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Changing Relationship Between Official and Self-Reported Measures of Delinquency: An Exploratory-Predictive Study, The

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THE CHANGING RELATIONSHIP BETWEEN OFFICIAL AND SELF-REPORTED MEASURES OF DELINQUENCY: AN EXPLORATORY-PREDICTIVE STUDY

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PROLOGUE

A number of years ago an exploratory study of the relationship between "official" delinquency and "self-reported" delinquency was made.[1] In that study, respondents were questioned about their past delinquent behavior and then were asked to estimate the likelihood of their committing a variety of "delinquent" acts in the future. However, that study accomplished little more than to pose the usual questions regarding the predictive efficiency of the various criteria since it included no follow-up data. Since that time, additional follow-up data have been gathered which make possible a further exploration of those questions.

This paper, therefore, is divided into two parts. In the first part the methodological development of two scales is discussed: one concerning "self-reported" delinquent behavior and the other concerning respondents' "estimates of the likelihood of future violations." The second part of the paper involves an analysis of the relationships between the scales and official delinquency data over time.

DEFINITION OF THE PROBLEM

It has long been recognized that present criminal and juvenile delinquency statistics are inadequate as measures of the extent of lawbreaking in the United States.[2] Their inadequacy stems from a multiplicity of factors. First, there is a lack of consensus regarding the definition for criminality.

Second, there is a lack of uniform methods of reporting and recording crime data. Third, there is a differential in law enforcement with respect to different racial and class groups and geographic regions. Fourth, perhaps the most serious limitation of all is the fact that present statistics deal exclusively with those offenders who become involved in some way in the legal-reactive process.

Evidence of widespread crime by persons who are never, or only rarely, involved with the law has long been publicized. Sutherland, in a notable series of studies, called attention to extensive lawbreaking among business and professional groups.[3] Fraud, violation of trust, misrepresentation in advertising and the restraint of trade were among the violations he noted. Porterfield, in a comparison of college students and juvenile delinquents, found that *all* the college students in his sample had committed offenses comparable to the offenses for which other people had been taken to court.[4] In another study, he found that the violations admitted by college boys exceeded in number and in seriousness those for which other juveniles were charged and brought to court.[5] Robison found that 32 percent of the behavioral problems known to agencies in New York City never became court cases.[6] In another study of 114 boys involved in a counseling program only 13 had not been guilty of some lawbreaking; yet, only 40 of them had ever been to court.[7] This sample of boys had committed 6,416 legal violations of which only 95 (1.5 percent) had been reported to the juvenile court. Erickson and Empey found that nearly nine out of 10 violations go undetected by anyone—parents, police, or anyone in authority.[8] This finding holds for known

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[1] M. Erickson, An Experiment to Determine the Plausibility of Developing an Empirical Means of Differentiating Between Delinquents and Nondelinquents Without Consideration to Involvement in the Legal Process (unpublished thesis, Brigham Young University, 1960).

[2] H. BARNES & N. TEETERS, NEW HORIZONS IN CRIMINOLOGY 35–38 (3rd ed. 1959); R. CAVAN, CRIMINOLOGY 35–38 (1955); M. ELLIOT, CRIME IN MODERN SOCIETY 48–74 (1952); M. NEUMEYER, JUVENILE DELINQUENCY IN MODERN SOCIETY 32–52 (1955); S. ROBISON, JUVENILE DELINQUENCY: ITS NATURE AND CONTROL 13–27 (1960); D. TAFT, CRIMINOLOGY 35–38 (1955); Pearlman, *The Meaning of Juvenile Delinquency Statistics*, 13 FED. PROBATION 63–67 (September, 1949); Sellin, *The Basis of a Crime Index*, 22 J. CRIM. L. & C. 346 (1931).

[3] E. SUTHERLAND, WHITE COLLAR CRIME (1949); Sutherland, *Is "White Collar Crime" Crime?*, 10 AM. SOCIOLOGICAL REV. 132 (1945); Sutherland, *White Collar Criminality*, 5 AM. SOCIOLOGICAL REV. 1 (1940).

[4] Porterfield, *Delinquency and Its Outcome in Court and College*, 49 AM. SOCIOLOGICAL REV. 199 (1943).

[5] A. PORTERFIELD, YOUTH IN TROUBLE (1946).

