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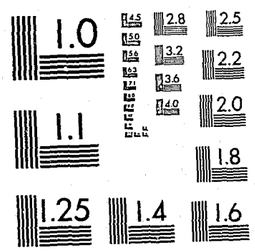

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Center for Human Resource Research

PATHWAYS TO THE FUTURE, VOL. III

A Final Report on the
National Longitudinal Surveys of Youth
Labor Market Experience in 1981

Edited by Michael E. Borus

February 1983

College of Administrative Science

The Ohio State University

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CHAPTER 2

LONGITUDINAL MODELING OF THE RELATIONSHIP BETWEEN CRIME AND EMPLOYMENT AMONG YOUNG WHITE AMERICANS

by Joan E. Crowley

I. INTRODUCTION

Standard labor economic theory assumes that individuals attempt to maximize the returns for their labor in terms of both wages and intangible benefits, valued according to individual tastes. Such a notion of human nature as both rational and hedonistic has also been applied to the choice of whether to pursue legal or illegal means of earnings, going at least as far back as the writings of Jeremy Bentham.

More recently, economic theory has been applied to predictions of crime rates, hypothesizing that as unemployment rates increase, the expected returns to job search decrease and the relative expected returns to crime increase (Phillips and Votey, 1981). The hypothesized link between aggregate crime rates and aggregate unemployment rates has been supported (Phillips and Votey, 1981; Glaser, 1978).

Attempts to find a link between individual unemployment and individual criminal activity have been less successful. In part, the problem has been the lack of appropriate data. Most of the microeconomic studies of crime and employment have used samples drawn from correctional settings, hardly a representative sample (Witte, 1980; Myers, 1980). The fact that all subjects in these studies had criminal records restricts generalization of the results, since it is assumed that the types of jobs available to these individuals were restricted to low paying, low opportunity positions. In general, these studies have found that persons who find satisfactory employment following their release from a correctional facility are less likely to recidivate than

are individuals who are less successful in the labor market (Monahan and Klassen, 1982, Witte, 1977).

The NLS provides an opportunity to assess the mutual influences of crime and employment, and to project the effects of delinquent activity onto subsequent employment. The model to be tested is an elaboration of one presented previously, combining sociological and economic approaches (Crowley, 1981). The economic portion of the model is fairly straightforward: the greater the individual's expected returns from legitimate employment, the less the individual should participate in criminal activity.[1] Simultaneously, the greater the individual's involvement with criminal activity, the less the amount of time spent working. Traditional human capital indicators such as education and prior work experience should be associated with higher expected wages and lower levels of criminal involvement. Crime should also be associated with the availablility of jobs in the local labor market, since a loose market would reduce the chance of getting a well-paying position, regardless of the individual's qualifications.

The sociological approach embodied in the literature on social control also assumes that people are essentially hedonistic and rational. However, the factors considered in evaluating the costs and benefits of a particular course of action are defined in terms of the emotional bonds of individuals to important people in their lives--parents, peers, spouses, children--and to conventionally valued goals--occupational advancement, marriage, respectability. Illegal activities threaten attachment bonds and chances of obtaining conventional goals, and so these bonds and goals help to control hedonistic

[1]This is a very simplified version of the economic approach, of course. Much more precise models have been developed in the literature, but these have been critiqued as indeterminate under reasonable assumptions (McGahey, 1981).

behavior (c.f., Hirschi, 1969; Hindelang , 1973; Minor, 1982).

While there are several variations on the control theory theme, two consistent concepts are attachment and commitment. Attachment refers to the emotional bonds between people, while commitment refers to the degree to which the individual is invested in reaching certain goals. Usually, these commitments are defined in terms of educational and occupational advancement, but there is no need to limit commitment to factors associated with socioeconomic status. While conceptually distinct, in many cases attachment to people and commitment to roles are functionally intertwined. Marriage implies both developing an attachment to a spouse and fulfilling a defined social role as husband or wife. Similarly, becoming a parent implies both attachment to the child and commitment to being a good caretaker/provider.

Most formulations of control theory assume that attachment to others, starting with parents, forms the basis for internalizing conventional values and forming commitments to social goals. The decision to indulge in criminal activity should be a function of the anticipated returns to crime, both in material and intangible rewards, net of the anticipated risks of sanctions and the probability of getting caught. Together, attachments and commitments increase the cost to the individual of getting caught at criminal activity. Loss of the goodwill of the parents or of the opportunity to train for a desired job should help to deter criminal activity. Conversely, youth who are not strongly attached or committed socially have much less to lose if they are caught by police.

Using both economic constructs of relative expected returns and sociological constructs of commitment to social goals, two models were developed for testing. Figures 2.1 and 2.2 show the theoretical structures used to generate the models.

