

NCJRS

DEC 11 1978

ACQUISITIONS

PREDICTING ADULT CRIMINAL CAREERS
FROM JUVENILE CAREERS

Lyle W. Shannon
Iowa Urban Community Research Center
and
Department of Sociology
University of Iowa
Iowa City, Iowa

presented at the 30th Annual Meeting
of the
American Society of Criminology
at
Dallas, Texas
November 8-12, 1978

53115

PREDICTING ADULT CRIMINAL CAREERS FROM JUVENILE CAREERS*

Introduction

The hypothesis that juvenile delinquency is a precursor to adult crime has led to the belief that intervention in delinquent careers at the earliest possible age is the most effective way to deal with the problem of serious delinquency, youthful crime, and later adult criminal careers.

The results of our research suggest that intervention in order to effect amelioration is difficult, not necessarily impossible, but should be at a different level and in a different way than viewed by most professionals and lay persons. Successful attempts at intervention (which involve prediction of future behavior and the development of plans for control) must, however, be based on: 1) a thorough understanding of the interactional processes by which persons are defined as delinquents and criminals, and 2) discovery of the observable characteristics which differentiate those who will continue their delinquent and criminal careers unless they are deterred in one way or another from the vast majority of the group who will have some contact with the police for alleged misbehavior of one sort or another at one time or another but who do not constitute a serious threat to themselves or society at any time during their lives.¹

* Prepared under Grant Numbers 76 JN-99-0008, 76 JN-99-1005, and 77 JN-99-0019 from the National Institute of Juvenile Justice and Delinquency Prevention, Law Enforcement Assistance Administration, U.S. Department of Justice. Funds were also provided by the Max C. Fleischmann Foundation. Points of view or opinions in this document are those of the author and do not necessarily represent the official position or policies of the U.S. Department of Justice or the Max C. Fleischmann Foundation.

¹ Unfortunately, the helping professions have not been very proficient in developing programs for either the prevention or amelioration of delinquency and crime. Considering the fact that their approaches to prediction and control have been based on untested or inadequately tested theories or simply on good intentions, it is not surprising that they have failed to make a significant impact on the problem of delinquency and crime. See Lyle W. Shannon, "The Problem of Competence to Help," *Federal Probation*, March 1961, pp. 32-9. Frank (Francis A.) Allen of the University of Michigan Law School recognized this problem even earlier in his article, "The Borderland of the Criminal Laws: Problems of Socializing Criminal Justice," *The Social Service Review*, June 1958, pp. 107-19. On page 114, Allen states "Ignorance, of itself, is disgraceful only as far as it is avoidable. But when in our eagerness to find 'better ways' of handling old problems, we rush to measures affecting human liberty and human personality, on the assumption that we have knowledge which, in fact, we do not possess, then the problem of ignorance

The suggestion has come from a variety of sources that no intervention may be the most judicious reaction in most instances of juvenile misbehavior. This view has been given a certain amount of credence by the ineffectiveness of current intervention procedures. We have found, as a matter of fact, that with few exceptions, the groups who were referred by the police at either stage in their lives, 6 through 17 or 18 through 20, went on to have higher seriousness scores at the next stage than those who were not referred.

Further indication of the complexity of the problem comes from the fact that the probability of having a police contact for a felony among males is no more than 15% (for females less than 4%) and that the probability of not having a second felony contact is over 50% for the males and over 80% for the females. Thus, seriousness of the reason for a police contact, which should be (at least some think so) a good predictor of continuity, is in itself not really a very good predictor.² The question is, can combinations of indicators be detected which enable persons in positions of authority to determine at a relatively early age who will be included in that small group whose members are continuously apprehended for violations of the law and perhaps intermittently commit serious criminal acts?³ What we do know is that any attempt to develop predictive efficiency requires the application of

takes on a more sinister hue. One of the most alarming aspects of the current agitation for reform of criminal justice and related areas is the apparent willingness of some proponents of reform to substitute action for knowledge, action of the sort that often results in the most serious consequences to the affected individuals. Unfortunately, this is a tendency found too frequently among lawyers of the more 'progressive' variety."

² Although persons with a non-traffic offense as their first police contact are more likely to have additional offenses and more serious additional offenses than are those whose first contact was for a traffic violation, total contacts for males during the juvenile period (traffic and non-traffic) was a better predictor for non-traffic offenses during later periods than either alone.

³ Increasing predictive efficiency over the modal category of the marginals (i.e. predicting who will have continuity in their delinquent and criminal careers when most persons in each cohort do not have continuity from one age period to another), is particularly difficult considering the fact that less than 15% of even the males in the 1942 and 1949 cohorts have non-traffic police contacts during every age period. The problem of predictive efficiency becomes most acute however in reference to some of the most pressing concerns of the public, for example, predicting crimes involving violence against other persons and the repetition of these offenses. This is almost impossible with the data ordinarily available to persons in the juvenile and adult justice systems. These occurrences are so infrequent and so seldom repeated in temporal proximity that the attempt to develop a prediction device for violent offenses must be considered one of the least profitable ways in which to use scarce research resources.

complex statistical techniques to longitudinal data in order to discern the chains of life experiences that lead to continuities in delinquent and criminal careers, the main thrust of our current work.

The Data and Some Basic Findings

The findings of this longitudinal study of delinquency and crime in Racine, Wisconsin (population 100,000+) parallel the conclusions drawn from similar research projects in our largest metropolitan areas. They dramatize the fact that middle-sized cities are faced with essentially the same problems as are cities many times their size.