[6] S. ROBISON, CAN DELINQUENCY BE MEASURED? (1936).

[7] Murphy, Shirley & Witmer, *The Incidents of Hidden Delinquency*, 16 AM. J. ORTHOPSYCHIATRY 686 (1946).

[8] Erickson & Empey, *Court Records, Undetected Delinquency and Decision-Making*, 54 J. CRIM. L.C. &

"official" delinquents and nondelinquents. The conclusion is clear that relatively few violations committed by juveniles become a matter of official records. Furthermore, the conclusion does not seem to be limited to juveniles. Studies of adults indicate the same picture. Wallerstein and Wyle found that 91 percent of a sample of New York adults admitted having committed felonies and misdemeanors.[9]

Even more striking is the evidence suggesting that many people in penal institutions have committed fewer offenses than many who remain in the community. For example, Short found that 22 percent of the boys in a Washington reformatory were no more delinquent than 90 percent of a sample of public high school boys.[10] Likewise, Gough, in comparing a broader sample of delinquents—institutionalized offenders, high school disciplinary problems, and a sample of non-delinquents—found that 44 percent of the nondelinquents fell above the cutting point on his scale which supposedly divided delinquents from nondelinquents; 12 percent of the so-called "delinquents" fell below the cutting point.[11]

Thus, the fact that some individuals are officially designated as delinquent does not necessarily mean that they are any more or less delinquent than many others not so designated. These studies and many others[12] suggest that those who become involved in the legal process constitute but a small portion of the total number of lawbreakers. Apparently, there are vastly more delinquent individuals at any moment than official statistics indicate.[13] Furthermore, there is probably considerably more delinquent behavior among both official delinquents and nondelinquents than is indicated by all sources of official statistics concerning them.

Yet, until very recently most of the research that

has been conducted in an attempt to delineate etiological variables concerning delinquency has failed to take this into account. Numerous studies have been conducted by comparing groups of institutionalized offenders with groups of boys still in the community. The former are defined as delinquents and the latter as nondelinquents. As one might expect, the results of such research have not been very productive in isolating etiological variables. Such factors as age and sex have repeatedly been found to bear a closer relationship to delinquency (when it is thus defined) than any of the variables which supposedly are more theoretically relevant.[14]

A review of the literature suggests that the primary reason for the failure of previous research to delineate pertinent variables is that the procedures utilized have failed to distinguish actual delinquents from nondelinquents; that is, those extensively involved in illegal behavior from those rarely or never involved in it. If this claim is correct, the following conclusions can be drawn. First, data derived from police and/or court records of arrests, court appearances, and convictions may be less directly related to actual lawbreaking than to patterns of differential law enforcement, methods of gathering and reporting statistics and definitions of criminality. Second, any research which attempts to differentiate between delinquents and nondelinquents, criminals and noncriminals, which utilizes arrests, court appearances or convictions as the sole criterion of criminality may be biased in a number of ways and therefore, fail to distinguish "real" delinquents from nondelinquents.[15]

There are, however, many unresolved issues regarding the relationship between official records and actual delinquent behavior. For example, it is possible that official records reflect in some way the extent and nature of delinquent behavior within a given area even though the proportion of actual behavior that becomes a matter of official concern is extremely small.[16] In other words, for official records to be of scientific value does not necessitate congruence of official and unofficial measures.[17] If

P.S. 456 (1963); Empey & Erickson, *Hidden Delinquency and Social Status*, 44 SOCIAL FORCES 546 (1966).

[9] Wallerstein & Wyle, *Our Law Abiding Law-Breakers*, 25 FED. PROBATION 110 (April 1947).

[10] J. Short, Jr., The Study of Juvenile Delinquency by Reported Behavior: An Experiment in Method and Preliminary Findings (paper read at the annual meeting of the American Sociological Society, Washington, D.C., September 1955).

[11] H. Gough, Systematic Validation of a Test for Delinquency (paper read at the annual meeting of the American Psychological Association, September 2, 1945).

[12] Several articles present good reviews of the studies done on self-reported delinquency. *See, e.g.*, Gold, *Undetected Delinquent Behavior*, 13 J. RESEARCH IN CRIME AND DELINQUENCY 27 (1966); Short & Nye, *Extent of Unrecorded Delinquency, Tentative Conclusions*, 49 J. CRIM. L.C. & P.S. 296 (1958).

