. Number of Persons Arrested by Type of Crime

<u>Arrests (persons)</u>	<u>Age 7-17</u>	<u>Age 17-25</u>	<u>Age 25-32</u>
Robbery	34	100	56
Burglary	299	172	74
Violent	33	83	37
Property	389	240	108
Alcohol/Drugs	9	154	124
Public Order	374	250	179

Table 3 Participation by Type of Crime

<u>% Arrested</u>	<u>Age 7-17</u>	<u>Age 17-25</u>	<u>Age 25-32</u>
Total	100%	81%	61%
Robbery	8%	23%	13%
Burglary	68%	39%	17%
Violent	8%	19%	8%
Property	89%	55%	25%
Alcohol/Drugs	2%	35%	28%
Public Order	85%	57%	41%

Table 4

Average Rates of Raw Crime Frequencies and Crimes Per
Year Free in the Community by Age and Type of Crime

<u>Raw Frequencies:</u>	<u>Age 7-17</u>	<u>Age 17-25</u>	<u>Age 25-32</u>
Robbery	.017	.163	.069
Burglary	1.104	1.083	.236
Violent	.113	.492	.251
Property	2.910	2.941	.636
Alcohol/Drugs	.014	.047	.407
Public Order	.092	.735	.565
Total	4.733	5.747	2.577

<u>Crimes Per Year Free:</u>	<u>Age 7-17</u>	<u>Age 17-25</u>	<u>Age 25-32</u>
Robbery	.001	.071	.033
Burglary	.073	.412	.079
Violent	.007	.164	.077
Property	.193	1.016	.190
Alcohol/Drugs	.001	.076	.073
Public Order	.006	.160	.115
Total	.314	1.699	.603

Table 5

Relationship Between Excessive Drinking as Determined
by Home Interviews and Official Criminal Behavior

	<u>Excessive Drinking Age 17-25</u>	
	No	Yes
% Robbery Arrest 17-25	17	32*
% Burglary Arrest 17-25	31	52*
% Violent Arrest 17-25	14	27*
% Property Arrest 17-25	45	70*
% Drunkenness Arrest 17-25	18	63*
% Robbery Arrest 25-32	9	20*
% Burglary Arrest 25-32	11	26*
% Violent Arrest 25-32	4	16*
% Property Arrest 25-32	15	40*
% Drunkenness Arrest 25-32	15	50*

*Significant at .05 level

Table 6

Predictive Relationship Between Offending While in the Military
(Ages 17-25) and Later Crime and Deviance

	<u>Charged in Military</u>	
	No	Yes
% Violent Arrest 25-32	7	21*
% Property Arrest 25-32	12	35*
% Excessive Drinking 25-32	18	40*
% General Deviance 25-32	33	51*
% Any Arrest 25-32	37	69*

*Significant at .05 level

Table 7 Age of Onset of First Arrest and Persistent Misbehavior

Mean Age of Onset of Persistent Misbehavior	7.96
Mean Age of Onset of Persistent Misbehavior for Actives	7.79
Mean Age of Onset for Active Felons	7.56
Mean Age of Onset for Active Burglars	7.45
Mean Age of Onset for Active Robbers	7.85
Mean Age of Onset of Arrest	12.06
Mean Age of Onset of Arrest for Actives	11.96
Mean Age of Onset for Active Felons	11.96
Mean Age of Onset for Active Burglars	11.68
Mean Age of Onset for Active Robbers	12.08

Pearson Correlation Coefficients

Age of Onset of Misbehavior and Age of First Arrest	.41*
Onset of Misbehavior and First Arrest for Actives	.40*
Onset of Misbehavior and First Arrest for Active Felons	.34*
Onset of Misbehavior and First Arrest for Active Burglars	.26*
Onset of Misbehavior and First Arrest for Active Robbers	.50*
Age of Onset of Misbehavior and the Number of Arrests at T1	-.17*
Age of Onset of Misbehavior and the Number of Arrests at T2	-.04
Age of Onset of Misbehavior and the Number of Arrests at T3	-.16*
Age of Onset of Misbehavior and "Mu" at T1	-.09*
Age of Onset of Misbehavior and "Mu" at T2	-.06
Age of Onset of Misbehavior and "Mu" at T3	-.08
Age of Onset of Misbehavior and Desistance at T2	.06
Age of Onset of Misbehavior and Desistance at T3	.09*
Age of Onset of First Arrest and the Number of Arrests at T1	-.21*
Age of Onset of First Arrest and the Number of Arrests at T2	.00
Age of Onset of First Arrest and the Number of Arrests at T3	.01
Age of Onset of First Arrest and "Mu" at T1	-.27*
Age of Onset of First Arrest and "Mu" at T2	-.05
Age of Onset of First Arrest and "Mu" at T3	-.04
Age of Onset of First Arrest and Desistance at T2	-.01
Age of Onset of First Arrest and Desistance at T3	.05

*Significant at .05 level

TABLE 5
 Concurrent Pearson Correlation Coefficients Among Individual
 Crime Frequencies Per Month Free, by Age and Type of Crime

		<u>AGE 7-17</u>				
<u>AGE 7-17</u>	Burglary	Violent	Property	Public order	Total	
Robbery	.09*	.41*	.03	.01	.06	
Burglary		-.04	.55*	-.04	.38*	
Violent			-.02	.11*	.10*	
Property				.04	.79*	
Public order					.22*	

		<u>AGE 17-25</u>				
<u>AGE 17-25</u>	Burglary	Violent	Property	Public order	Total	
Robbery	.23*	.83*	.48*	.39*	.53*	
Burglary		.40*	.82*	.23*	.73*	
Violent			.60*	.36*	.68*	
Property				.31*	.97*	
Public order					.48*	

		<u>AGE 25-32</u>				
<u>AGE 25-32</u>	Burglary	Violent	Property	Public order	Total	
Robbery	.07	.87*	.30*	.36*	.45*	
Burglary		.14*	.76*	.03	.61*	
Violent			.42*	.41*	.59*	
Property				.20*	.86*	
Public order					.56*	

* Significant at .05 level

Table 9

Predictive Pearson Correlation Coefficients Among Individual
Crime Frequencies Per Month Free, by Age and Type of Crime

		<u>AGE 7-17</u>				
<u>AGE 17-25</u>	Burglary	Violent	Property	Public order	Total	
Robbery	-.03	.03	.02	.03	.04	
Burglary		-.04	.08	-.03	.10*	
Violent			.03	.07	.07	
Property				-.03	.13*	
Public order					.05	
Total					.12*	

		<u>AGE 7-17</u>				
<u>AGE 25-32</u>	Burglary	Violent	Property	Public order	Total	
Robbery	.17*	-.03	.16*	.13*	.21*	
Burglary		-.03	.09*	-.01	.06	
Violent			.18*	.14*	.22*	
Property				.03	.08*	
Public order					.07	
Total					.13*	

		<u>AGE 17-25</u>				
<u>AGE 25-32</u>	Burglary	Violent	Property	Public order	Total	
Robbery	.27*	.22*	.26*	.09*	.24*	
Burglary		.11*	.22*	.07	.22*	
Violent			.32*	.13*	.30*	
Property				.17*	.47*	
Public order					.17*	
Total					.42*	

*Significant at .05 level