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Crime Severity and Criminal Career Progression

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CRIME SEVERITY AND CRIMINAL CAREER PROGRESSION*

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The National Academy of Sciences Panel on Research on Criminal Careers, considering career variation among offenders, reported that "at one extreme are offenders whose careers consist of only one offense. At the other extreme are 'career criminals'—also variously characterized as dangerous, habitual, or chronic offenders—who commit serious offenses with high frequency over extended periods of time."[1] The panel recommended that greater research attention to the lives and patterns of activities of career criminals would facilitate the development of better etiological explanations and of more effective crime control policies.[2] In accord with that suggestion, this Article addresses the crime severity component of delinquency careers in an effort to assess the effect of severity on subsequent offending during adulthood.

I. LITERATURE REVIEW

Offense seriousness is a matter of concern in the investigation of criminal career development. There is a widely held belief that individuals who engage in serious crime at an early age are likely to continue their offensivity; moreover, the gravity of their ensuing behavior may escalate.[3] Findings of waning crime seriousness during the criminal career and indications that the level of seriousness

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[1] A. BLUMSTEIN, J. COHEN, J. ROTH & C. VISHER, CRIMINAL CAREERS AND "CAREER CRIMINALS" 13-14 (1986).

[2] *Id.* at 28-30, 109-209.

[3] *See supra* notes 5-12 and accompanying text.

achieved by an offense is unrelated to subsequent behavior calls into question this view of a career pattern with continued criminality or incremental severity.[4]

Three previous studies found that criminality continues as a result of serious initial offending.[5] In her follow-up study of psychiatric patients in St. Louis and a control group matched by demographic characteristics, Lee Robins found that her dichotomous measure of crime severity was a strong predictor of subsequent behavior: "no child without frequent or serious antisocial behavior became a sociopathic adult."[6] Moreover, although the findings were not statistically significant, Wolfgang, Figlio and Sellin in the 1945 Philadelphia Birth Cohort Study reported that a relationship exists between offense seriousness and crime continuation among violent offenders.[7] The study concluded that "[b]oys who committed nonindex first offenses were somewhat more likely to stop after the first offense than were boys who inflicted some bodily or property harm."[8] Finally, the Rand Corporation survey of 624 California inmates found that "respondents who committed a serious crime before age 16 tended to report more adult crime, commit more types of crimes, commit violent crimes at a higher rate, and hold professional criminal attitudes."[9]

In addition to evidence showing a pattern of continued crime following serious initial offending, survey findings from the Rand Corporation Habitual Criminals Program support the contention that crime severity escalates over time. For example, Joan Petersilia found that "most criminal careers begin with minor misconduct, sometimes even status offenses. Self-report studies indicate that the most frequent pattern begins with truancy and incorrigibility, followed first by petty theft and auto theft and then by more serious property crimes."[10] Similarly, according to research using the Cambridge Study in Delinquent Development, "[i]t seemed clear that the average amount stolen [by an individual] increased with age."[11] The National Academy of Sciences Panel on Research on Criminal

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4 *See supra* notes 13-15 and accompanying text.

5 L. ROBINS, DEVIANT CHILDREN GROWN UP (1966); M. WOLFGANG, R. FIGLIO, & T. SELLIN, DELINQUENCY IN A BIRTH COHORT (1972); PETERSILIA, *Criminal Career Research: A Review of Recent Evidence*, in 2 CRIME AND JUSTICE (N. Morris & M. Tonry, eds. 1980).

6 L. ROBINS, *supra* note 5, at 146-47.

7 M. WOLFGANG, R. FIGLIO, & T. SELLIN, *supra* note 5, at 161.

8 *Id.*

9 PETERSILIA, *supra* note 5, at 347.

10 *Id.* at 350.

11 LANGAN & FARRINGTON, *Two-Track or One-Track Justice? Some Evidence From an English Longitudinal Survey*, 74 J. CRIM. L. & CRIMINOLOGY 519, 545 (1983).