[13] H. BARNES & N. TEETERS, *supra* note 2, at 6.

[14] Short & Nye, *Reported Behavior as a Criterion of Delinquent Behavior*, 5 SOCIAL PROBLEMS 207 (1957).

[15] Wilson, *How to Measure the Extent of Juvenile Delinquency*, 41 J. CRIM. L.C. & P.S. 435 (1950).

[16] This point of view is made clear in T. SELLIN & M. WOLFGANG, THE MEASURE OF DELINQUENCY (1964).

[17] If the relationship between official and unofficial measures were "reasonably constant over time" for given types of offenses, the fact that the official records only represented a small proportion of the actual

only the relationship between the two sources of data was better understood, perhaps much of the controversy regarding sample selection procedures would be dissipated. The crucial point is that there is a real need for further research concerning the relationship between official and unofficial criteria of delinquency and crime. Clearly there is a need to examine "official" and "unofficial" measures of delinquency for the same samples or populations of adolescents over time. The present paper reports the results of such a study.

THE STUDY

Procedures

The first task involved the development of a methodological means of ordering a sample of adolescents according to some "measure" of delinquency other than "official records." Two kinds of data were chosen: self reports of past violations (self-reported delinquent behavior), and adolescents' estimates of the likelihood of their own future violations.

The major task involved two steps. The first was an attempt to provide some objective means for distributing a population of adolescents along a continuum of delinquency—nondelinquency (*e.g.*, self reports, etc.). The second was directed toward establishing an empirical criterion for making a cutting point on the continuum for further empirical manipulation; that is, the task would be directed toward establishing an empirical criterion for making predictions regarding *future* official and unofficial delinquency.

Guttman's method of scale construction and intensity analysis seemed suited to the tasks.[18] Thus, having chosen a technique, questionnaire items were built which were thought to represent a uni-

verse of items concerning past delinquent behavior. The form of the item was intentionally kept simple. Typical of the items included in the pretest and later in the final instruments is the following item: I (have or have not) stolen things worth less than $2 that didn't belong to me.

Items were also constructed that asked respondents to estimate the likelihood of their violating each of the delinquent acts in the future. The form of these items is illustrated by the following: I (would, might, wouldn't) steal things worth less than $2 that didn't belong to me.

Sample

As a matter of convenience and to avoid the bias of specifying a priori that certain groups were delinquent because of official designation, etc., a sample was selected from a public high school.[19] In two days, questionnaires were administered to 316 boys. An attempt was made to obtain responses from the entire population of sophomores, and juniors at the high school. A few boys were absent the days the questionnaires were administered, and later 34 boys had to be dropped from the research because of nonresponse to one or more parts of the questionnaire. This left a total of 282 boys. An examination of the non-response pattern of those who had to be deleted from the research revealed no apparent pattern of bias. The nonresponses seemed to be distributed randomly among the age and class groups. Because those who were absent constituted a small percentage of the population and because the nonresponses appeared to be random, the data were treated as though they constituted the data of "a representative sample." Nevertheless, technically the sample may be biased in a number of ways and fail to be representative of the adolescent population of even the community from which it was drawn. For example, it was not possible to include boys who had quit school for some reason. However, complete data were available for 282 respondents on each item included in both parts of the questionnaire. These data were submitted to the Cornell technique for scale construction to test the hypothesis of scaleability.

Scales

After several initial runs, a scale including only eight dichotomous items produced a coefficient of

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offenses committed would not pose any methodological problems since one could be extrapolated from the other. The fact that we have not developed sufficient knowledge of what the relationship is, poses some difficulty, however.

[18] Guttman, *Cornell Technique for Scale and Intensity Analysis*, in MEASUREMENT OF CONSUMER INTEREST 60 (C. Churchman, R. Ackoff & M. Wax eds. 1947), and in 7 EDUCATIONAL AND PSYCHOLOGICAL MEASUREMENT 247 (1947); Guttman, *The Quantification of a Class of Attributes: A Theory and Method of Scale Construction*, in PREDICTION OF PERSONAL ADJUSTMENT 319 (P. Horst ed. 1944); Goodenough, *A Technique of Scale Analysis*, 4 EDUCATIONAL AND PSYCHOLOGICAL MEASUREMENT 179 (1944); L. Guttman, Questions and Answers About Scale Analysis 10 (I. and E. Division, Report No. D-2, Headquarters, Army Service Forces, Washington 25, D.C., July 1945).