This report is based on detailed records of police contacts with two cohorts of people, the first born in 1942 (1352 persons) and the second born in 1949 (2099 persons). Reasons for police contacts, the seriousness of these alleged offenses in the eyes of the law, the place of residence of those with police contacts at the time of each contact, the place of contact, police disposition of these contacts, sanctions (if any) imposed by the courts, and other data are utilized in determining which categories of people: are most likely to engage in delinquent behavior, will cease delinquent behavior as they grow older, or will continue into adult criminal activity. In addition, 333 persons from the 1942 cohort and 566 persons from the 1949 cohort have been interviewed and their responses integrated with official police contact records and court records in order to better explain continuities in delinquent and criminal careers and maximize the efficiency with which we may predict future behavior from knowledge of past behaviors and experiences.⁴

Although more than 80% of the males in both cohorts had at least one recorded police contact (females about 50%), only 5% of each cohort was responsible for between 40% and 45% of all police contacts. When contacts for traffic violations were omitted, almost 70% of the males in each cohort still had at least one recorded contact. This did, however, reduce the percent of females with police contacts to 24% for the 1942 cohort and 33% for the 1949 cohort. Perhaps most telling of all in terms of the concentration of serious offenses is the fact that about 12% of the White males in each cohort accounted for 100% of the felonies committed by White males, and, put even more stridently, 4.4% and 5.3% of the White males with two or more felonies accounted for 64.7% and 72.4% of the felonies committed by White

⁴ Although these reports are limited to analyses of data for the 1942 and 1949 cohorts, future reports will compare these with a third cohort of 2684 persons born in 1955.

males in both cohorts. Similarly, there was marked concentration of police contacts in terms of place of residence and place of police contacts (the inner city) but yet a high degree of spatial dispersion in that at least half of the White males in even the highest socioeconomic status areas had at least one non-traffic police contact at some time during their lives.

While the Black and Chicano concentration of serious offenses was less than that of the Whites, a small proportion of the males in each group was responsible for the bulk of their felonies. Most Blacks resided in the inner city and its interstitial areas and most Chicanos resided there or in an outlying area near the site of most heavy manufacturing, the forges and foundaries of Racine.

A Simple Model of Continuity

Rather than describe the relationship of delinquency and crime to a multitude of single variables on which data were obtained during the interviews, some of which were inconsistent with commonly held notions about the "causes" of delinquency and crime, we believe that attention should be focused on the most sophisticated types of analyses that we have conducted.⁵ From the results of multiple regression analyses, a procedure which looks at all variables at once in order that their interrelationships may be controlled, we have developed a parsimonious model suggesting how delinquency is generated and leads to adult criminal behavior for a small proportion of each cohort. While we have developed models for the juvenile period (6 through 17) and the intermediate period (18 through 20), the model which is most relevant includes the interview data and police contact data in accounting for seriousness scores for the adult period, age 21 and over. The model is shown below.

⁵ For example, and contrary to the belief that regularity of employment and occupational level of parents are related to delinquency and crime, we find that neither is consistently or highly correlated with number of police contacts, type-seriousness, or scores representing career patterns, with the exception of those for Black males. Living in a society where the work ethic has dominated the older generation has given rise to as much fable as fact about the value of work *per se*. The matter is much more complex and involves the nature of the work that is available and whether or not it is seen as leading respondents toward their life goals. Another belief adhered to with considerable ferocity is the assumed negative influence of various kinds of "broken homes." We found some relationship between measures of delinquent and criminal behavior and family type but what did come out quite clearly is the decline in police contacts after marriage. Although police contacts decline with age, there is an additional decline after the respondent's marriage, particularly for males. Thus, it is the marital status of respondents themselves rather than that of their parents that may be an important explanatory variable.

1942	{	Age at First Full Time Occupation	Age at First Police Contact	Juvenile Seriousness	Intermediate Seriousness	Adult Seriousness
		Perceived Police Patrol Activity				
1949	{	Sex	Age at First Police Contact	Juvenile Seriousness	Intermediate Seriousness	Adult Seriousness
		Friends' Trouble with the Law				
		Automobile Use Scale	→Score	→Score	→Score	
		Residential Area				
		Attitude Toward Police				

Being male, having friends in trouble with the law, going to work at an early age, and perceiving heavy police patrol activity in one's neighborhood were linked with an early age of first police contact for the 1942 cohort, while the first two variables and higher levels of automobile use, lower socioeconomic status of social area of residence, and a more negative attitude toward the police were related to early age of police contact for the 1949 cohort. Age at first police contact accounted for most of the variance in juvenile seriousness scores, which in turn accounted for most of the variance in adult scores. While only 26% of the 1942 cohort and 21% of the 1949 cohort age-at-first-police-contact variation is accounted for by the background and experiential variables, age at first police contact and other variables account for 57% and 44% of the variation in the juvenile seriousness scores of the two cohorts. Juvenile seriousness scores and other variables account for about one-third of the variation in intermediate seriousness scores, which combined in turn with other variables, accounts for 38% and 61% of the variation in adult seriousness scores. Although there are cohort differences, they are in part a reflection of differences in years of experience (the 1942 cohort had 7 more years of experience than did the 1949 cohort) as well as differences in the social setting to which different cohorts have been exposed.