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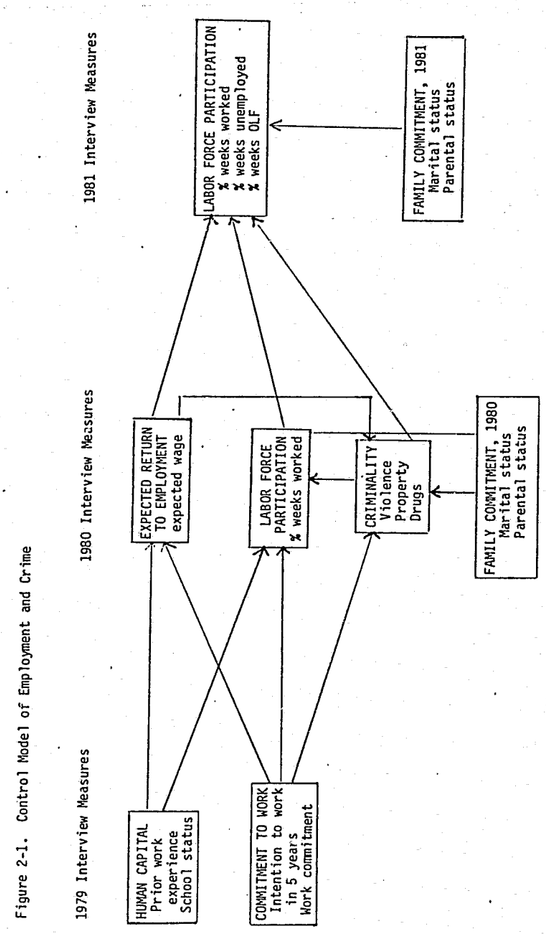
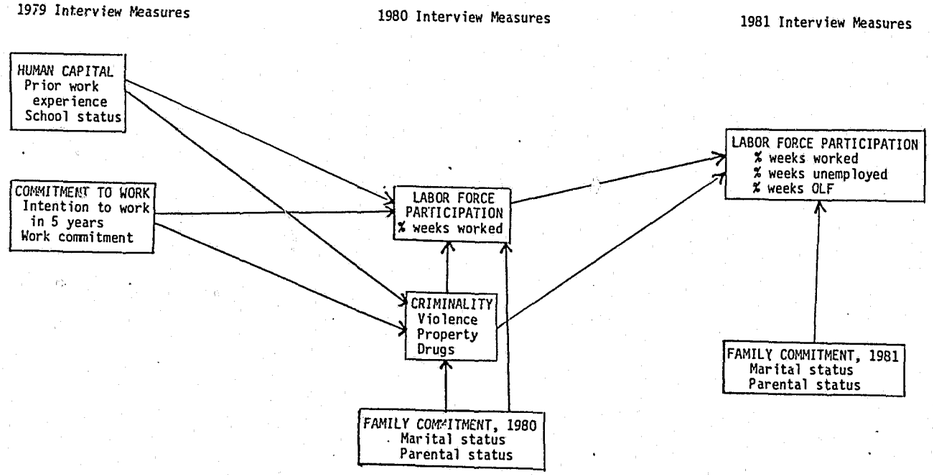


Figure 2-1. Control Model of Employment and Crime

Figure 2.2. Control Model of Employment and Crime



The panel design of the NLS makes available measures of employment activity, education, and family commitment over a three year period, from January 1, 1978, to the date of interview in 1981. Illegal activities were measured only in 1980. Thus, while we have crime measured at a single point, we have indicators of labor force participation before, during, and after the crime measure. The theoretical treatments of the crime-work link do not help much in determining the direction of the influence of one variable on the other: crime might reduce incentives to work or work might increase the risks of crime.[2] To some extent, this problem is lessened by using previous employment to predict both current employment and criminal activity, and current criminal activity to predict subsequent employment. The figures show variables not only by their theoretical causal priorities, but also according to the interview in which the variables were measured.

In Figure 2.1, human capital variables--prior experience and education, measured in 1979--are hypothesized to affect delinquent activity through their influence on expected returns to employment, measured by the estimated hourly rate of pay. Youth who expect higher wages, due to their accumulation of human capital, should have less incentive to turn to illegal activities. Delinquent activities are expected to be negatively related both to the expected returns to employment and by the commitment variables, which should both enhance the value of employment and increase the potential risks associated with criminal activity.

In the second model, expected returns are deleted. Human capital variables are included as indicators of commitment to the labor force, and hypothesized to have a direct effect on illegal activity, independent of their effect on employment. In both models, illegal activity is hypothesized to have a negative effect on employment.

[2]Originally, I tried to estimate the simultaneous relationships of delinquency and employment using various structural equation strategies. Unfortunately, due to the complexity of the model and the lack of good instrumental variables, this attempt had to be dropped.

II. RESEARCH PLAN

Universe

In order to simplify the interpretations of results, analysis will be restricted to youth who are out of school in 1980. Among students, it is expected that there will be a number of countervailing influences on work and delinquency which cannot currently be unravelled. Youth who are more committed to achievement in the labor force, for example, may be less likely to work while they are still in school, chosing instead to concentrate on their studies. Previous research demonstrates that there are paradoxical relationships between work and employment among high school students, with students who work actually more likely to participate in illegal activity (Crowley, 1981). This result was attributed to the increased independence of adult control provided by employment and its consequent income for adolescents. Youth who are out of school, on the other hand, face strong pressures to acquire adult roles through employment, marriage, or parenthood. The tradeoff between legal employment and crime should be most clear among wage earners and those who are free to seek full time employment.

The restriction of the sample to youth who are out of school also means that the analysis is largely of adult crime rather than juvenile delinquency. There is some evidence that while more juveniles are involved in illegal activities than are adults, crimes committed by adults are, on the whole, more serious than crimes committed by youngsters (Wolfgang, 1977; Hindelang and McDermott, 1979). To a large extent, youth crime no doubt

represents exploratory behavior, part of growing up. Criminal activity by adults, however, may be more indicative of a stable orientation toward crime.

Analyses will be run separately by sex, since predictions of the relationships among family commitments and employment vary qualitatively between men and women. In particular, while marriage should increase commitment to the labor force for men, both marriage and, especially, parenthood, should decrease labor force participation for women. At the same time, the effects of family roles on criminal activity should have the same sign for both sexes.

Ideally, the analysis should be run separately by race, since both employment conditions and social roles vary greatly across ethnic groups. However, sample size considerations preclude further splitting of the sample. For this analysis, only whites were included, as sample size problems made estimates of the models for blacks unstable.

Exogenous variables

The NLS has no measures of attachment in the sense of direct emotional bonds between respondents and other people. Rather, there are indicators of social roles, such as marital status and presence of children in the home. These will be termed commitment variables, to emphasize that they represent role functions rather than attachments to individuals. Two areas of commitment are defined: commitment to work and commitment to family roles.

There are two indicators of commitment to work. The initial interview of the panel included items on the acceptability of several hypothetical alternatives in the case that the respondent was unable to obtain enough income to support a family. These ranged from obtaining more training in order to find a better job to going on welfare or shoplifting. Responses were combined into an index of commitment to the labor force (See Appendix 2A for exact wording

of the items). While such items have not been directly applied to criminal activity, orientation to alternate sources of income has been found to be associated with labor force participation among low income youth (Goodwin, 1979). Another item asked whether the respondent expected to be working in five years. Especially for young women, this variable should tap whether the youth's labor force participation is considered to be temporary or relatively permanent.

