

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

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One of the most influential studies in the history of criminological research is Sheldon and Eleanor Gluecks' 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

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extensive follow-up periods. Their major studies included the Massachusetts Reformatory study (1930, 1937, 1943), the Women's Reformatory study (1934a), the Judge Baker Foundation study (1934b, 1940), *Unraveling Juvenile Delinquency* (1950), and subsequent follow-up studies (1956, 1962, 1968, 1970). The result is that the Gluecks generated a number of relatively large data sets and many publications over the course of their professional careers.

Undoubtedly, the work that the Gluecks are best known for is *Unraveling Juvenile Delinquency* (hereafter *UJD*).¹ This study of the etiology of juvenile delinquency was undertaken during the 1940's and involved a matched sample of 500 official delinquents and 500 officially defined nondelinquents. The delinquent sample contained "persistent delinquents" recently committed to two correctional schools—the Lyman School for Boys in Westboro, Massachusetts, and the Industrial School for Boys in Shirley, Massachusetts (see Glueck and Glueck, 1950: 27). The nondelinquent sample was drawn from the public schools in the city of Boston. The sampling procedure was designed to maximize differences in delinquency—an objective that by all accounts succeeded (see Glueck and Glueck, 1950: 27–29).²

The most unique and compelling feature of their research design is that all male subjects were matched as to age, race/ethnicity, general intelligence, and low-income residence—all classic criminological variables thought to influence both delinquency and official reaction. Both delinquents and nondelinquents, for example, were male, white, and grew up in lower class neighborhoods of central Boston. These areas 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). The areas were also closely matched on delinquency rate: 59% of the delinquents and 55% of the nondelinquents lived in neighborhoods in which the delinquency rate was 10–24.9 per thousand; 20% of the former and 23% of the latter came from areas with a delinquency rate of 25–49.9 per thousand;

1. This work was honored by three symposia of reviews, which appeared in the *Harvard Law Review* (1951), the *Journal of Criminal Law, Criminology, and Police Science* (1951), and *Federal Probation* (1951). See also Glueck (1960) for a response to the various reviews of *UJD*. Additionally, in an assessment of criminological literature in the United States, Wolfgang et al. (1978) found that from 1945 to 1972 *UJD* was the most heavily cited work in the field.

2. For example, approximately 30% of the delinquent group had a juvenile court conviction at age 10 or younger, and the average number of convictions for all delinquent boys was 3.5 (Glueck and Glueck, 1950: 293). Further, about two-thirds of first offenses were personal and property crimes (e.g., burglary, larceny, assault). Only 10% were public order offenses (e.g., vandalism, trespassing) and less than 4% were for truancy. Also, although it turned out that a few (<10%) of the original nondelinquents did in fact commit delinquent acts as juveniles—they were extremely minor offenses, such as smoking, drinking, and stubbornness (Glueck and Glueck, 1950: 29).

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

(1985). They provide a fair and accurate summary of the Gluecks' work. For example, they state: "Sheldon and Eleanor Glueck conducted what was, and has remained, one of the most detailed and comprehensive longitudinal and cross-sectional studies of male delinquency" (J. Wilson and Herrnstein, 1985: 175). Not surprisingly, the work of J. Wilson and Herrnstein, like that of the Gluecks, has been strongly criticized for its focus on individual factors in crime causation and its examination of nonsociological variables, such as genetic predisposition to crime (among other characteristics). But, in an excellent review of the J. Wilson and Herrnstein book, Cohen (1987: 204) has contended that sociology is "the only branch of social science that has . . . failed to recognize openly the possible influence of nature on human behavior, and nowhere is this more evident than in our studies of crime." In short, we contend that ideological critics (e.g., Edwin Sutherland) of the Gluecks' research used ideology to destroy empirical facts, without assessing the validity of the empirical findings. The more appropriate strategy, in our view, is to use empirical data to answer empirical questions, independent of allegiance to any particular discipline.