Developing Prediction Tables From Cumulative Age-by-Age Data

Having concluded that age at first police contact is the best predictor of juvenile delinquency seriousness scores, these scores in turn the best predictor of intermediate seriousness scores, and finally, intermediate scores the best predictor of adult seriousness scores, the next step was to explore the usefulness of a cumulative age-by-age data set in developing an

incipient prediction device.⁶ The first step would be to reveal the relationship of number of police contacts and seriousness of police contacts at any given age to future police contacts, their frequency and seriousness. At each age we know how many police contacts a person has had prior to that age, during that age, prior to and during that age, and after that age. We also know the number of times that intervention has occurred and the seriousness of sanctions imposed for each of these periods.⁷ The degree to

⁶ At any given age, say 14, the following information is available for persons in each cohort who have continuous residence in the community (missing no more than 3 years) and/or who were interviewed:

1. Number and seriousness of police contacts prior to that age and commencing with age 6.
2. Number and seriousness of police contacts accumulated during that year.
3. Number and seriousness of police contacts prior to and during that age, commencing at age 6.
4. Number and seriousness of police contacts to be acquired during present age and to cut-off date for data collection.
5. Number and seriousness of police contacts acquired during all years to follow present age to cut-off date for data collection.
6. Number and seriousness of sanctions imposed prior to that age and commencing with age 6.
7. Number and seriousness of sanctions imposed subsequent to that age to cut-off date for data collection.
8. Number and seriousness of sanctions imposed during that age, the number of and seriousness of contacts generating these sanctions, and the number of days between the first contact generating a sanction and the date of the latest sanction acquired during that age.

For those who were interviewed data are available on size of family, family status, educational status, attitude toward school, employment status of parents, employment status of respondent while in school and after education had been completed, attitude of respondent toward teachers, peers, members of immediate family, police, employers, etc., self-concept, automobile usage, friends' involvement with police, self-report of own contacts with police, reactions to police contacts, perception of reaction of parents and friends, reports of misbehaviors that did not involve police contacts and explanations of how behavior came about, self-rating on a delinquency scale as well as rating by their parents, teachers, friends, and police, age at which home was left, age of marriage, military service, occupational aspirations, and a detailed self-report on extent of delinquent and criminal behavior. Most of these variables may be related to a specific age period such as before 14, 14-17, 18-20, or 21 and over.

For those whose parents were interviewed in our other longitudinal study (344), data are available on parental life histories and aspirations for their children as well as parental involvement with the police as ascertained from police records. The police records of parents for those in each cohort with continuous residence and 13 or more contacts have also been obtained.

⁷ While the data are presented without controls for race/ethnicity, sex, area of residence, intervention efforts, timeliness or severity of sanctions, or any of the other variables which are also related to continuity and seriousness of careers, we believe that our on-going and projected analyses of the cumulative age-by-age career data should tell us more about the

which age-by-age cumulative scores are correlated with other age-by-age measures is shown in Table 1. The relationship between the number of police contacts and seriousness of police contacts through present age to number and seriousness of police contacts in the future increases steadily from the age of 8 to 23 for the 1942 cohort and to 19 for the 1949 cohort. The greatest increase during a single age was between 13 and 14 for the 1942 cohort and between 11 and 12 for the 1949 cohort, once a sizeable correlation had been reached. This suggests that unless other variables can be added to police contact data to increase predictability at a very young age, we should be most concerned about the usefulness of the data for prediction purposes commencing at 12 or 13. For the 1942 cohort, 70% to 100% (depending on the number of contacts through age 13) of those who had a police contact through age 13 had five or more contacts after that age. Only 22% of those who had no contacts through age 13 had five or more after that.⁸ The tables which we have constructed for all ages clearly show that the probability of having future contacts at any given age is related to how many contacts were accumulated prior to and during that age--94.1% of those who had five or more contacts through age 18 had at least one more contact. At the same time, only 42.9% of those who had no contacts through age 18 ever had a police contact. We shall find, however, that there is more than meets the eye when statistics such as these are evaluated in terms of their contribution to overall prediction. It should be noted that the largest number of persons from each cohort who had a police contact had it at the ages of 16 or 17 for the males and 17 or 18 for the females, regardless of where they lived in the community. Similarly, 17 and 18 were the ages by which time the largest proportion of the males in each cohort had had a contact. From then on the number with a prior but not present contact development of careers, continuity and discontinuity of careers, and effectiveness of intervention and seriousness of sanctions imposed than have any previous analyses.

⁸ The lower age at which concern about efficiency of prediction seems appropriate for the 1949 cohort must be attributed to historical differences resulting in the earlier onset of careers rather than fewer years of experience between any given age and the last date at which data were accumulated for this cohort since the progression of correlations for the 1942 cohort remained essentially the same as before when controls were inserted which gave them the same years of experience as those for the 1949 cohort. Predictive efficiency may be greater at an earlier age for more recent cohorts than for earlier cohorts, the final answer awaiting analyses of the age-by-age contact and sanctions data to see if intervention of such and such type was effective at which earliest age.

increased steadily each year. Although the peak year of police contact for the females was later, their prior and present contact proportion reaching its peak later, their prior but not present contact proportion increased more rapidly after the age of 19 or 20 than did that of the males. Thus, if controls for sex were introduced in the tables which follow, the predictions for males and females would be considerably different by age.