[19] The respondents utilized in the present study were selected at Provo High School in Provo, Utah. Appreciation is expressed to the officials of Provo High School for their cooperation in conducting this study.

TABLE 1

DELINQUENT AND NONDELINQUENT SCALE TYPES BASED ON REPORTED PAST VIOLATIONS OF THE LAW[a]

Scale Type	Offense[b]								No. of Boys in Scale Type	Percent	Cumulative Percentage
	1	2	3	4	5	6	7	8			
0	0[c]	0	0	0	0	0	0	0	38	14	14
1	x	0	0	0	0	0	0	0	40	14	28
2	x	x	0	0	0	0	0	0	44	16	44
3	x	x	x	0	0	0	0	0	39	14	58
4	x	x	x	x	0	0	0	0	26	09	67
5	x	x	x	x	x	0	0	0	28	10	77
6	x	x	x	x	x	x	0	0	24	09	86
7	x	x	x	x	x	x	x	0	24	09	95
8	x	x	x	x	x	x	x	x	19	07	100
							Totals		282	100	100

[a] The coefficient of reproducibility of the original scale was .9025.

[b] Offenses are as follows:
1. Using tobacco regularly.
2. Drinking beer, wine or other liquor.
3. Skipping school without excuse.
4. Taking things worth $2 to $50.
5. Buying tobacco.
6. Purposely damaging or destroying public property.
7. Buying beer, wine or other liquor.
8. Defying teachers' authority to their faces.

[c] In all cases "0" indicates that the offense has not been committed by boys in that scale type. In all cases "x" indicates the offenses were committed by boys of that scale type.

reproducibility of .90. The offenses included are:
1. Using tobacco regularly.
2. Drinking beer, wine or other liquor.
3. Skipping school without a legitimate excuse.
4. Stealing things worth $2 to $50.
5. Buying tobacco.
6. Purposely damaging or destroying public property.
7. Buying beer, wine or other liquor.
8. Defying teachers' authority to their faces.

The resultant scale provided a simple means of ordering respondents on a continuum which would place on opposite ends those who reported extensive involvement in the delinquent acts included in the scale and those who reported little or no involvement.

Scale types were then assigned to all of the 282 boys in the sample. Table 1 shows the response pattern and a frequency and percentage breakdown of the sample according to the scale types.

When the data regarding estimates of the likelihood of future violations were submitted to Guttman scaling, twelve dichotomous items produced a coefficient of reproducibility of .93. Items regarding

the following offenses were included in this scale:
1. Skipping school without a legitimate excuse.
2. Taking things worth more than $50 other than a car.
3. Breaking into a place illegally (i.e., store, home, etc.).
4. Purposely damaging or destroying private property.
5. Purposely damaging public property.
6. Taking things worth $2 to $50.
7. Buying beer, wine or other liquor.
8. Buying tobacco.
9. Using tobacco.
10. Drinking beer, wine or other liquor.
11. Gambling (playing poker, bet on horses, etc.).
12. Getting in a fight with someone.

Table 2 presents the response pattern and frequency and percentage breakdown of the sample according to the scale types for this scale.

Official Delinquency

The next step taken involved gathering "official" delinquency data for the sample. In a matter of a few days, it was possible to check all respondents'

TABLE 2

DELINQUENT AND NONDELINQUENT SCALE TYPES BASED ON ESTIMATES OF FUTURE LAW VIOLATIONS[a]

Scale Type	Offense[b]												No. of Boys in Scale Type	Percent	Cumulative Percentage
	1	2	3	4	5	6	7	8	9	10	11	12			
0	0[c]	0	0	0	0	0	0	0	0	0	0	0	20	07	07
1	x	0	0	0	0	0	0	0	0	0	0	0	51	18	25
2	x	x	0	0	0	0	0	0	0	0	0	0	50	18	43
3	x	x	x	0	0	0	0	0	0	0	0	0	25	09	52
4	x	x	x	x	0	0	0	0	0	0	0	0	21	07	59
5	x	x	x	x	x	0	0	0	0	0	0	0	17	06	65
6	x	x	x	x	x	x	0	0	0	0	0	0	23	08	73
7	x	x	x	x	x	x	x	0	0	0	0	0	33	12	85
8	x	x	x	x	x	x	x	x	0	0	0	0	14	05	90
9	x	x	x	x	x	x	x	x	x	0	0	0	13	05	95
10	x	x	x	x	x	x	x	x	x	x	0	0	08	03	98
11	x	x	x	x	x	x	x	x	x	x	x	0	07	02	100
										Totals		·	282	100	100

[a] The coefficient of reproducibility of the original scale was .93.