The Gluecks' research was also rejected by contemporary sociological theories due to the Gluecks' focus on the family as a major source of delinquency. Hirschi (1983) has argued that modern theories of crime ignore the importance of the family as a socializing institution in discussions of crime causation. In a similar vein, Bordua (1962: 250) has noted that "current sociological thinking seems willing to accept the view of delinquency as a stress reaction providing only that the source of stress is class structure and not the family." Interestingly, Wilkinson (1974) has contended that ideological bias in sociology has played a role in accepting and rejecting the research on broken homes and delinquency throughout this century. Given the Gluecks' emphasis on family variables in the *UJD* study, it is not surprising that their research findings were rejected by sociological criminologists.³

In addition to the ideological criticisms noted above, the Glueck's methodology was also criticized. We argue, however, that the criticisms have been overblown and often confuse concerns relating to the quality of the data analysis used by the Gluecks with the overall quality of the data they collected. In other words, the conclusion that the Gluecks' data analysis was ill-conceived ought not lead to the conclusion that their data were of equally poor quality. The latter is an empirical and logical issue. What do the methodological critics of the Gluecks' research have to say?

One important issue concerns causal ordering. The Gluecks did not

3. We are currently working on a paper examining the critique by Edwin Sutherland of the Gluecks' work on criminal careers. We argue that Sutherland's criticisms were based on ideology as well as theoretical and methodological issues.

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

population, Reiss found that the Glueck prediction table led to a disappointing 8.6% reduction in the expected errors in prediction (1951: 118–119).⁴

Despite this admittedly dismal attempt at predicting delinquency, the Glueck data can be used to assess the correlates of delinquency and nondelinquency. As Hirschi and Selvin argue (1967: 248–250), a sample of 50% delinquent and 50% nondelinquent is not a problem if the data are used to explicate a set of factors relating to the delinquent and nondelinquent populations as opposed to being used to predict delinquency from a set of factors. Hirschi and Selvin (1967: 250) wrote:

The Gluecks' prediction tables thus illustrate an important methodological point: If an investigator wishes to make statements about the population from which his sample was drawn, he must percentage within categories representative of that population. The Gluecks can (perhaps) make accurate statements about distributions of their independent variables within the delinquent and nondelinquent populations; they cannot make accurate statements about the distributions of delinquency within categories of their independent variables for some larger population.

In his review of *UJD*, Reiss (1951) also chastised the Gluecks for their poor data analysis. Their analytical strategy suffered in several respects. First, they did not use any multivariate analysis in their work, in part because such statistical packages were simply unavailable at that time. They used what can be called a "hit and run" technique, which in effect gave equal weight to all findings (Hirschi and Selvin, 1967). Thus, there is a need to go beyond their somewhat simplistic analyses by using more sophisticated analytic techniques (e.g., logistic regression, log linear analysis).⁵

Second, the Gluecks did not use their data to test the relative strengths of various competing theoretical approaches. For instance, it is possible to assess the relative strengths of sociological, psychological, and biological factors in the explanation of delinquency using their data. Relatedly, such a reanalysis of the *UJD* could also address some of the substantive criticisms raised when the book was published. It has been argued, for example that the Gluecks underemphasized the role of social factors in the explanation of delinquency. Specifically, the role of peers and socioeconomic status needs to be reexamined. This is important in light of existing theoretical conceptions

4. Other major problems with the Gluecks' attempt at predicting delinquency include the absence of a validation sample. For a general review, see Farrington and Tarling (1985: 7–8) and Gottfredson (1987).

5. Richard LaBrie, a computer and research consultant to the Gluecks, did perform a multivariate analysis of the *UJD* data. However, LaBrie, like the Gluecks, was exclusively prediction oriented. As a result, his work was atheoretical in both variable selection and analysis. Moreover, he did not give any attention to such important issues as causal ordering in his analysis (see LaBrie, 1970a).

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).

at which the first break occurred) would be considered a subsidiary variable (Glueck and Glueck, 1956: 26–27). Second, some primary variables were also eliminated due to small sample size in relation to specific body types and certain family characteristics or because they were deemed irrelevant to the research question as posed. Third, the Gluecks (1956: 27) also eliminated variables that were “too remote in time from direct influence on the boys” (e.g., education of their grandparents) as well as “those [variables] which could not possibly be deemed ‘causative’ of delinquency because in the great majority of instances they arose *after* the onset of delinquency” (e.g., membership in gangs). Finally, all variables were dichotomized by the Gluecks. For example, the variable “economic condition of family” was coded 1 for usually dependent (e.g., continuously received outside aid) and 0 for comfortable or marginal conditions (Glueck and Glueck, 1970: 39, 114). Ultimately, about 110 biological, psychological, and sociological variables were included in the two follow-up studies (Glueck and Glueck, 1956: 27 and 1962: 15–16).