Before further discussion, however, let us look at Tables 2 and 3 for age 18, the year during which the correlations between seriousness of accumulated contacts prior to and during that age reach their highest correlation with seriousness of contacts in the future (correlations for number of contacts are also high by this age). What do these tables tell us? Commencing with the 1942 and then the 1949 cohort we look at the bottom row of each table, those who had 5 or more contacts through the age of 18. In the 1942 cohort, 63.5% of those persons had 5 or more contacts after 18 but in the 1949 cohort only 38.5% had 5 or more--remember, they had seven years less exposure than the 1942 cohort. Of those with 4 contacts through the age of 18 fewer had 5 or more contacts after 18 but about the same percent had 4 or more as had 5 or more in the row below, except that it is less for the 1949 cohort, etc. As one moves up the distribution shifts more and more to a smaller proportion with contacts after 18, and those who do have contacts have fewer, particularly for the 1949 cohort. Also note that of those who had 4 or more contacts through 18, 72% of the 1942 and 45% of the 1949 cohort had 4 or more after 18.

If we are attempting to set this up as a prediction problem, how much improvement is there over the marginals by using the number of contacts through age 18 as the predictor of how many contacts after age 18? The raw numbers in the 1942 cohort table help simplify the problem. If we were attempting to predict who would have 5 or more contacts after the age of 18 we would make 127 errors out of 705 cases or 18% if we predicted that no one would have 5 or more contacts--that is the best prediction from the marginals. If we utilize the number of contacts before 18 as the predictor the best prediction is that no one with 3 or less contacts through 18 will have 5 or more contacts after 18. We make 61 errors. Similarly, we predict that persons with 4 or more contacts will have 5 or more and make 40 errors. Thus, we have a total of 101 errors, a reduction of 20% over the marginals prediction of 127 errors.

TABLE 1. RELATIONSHIP OF NUMBER AND SERIOUSNESS OF POLICE CONTACTS AT VARIOUS AGE PERIODS TO FUTURE PERIODS:
1942 AND 1949 COHORT MEMBERS IN CUMULATIVE AGE-BY-AGE DATA SET¹

		Contacts Prior to Present Age to Future		Contacts Present Age to Future		Contacts Thru Present Age to Future		Seriousness Prior to Present Age to Future		Seriousness Present Age to Future		Seriousness Thru Present Age to Future	
		1942	1949	1942	1949	1942	1949	1942	1949	1942	1949	1942	1949
Age	8	.0413	.1633	.1248	.1628	.1124	.2151	.0615	.1536	.1233	.1735	.1199	.2082
	9	.1102	.2147	.1990	.3197	.1859	.3384	.1170	.2058	.2120	.3330	.1808	.3580
	10	.1858	.3363	.2723	.2773	.2989	.3924	.1810	.3532	.3003	.3026	.3190	.4148
	11	.2947	.3900	.2250	.2562	.3202	.4238	.3142	.4416	.2403	.2777	.3379	.4492
	12	.3152	.4184	.1903	.3966	.3274	.4976	.3339	.4416	.2036	.3753	.3549	.5032
	13	.3176	.4796	.1902	.3846	.3168	.5131	.3491	.4829	.1655	.3706	.3474	.5037
Age	14	.3012	.4865	.3659	.4806	.4047	.5515	.3321	.4744	.3733	.4555	.4286	.5310
	15	.3808	.5109	.3880	.5047	.4620	.5643	.4068	.4835	.3764	.4852	.4747	.5363
	16	.4322	.5176	.4365	.5087	.4942	.5711	.4502	.4919	.4167	.4862	.5008	.5466
	17	.4565	.5293	.3860	.5415	.4963	.5889	.4608	.5057	.4023	.5104	.4982	.5603
	18	.4558	.5683	.4916	.6114	.5193	.6359	.4624	.5383	.5109	.6099	.5323	.6116
Age	19	.4885	.6101	.5050	.5280	.5394	.6480	.4994	.5844	.4597	.4800	.5345	.6225
	20	.5083	.6103	.3622	.5850	.5288	.6467	.5029	.5788	.3851	.5593	.5249	.6160
	21	.5075	.6069	.4751	.4844	.5451	.6325	.4956	.5802	.5223	.4953	.5456	.6132
	22	.5100	.5510	.5157	.5446	.5512	.5790	.5219	.5366	.5662	.5336	.5689	.5664
	23	.5329	.4617	.5574	.5215	.5822	.4977	.5579	.4559	.6160	.5204	.6159	.4963
Age	24	.5468	.2214	.4486	.2351	.5644	.2348	.5832	.2224	.4708	.2570	.5992	.2382
	25	.5523		.4819		.5774		.5889		.4812		.6095	
	26	.5288		.3931		.5389		.5709		.4734		.5846	
	27	.5023		.5444		.5462		.5429		.4484		.5703	
	28	.5346		.6654		.5850		.5427		.6376		.5863	
Age	29	.5296		.4871		.5467		.5326		.5828		.5579	
	30	.4273		.3970		.4434		.4574		.3892		.4733	
	31	.1951		.3392		.2113		.1894		.4110		.2088	

¹ These persons either had continuous residence in Racine or had been there most of their lives and were interviewed in 1942 and 1949. For all practical purposes we may treat these persons as though they had continuous residence in Racine.