Careers also reported that "[a] belief in escalation is probably the most widely held view of the pattern of criminal careers."[12]

Alternately, studies have found empirical evidence of a pivotal career stage after which offending behavior declines in seriousness or discontinues. After tracing the careers of 1,000 adjudicated males, for instance, Sheldon and Eleanor Glueck concluded that a "burning out" process from serious crime to minor crime to desistance occurs as delinquents mature.[13] Robins also subsequently identified a pattern of diminishing severity in her St. Louis study: thirty-eight percent of the juvenile delinquents reached age 43 without an adult police record.[14] A recent study by Blumstein and Moitra revealed that the probability of crime cessation is a phenomenon independent of the number of previous offenses.[15] Blumstein and Moitra found that individuals with long histories of involvement were just as likely as those with shorter records to have made their current arrest their final one.[16] Similarly, many criminologists continue to believe that a burning out process, maturational reform, or desistance from any criminal involvement does occur.[17]

The research reviewed also disclosed the absence of any orderly career scheme involving crime seriousness. The 1945 Philadelphia Birth Cohort Study reported relatively stable delinquency careers:

> Although each offense tended to be somewhat more serious than the previous offense committed, the increase in seriousness scores was quite small. In general, with the exception of injury offenses for which there was a tendency of increasing seriousness, the offenses committed

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12 A. BLUMSTEIN, J. COHEN, J. ROTH & C. VISHER, *supra* note 1, at 84.

13 S. GLUECK & E. GLUECK, CRIMINAL CAREERS IN RETROSPECT 226 (1943).

14 ROBINS & O'NEAL, *Mortality, Mobility, & Crime: Problem Children Thirty Years Later*, 23 AM. SOCIOLOGICAL REV. 171 (1958).

15 Blumstein & Moitra, *The Identification of 'Career Criminal' From 'Chronic Offenders' in a Cohort*, L. & POL'Y Q. 321-34 (1980).

16 *Id.*

17 *See* A. BLUMSTEIN, J. COHEN & P. HSIEH, THE DURATION OF ADULT CRIMINAL CAREERS (1982); D. HAMPARIAN, R. SCHUSTER, S. DINITZ & J. CONRAD, THE VIOLENT FEW: A STUDY OF DANGEROUS JUVENILE OFFENDERS (1978); K. POLK, C. ADLER, G. BAZEMORE, G. BLAKE, S. CORDRAY, G. COVENTRY, J. GALVIN & M. TEMPLE, BECOMING ADULT: AN ANALYSIS OF MATURATIONAL DEVELOPMENT FROM AGE 16 TO 30 OF A COHORT OF YOUNG MEN: THE FINAL REPORT OF THE MARION COUNTY YOUTH STUDY (1981); M. WOLFGANG, T. THORNBERRY & R. FIGLIO, FROM BOY TO MAN, FROM DELINQUENCY TO CRIME: A FOLLOW-UP OF DELINQUENTS IN A BIRTH COHORT (1985); Cline, *Criminal Behavior Over the Life Span*, in CONSTANCY AND CHANGE IN HUMAN DEVELOPMENT (O. Brim & J. Kagan, eds. 1980); Dinitz & Conrad, *Who is in the Dark Alley?*, in HANDBOOK OF LONGITUDINAL RESEARCH: TEENAGE AND ADULT COHORTS (S. Mednick, M. Harway & K. Finello, eds. 1984); Langan & Farrington, *supra* note 11; Shannon, *A Longitudinal Study of Delinquency and Crime*, in QUANTITATIVE STUDIES IN CRIMINOLOGY (C. Wellford ed. 1978); Stott & Wilson, *The Adult Criminal as Juvenile*, 17 BRIT. J. CRIMINOLOGY 47 (1977); Trasler, *Delinquency, Recidivism, and Desistance*, 19 BRIT. J. CRIMINOLOGY 314 (1979).

by these subjects did not become increasingly serious as their delinquent careers developed.[18]

Moreover, neither the 1945 Philadelphia Birth Cohort Study,[19] nor the Racine, Wisconsin, birth cohorts found evidence of a systematic progression in severity among offenders.[20] After testing the notion of career escalation and achieving nonsignificant results, studies by Bursik,[21] Hamparian, Schuster, Dinitz and Conrad,[22] Klein,[23] and Rojek and Erickson[24] arrived at essentially the same conclusion reached by the Philadelphia and Racine cohort investigations.