RESEARCH DESIGN

Over the past two decades, theorists, researchers, and policymakers have refocused attention on the role of the family in explaining delinquency (see, e.g., Farrington, 1987; Hirschi, 1969, 1983; Loeber and Stouthamer-Loeber, 1986; Lounsbury, 1987; and J. Wilson, 1983). This renewed interest in the relationship between family life and delinquency led us to focus on the extensive family variables available in the Glueck subfile. In one of the most comprehensive reviews to date, Loeber and Stouthamer-Loeber (1986: 38) identify four paradigms of family functioning in an attempt to “organize our understanding of child conduct problems.” Briefly described, these include the neglect paradigm, which examines parent-child and child-parent involvement and parental supervision; the conflict paradigm, which analyzes discipline practices and parent-child and child-parent rejection; the deviant behaviors and attitudes paradigm, which focuses on parental criminality and deviant attitudes among parents; and the disruption paradigm, which looks at marital conflict and parental absence (1986: 40). Loeber and Stouthamer-Loeber performed a meta-analysis of the available studies and found all four areas are related to juvenile delinquency, juvenile aggressiveness, and other juvenile misconduct. More specifically, Loeber and Stouthamer-Loeber (1986: 29) argue that

socialization variables, such as lack of parental supervision, parental rejection, and parent-child involvement, are among the most powerful predictors of juvenile conduct problems and delinquency. Medium-strength predictors include background variables such as parents’ marital relations and parental criminality. Weaker predictors are lack of parental discipline, parental health, and parental absence.

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).

Table 1. Variable Labels, Definitions, and Descriptive Statistics, Reanalysis of *UJD* Coded Data

Variable Label	Variable Definition and Descriptive Statistics
Hcrowd	Household crowding of more than 2 per bedroom (mean = .32; range = 0-1)
Fcrdrunk	Criminal record and alcoholism/drunkenness of father (mean = .99; range = 0-2)
Mcrdrunk	Criminal record and alcoholism/drunkenness of mother (mean = .41; range = 0-2)
Famdis	One or both parents absent during childhood (mean = .39; range = 0-1)
Ecdep	Economic dependence of family (e.g., welfare) (mean = .21; range 0-1)
Memploy	Mother's irregular employment outside the home (mean = .20; range = 0-1)
Foreignb	One or both parents foreign-born (mean = .61; range = 0-1)
Mobility	Number of moves by family (mean = .34; range = 0-1)
Ferratic	Father's inconsistent use of threatening control and physical punishment (mean = 1.52; range = 0-3)
Merratic	Mother's inconsistent use of threatening control and physical punishment (mean = 1.50; range = 0-3)
Msuperv	Supervision of boy by mother (mean = .63; range = 0-1)
Preject	Indifferent attention or open hostile rejection of the boy by mother and/or father (mean = .50; range = 0-2)
Attachp	Warm emotional ties of boy to mother and/or father (mean = 1.34; range = 0-2)

frequent, regular, or chronic addiction to alcohol, and not to very occasional episodes of overdrinking in an atmosphere of celebration (Glueck and Glueck, 1962: 217). Thus, the variable for both mother and father ranges from 0 to 2. We examine the extent to which the effect of adult criminality

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

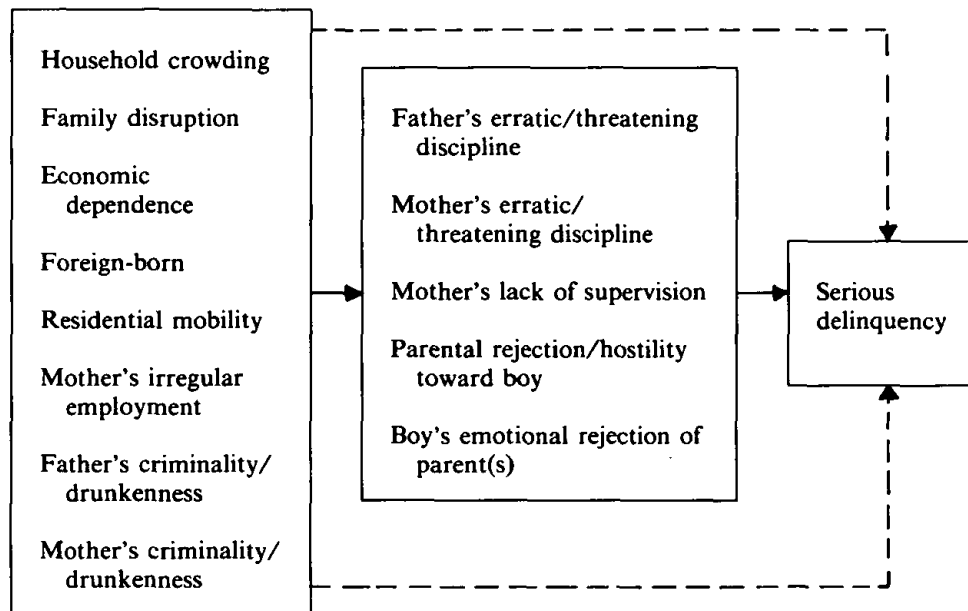
8. The Gluecks did not collect any information on father's supervision of children, and thus we are limited to an examination of supervision by mothers. This narrow focus by the Gluecks reflects the era in which this study was conceived, wherein mothers assumed primary responsibility for the supervision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