Commitment to family was proxied by two dichotomous variables indicating whether or not the respondent was living with a spouse or living with offspring. The evidence on the effect of marital status on crime is inconsistent. In studies of released offenders, those with continuing family ties are somewhat less likely to recidivate than are others (Monahan and Klassen, 1982). On the other hand, Farrington (1982) reports little association between getting married and official arrest records or self-reported criminal behavior, although marriage did tend to reduce activities associated with crime, such as drinking and sexual promiscuity.

Standard human capital measures included in the model are prior work experience, measured in weeks, and dummy variables separating youth who were high school dropouts or still students in 1979 from youth who had graduated from high school and not received further education. These human capital indicators were measured as of the 1979 interview.[3]

Endogenous variables

A key construct in the model, setting it apart from past research, is the inclusion of expected returns to work, measured by the imputed value of hourly

[3]Indicators of participation in training programs outside of regular school were included in earlier analyses and dropped due to lack of significance.

rate of pay.[4] It is hypothesized that, to the extent there is a relationship between human capital variables and crime, the relationship should be mediated through pay.

Crime and work are both simple concepts with complex measurement problems. Labor force participation during a given time period can be indicated by weeks worked, weeks unemployed, and weeks out of the labor force. Phillips and Votey (1981), in their analysis of aggregate data found that the distinction between being in or out of the labor force was more associated with crime rates than was the distinction between working and not working. Their interpretation was that, compared to employment rates, labor force participation rates incorporated the discouragement due to long term unemployment trends. Employment rates were more associated with short term trends. At the microeconomic level, however, the inclusion of prior work experience should capture these long term employment trends, so that the model may work better for time employed than for time out of the labor force.

Employment is measured over three time periods in the models estimated. As described above, prior experience was defined as the number of weeks worked up to the interview date in 1979. Percent of weeks worked between the 1979

[4]Hourly rate of pay was estimated using one of three figures. For youth who worked at some time in 1980 or 1979, the actual wage at the current or last job was used. If 1979 wage was used, the amount was adjusted to 1980 dollars. If a youth had not worked in either 1979 or 1980, it was assumed that the expected wage was equal to the minimum wage, or $3.10 per hour. This assumption was made by reasoning that this sample has relatively few youth with advanced education, and that respondents who had not held a job in the past few years would expect to start in minimum or near-minimum wage positions.

Returns to employment include not only pay, but also such intangibles as job satisfaction and on-the-job companionship. However, none of these can be estimated for youth not currently employed. Analysis presented elsewhere in this volume (Hills and Crowley, 1982) show that job satisfaction is a function of the specific job, rather than the type of worker, so that estimations based on such factors as race, education, and experience are invalid as instruments.

interview and the 1980 interview represents approximately the period covered by the criminal activity scales.[5] Employment during this period was specified only in terms of weeks worked. The total of weeks worked during the period between interviews and weeks worked before the first interview, of course, add up to the total work experience prior to the final period.[6] There is some problem of simultaneous causation in the inclusion of weeks worked and criminal activity measures which cover the same time span, since it is possible that some of the youth were incarcerated for a period of time, necessarily limiting the number of weeks available for work. This figure should be quite small, given the infrequency with which any incarceration over the lifetime was reported by the respondents (see Crowley, 1982 for details.)

Labor force participation in 1981 was defined in terms of the three major labor force statuses: weeks worked, weeks unemployed, and weeks out of the labor force. Since paths to each of these outcomes were estimated separately, the problems of multicollinearity are avoided.

So far, the discussion has treated criminal activity as a unitary construct. The NLS delinquency measures are based on a series of seventeen self-report items, separated into three subscales: property crime, violent acts, and drug use and sale.[7] The indexes were constructed to weight each type of

[5]The self-report of crime form asked youth to record their level of activities over the previous 12 months. The weeks worked in 1980 index was put in percentage form because there was some variation in the number of weeks which had elapsed between interviews.

[6]There were other considerations in limiting measurement of labor force participation in 1980 to weeks worked. In predicting the next stage of the model, labor force participation in 1981, the multicollinearity of the various labor force statuses creates problems in estimating effects. Also, an already complicated analysis becomes even more complex, and it was decided to eliminate the measures of weeks unemployed and out of the labor force between the 1979 and 1980 interviews in part to simplify the problem.

[7]It should be noted that, while there is some differentiation among offense

offense approximately equally, and are used in logarithmic form to reduce the extreme skewness of the distribution. The various scaling procedures are described in the appendix. The transformations mean that the delinquency scores cannot be interpreted as actual number of illegal acts, but as a way of measuring the level of involvement of each individual in illegal activities.

Previous work indicates that drug use, as measured in the NLS, is positively associated with employment, no doubt as an income effect. Young people with more money to spend can afford more drugs (Crowley, 1981). Property crime, however, should fit into the model of trading off time in the labor force for time in illegal income producing activities.

Violence has been related to unemployment in two ways. Unemployment has been associated in particular with violence within the family, wife abuse and child abuse (Monahan, 1982). Bachman (1978) found that men who were high in violent behavior tended to have poorer work histories in terms of sporadic and low status jobs. Note that these two findings imply different causal directions--unemployment may lead to violence, and violent behavior may lead to employment instability.

Analysis strategy

The analysis technique selected is path analysis (Asher, 1976). This procedure involves estimating sequentially the hypothesized relationships in a model, using ordinary least squares for each set of estimators. The technique allows decomposition of direct and indirect effects of predictors on outcomes. For example, prior work experience should have a direct effect on weeks worked in 1980. Prior work experience is also a predictor of expected

types in the data, there is little evidence of any clear specialization by individuals. Previous research has found a similar lack of specialization among those convicted of crimes. Offenders convicted of property crimes often have a history of involvement with violence and drugs (Farrington, 1982).

wage, which in turn affects weeks worked. The total effect of experience on weeks worked in 1980 is the sum of the direct effect and the indirect effect. Further detail on the interpretation of path coefficients is given in the next section of the paper.

III. RESULTS

Distributions

Table 2.1 shows the means for the variables used in the models, separately by sex. Distinct differences appear in the amount of labor force participation reported by young men and women, with men having more prior work experience and a larger proportion of weeks worked in both 1980 and 1981. There is no increase in the percent of weeks worked from 1980 to 1981. Expected wages for women are approximately $.20 per hour less than for young men. Interestingly, there is no difference between males and females in work commitment. Over 90 percent of the young women say that they expect to be working in five years, a figure only slightly lower than the 98 percent of the young men reporting such plans.