Thus, previous research has posited four conflicting relationships but has failed to determine the effect of crime severity on subsequent behavior. The presence of these prior studies demonstrates the need for a new study which determines whether youth who commit offenses of a serious nature are more likely than others to commit crimes during adulthood.

II. Research Design and Methodology

The identification of patterns of criminal behavior across a substantial number of years for a large group of people is a difficult research task because it requires both a research design not often available for a large number of subjects and a rigorous level of statistical analysis.[25] As the recent National Academy of Sciences publication of *Criminal Careers and "Career Criminals"* confirmed, the research design necessary to complete this analysis necessitates longitudinal data.[26]

Prior longitudinal studies have incorporated a variety of measures of the crime event to examine the relationship between juvenile status and the commission of adult crime. Social scientists obtained self-reported crime involvement information from the three inmate

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[18] M. Wolfgang, T. Thornberry & R. Figlio, *supra* note 17, at 11.

[19] *See* M. Wolfgang, R. Figlio & T. Sellin, *supra* note 5.

[20] L. Shannon, Assessing the Relationship of Adult Criminal Careers to Juvenile Careers: A Summary (1982); Shannon, *supra* note 11, at 134-35; Shannon, *Risk Assessment vs. Real Prediction: The Prediction Problem and Public Trust*, 1 J. Quantitative Criminology 159-89 (1985).

[21] Bursik, *The Dynamics of Specialization in Juvenile Offenses*, 58 Soc. Forces 851-64 (1980).

[22] D. Hamparian, R. Schuster, S. Dinitz & J. Conrad, *supra* note 17, at 129-31. *See also* D. Hamparian, J. Davis, J. Jacobson, R. McGraw, The Young Criminal Years of the Violent Few 3 (1985).

[23] Klein, *Deinstitutionalization and Diversion of Juvenile Offenders: A Litany of Impediments*, in 1 Crime and Justice (N. Morris & M. Tonry, eds. 1979).

[24] Rojek & Erickson, *Delinquent Careers*, 20 Criminology 5-28 (1982).

[25] *See* Petersilia, *supra* note 5, at 332-41 for a discussion of these methodological issues.

[26] A. Blumstein, J. Cohen, J. Roth & C. Visher, *supra* note 1, at 77.

surveys in the Rand Corporation Habitual Offenders Program[27] and from the interview of a 10% sample of those in the 1945 Philadelphia birth cohort of the age of twenty-six.[28] The information in all except the second Rand survey was verified by official records.[29] Both the Racine and Philadelphia cohort studies used records of a police contact, although the definition of a police contact differed in each.[30] The researchers on Racine cohorts also considered traffic offenses and juvenile status offenses as police contacts. Conversely, the 1945 Philadelphia Birth Cohort Study excluded traffic offenses from consideration, but included not only arrest records, but also police encounters that resulted in special referral situations to family members or diversion programs outside of the criminal justice system. Researchers used both official arrest records from local agencies[31] and from national FBI records,[32] as well as records of offending from court files.[33] Several other studies measured crime according to court conviction.[34] The methods used to identify involvement in crime, therefore, have focused on the various procedural stages of the criminal justice system and have employed self-reported information.

Multiple methods of crime measurement are preferable to single methods because they provide the opportunity for cross-validation of information. However, resources are not often available to allow multiple measurement. When the research setting offers only a solitary indicator of crime, it is desirable to choose that measure from a position as near to the actual event as is feasible in order to thwart the loss of information in the progression through stages of the criminal justice system. The true sphere of observable criminal behavior is unknowable. Furthermore, self-reported crime requires the direct participation of research subjects and presents special

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[27] J. CHAIKEN & M. CHAIKEN, VARIETIES OF CRIMINAL BEHAVIOR (1982); J. PETERSILIA, P. GREENWOOD, & M. LAVIN, CRIMINAL CAREERS OF HABITUAL FELONS (1977); M. PETERSON, H. BRAIKER & S. POLICH, WHO COMMITS CRIME: A SURVEY OF PRISON INMATES (1981).

[28] M. Wolfgang, From Boy to Man—From Delinquency to Crime, (1977)(presented at the National Symposium on the Serious Juvenile Offender, Minneapolis, Minnesota).

[29] M. PETERSON, H. BRAIKER & S. POLICH, *supra* note 27.