TABLE 2: RELATIONSHIP OF NUMBER OF POLICE CONTACTS THROUGH AGE 18
TO NUMBER OF POLICE CONTACTS AFTER AGE 18:
1942 COHORT

		Number and Percent with Contacts After Age 18					
		0	1	2	3	4	5 or +
Contacts Through Age 18	0	226 (57.1)	77 (19.4)	51 (12.9)	12 (3.0)	10 (2.5)	20 (5.0)
	1	40 (33.6)	28 (23.5)	17 (14.3)	11 (9.2)	5 (4.2)	18 (15.1)
	2	13 (28.3)	8 (17.4)	9 (19.6)	5 (10.9)	2 (4.3)	9 (19.6)
	3	5 (13.1)	5 (13.1)	4 (10.5)	7 (18.4)	3 (7.9)	14 (36.8)
	4	2 (9.5)	2 (9.5)	1 (4.8)	2 (9.5)	2 (9.5)	12 (57.1)
	5 or +	5 (5.9)	6 (7.1)	9 (10.6)	2 (2.4)	9 (10.6)	54 (63.5)
Total		291 (41.3)	126 (17.9)	91 (12.9)	39 (5.5)	31 (4.4)	127 (18.0)

Somers's D asymmetric with number of police contacts after age as the dependent
variable: .4888

Pearson's R: .5193

Lambda asymmetric with number of police contacts after age as the dependent
variable: .0531

Statistics computed on uncollapsed data.

TABLE 3: RELATIONSHIP OF NUMBER OF POLICE CONTACTS THROUGH AGE 18
TO NUMBER OF POLICE CONTACTS AFTER AGE 18:
1949 COHORT

		Number and Percent with Contacts After Age 18						
		<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5 or +</u>	<u>Total</u>
Contacts Through Age 18	0	431 (66.9)	131 (20.3)	40 (6.2)	19 (3.0)	12 (1.9)	11 (1.7)	644 (100.0)
	1	139 (53.7)	61 (23.6)	26 (10.0)	14 (5.4)	4 (1.5)	15 (5.8)	259 (100.0)
	2	49 (35.8)	29 (21.2)	22 (16.1)	9 (6.6)	11 (8.0)	39 (28.5)	137 (100.0)
	3	24 (27.6)	26 (29.9)	11 (12.6)	8 (9.2)	3 (3.4)	15 (17.2)	87 (100.0)
	4	11 (16.7)	15 (22.7)	7 (10.6)	6 (9.1)	8 (12.1)	19 (28.9)	66 (100.0)
	5 or +	12 (6.3)	26 (13.5)	22 (11.5)	19 (9.9)	17 (8.9)	74 (38.5)	192 (100.0)
Total		666 (48.1)	288 (20.8)	128 (9.2)	75 (5.4)	55 (4.0)	173 (12.5)	1385 (100.0)

Somers's D asymmetric with number of police contacts after age as the dependent variable: .4413

Pearson's R: .6359

Lambda asymmetric with number of police contacts after age as the dependent variable: .0765

Statistics computed on uncollapsed data.

Although we are not concerned at this point with intervention on a basis of these preliminary prediction tables, it is useful to begin to think in terms of how they might ultimately be employed. What is the social cost of doing something for or to (assuming that we are agreed on what to do) the 40 people who had 4 or more contacts through age 18 but did not have 5 or more after 18? That is the way we must look at it. Also, we must remember that we have still missed 61 people who ended up with 5 or more contacts but who had less than 4 contacts through age 18.

Take the 1949 cohort table and apply the same strategy, assuming that these data are the basis for decision-making strategy. Here we find that 173 errors out of 1,385 cases would be made if we predicted that no one would have 5 or more contacts after 18, or 12.5% if we predicted from the marginals. If we attempt to utilize the number of contacts before 18 as the predictor of how many persons would have 5 or more contacts after 18, we would not be able to make a decision that would improve predictive efficiency over the marginals because less than 50% of each row have more than 5 contacts after the age of 18. We could not even do it for 4 contacts or more because less than 50% have 4 or more contacts after the age of 18. But the 1949 cohort has not run its course. We can assume from the similarity of early careers in both cohorts (although the 1949 cohort has more contacts year-by-year than does the 1942 cohort)⁹ that the 1949 cohort will have the same pattern of correlations between career segments in a few years as does the 1942 cohort. Thus, the findings for one cohort may be used to predict outcome for another cohort. We must, of course, add other variables to the age-by-age, number, and seriousness cells to increase predictive efficiency. But it is very clear that number of contacts accumulated through any given age above 12 or 13 is an excellent start.

⁹ Persons in the 1942 cohort had an average of 3.033 contacts after the age of 18 compared to 2.206 for the 1949 cohort. When number of years of exposure for the 1942 cohort was controlled to make it comparable to the 1949 cohort, the average for the 1942 cohort was reduced to 1.789 contacts after age of 18. Similarly, average seriousness of contacts after the age of 18 for those in the 1942 cohort declined from 7.082 to 4.142 when controlled for length of exposure, compared to 5.504 for the 1949 cohort. Furthermore, the correlations between both number and seriousness of contacts through age 18 and all future contacts and their seriousness became more similar for the 1942 and 1949 cohorts when length of exposure of the 1942 cohort was controlled--the correlation of seriousness of contacts through each teen age 15 through 18 and future seriousness was almost identical when length of exposure was controlled (.529 and .536 at 15; .553 and .547 at 16; .551 and .560 at 17; .576 and .612 at 18).