The large percentage of young women with work plans is more striking in light of the fact that 27 percent were mothers in 1980 and in 1981 this figure had risen to 35 percent. The rates of marriage and parenthood for young men were substantially lower, although almost a third had started families of their own by 1981. The difference in family commitments no doubt reflects the continuing trend for women to marry and start families at an earlier age than do young men.[8]

[8]Note that parenthood and marriage are measured independently, since a number of youth have children prior to marriage. All combinations of the two variables occur with some frequency in the data.

Table 2.1 Descriptive Statistics for Variables Used in Models

	Females		Males	
	mean	std. dev.	mean	std. dev.
Prior work experience - 1979	55.89	52.88	68.55	59.04
High school dropout - 1979	0.19	0.39	0.22	0.42
Still in school - 1979	0.34	.047	0.37	0.48
Work commitment - 1979	13.08	1.87	13.14	1.88
Intention to be working in 5 years - 1979	0.91	0.29	0.98	0.13
Expected wage - 1980[a]	5.86	0.32	6.07	0.40
% weeks worked - 1970-1980	62.41	37.37	77.01	29.47
Property crime - 1980[a]	1.82	0.17	1.94	0.27
Drug use - 1980[a]	0.95	0.48	1.11	0.61
Violence - 1980[a]	1.23	0.20	1.39	0.38
Married, spouse present - 1980	0.35	0.48	0.18	0.39
Children present - 1980	0.27	0.44	0.09	0.29
% weeks worked - 1980-1981	63.51	38.77	77.76	30.94
% weeks unemployed - 1980-1981	7.80	18.05	11.77	22.62
% weeks OLF 1980-1981	28.70	37.50	10.47	22.81
Married, spouse present - 1981	0.42	0.49	0.27	0.44
Children present - 1981	0.35	0.48	0.16	0.37
Number of cases	1470		1177	

[a]Logarithmic form

Young men tend to score higher on each crime scale than do young women, but, as with other self-report instruments, the sex difference is much smaller than the sex difference observed in official court records.[9]

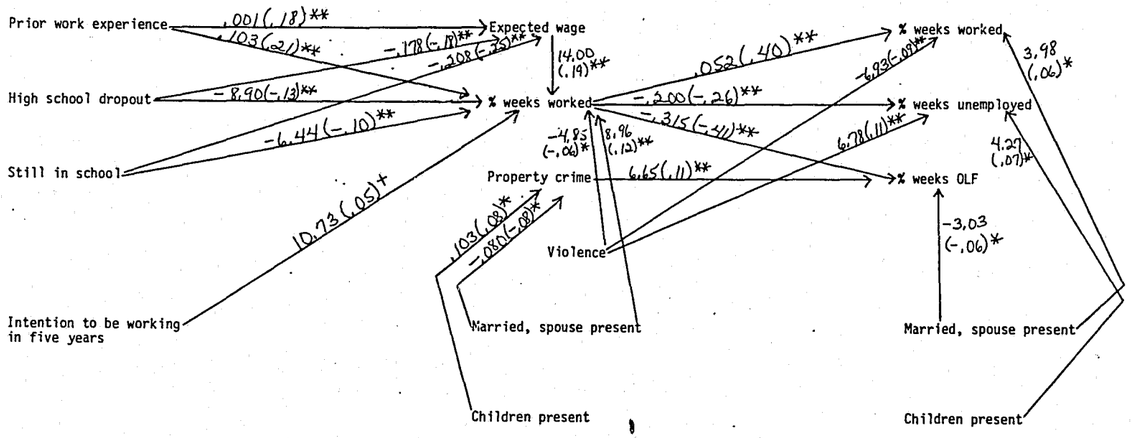
Path Analyses. Figures 2.3 through 2.6 show the significant paths from the regression analyses. The unstandardized coefficients are shown, with standardized coefficients in parentheses. The standardized scores can be used to assess the relative influence of predictors within any one model, while the unstandardized coefficients are more useful in making comparisons across groups.[10] Non-significant paths are not shown, in order to make the figures easier to read. The figures allow both direct and indirect effects of predictors to be traced through the model.[11] The information in the figures for the

[9]The relative merits of self-report versus official criminal records as measures of individual criminal activity have been debated in the criminological literature, without reaching consensus. In general, self-report methods find substantially less variation in illegal activities among various demographic groups than expected based on the characteristics of the arrested population. Validation studies find self-report methods to be as sound as the usual sort of survey instrument. See Crowley, 1981, for a further discussion of this issue.

[10]Unstandardized coefficients are highly sensitive to the scale of measurement of the variables. Thus, a dichotomous variable such as school status will tend to have a large coefficient, while a continuous variable such as prior work experience will have a very small one. Standardized coefficients put all of the predictors on a scale based on the variance of the sample. Using standardized coefficients, it can be seen, for example, that prior work experience is very strongly linked to weeks worked, despite the small unstandardized coefficient. Since the variance of each predictor is likely to be different across groups, the unstandardized coefficients provide a better comparison across groups of the magnitude of the links between predictors and outcomes.

[11]To calculate indirect effects of a variable, first identify the paths from that variable to the outcome of interest through the other variables in the model. For example, prior work experience has a direct effect on weeks worked, as shown by the significant coefficient on the arrow between the two. The indirect effect of prior work experience on weeks worked is described by the path found by following the path from prior experience to expected wage, then following the path from expected wage to weeks worked. The magnitude of the indirect effect is calculated by multiplying the coefficients on the adjacent paths. Thus, for young white men the indirect