[b] Offenses are as follows:

1. Skipping school without legitimate excuse.
2. Taking things worth more than $50 other than a car.
3. Breaking into a place illegally (i.e., store, home, etc.).
4. Purposely damaging or destroying private property.
5. Purposely damaging public property.
6. Taking things worth $2 to $50.
7. Buying beer, wine or other liquor.
8. Buying tobacco.
9. Using tobacco.
10. Drinking beer, wine or other liquor.
11. Gambling (playing poker, betting on race horses, etc.).
12. Getting in a fight with someone.

[c] In all cases "0" means that boys assigned that scale type indicated that they thought they wouldn't commit that offense. The "x" indicates that boys in that scale type indicated that they thought they would or might commit that offense in the future.

names through the juvenile court records. Doing so made it possible to determine the exact number of times each respondent had been arrested and/or taken to court for delinquent behavior. These data made it possible to examine the statistical interrelationships between three variables: (1) reported delinquent behavior; (2) estimates of future delinquent behavior; and (3) number of past official court appearances. These analyses are presented below.

FINDINGS

The Original Interrelationships

To begin, the interrelationships between the three variables were determined. The choice of a measure of association posed little difficulty. The

data clearly qualified as "ordinal" in nature. Therefore, the gamma coefficient was chosen. The gamma coefficient seemed particularly applicable for the problem at hand for two reasons: first, because all three variables met the assumptions of ordinality; and second, because gamma coefficients are operationally interpretable[20] in terms of improvement in predictability.[21] For present purposes, such a coefficient seemed ideal for meeting the objectives of the study.[22] However, because gamma is sometimes

[20] It has been suggested that one relevant and cogent criterion for choosing a measure of relationship is "operational interpretability." *See* Goodman & Kruskal, *Measures of Association for Cross Classification*, 49 J. AM. STATISTICAL ASS'N 740 (1954).

[21] Costner & Wager, *The Multi-Variate Analysis of Dichotomized Variables*, 70 AM J. SOCIOLOGY 463 (1965).

[22] *Id.* at 463.

misleadingly large due to skewness of marginals (*i.e.*, few untied pairs on one or both variables), Somers dyx coefficients were also calculated.[23] Table 3 presents the intercorrelations between the three basic variables.

As can be observed, the relationships were all quite high. According to Costner, one can interpret these coefficients as "the proportion reduction of error in predictions." [24] The·implication is that a coefficient is interpretable as a percentage improvement in prediction over a purely random set of predictions. Said another way, the coefficients indicate how much predictive knowledge is added·to understanding the variability in a variable by the introduction of a second variable. The interpretation of the coefficients in Table 3· can thus proceed in several directions.

For simplicity, let the coefficients be thought of in terms of predicting court records. If this is done, it will be observed that court records are more accurately predicted from self reported past delinquency than from estimates of future violations (gamma—.72 compared to .62—Somers dyx .58 as compared to .47). This comes as no real surprise, however, if time (as a variable) is introduced.

· It is clear that both reported delinquency and ·official court records are past events. Using·the time of data ·collection as an anchoring point divides time into three categories:· past events (court records and reported delinquency); here and now (estimates of future violations); and future events (follow-ups of any or all variables after the initial data collection).

However, attempting to cast the findings within a time sequence makes it necessary to clarify and operationalize the concept "prediction." Though the matter remains controversial, it has been suggested that the concept need not be limited to "forecasts of future occurrences." [25] One writer suggests that it is possible to infer previous conditions of the system from the present state of a system.[26] "Backward" prediction is referred to as "retrodiction," [27] while forecasts of future events are referred to.as "predictions."