Turning to Table 4, we have the percent with at least one police contact after age 8 through ages 31 and 24 by the number of contacts through each age.¹⁰ This table is based on detailed tables (like Tables 2 and 3) for each age of each cohort. As previously stated, these tables show that the probability of having future contacts at any given age is related to how many contacts were accumulated through that age, each percent in Table 4 at a given age being the sum of all percents from 1 to 5 or more contacts in the top row of either the 1942 or 1949 cohort table for a given age. We have referred to age 18 where 94.1% of those who accumulated 5 or more contacts through age 18 acquired at least one more contact after that age. At the same time only 42.9% of those who had no contacts through age 18 had at least one contact thereafter. In the next row down in Table 4 we find that 66.4% of those with one contact through age 18 have had at least one contact after that age, and so on. The percentages with continuity for the 1949 cohort are similar to those for the 1942 cohort at younger ages and for those who have had several contacts but the 1949 percentages of those with continuity decline commencing in the late teens, in this case, because they have fewer years of exposure.

Going back to age 14, we find that everyone with 2 or more contacts through that age has at least one more contact after that age. We are not satisfied, of course, because 62.6% of those who have no contacts will still have a contact at some time in their career. We must determine if it is possible to state that a given number of contacts by a given age plus other characteristics of juveniles and the type of intervention (including sanctions) vs. no intervention will enable us to predict who will continue to have contacts and who will cease having contacts at that age.

The percentages shown in Table 5 are for persons with 5 or more contacts after a given age. They are lower but the same general relationship of prior experience to police contacts after a given age remains. Note that high percentages of those who had acquired 4 or 5 contacts at an early age had 5 or more contacts after that age. Also note that relatively few persons who had no contacts or only 1 or 2 contacts by the age of 18 had 5 or more contacts after that age. Adding other variables to a prediction table commencing with these age-by-age data should enable us to markedly improve predictability.

¹⁰ Lambda, Somers's D, and Pearson's R were computed on uncollapsed data for this table. Collapsed data as presented in Tables 2 and 3 produced higher Lambdas.

TABLE 4. PERCENT OF COHORT WITH ANY POLICE CONTACT AFTER AGE BY NUMBER OF POLICE CONTACTS PRIOR TO AND AT AGE: 1942 AND 1949 COHORT MEMBERS WITH CONTINUOUS RESIDENCE IN RACINE

Number of Contacts Through Age	PERCENT OF 1942 COHORT WITH CONTACTS AFTER AGE																				
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
0	67.5	67.3	67.1	66.8	66.1	65.2	62.6	59.4	52.4	46.8	42.9	39.2	34.9	32.1	29.4	25.2	20.4	16.9	14.1	10.3	6.2
1	100.0	100.0	100.0	100.0	100.0	97.4	96.6	92.3	79.5	68.4	66.4	60.5	53.3	51.2	45.5	43.1	36.2	32.6	27.3	19.2	16.5
2	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	89.5	71.7	70.0	59.0	55.4	55.4	46.3	40.0	34.2	25.4	18.3	13.6
3	-----	-----	-----	100.0	100.0	100.0	100.0	100.0	92.0	90.6	86.9	76.5	69.4	68.4	65.8	64.3	58.5	54.5	50.0	41.7	37.7
4	-----	-----	-----	-----	-----	100.0	100.0	100.0	90.0	90.0	90.5	88.5	83.3	78.6	69.2	60.7	63.3	62.5	53.3	52.8	43.2
5 or +	-----	-----	-----	-----	-----	-----	100.0	100.0	97.5	94.1	94.1	92.9	92.3	87.8	86.7	82.5	80.4	75.0	67.3	61.7	51.2
Lambda*	.0042	.0042	.0063	.0084	.0125	.0209	.0356	.0445	.0465	.0443	.0531	.0579	.0697	.0780	.0783	.0808	.1115	.1136	.0840	.1078	.1279
Somers's D	.7073	.7411	.7634	.7786	.7039	.6768	.6550	.6531	.5744	.5016	.4888	.4658	.4492	.4312	.4235	.4038	.3896	.3749	.3295	.3052	.1570
Person's R	.1124	.1859	.2989	.3202	.3274	.3168	.4047	.4620	.4942	.4963	.5193	.5394	.5288	.5451	.5512	.5822	.5644	.5774	.5389	.5462	.5850

Number of Contacts Through Age	PERCENT OF 1949 COHORT WITH CONTACTS AFTER AGE															
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
0	67.8	67.2	66.4	65.2	63.3	60.7	58.0	54.4	47.9	40.4	33.1	26.5	21.2	16.0	10.1	4.4
1	86.1	87.5	89.6	89.3	87.0	82.4	78.9	74.4	67.2	56.7	46.3	37.5	28.7	18.7	14.0	7.4
2	100.0	100.0	96.0	95.8	97.1	93.4	94.9	88.8	91.1	75.2	64.2	54.7	41.8	32.9	24.8	15.4
3	100.0	100.0	100.0	100.0	100.0	89.5	90.6	87.2	81.0	78.2	72.4	66.3	54.3	46.7	30.1	19.1
4	100.0	100.0	100.0	100.0	100.0	100.0	94.4	96.2	92.1	89.8	83.3	74.2	60.3	50.0	34.5	18.4
5 or +	-----	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.1	97.4	93.7	87.2	82.1	72.6	60.5	38.0
Lambda	.0032	.0042	.0085	.0096	.0118	.0185	.0331	.0384	.0430	.0534	.0765	.0667	.0747	.0805	.0854	.0942
Somers's D	.4761	.5400	.5755	.5718	.5610	.5158	.5123	.5023	.4822	.4679	.4413	.4160	.3777	.3379	.2851	.1863
Person's R	.2151	.3384	.3924	.4238	.4976	.5131	.5515	.5643	.5711	.5889	.6359	.6480	.6467	.6325	.5790	.4977

*Lambda and Somers's D asymmetric with number of police contacts after age as the dependent variable.