Glueck, 1962: 220). This is directly analagous to Hirschi's (1969) conceptualization of attachment. The complete list of variables, labels, and descriptive statistics is displayed in Table 1.

CAUSAL MODEL AND HYPOTHESES

The causal model to be examined empirically is shown in Figure 1. The

Figure 1
Causal Model of Structural Background Factors, Family Process, and
Delinquency in the *UJD* Data*



* Because of the *UJD* matching design, age, race/ethnicity, neighborhood SES, and IQ are controlled. Also, gender is controlled in that the study involved only males.

----- Broken line indicates hypothesized weak or insignificant relationship.

————— Solid line indicates hypothesized strong effect.

mediating constructs of family processes are hypothesized to have the strongest effects on delinquency. Specifically, we expect that erratic and harsh discipline by mothers *and* fathers, weak parental supervision, parental rejection of the child, and weak emotional attachment of the boy to his parents will increase delinquency. This conceptualization is derived in part from the work of Travis Hirschi. Hirschi (1983) focuses on child-rearing practices and presents a model of effective parenting that entails monitoring the behavior of children, recognizing their misdeeds, and punishing those misdeeds accordingly. In addition, Hirschi argues that parental affection and/or a willingness to invest in children is an essential underlying condition of good parenting and, ultimately, the prevention of misbehavior. This scheme is similar to that

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

and monitoring children. Similarly, family disruption not only affects supervisory capacity, but also attachment and disciplinary practices (Rutter and Giller, 1983: 183).

Finally, although various indicators of poverty and poor living conditions (e.g., economic dependence, household crowding, and foreign-born status) have been linked to delinquency, these same variables are posited to have an effect on family social control mechanisms. As Rutter and Giller (1983: 185) argued, "serious socio-economic disadvantage has an adverse effect on the *parents*, such that parental disorders and difficulties are more likely to develop and good parenting is impeded." Thus, we expect economic dependence, household crowding, and nativity of parents to be related to delinquency largely through their effects on family process variables as defined here.

Our causal model (Figure 1) in conjunction with the unique nature of the Gluecks' data also contributes to the literature on families and delinquency in other specific ways. First, the attachment variables used in this study contain measures of attachment in both directions, namely, parent to the child and child to the parent. Gove and Crutchfield (1982) note that most of the research on families and delinquency collect data from juveniles and thus focus solely on the child's perception of attachment to the parents (see, e.g., Hirschi, 1969). Gove and Crutchfield (1982) use a measure of attachment that relies on the parents' perception, but few studies have both. The Gluecks' data contain information derived from independent interviews with parents and juveniles. Thus, we are able to construct two measures of attachment, parent-child and child-parent, which allows fuller specification of the attachment dimension.

Second, in this study we are able to assess the different effects of mothers and fathers separately with regard to such key variables as criminality/drunkenness and style of discipline. Loeber and Stouthamer-Loeber (1986) point out that little is known regarding the effects of fathers as parents. It seems important to begin to explore whether the behavior of mothers and fathers has similar or different effects on the children.

Third, on the basis of the information available, we combined alcoholism of the parent with criminality of the parent in order to determine more fully the effect of parental deviance on intervening variables, like attachment, discipline practices, and supervision. Although few studies consider parental alcoholism as an important variable (see McCord, 1979), it seems to be potentially as important as parental criminality in an examination of family functioning.