[30] M. WOLFGANG, R. FIGLIO, & T. SELLIN, *supra* note 5; L. SHANNON, *supra* note 20.

[31] S. GLUECK & E. GLUECK, *supra* note 13; D. HAMPARIAN, R. SCHUSTER, S. DINITZ & J. CONRAD, *supra* note 17, at 31-35; K. POLK, C. ADLER, G. BAZEMORE, G. BLAKE, S. CORDRAY, G. COVENTRY, J. GALVIN & M. TEMPLE, *supra* note 17, at 12-13; L. ROBINS, *supra* note 5; ROJEK & ERICKSON, *supra* note 24, at 9.

[32] A. BLUMSTEIN, J. COHEN & P. HSIEH, *supra* note 17, at 17.

[33] Bursik, *supra* note 21, at 855-56.

[34] Bursik, *supra* note 21; Langan & Farrington, *supra* note 11; Stott & Wilson, *supra* note 17.

concerns regarding validity.[35] Initial law enforcement involvement therefore, constitutes, the first unobtrusive point at which the most information about the crime event is available.[36] Thus, of all sources accessible to researchers, the records obtained from police agencies are perhaps the best available to gather crime information.

Extensive statistical analysis is necessary to identify the delinquents who are more likely than others to commit crime after entering adulthood and to predict adult offending. This statistical analysis must distinguish between the levels of gravity, while controlling concurrently for the likely related characteristics of frequency of offending, age, gender, race, and socioeconomic status. Multivariate techniques are necessary to accomplish these interrelated tasks.

The authors of previous studies from which criminal career findings were extracted infrequently utilized multivariate analysis.[37] Instead, prior research often remained within the confines of descriptive statistics which used comparisons of mean scores with proportions of the samples exhibiting a single characteristic.[38] The statistical control of multiple factors was seldom more rigorous than the few variables afforded by contingency analysis, in which the relative contribution of individual attributes is unavailable.[39]

When researchers used multivariate procedures to examine the interrelationships of variables in prior studies, they did not seek to establish the relationship between serious delinquency careers and adult crime. Instead, many of the previous studies were concerned with etiological explanations for, or descriptions of, delinquency.[40] Other studies predicted policy outcomes.[41]

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[35] Weis, *Issues in the Measurement of Criminal Careers*, in 2 CRIMINAL CAREERS AND "CAREER CRIMINALS" 1 (A. Blumstein, J. Cohen, J. Roth & C. Visher, eds. 1986).

[36] T. SELLIN & M. WOLFGANG, THE MEASUREMENT OF DELINQUENCY (1964).

[37] *See* J. CHAIKEN & M. CHAIKEN, *supra* note 27; P. GREENWOOD WITH A. ABRAHAMSE, SELECTIVE INCAPACITATION (1982); K. POLK, C. ADLER, G. BAZEMORE, G. BLAKE, S. CORDRAY, G. COVENTRY, J. GALVIN & M. TEMPLE, *supra* note 17; L. SHANNON, ASSESSING THE RELATIONSHIP OF ADULT CRIMINAL CAREERS, *supra* note 20; M. WOLFGANG, R. FIGLIO, & T. SELLIN, *supra* note 5; Shannon, *Risk Assessment, supra* note 20; Shannon, *A Longitudinal Study, supra* note 17.

[38] L. ROBINS, *supra* note 5; S. GLUECK & E. GLUECK, *supra* note 13; Langan & Farrington, *supra* note 11; ROBINS & O'NEAL, *supra* note 14; Shannon, *Risk Assessment, supra* note 20.

[39] L. ROBINS, *supra* note 5; S. GLUECK & E. GLUECK, *supra* note 13; Langan & Farrington, *supra* note 11; ROBINS & O'NEAL, *supra* note 14; Shannon, *Risk Assessment, supra* note 20.

[40] K. POLK, C. ADLER, G. BAZEMORE, G. BLAKE, S. CORDRAY, G. COVENTRY, J. GALVIN & M. TEMPLE, *supra* note 17; L. SHANNON, *supra* note 20; M. WOLFGANG, R. FIGLIO & T. SELLIN, *supra* note 5; Shannon, *supra* note 17.