[23] Somers, *A New Asymmetric Measure of Association for Ordinal Variables*, 27 AM. SOCIOLOGICAL REV. 799 (1962).
[24] Costner & Wager, *supra* note 21, at 464.
[25] The issue is widely discussed in the literature. *See, e.g.*, I. SCHEFFLER, THE ANATOMY OF INQUIRY 46–57 (1963); Grunbaum, *Temporally Asymmetric Principles: Parity Between Explanation and Prediction*, in 5 INDUCTION: SOME CURRENT ISSUES 114–45 (H. Kyburg, Jr., & E. Nagel eds. 1963).
[26] Grunbaum; *supra* note 25, at 114.
[27] *Id.*

TABLE 3

INTERCORRELATION MATRICES BETWEEN COURT RECORDS, SELF-REPORTED DELINQUENCY AND ESTIMATES OF FUTURE VIOLATIONS

Variable Number	Variable Name	Gamma Coefficients			Somers dyx		
		1	2	3	1	2	3
1	Court Records	—	.72	.62	—	.58	.47
2	Self-Reports		—	.88		—	.76
3	Estimates of Future Violations			—			—

There·is, however, a common usage of the concept "prediction" which may ignore time altogether. This usage is evident in discussing "operationally" the statistical relationship between two variables. For example, prediction is often used to describe how well one might infer one attribute by knowing the presence or absence of a second variable.

This discussion is not meant as a departure into a conceptual analysis; quite the contrary. The point is that for clarity, the intended meanings of terms must be made clear. In the present context, behavioral prediction will refer only to forecasts of future behavior, events, etc. Behavioral retrodiction will be utilized to refer to inferences to past behavior, events, etc. Statistical predictions will be used to refer to the relating of one set of events to a second set. Thus, the term "statistical predictions" makes no assertion regarding the time relationships between variables. It is, therefore, appropriate to discuss the accuracy of "statistical predictions" concerning behavioral predictions and/or behavioral retrodictions. Viewed in this light, additional comments about Table 3 are appropriate.

First, it is not possible to put court records in a time relationship with self-reported delinquency. Therefore, it is only appropriate to report that the accuracy of the statistical predictions of the one from the other is quite high (gamma—72 percent more accurate than random predictions—Somers dyx 58 percent better). It is difficult to say much more about this relationship. However, we might anticipate the question, "Is the relationship high ·enough to warrant the use of official delinquency as the measure of delinquency for research purposes?" One can only reply that it depends on how much error one can include in the dependent variable and still have a scientifically useful variable.

It is.possible, however, to invoke a time sequence

in discussing the other two correlations in Table 3. The claim for the data in Table 3 is that both official court records and self-reported delinquency precede "estimates of future violations." Therefore, it is appropriate to talk about predicting "estimates of future violations" from the other two variables. Thus, it can be concluded that self-reported delinquency precedes "estimates of future violations" considerably better than court records (gamma of .88 as compared to .62—Somers dyx of .76 as compared to .47). A variety of interpretations of these findings is possible. One interpreta-

tion is simply that behavioral patterns are more influential in determining "covert behavior" (i.e., opinions, attitudes, estimates, etc.) than official reactions to behavior (i.e., arrests, etc.). Of course, the reliability of self-reported behavior as a measure of "behavioral patterns" might be still questioned. Nonetheless, the data raise a number of provocative questions for future exploration.

Only one retrodictive relationship is presented in Table 3; namely, the retrodiction of court records from "estimates of future violations." The correlation coefficients are gamma .62 and Somers dyx .47.

The correlations in Table 3 represent the relationships between the three variables at one point in time (immediately after initial data collection). From them a series of questions arise:

1. How well can one "statistically predict" future court appearances from past court appearances?
2. How well can one "statistically predict" future court appearances from self-reported or past delinquent behavior?

A number of additional kinds of data are needed to answer these questions adequately. Furthermore, these are not the only questions of interest. If the relationship between official and unofficial criteria of delinquency is to be understood, a whole series of "statistical predictions," both predictive and retrodictive, must be examined.