Figure 2-3. Path Analysis of Control Model for White Males

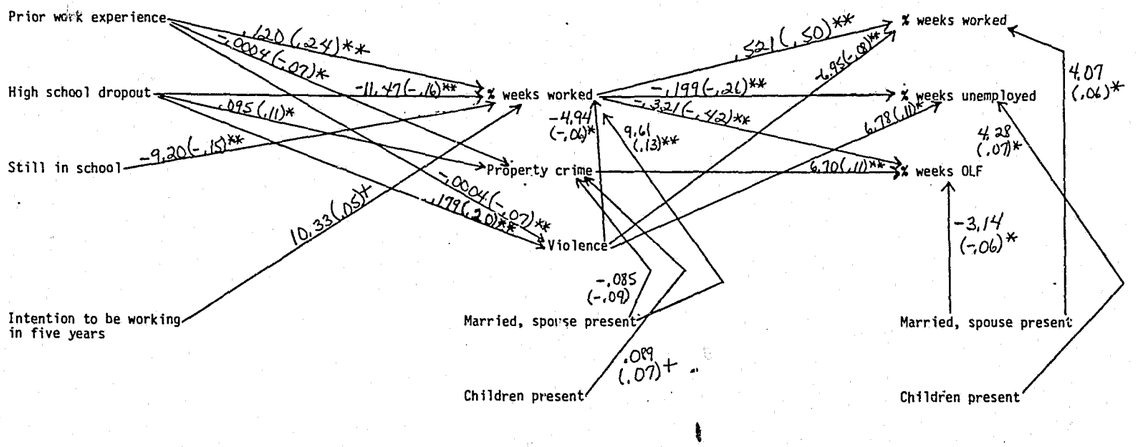


UNIVERSE: Nonenrolled civilians age 18-23 on interview date. N = 1177

[a]Unstandardized path coefficients presented, standardized coefficients in parentheses.

\+ p < .10
* p < .05
** p < .01

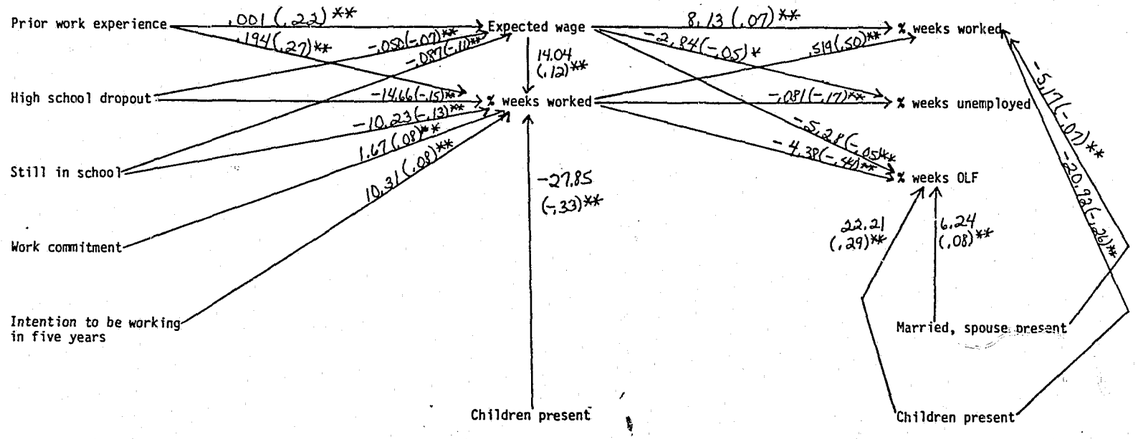
Figure 2-4. Path Analysis of Commitment Model for White Males



UNIVERSE: Nonenrolled civilians age 18-23 on interview date. N = 1177

[a]Unstandardized path coefficients presented, standardized coefficients in parentheses.
+ p < .10
* p < .05
** p < .01

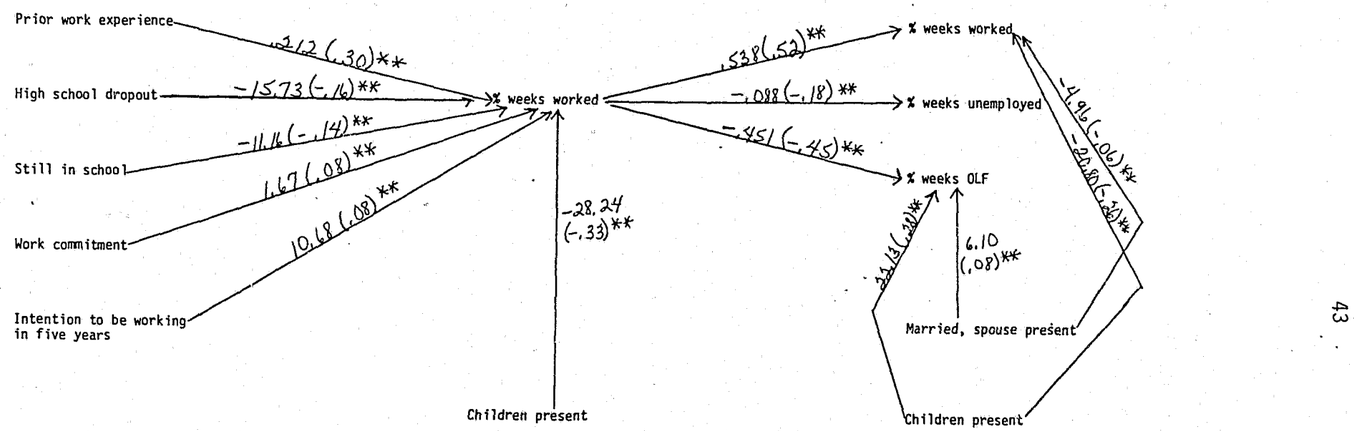
Figure 2-5. Path Analysis of Control Model for White Females



UNIVERSE: *Nonenrolled civilians age 18-23 on interview date.* N = 1470

[a]Unstandardized path coefficients presented, standardized coefficients in parentheses.
+ p < .10
* p < .05
** p < .01

Figure 2-6. Path Analysis of Commitment Model for White Females



UNIVERSE: Nonenrolled civilians age 18-23 on interview date. N =1470

[a]Unstandardized path coefficients presented, standardized coefficients in parentheses.
+ p < .10
* p < .05
** p < .01

male sample is summarized in Table 2.2.

Results for Young Men. Figure 2.3 shows the results for the economic model for young men. The hypothesis that delinquency and work are linked through expected returns to employment is not supported. There is no significant path from expected wage to any of the measures of illegal behavior. However, if the economic model is not supported, neither is the control model, at least in terms of measures of commitment to the labor market. Work commitment and intention to be working in five years are not related to any of the crime scales.