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

measured). Overall, then, the causal ordering of Figure 1 is supported by prior theory, logic, and available empirical evidence.

RESULTS

Table 2 presents the OLS multiple regression results of the effects of the eight background factors on three dimensions of family discipline and supervision.¹⁰ In the first two columns the data show that household crowding, father's criminality/drunkenness, economic dependence, and foreign-born status have significant ($p < .05$), positive effects on father's erratic use of discipline and punishment.¹¹ The largest effect by far is for *Fcdrun*—fathers with a history of alcoholism and criminality were, all else equal, much more likely to use force and inconsistent discipline on their sons than fathers with no record of alcoholic and criminal deviance ($B = .30$). This pattern is supportive of Hirschi's (1983) notion that parental deviance contributes to family dysfunction. It also suggests that some, if not all, of the effect of father's criminality on son's delinquency may be attributable to family discipline.

The results in columns 3 and 4 are perhaps even more interesting. Here we see that not only does mother's criminality and drunkenness increase erratic discipline by the mother, but so also does father's criminality and drunkenness. In fact, *Fcdrun* has the largest effect on mother's erratic discipline—more than double that of mother's deviance. In this vein note that mother's criminality/alcoholism has no effect on father's discipline. This suggests that

interviews with the boy chosen for the study, his parents, and his teachers. In conjunction with this home interview, the Gluecks' research team also conducted a field investigation by meticulously culling information from records of both public and private agencies that had any involvement with the family. The basic Glueck data, then, were the comparison, reconciliation, and integration of these multiple sources of data. In addition, information in the Glueck data appearing as subjective ratings by interviewers or that which relies on evaluative coding schemes were, in fact, corroborated by specific accounts of behavior as recorded in the several different sources of records examined and as gathered through self-reports during the home interviews (see Vaillant, 1983: 245–247).

10. Although two of the dependent variables in our study are dichotomous, we use OLS regression as the main analytic tool. Regression is quite robust to violation of normality assumptions (see Kerlinger and Pedhazur, 1973: 47, 48) and its properties are well known. Moreover, analyses using alternative methods (e.g., logistic regression) yield identical substantive results (see below). After eliminating cases that contained missing data on the variables of interest, the sample size was reduced to 812 cases. For an in-depth analysis that demonstrates the random distribution of missing data in the Glueck *UJD* study, see LaBrie (1970b).

11. As noted earlier, statistical significance tests are not strictly applicable to the Gluecks' sampling scheme. As a general rule of thumb, we thus focus primarily on coefficients that are greater than twice their standard errors, which approximates a traditional .05 level of significance. Among "significant" coefficients, our interest is the relative magnitude of effects (i.e., standardized coefficients).

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					
	<u>Ferratic</u>		<u>Merratic</u>		<u>Msuperv</u>	
	B	t-ratio	B	t-ratio	B	t-ratio
Hcrowd	.12**	3.64	.11**	3.42	.04	1.28
Fcrdrunk	.30**	7.59	.22**	5.51	-.16**	-4.28
Mcrdrunk	.03	.86	.10**	2.64	-.22**	-6.47
Famdis	-.05	-1.43	-.01	-.26	-.11**	-3.24
Ecdep	.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

confirmed by other empirical research (see, e.g., Maccoby, 1958; H. Wilson, 1980). It remains to be seen whether irregular maternal employment and/or family disruption have direct effects on delinquency.

In short, the results in Table 2 show rather consistent and strong predictors of disrupted family functioning in terms of discipline and supervision. Unlike traditional criminological theory that stresses the importance of factors like crowding, deprivation, and broken homes, the Gluecks' data reveal that the drunkenness and criminal deviance of both mother and father have the most salient negative influences on discipline and supervision. Note also that residential mobility has a disruptive effect on the family processes of mother's supervision and parental discipline.

In Table 3 we turn to the examination of the emotional or affective dimension of family social control—the attachment between parent and child. In columns 1 and 2 the data show that family disruption, residential mobility, and both father's and mother's criminality/drunkenness have significant positive effects on parental rejection of the child. This suggests that in families in which there is only one parent, frequent moves, and a pattern of deviant parental conduct, parents are more likely to exhibit indifference or hostility toward their children. These effects are substantial and much larger than those associated with such traditional factors as household crowding, economic dependence, and mother's employment.