TABLE 5. PERCENT OF COHORT WITH FIVE OR MORE POLICE CONTACTS AFTER AGE BY NUMBER OF POLICE CONTACTS PRIOR TO AND AT AGE: 1942 AND 1949 COHORT MEMBERS WITH CONTINUOUS RESIDENCE IN RACINE

Number of Contacts Through Age		PERCENT OF 1942 COHORT WITH FIVE OR MORE CONTACTS AFTER AGE																							
		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
0	26.3	25.9	25.4	24.8	23.7	22.3	18.4	13.8	9.3	7.1	5.0	3.8	2.0	1.5	.9	.3	.3	.3	.3	.0	.0	.0	.0	.0	.0
1	87.5	90.0	85.7	87.5	70.3	69.2	58.6	51.4	30.4	18.4	15.1	11.3	9.8	7.9	5.0	2.4	1.6	1.6	1.6	.8	.0	.0	.0	.0	.0
2	-----	66.7	80.0	100.0	100.0	87.5	76.0	71.0	58.1	38.6	19.6	14.0	9.8	5.4	9.2	4.5	4.0	.0	.0	.0	.0	.0	.0	.0	.0
3	-----	-----	-----	50.0	85.7	80.0	75.0	64.3	68.0	53.1	36.8	23.5	8.3	13.2	7.9	4.8	4.9	4.5	2.2	2.1	1.9	.0	.0	.0	.0
4	-----	-----	-----	-----	-----	100.0	100.0	88.9	70.0	60.0	57.1	34.6	33.3	32.1	11.5	.0	3.3	6.3	.0	.0	.0	.0	.0	.0	.0
5 or +	-----	-----	-----	-----	-----	-----	71.4	82.6	75.0	73.1	63.5	58.6	50.4	43.1	43.0	38.5	30.4	27.0	23.9	13.0	9.6	5.2	1.6	.0	.0
Average Number of Contacts After Age	4.69	4.68	4.67	4.64	4.63	4.58	4.44	4.18	3.80	3.42	3.03	2.73	2.44	2.14	1.92	1.63	1.41	1.24	1.05	.76	.52	.33	.14	.01	.01
Number of Contacts Through Age		PERCENT OF 1949 COHORT WITH FIVE OR MORE CONTACTS AFTER AGE																							
		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
0	24.1	22.8	21.4	20.0	17.9	15.9	13.3	9.9	6.2	3.3	1.7	1.2	.5	.2	.2	.0	.0								
1	61.1	58.9	55.2	54.4	44.9	38.2	35.3	30.0	21.5	12.6	5.8	2.6	2.3	1.2	.7	.0	.0								
2	100.0	90.0	80.0	75.0	73.5	60.7	48.1	41.8	33.0	19.0	28.5	7.9	3.4	.6	.0	.0	.0								
3	100.0	100.0	75.0	90.0	88.2	73.7	84.4	69.2	46.5	24.4	17.2	9.5	4.3	2.2	.0	.0	.0								
4	100.0	100.0	100.0	100.0	87.5	92.9	61.1	69.2	65.8	50.0	28.9	17.7	9.6	6.3	3.6	.0	.0								
5 or +	-----	100.0	100.0	100.0	100.0	100.0	100.0	82.4	79.6	62.3	38.5	41.9	32.8	23.2	12.9	5.4	.0								
Average Number of Contacts After Age	4.56	4.52	4.47	4.42	4.32	4.16	3.93	3.60	3.18	2.67	2.21	1.80	1.43	1.06	.69	.32	.03								

TABLE 6. PERCENT OF COHORT WITH SERIOUSNESS SCORE OF SIX OR MORE AFTER AGE BY SERIOUSNESS SCORE PRIOR TO AND AT AGE: 1942 AND 1949 COHORT MEMBERS WITH CONTINUOUS RESIDENCE IN RACINE