Marital status and the presence of children in the home are related to property crime. As expected, married men are less likely to participate in property offenses. However, the positive association between having a child in the home and property crime is contrary to the commitment hypothesis.

Violent activity is the only one of the crime indexes associated with significantly fewer weeks worked during the period over which the illegal activities were measured. However, both violence and property crimes were significantly associated with labor force participation measured in the following year. That is, young men who report more involvement in violent activities in 1980 tend to report fewer weeks worked and more weeks unemployed in the following year than do their more peaceable counterparts, while youths

effect of prior experience on weeks worked in 1980 is:

$$.001 * 14.00 = .014$$

The total effect is simply the sum of the direct effect and all of the indirect effects linking the predictor variable with the outcome. Roughly speaking, the interpretation of the indirect path goes like this: An increase of ten weeks in the number of prior weeks of experience increases the expected wage by one cent (.001 * 10 =.01). An increase of one cent in the young men's expected wage increases the percent of weeks worked by .14 (.01 * 14.00 = .14). Thus, by increasing the expected wage, increased work experience increases subsequent weeks worked. The analogous calculation could be made using standardized coefficients, in which case the real-world units (dollars and weeks) would be converted into points on the standardized scales.

with higher reported levels of property crime spend a larger percentage of their time out of the labor force relative to other young men. There is an additional, indirect effect of violence on labor force participation, since violent men tended to work less in 1980, and the lower level of prior experience is associated with fewer weeks worked, more unemployment, and more time out of the labor market. Since there was no significant relationship between property crime and weeks worked in 1980, there is no significant indirect link between property crime and labor force participation in the following period.

Figure 2.4 shows the coefficients estimated for young men using the control model. For the young men, the human capital variables, experience and educational status do have direct effects on both the property crime and violence scales.

Only the violence index is linked with weeks worked in 1980. The link between violent behavior and employment persists, as shown by the paths between violent behavior in 1980 and weeks worked and weeks unemployed in 1981. The results shown in the rest of the figure echo those discussed above for the economic model.

The magnitude of employment effects for young men of human capital, commitment, and delinquency are further described in Table 2.2, which shows the direct, indirect, and total effects of each variable used to predict the labor market outcomes of the model.[12] In the control model, prior experience and school status are linked to employment through the violence scale, but these indirect effects are small. Using the economic model, it appears that a substantial proportion of the effect of the school variables on weeks worked is through their effect on expected wage.

[12]There were no significant relationships with any of the crime scales for young women, so the comparable table for them is not shown.

Table 2.2 Direct and Indirect Effects of Predictor Variables on Labor Force Participation, White Males

	Type of Effect					
	Direct		Indirect		Total	
	B	Beta	B	Beta	B	Beta
I. Economic Model						
A. Percent Weeks Worked, 1980						
Prior Experience	.103	.21	.014	.03	.117	.24
School Status						
Dropout	-8.90	-.13	-2.49	-.04	-11.39	-.17
Student	-6.44	-.10	-2.91	-.05	-9.35	-.15
Graduate	-	-	-	-	-	-
Work Commitment	ns	ns	ns	ns	ns	ns
Intention to Work	10.73	.05	ns	ns	10.73	.05
Expected Wages	14.00	.19	-	-	14.00	.19
Criminal Activity						
Property	ns	ns	-	-	ns	ns
Drugs	ns	ns	-	-	ns	ns
Violence	-4.85	-.06	-	-	-4.85	-.06
Married, 1980	8.96	.12	ns	ns	8.96	.12
Parent, 1980	ns	ns	ns	ns	ns	ns
B. Percent Weeks Worked, 1981						
Expected Wage	ns	ns	.728	.09	.728	.09
%Weeks Worked, 1980	.052	.40	-	-	.052	.49
Illegal Activities						
Property	ns	ns	ns	ns	ns	ns
Drugs	ns	ns	ns	ns	ns	ns
Violence	-6.93	-.09	-.252	-.03	-7.18	-.12
Married, 1981	3.98	.06	-	-	3.98	.06
Parent, 1981	ns	ns	ns	ns	ns	ns
C. Percent Weeks Unemployed, 1981						
Expected Wage	ns	ns	-2.80	-.05	-2.80	-.05
%Weeks Worked	-.200	-.26	-	-	-.200	-.26
Illegal Activites						
Property	ns	ns	ns	ns	ns	ns
Drugs	ns	ns	ns	ns	ns	ns
Violence	6.78	.11	.97	.02	7.75	.13
Married, 1981	ns	ns	-	-	ns	ns
Parent, 1981	4.27	.07	-	-	4.27	.07

Table 2.2 continued

	Type of Effect					
	Direct		Indirect		Total	
	B	Beta	B	Beta	B	Beta
D. Percent Weeks Out of Labor Force, 1981						
Expected wage	ns	ns	-4.41	-.07	-4.41	-.07
%Weeks Worked, 1980	-.315	-.41	-	-	.315	-.41
Illegal Activites						
Property	6.65	.11	ns	ns	6.65	.11
Drugs	ns	ns	ns	ns	ns	ns
Violence	ns	ns	1.52	.02	1.52	.02
Married, 1981	-3.03	-.06	-	-	-3.03	-.06
Parent, 1981	ns	ns	ns	ns	ns	ns
II. Commitment Model						
A. Percent Weeks Worked, 1980						
Prior Experience	.120	.24	.002	.00	.122	.24
School Status						
Dropout	-11.47	-.16	-.884	-.01	-12.35	-.17
Student	-0.20	-.15	ns	ns	-9.20	-.15
Graduate	-	-	-	-	-	-
Work Commitment	ns	ns	ns	ns	ns	ns
Intention to Work	10.33	.05	ns	ns	10.33	.05
Criminal Activity						
Property	ns	ns	-	-	ns	ns
Drugs	ns	ns	-	-	ns	ns
Violence	-4.94	-.06	-	-	-4.94	-.06
Married, 1980	9.61	.13	ns	ns	9.61	.13
Parent, 1980	ns	ns	ns	ns	ns	ns
B. Percent Weeks Worked, 1981						
Weeks Worked, 1980	.521	.50	-	-	.521	.50
Illegal Activities						
Property	ns	ns	ns	ns	ns	ns
Drugs	ns	ns	ns	ns	ns	ns
Violence	-6.95	-.08	-2.57	-.03	-9.52	-.11
Married, 1981	4.07	.06	-	-	4.07	.06
Parent, 1981	ns	ns	-	-	ns	ns