The Interrelationship Over Time—Follow-up Data

Lack of resources made it impossible to gather all the types of data that might be relevant. However, it was plausible to make a follow-up study of official court appearances. It will be recalled that the original sample included only sophomores and juniors at a local high school. This fact minimized the difficulty in making a follow-up of all cases. As it turned out, the strategy paid dividends. At the end of the first year, only three boys were no longer living within the jurisdictional boundaries of the local

TABLE 4

STATISTICAL PREDICTIONS OF FOLLOW-UP COURT APPEARANCES ACCORDING TO SEVERAL PREDICTION VARIABLES

Prediction Variable	Gamma Coefficients	Somers (dyx) Coefficients
1. Past Court Appearances.....	.85	.46
2. Self-Reports of Past Delinquency..................	.66	.53
3. Estimates of Future Violations.....................	.70	.56
4. A Combination of 2 and 3....	.67	.54

TABLE 5

STATISTICAL PREDICTIONS OF ALL COURT APPEARANCES ACCORDING TO SELF-REPORTS, ESTIMATES OF FUTURE VIOLATIONS AND A COMBINATION OF THE TWO

Variable Name	Predictions	
	Gamma Coefficients	Somers (dyx) Coefficients
1. Self-Reported Delinquency...	.95	.78
2. Estimates of Future Violations.....................	.86	.64
3. A Combination of 1 and 2....	.92	.74

TABLE 6

INTERCORRELATION MATRICES BETWEEN VARIOUS INDICATORS OF COURT APPEARANCES AND OTHER VARIABLES

Variable	Past Court Appearances		Future Court Appearances		All Court Appearances	
	gamma	dyx	gamma	dyx	gamma	dyx
1. Past Court Appearances.................			.85	.46		
2. Self-Reported Delinquency................	.72	.58	.66	.53	.95	.78
3. Estimates of Delinquency.................	.62	.47	.70	.56	.86	.64
4. Numbers 2 and 3 above..................	.69	.55	.67	.54	.92	.74

juvenile court. An additional four boys were lost during the second year. During the third year, 23 boys were lost, all but two of whom had graduated and left the area for school or work. In summary, a two-year follow-up for the sample is quite complete (98 percent of the sample). Complete follow-up data for 89 percent of the sample are available for a three-year period subsequent to initial data collection.

Once the collection of the follow-up data had been completed, the questions of predictive accuracy were explored. Table 4 presents the coefficients between follow-up court appearances and the original prediction variables (based on the 3 year follow-up).

Table 4 reveals that past court appearances are the best predictor of future court appearances (gamma .85, Somers dyx .46). "Estimates of future violations" proved to be a better predictor than either self-reports or a combination of estimates and self-reports (gamma .70 as compared to .66 and .67, Somers dyx .56 as compared to .53 and .54 respectively). There were, however, no marked differences in the relationship between the prediction variables and follow-up court appearances[28] and the relationships between the variables and past court appearances reported earlier.[29]

Together the data presented in Tables 3 and 4 indicate a fairly high relationship between official and unofficial criteria of delinquency.[30] However, as the follow-up project proceeded, a series of new questions about the relationships emerged. For example, it has been suggested that being arrested and appearing in court is a highly improbable event, because of a host of fluctuating probabilities. If this is true, perhaps both retrodictive and pre-dictive questions miss the crucial point. Perhaps it is the relationship between the variables and the *total* court appearances over time that is most important.

Perhaps a more appropriate way of posing the question is by asking: "What is the accuracy of 'statistical predictions' of court appearances *in toto* (both past and future) when based on the other variables being studied?". Table 5 presents these correlations, and Table 6 is a summary table of all the correlations involving the three ways of examining the relationships to measures of court appearances.

The improvement in the "statistical predictions" is striking[31] and may make it necessary to reexamine long held notions of the "nonutility" of official court records for scientific purposes. In any case, the high correlations between the variables and court appearances *in toto* does tend to question the validity of many criticisms regarding the use of official records, especially if self-reports are to be utilized rather than official records.

Needless to say, these findings do not end the controversy nor even the list of questions to be posed. The study does, however, introduce some additional avenues for future explorations of the relationship between official and unofficial indicators of delinquency. Obviously, a considerable amount of additional work is needed. But the issues remain fundamental to a scientific approach to delinquency and criminology. For too long research in crime and delinquency has proceeded with an incomplete knowledge of its dependent variable. In light of our ignorance of the dependent variable, it is not surprising that we have traveled so slowly and that we continue to know so little.

[23] *See* Table 4.
[29] *See* Table 3.
[30] The relationships were gamma .72 and .66, and Somers dyx .47 and .46 respectively.

[31] The correlations between self-reported delinquency and court appearances were found to be gamma .95 and Somers dyx .78.