The results for boy's attachment to parents are similar to those for parental rejection. Overall, the largest predictors of weak attachment of boy to parents are father's deviant conduct (Fcrdrunk) and family disruption (Famdis). Residential mobility and foreign-born status also have significant effects, both reducing a son's attachment to his parents.

The full structural equation results are presented in Table 4. In columns 1 and 2 the OLS regression estimates paint a strikingly clear picture that almost fully supports the causal model. Note, first, that of all the structural background factors, only one (mobility) has a direct effect on delinquency. On the other hand, all of the family process variables have significant effects on delinquency in the predicted theoretical direction. Moreover, several of these effects are quite substantial. Mother's supervision has the largest effect ($-.25$) and sharply differentiates delinquents from nondelinquents. Perhaps more interesting, both mother's and father's erratic discipline have independent positive effects on delinquency of virtually the same magnitude.

While the family process variables relating to discipline and supervision have the largest effect, the data also reveal that the affective dimension of family process is important too. In this regard parental rejection of the child has a direct positive effect on delinquency (.14), and boy's attachment to parent seems to suppress delinquency ($-.11$). Hence, independent of both background factors and family discipline factors, emotional ties of child to parent

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.

Table 4. OLS Linear and ML Logistic Regression of Delinquency Status on Structural Background Factors and Family Process Variables, Reanalysis of *UJD* Coded Data

	Delinquency			
	OLS Linear Regression		ML Logistic Regression	
Full model	B	t-ratio	Coefficient	C/SE
Hcrowd	-.00	-.07	.02	.11
Fcdrunk	.02	.72	.04	.28
Mcdrunk	.02	.64	.20	1.18
Famdis	.03	1.05	.27	1.18
Ecdep	.02	.88	.12	.49
Memploy	.01	.47	.07	.28
Foreignb	.01	.49	.14	.65
Mobility	.07**	2.22	.46**	2.03
Ferratic	.16**	4.92	.55**	4.30
Merratic	.17**	5.35	.60**	4.78
Msuperv	-.25**	-7.71	-1.41**	-6.38
Preject	.14**	4.16	.68**	3.92
Attachp	-.11**	-3.76	-.47**	-3.46
$R^2 = .44, p < .01$		$\text{Model } \chi^2 = 433.9(13d.f.)$		

** $p < .05$

VALIDITY CHECKS

To substantiate the above results we reestimated the models in an effort to assess misspecification error and multicollinearity. Specifically, although not of substantive interest in this study, we examined variables relating to psychological functioning, psychiatric evaluations (e.g., psychopathy), and biological stature (e.g., mesomorphy). We then replicated the models with those factors included, and the substantive results in Tables 2–4 were not altered. Apparently, family process and delinquency are related not just independent of traditional sociological controls, but of biosocial controls as well.

Multicollinearity is also not a problem—the largest intercorrelation among predictors was .52—and that was between mother's and father's erratic discipline, both of which had *independent* effects on delinquency. Variance inflation factors (see Fisher and Mason, 1981) were therefore much below levels of concern—the largest was less than 2.0.

Finally, it is possible that the results in columns 1 and 2 of Table 4 are

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

using the full data set. Recall that our study was limited to a subset of the Glueck data. In addition, attention should be given to recoding the raw data from the individual case files collected by Sheldon and Eleanor Glueck. Both theorists and methodologists have noted the strengths of the matched-sample research design employed in *UJD* and the quality and scope of the information collected (Farrington, 1986: 209; Hirschi and Selvin, 1967; Reiss, 1951; J. Wilson and Herrnstein, 1985: 175–179). Using multiple sources of information, the Gluecks collected data on a variety of interesting and important indicators relevant to understanding the causes of serious, persistent delinquency. Indeed, the Gluecks' data in all likelihood are superior to many of the current longitudinal data sets in criminology. The raw records in the Gluecks' data, for example, contain richer information on social factors than most sociological studies, and more extensive criminal history information than most criminal career data bases (for a review see Blumstein et al., 1986). And perhaps most intriguing (and unknown to most criminologists), the unpublished data contain a rich array of self-reported, parental-reported, and teacher-reported indicators of delinquent and antisocial behavior. Given a renewed interest in the causes of crime and delinquency plus the current debates regarding the parameters of criminal careers, it seems time to launch a detailed analysis of the Glueck data.¹³

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