[41] J. CHAIKEN & M. CHAIKEN, *supra* note 27; J. CHAIKEN & J. ROLPH, SELECTIVE INCA-

This Article takes a different approach. It seeks to contribute to the knowledge of criminal career development by determining whether seriously offensive delinquents are more likely than other youth to offend during adulthood. This Article also attempts to predict adult offending based on serious delinquency involvement. The following research hypothesis is tested:

HA: The probability of adult offending increases as the severity of juvenile delinquencies rises.
H0:   The probability of adult offending does not differ as the severity of juvenile delinquencies increase.

III. DATA

This Article draws upon information about 27,160 males and females born in 1958 who resided in Philadelphia from age ten to age eighteen. The requirement of Philadelphia residence between the ages of ten and eighteen for defining the population provides a uniform length for the cohort to be at risk of offending. By using information up to age twenty-six for the subjects, these data on the 1958 Philadelphia birth cohort permit one to observe longitudinally the subjects' encounters with police and thereby identify the youths who are most likely to commit crimes as adults. Additional information on the data collection procedures of the 1958 Philadelphia Birth Cohort Study is available.[42]

IV. VARIABLES

Adult offender status is defined as a dichotomous criterion (0=no/1=yes) based on the presence of one or more charges recorded by the Municipal and Common Pleas Courts of Philadelphia between 1976 and 1984. Offenses committed outside the Philadelphia jurisdiction are not included. The use of predisposition court data to define crime may be internally invalid because the court has not yet established the defendant's guilt. However, this measure of adult crime is comparable to the police-based indicator of delinquency.

The data identify persons having a recorded official police contact before age eighteen as juvenile delinquents. Both criminal and status offenses are included, while traffic violations are excluded from consideration. The information was obtained from rap sheets

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PACITATION STRATEGIES BASED ON ESTIMATED CRIME RATES (1978); P. GREENWOOD WITH A. ABRAHAMSE, *supra*, note 37; Shannon, *Risk Assessment*, *supra* note 20.

[42] P. TRACY, M. WOLFGANG & R. FIGLIO, DELINQUENCY IN A BIRTH COHORT II: A COMPARISON OF THE 1945 AND 1958 PHILADELPHIA BIRTH COHORTS (1984).

and police investigation reports provided by the Juvenile Aid Division of the Philadelphia Police Department. In addition to actual arrests, rap sheets were available for all police contacts which resulted in remedial or informal handling of the youth by an officer. The courts generally remanded young offenders to the custody of their parents after these informal encounters with the police.

Seriousness of the delinquency career is measured by two separate indicators developed for a previous study.[43] Each variable reflects the cumulative seriousness scores of all juvenile police encounters. The first measure is the total career severity score obtained for each delinquent from the Sellin-Wolfgang scale of severity.[44] The second measure reflects the total number (greater than zero) of the Uniform Crime Report Index offenses attributed to each delinquent.[45] Only 2,918 of the 6,287 delinquents had an index offense reported and were thereby able to receive a score for the second measure.

V. ANALYSIS

Both the Sellin-Wolfgang severity scale and the Uniform Crime Index for each member of the 1958 Philadelphia birth cohort measured the overall severity of the delinquency career. Each of the two scales are collapsed to enable categorical comparisons according to adult offender status, followed by the addition of race[46] and gender (0=male/1=female) as control variables. The proportion of adult offenders whose delinquency careers fell within each seriousness level is compared to that for non-offenders with similar juvenile experiences.

Logistic regression is then used to determine the effect of serious delinquency on adult offending, with simultaneous consideration of race, gender, socioeconomic status[47] and age. A stepwise

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[43] *Id.*

[44] The pertinent components of the scale are: range 0 to 520, x = 15.07, sd. = 27.78. T. SELLIN & M. WOLFGANG, MEASUREMENT OF DELINQUENCY (1964). *See generally* Wellford & Wiatrowski, *On the Measurement of Delinquency*, 66 J. CRIM. L. & CRIMINOLOGY 175 (1975); *contra* Gottfredson, Young & Lauffer, *Additivity and Interactions in Offense Seriousness Scales*, 17 J. RES. CRIME & DELINQ. 26 (1980); S. Gottfredson, Measuring Offense Seriousness: A Dimensional Approach (unpublished manuscript).