Table 2.2 continued

	Type of Effect					
	Direct		Indirect		Total	
	B	Beta	B	Beta	B	Beta
C. Percent Weeks Unemployed, 1981						
%Weeks Worked, 1980	-.199	-.26	-	-	-.199	-.26
Illegal Activities						
Property	ns	ns	ns	ns	ns	ns
Drugs	ns	ns	ns	ns	ns	ns
Violence	6.78	.11	.983	.02	7.76	.13
Married, 1981	ns	ns	-	-	ns	ns
Parent, 1981	4.28	.07	-	-	4.28	.07
D. Percent Weeks, OLF, 1981						
%Weeks Worked, 1980	-.321	-.42	-	-	-.321	-.42
Illegal Activities						
Property	6.70	.11	ns	ns	6.70	.11
Drugs	ns	ns	ns	ns	ns	ns
Violence	ns	ns	1.59	.03	1.59	.03
Married, 1981	-3.14	-.06	-	-	-3.14	-.06
Parent, 1981	ns	ns	ns	ns	ns	ns

UNIVERSE: White male civilians, not enrolled in school 1981, 18 years old or older, N= 1177
- : coefficient not calculated as part of model
ns: coefficient not significant at .10 level

Violent behavior has a negative effect on subsequent employment, both directly and through the negative relationship with weeks employed in 1980. About one quarter of the total effect of violent behavior on subsequent weeks worked is due to the reduction in weeks worked in 1980. Similarly, violence seems to increase the percent of weeks unemployed both directly and through reducing work experience. The indirect effects of violence on time unemployed or out of the labor force are relatively small. Since property crime is apparently unrelated to weeks employed, there is no significant indirect effect of property violations on subsequent labor force activities.

Marital status has the predicted effects on employment, reducing time out of the labor force and increasing weeks worked. The presence of children, however, is associated with more time unemployed.

While expected wage in 1980 has a substantial indirect effect upon subsequent labor force participation, leaving this out of the model, as done in the commitment analysis, makes no substantial change in any of the estimated coeficients, so that the second panel of Table 2.2, the commitment model, tells essentially the same story as the first panel, the economic model.

Results for young women. For young women, the crime scales are neither predicted by variables in the model nor predictive of other outcomes. Ironically, it is among young women that the commitment variables explain employment, although there are no significant relationships with any of the crime scales. Children exert a very strong dampening effect on employment in both 1980 and 1981, while marriage is significant only in the latter year. The magnitudes of the coefficients linking the human capital variables to employment are somewhat smaller for the young women than for the young men, but all estimates are of the same general order of magnitude.

IV. DISCUSSION

The lack of relationship between the predictor variables and crime among young women may be due to the relative infrequency of illegal activities among females, or to a real sex difference in the etiology of crime, such that traditional theories based on male samples are simply invalid for females. In any case, there is no hint in the data about the causes of crime among women. The data simply replicate the known deterrent effects of young children on maternal employment.

The relationship for young men between crime and employment appears to vary both by type of offense and by the measure of labor market participation. The pattern seems to imply less a substitution of income than a matter of lifestyle.

The interpretation of these patterns may hinge on the relationships between the types of choices involved in defining labor force status. The distinction between OLF and LFP is basically one of self-definition: an individual decides to seek work or to pursue other activities. Once having decided to look for work, the individual may or may not find an acceptable job, and may or may not be able to hold a job once one has been found. Presumably, then, the distinction between employed and unemployed is determined both by individual choice and by the availability of jobs in the local labor market.[13]

Violent crime is not associated with weeks OLF, implying that there is no link with the decision to enter the labor market. Apparently, however, violence is associated with difficulty in getting or holding a job, resulting in

[13] Of course, these distinctions are more heuristic than real. In particular, the lack of suitable job opportunities for youth may lead to giving up on job search, so that the OLF status is not entirely optional.

more time unemployed and less time working. It seems likely that men who are prone to involvement in fights and assaults would not limit their aggressive behavior to off-work times, making them less desirable as employees. If, as has been suggested (Berkowitz, 1980), violent behavior is largely impulsive, violent men may also be more likely to quit jobs in response to frustrations than are more controlled, less violent men.

There is some evidence for a crime-employment link in the effect of property crime on being out of the labor force in 1981. Note that there is no association with either time employed or time unemployed, suggesting that the crucial factor is the decision not to participate in the conventional labor market, not merely the lack of a paying job. Since having less work experience and being a high school dropout in 1979 were significant predictors of property crime, there is some encouragement for further exploration.

The presence of children in the home was, as expected, a strong deterrence to employment for young women. However, the effects of parenthood on young men were quite unexpected. Having a child seems to be associated with higher levels of property crime and greater time unemployed and, indirectly, greater time out of the labor force. Currently, there is nothing in either the data or in standard theories of crime to explain this pattern. Relatively few young men have started families at this early age, and it may be that there are general lifestyle differences captured by the parenthood variable for young men which are associated with higher levels of property crime and unemployment.

It is tempting to interpret the overall findings as evidence that the employment-crime link is, for young men, a matter more of lifestyle than of economic rationality. Employment and unemployment among young people are in part due to forces out of the range of the youth--economic conditions, lay-

offs, inability to find a job. However, being out of the labor force as opposed to in the labor force is more a matter of free choice. Men with a tendency to engage in violent behavior do not seem more or less likely than others to choose to be OLF, but they may have difficulty in keeping a job, whether their leaving is through quitting or being fired. Young men who engage in property crimes, however, may be involved in a different lifestyle, of early fertility and time spent out of the conventional labor force. These interpretations are highly speculative, but seem to be consistent with the emerging evidence on the etiology of crime.