Seriousness Score Through Age	PERCENT OF 1942 COHORT WITH SERIOUSNESS SCORE OF SIX OR MORE AFTER AGE																							
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
0	35.9	35.5	35.0	34.5	33.3	31.7	27.8	23.0	16.4	13.4	10.4	8.6	5.5	4.8	3.4	2.0	1.8	1.5	1.1	.4	.4	.0	.0	.0
1	100.0	100.0	100.0	100.0	66.7	60.0	58.3	41.7	34.2	17.3	24.1	14.8	15.6	11.4	8.2	2.6	2.5	2.4	2.4	1.3	.0	.0	.0	.0
2	100.0	100.0	100.0	100.0	100.0	100.0	90.9	80.0	61.5	35.7	7.7	16.7	12.5	4.5	17.2	17.9	12.5	5.7	5.3	2.4	.0	2.4	.0	.0
3	100.0	100.0	83.3	87.5	80.0	76.2	60.7	57.5	48.1	38.5	33.9	31.6	31.4	28.6	20.0	23.1	14.6	11.9	14.6	13.6	9.3	4.9	.0	.0
4	100.0	100.0	100.0	100.0	83.3	85.7	85.7	81.8	70.0	44.4	21.1	14.3	4.0	12.9	16.7	15.2	9.1	6.1	.0	.0	3.0	2.9	.0	.0
5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	87.5	70.0	50.0	36.4	7.1	14.3	6.3	11.7	19.0	5.9	5.3	5.3	4.5	4.3	5.6	.0
6 or +	100.0	100.0	100.0	100.0	100.0	92.3	89.3	87.3	81.4	76.1	70.6	64.2	56.7	51.6	48.2	43.1	35.3	34.1	30.7	25.8	.8	11.8	3.5	.0
Lambda*	.0126	.0146	.0167	.0188	.0251	.0315	.0420	.0573	.0599	.0701	.0848	.1035	.1102	.1117	.1250	.1215	.1458	.1434	.1435	.1576	.1726	.2167	.2344	.2000
Somers's D	.7303	.7582	.7685	.7725	.6953	.6765	.6457	.6429	.5682	.5085	.4934	.4734	.4559	.4392	.4308	.4121	.3988	.3832	.3379	.3106	.2636	.1927	.1175	.0217
Person's R	.1199	.1808	.3190	.3379	.3549	.3474	.4286	.4747	.5008	.4982	.5323	.5345	.5249	.5456	.5689	.6159	.5992	.6095	.5846	.5703	.5863	.5579	.4733	.2088
Seriousness Score Through Age	PERCENT OF 1949 COHORT WITH SERIOUSNESS SCORE OF SIX OR MORE AFTER AGE																							
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
0	35.4	34.2	32.6	30.9	28.6	25.5	22.3	18.6	13.4	8.6	6.1	4.3	3.3	2.3	1.3	.2	0.0							
1	55.6	53.8	53.3	59.3	54.3	43.4	39.1	33.8	29.5	16.7	12.0	6.6	5.3	4.7	3.1	1.3	0.0							
2	87.5	69.2	63.2	65.2	63.3	48.1	40.0	31.3	15.8	16.0	7.4	4.8	3.1	0.0	0.0	0.0	0.0							
3	75.0	75.0	76.0	70.3	63.3	63.2	56.4	44.0	37.6	26.0	17.4	7.3	5.8	1.0	.9	0.0	0.0							
4	83.3	91.7	86.7	81.0	74.1	69.0	66.7	52.7	46.6	31.9	28.6	19.1	8.7	5.2	3.7	0.0	0.0							
5	0.0	33.3	83.3	85.7	84.6	73.9	78.3	65.6	52.8	40.6	38.5	26.8	13.2	14.3	2.9	0.0	0.0							
6 or +	100.0	100.0	91.7	93.8	96.1	89.3	84.2	80.8	76.0	67.2	55.5	48.4	41.1	31.1	20.9	9.8	.6							
Lambda	.0042	.0095	.0148	.0170	.0267	.0327	.0386	.0475	.0562	.0724	.0932	.1023	.0961	.1038	.1212	.1659	.2188							
Somers's D	.4643	.5293	.5718	.5675	.5525	.5093	.5040	.4931	.4727	.4625	.4382	.4111	.3690	.3284	.2768	.1780	.0245							
Pearson's R	.2082	.3580	.4148	.4492	.5032	.5037	.5310	.5363	.5466	.5603	.6116	.6225	.6160	.6132	.5664	.4963	.2382							

*Lambda and Somers's D asymmetric with seriousness of careers after age as the dependent variable.

Table 6 deals with seriousness. Here again it is clear that early serious delinquency (as defined by a score of 6 or more) results in continued serious delinquency after that age. Those who do not acquire a score of 6 at an early age, before 18 for example, or who have a lower seriousness score, are far less likely to acquire a score of 6 after that age. We have not yet determined the span of time between the acquisition of a serious career at an early age and additional serious delinquencies or numerous prior police contacts after a given age but this will be done as part of our continuing analysis of the cumulative age-by-age data.

That there is a relationship between more frequent and more seriousness contacts early in life and continuity in careers cannot be denied. But this relationship alone does not enable us to have the predictive efficiency toward which we are working because we still make too many errors of omission and commission if we act on these data alone. Our next step, as stated, will be to incorporate other variables, race/ethnicity, sex, area of residence, the effects of procedural decisions in the juvenile and adult justice systems (effectiveness of intervention in reducing seriousness of any additional contacts, etc.), into our analyses in order to determine how they increase or decrease continuity in careers.

Conclusion

While police contacts for alleged delinquent and criminal behavior are wide-spread, patterns of concentration, particularly for those behaviors in which lower socioeconomic status persons can participate, are found in the inner city and its interstitial areas, the tradition for U.S. cities since at least the turn of the century. If we wish to make simple predictions to the effect that persons who reside in the inner city and its interstitial areas will have lengthier and more serious delinquent and criminal careers than those who live in better socioeconomic status areas, there is no problem. When we attempt to predict continuity in careers, whether it be on the frequency or seriousness dimension, the problem becomes more difficult for it is obvious that the relationship between juvenile and adult careers, or simply continuity in careers, is dependent upon what goes on in the minds of persons in positions of authority in the juvenile and adult justice systems as well as what goes on in the minds of the juveniles and adults who become recipients of their attention. While the data reveal, no matter how one looks at it, that the early onset of a juvenile career

(as defined by contacts with the police at an early age) will result in the generation of more police contacts and more serious contacts than a later onset, the question remains as to whether or not an early onset of police contacts may be explained simply as 1) an early onset of delinquent behavior, 2) chance (i.e. everyone does these things but only some are caught), or 3) early identification and labelling by the police as a person who will be observed more carefully as a consequence of his or her race/ethnicity and/or area of residence.

END