[45] range 1 to 510, x = 23.69, sd. = 30.17.

[46] Classification by race is necessarily dichotomous (0=nonwhite/1=white) because the school and police files did not provide the identification of ethnic origin required for multiple categories.

[47] Socioeconomic status is measured according to a dichotomized (0=low SES/1=high SES) version of an index created from ten census tract variables measuring various dimensions of income, education and employment. For procedures used in the development of this index see, Tracy, Ecology and Delinquency: The Development of a

procedure fits the best model for predicting the log odds of the dependent variable, adult offender status, from the group of independent variables. Both the overall contribution of the regression models to the explanation for variation in adult offender status as well as the individual contributions made by each independent variable are reported. Finally, the levels of predictive accuracy achieved by each regression equation are shown in the multiple classification tables.

VI. RESULTS

The proportion of the delinquency careers which fell within the categories based on the Sellin-Wolfgang scale of crime severity are shown in Table 1 for both the 1,843 adult offenders and the 4,444 non-offenders. The results for all 6,287 delinquents in the cohort show that the majority of all delinquency career severity totals fell within the less serious categories, particularly for those delinquents who did not become adult offenders. However, the career severity totals found within the more serious crime categories were more often those of the adult offenders than those of the nonoffenders. This relationship remained when race and gender were included in the analysis, although the delinquency careers of the females never fell within the most serious levels. Table 1 also shows similar results for the categorical analyses with the severity scale based on the Uniform Crime Report Indices. These results also show a higher percentage of delinquency career severity totals for adult offenders within the more serious levels.

TABLE 1
PERCENT DELINQUENCY CAREER TOTALS WITHIN LEVELS OF SERIOUSNESS BY ADULT OFFENDER STATUS

		Sellin-Wolfgang scale								
(N)		All delinq. (1843) (4444)		NW male del. (1162) (1741)		W male del. (476) (934)		NW fem. del. (158) (1204)		W fem. del. (45) (565)
Adult crime		yes %	no %	yes %	no %	yes %	no %	yes %	no %	yes %	no %
most	9	5	1	7	3	4	1	0	0	0	0
s	8	5	1	7	3	3	1	0	0	0	0
e	7	7	2	9	4	6	2	5	0	2	0
r	6	15	7	18	9	15	9	5	2	9	3
i	5	13	7	14	11	15	9	7	3	13	5
o	4	13	10	13	16	15	12	14	8	14	8
u	3	16	22	15	20	19	27	31	22	26	26
s	2	16	27	10	17	15	23	21	23	16	20
least	1	9	23	7	18	9	16	17	42	21	38

		Uniform Crime Reports scale								
(N)		All delinq. (1183) (1735)		NW male del. (838) (956)		W male del. (248) (304)		NW fem. del. (82) (367)		W fem. del. (15) (108)
Adult crime		yes %	no %	yes %	no %	yes %	no %	yes %	no %	yes %	no %
most	10	4	1	5	2	3	1	0	0	0	0
	9	4	2	5	3	2	1	0	0	0	0
s	8	5	2	6	1	2	1	1	1	0	0
e	7	5	2	6	3	4	2	1	0	0	1
r	6	3	1	4	1	2	1	0	0	0	1
i	5	14	7	15	9	10	7	5	3	31	2
o	4	16	13	16	16	17	18	14	6	8	2
u	3	15	16	13	17	21	21	20	12	0	9
s	2	24	38	21	32	29	31	35	55	46	55
least	1	10	17	8	14	12	19	23	22	15	30

Table 2 shows the results for the logistic regression model with the Sellin-Wolfgang scale of seriousness, race, gender, socioeconomic status, and age at initial and last police contact. This model achieves a significant chi-square association and is able to classify correctly the adult offender status for 73% of the delinquents. Every criteria except race contributes to this model. Females were underrepresented among adult offenders; therefore, it was not surprising that gender provided a large contribution to the explanation for differences in adult offending. The same model using the Uniform Crime Report seriousness measure substituted for the Sellin-Wolfgang scale is shown in Table 3. This model is also statistically significant and retains independent variables parallel to those in the previous model using the Sellin-Wolfgang scale. However, for the

delinquents scored using the UCR scale, this model classifies only 64%.