APPENDIX 2A

I. MEASURES OF CRIME

The primary indicators of illegal activity are derived from a self-report delinquency instrument developed for the NLS. Items are listed in Table 2.A1 along with means and standard deviations by sex. Because NLS interviews are conducted in the respondent's home, there is no way to guarantee that answers to questions about criminal behavior will not be overheard by family members or other persons. To maximize privacy of responses, the delinquency items were listed on a questionnaire form which was filled out and sealed in an envelope by the respondent, then given to the interviewer. To reduce the time necessary to fill out the form and to further assure the respondent of confidentiality, response brackets were provided, rather than asking for actual frequencies. Response categories are also listed on Table 2.A1.

The items in the NLS self-reported criminal activity instrument were analyzed for empirical typologies, using factor and cluster techniques. Excluding the status items, three groups of offenses emerged: property crime, drug use and sale, and assault. The items included in each group are indicated in Table 2.A1.

It has been observed that the proportion of youth participating in a particular type of offense declines as the offense becomes more serious. Creating summary scales using simple sums could result in a youth who has committed ten armed robberies being counted as less delinquent than a youth who admits to ten petty thefts, clearly a distortion of the desired result. Before creating the delinquency scales, scores on each individual item were standardized, a constant was added to eliminate negative scores, and the resulting scores summed across the offenses included in the scale. This procedure assured that each offense would have approximately equal weighting

within the scale. For the multivariate analyses, a logarithmic transformation was applied to reduce the skew of the variables while preserving the ordinal relationships within the sample.

Table 2.A1 Items on Self-Reported Delinquency Index

Abbreviated title	Item[a]	Sub-scale[d]	Mean	Standard deviation	Percent zero
1. Runaway[b]	Run away from home?		.21	1.52	90
2. Truant[b]	Skipped a full day of school without a real excuse?		3.81	9.27	53
3. Drinking[b]	Drank beer, wine or liquor without your parents' permission?		10.31	15.82	39
4. Vandalism[c]	Purposely damaged or destroyed property that did not belong to you?	P	.75	3.62	82
5. Fighting	Gotten into a physical fight at school or work?	V	.98	3.91	72
6. Shoplifting	Taken something from a store without paying for it?	P	1.15	4.57	74
7. Petty theft	Other than from a store, taken something not belonging to you worth under $50?	P	.75	3.56	82
8. Grand theft	Other than from a store, taken something not belonging to you worth over $50?	P	.23	2.40	95
9. Robbery	Used force or strong arm method to get money or things from a person?	V	.22	2.31	95
10. Assault	Hit or seriously threatened to hit someone?	V	1.84	6.24	64
11. Aggravated assault	Attacked someone with the idea of seriously hurting or killing them?	V	.47	3.58	90
12. Using marijuana	Smoked marijuana or hashish (pot, grass, hash)?	D	11.21	18.64	54
13. Using hard drugs	Used any drugs or chemicals to get high or for kicks, except marijuana?	D	2.48	8.53	82
14. Selling	Sold marijuana or hashish?	D	1.33	6.53	90

Table 2.A1 (continued)

Abbreviated title	Item[a]	Sub-scale[d]	Mean	St. deviation	Percent zero
15. Selling hard drugs	Sold hard drugs such as heroin, cocaine, LSD (total number of all drug sales)	D	.29	3.17	98
16. Fraud	Tried to get something by lying to a person about what you would do for him, that is, tried to con someone?	P	1.10	4.99	78
17. Auto theft	Taken a vehicle for a ride or drive without the owner's permission?		.30	2.32	92
18. Breaking and entering	Broken into a building or vehicle to steal something or just to look around?	P	.26	2.71	94
19. Fencing	Knowingly sold or held stolen goods?	P	.49	3.23	89
20. Gambling	Helped in a gambling operation, like running numbers or policy or books?		.21	2.62	98

[a]Response categories were never, once, twice, 3-5 times, 6-10 times, 11-50 times, more than 50.

[b]Items 1-3 are status offenses, only illegal for minors. UNIVERSE: Civilians age 15-17 on interview date (N=11,248,900).

[c]Items 4-20 were asked of the total sample. UNIVERSE: Civilians age 15-23 on interview date (N=31,559,800).

[d]Item included in indicated scale: P = Property, V = Violence, D = Drugs.

GLOSSARY

Children present - Two dichotomous scales coded 1 if R was living with own children at the time of the 1980 or 1981 interviews.

Drug use - Scale of R's involvement in use of marijuana, use of hard drugs and sale of marijuana. Scores standardized and normalized as for property crime.

Expected wage - Log form of hourly rate of pay at current job at 1980 interview or, if unavailable, hourly rate of pay from current job 1979 interview adjusted for inflation, or, if unavailable 1980 minimum wage ($3.10)

High school dropout - Dichotomous variable coded 1 if R had dropped out of high school at the time of 1979 interview.

Intention to be working in 5 years - Single item coded 1 if R intends to be working in 5 years.

Married, spouse present - Two dichotomous scales coded 1 if R was married and living with the spouse at time of the 1980 or 1981 interviews.

Prior work experience - Number of weeks of civilian or military experience between Jan. 1, 1978 or year R turned 18 (whichever was earlier) and the 1979 interview.

Property crime - Scale of R's involvement in property crime such as theft, breaking and entering, etc. during 12 months preceding 1980 interview. Frequency scores were standardized to adjust for seriousness and a logrithmic transformation, applied to normalize the distribution.

Still in school - Dichotomous variable coded 1 if R was enrolled in high school or college at the time of the 1979 interview.

Violence - Scale of R's involvement in violence such as fighting and assault. Scores standardized and normalized as for property crimes.

Work committment - Scale indicating R's intentions if unable to earn enough to support the family. Values range from 5 to 15. A high score indicates R would get more education or training and not apply for food stamps, go on welfare or shoplift.

% weeks OLF - 1981 - Percentage of week between the 1980 and 1981 interviews that R was out of the labor force.

% weeks unemployed - 1981 - Percentage of weeks between the 1980 and 1981 interviews that R was unemployed.

% weeks worked - 1981 - Percentage of weeks between the 1980 and 1981 interviews that R was working.

% weeks worked 1980 - Percentage of weeks between the 1979 and 1980 interviews that R was working.

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