TABLE 2

THE EFFECT OF DELINQUENCY CAREER SERIOUSNESS (SELLIN-WOLFGANG SCALE) ON ADULT OFFENDER STATUS PARAMETER ESTIMATES FOR LOGISTIC REGRESSION

Variables entered*	Beta	X^2
Intercept	−3.823	104.64
Gender	−1.344	259.50
Seriousness (SW)	.010	55.20
Age at onset	.314	140.17
Age at last offense	− .125	33.32
SES	− .175	7.52
Variable not entered**		
Race		1.36

Model Chi-square = 937.47 (df = 5, p < .0001)
Residual Chi-square = 1.36 (df = 1, p = .2438)

Classification Table

		Predicted		
		Neg.	Pos.	Total
	Neg.	3704	740	4444
True				
	Pos.	986	857	1843
		4690	1597	6287

Correct: 72.5%
False Positive Rate: 46.3%
False Negative Rate: 21.0%

* p < .05
** adjusted only for variables entered in the model

This Article has examined crime severity thus far without attention to the frequency of offending. Frequency might be an important consideration for intensity of career offending.[48] The final logistic regression models tested, therefore, are those in which the cumulative Sellin-Wolfgang scores are included with measures for number of delinquencies (five or more police contacts, two to four

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[48] A. BLUMSTEIN, J. COHEN, J. ROTH & C. VISHER, *supra* note 1, at 76.

TABLE 3

THE EFFECT OF DELINQUENCY CAREER SERIOUSNESS (UNIFORM
CRIME REPORTS) ON ADULT OFFENDER STATUS PARAMETER
ESTIMATES FOR LOGISTIC REGRESSION

Variables entered*	Beta	X^2
Intercept	−4.323	54.05
Gender	−1.133	81.81
Age at last offense	.340	86.21
Seriousness (UCR)	.008	24.12
Age at onset	− .107	16.61
SES	− .178	4.01

Variable not entered**		
Race		.07

Model Chi-square = 345.26 (df = 5, p < .0001)
Residual Chi-square = .07 (df = 1, p = .7982)

Classification Table

Predicted

		Neg.	Pos.	Total
True	Neg.	1000	735	1735
	Pos.	331	852	1183
		1331	1587	2918

Correct: 63.5%
False Positive Rate: 46.3%
False Negative Rate: 24.9%

* p < .05
** adjusted only for variables entered in the model

police contacts), race, socioeconomic status, age at onset, and age at last contact. The analysis is conducted separately for males and females to avoid the dominance of gender shown in the preceding models. The model for males only, shown in Table 4a, also achieves statistical significance and classifies correctly 64% of the delinquents. The offense frequency variables, age at last juvenile police contact, and seriousness make a significant contribution to the explanatory model; race, socioeconomic status, and age at onset are not retained. The model for females, shown in Table 4b achieves a higher level of overall predictive accuracy (89%). However, the

marginal distribution of female crime is constrained to the extent that only five of the 203 adult offenders were identified. Seriousness, socioeconomic status, and both age variables contributed to the model, while both frequency of offending variables and race did not.

TABLE 4a
THE EFFECT OF SERIOUSNESS (SELLIN-WOLFGANG SCALE) AND DELINQUENCY ON ADULT OFFENDER STATUS PARAMETER ESTIMATES FOR LOGISTIC REGRESSION

	Males	
Variables Entered*	Beta	X^2
Intercept	−4.070	100.98
Chronic	.890	59.37
Age at last offense	.191	53.90
2-4 police contacts	.498	39.48
Seriousness (SW)	.007	21.07
Variable Not Entered**		
Race		1.19
SES		2.18
Age at onset		.34

Model Chi-Square = 405.74 (df = 4, p < .0001)
Residual Chi-Square = 2.92 (df = 3, p = .4044)

Classification Table
Predicted

		Neg.	Pos.	Total
True	Neg.	1821	854	2675
	Pos.	690	950	1640
		2511	1804	4315

Correct: 64.2%
False Positive Rate: 47.3%
False Negative Rate: 27.5%

* p < .05
** adjusted only for variables entered in the model

VI. SUMMARY

The purpose of this Article was to determine whether youths who have serious crime involvement are more likely than others to commit crimes as adults. The results of tabular analyses revealed that delinquents who became adult offenders by the age of twenty-six were somewhat more likely than other delinquents to have had more seriously offensive adolescent careers. This finding held for both the Sellin-Wolfgang severity scale and the indicator based on UCR index offenses. Moreover, this relationship remained consistent when race and gender subgroups were examined.

TABLE 4b
THE EFFECT OF SERIOUSNESS (SELLIN-WOLFGANG SCALE) AND
DELINQUENCY OF ADULT OFFENDER STATUS PARAMETER
ESTIMATES FOR LOGISTIC REGRESSION

	Females	
Variables*	Beta	X^2
Intercept	−3.866	19.43
Seriousness (SW)	.027	14.35
SES	− .542	9.26
Age at last offense	.287	18.52
Age at onset	− .190	10.42
Variable not Entered**		
Chronic delinquency		1.02
2-4 police contacts		.62
Race		1.79

Model Chi-Square = 90.56 (df = 4, p < .0000)
Residual Chi-Square = 6.10 (df = 3, p = .1066)

Classification Table
Predicted

True		Neg.	Pos.	Total
	Neg.	1755	14	1769
	Pos.	198	5	203
		1953	19	1972

Correct: 89.2%
False Positive Rate: 73.7%
False Negative Rate: 10.1%

* p < .05
** Adjusted only for variables entered in the model

The logistic regression models, which took into account delinquency career seriousness and the important control variables measuring gender, socioeconomic status, age and frequency, were also relatively successful in predicting adult offender status. The model containing the UCR indicator applied to a restricted number of subjects and achieved a lower level of predictive accuracy than did the models with the Sellin-Wolfgang scale.

The regression models, including criteria for frequency of of-

fending and separate consideration by gender, revealed interesting differences. In the model for females, adult violations were determined by a variety of variables of offense seriousness: early onset of juvenile police contacts, a later age of final juvenile police contact, and socioeconomic status. However, the lack of baseline differences in offending among females precluded adequate prediction of adult offenders. Greater variation in offending existed for males and is responsible for the lower overall predictive accuracy of the model. In the model for males, the variables of frequency of offending and seriousness proved important in distinguishing adult offenders. The later the age of last police contact during youth, the more likely the male would become an adult offender. The age at first police contact did not aid in predicting adult crime for males.

This Article suggests that empirical attention be directed to the unique activity patterns within the development of criminal careers, especially the role of delinquency seriousness in predicting adult behavior. The findings of this analysis are not, however, without their limitations. Etiological investigation was precluded by data limitations. Also, the life experiences of the research subjects examined might be unique to the birth cohort of 1958 and/or to the residents of Philadelphia. Police data are a potentially inaccurate measurement of crime because some offenses, no doubt, passed undetected. Moreover, other life experiences which might affect the progression of criminal career development, such as incarceration[49] or hospitalization, were unavailable for examination. The techniques of investigation used are also not without qualifications. Other factors, such as type of offense or opportunities for employment, might have enabled the models to achieve a higher level of predictive accuracy.

The significance achieved in the prediction models in this Article affirm the importance of early identification of offensivity and highlight the need to develop the capacity for more efficient policies focusing on the greater risk offenders. The models predicted adult offending with approximately seventy percent accuracy, While this level is substantial in comparison to previous efforts, it nevertheless illustrates the ethical dilemma confronting those who seek to develop strategies of selective incapacitation, particularly when those strategies are based on data collected retrospectively.

Despite inherent limitations posed by the data, the potential benefits available for criminal justice administration from the results

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49 P. TRACY, M. WOLFGANG, & R. FIGLIO, *supra* note 42, at 20-22, reported that the court dispositions received by youth who had police encounters were fairly lenient and rarely involved institutionalization.

of this and future studies of distinct criminal career patterns are encouraging. This Article demonstrates that the development of unique policies or temporary procedures for handling serious delinquents, and for the deterrence of adult crime, should be encouraged. As differential prevalence rates for adult crime are revealed among various career paths and for different demographic subgroups, proposals for specially targeted law enforcement procedures, individualized decision-making strategies within the adjudication process, and correctional treatment are likely to prove more effective than current criminal justice policies.