ESCAPING FROM THE CRIME OF INNER CITIES: CHURCH ATTENDANCE AND RELIGIOUS SALIENCE AMONG DISADVANTAGED YOUTH*

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With the theoretical backdrop of social disorganization and "resilient youth" perspectives, we hypothesize that individual religiosity is protective in helping at-risk youths such as those living in poor inner-city areas to escape from drug use and other illegal activities. To test this hypothesis, we draw data from an interview survey of 2,358 youth black males from tracts in poverty in Boston, Chicago, and Philadelphia, conducted in 1979 and 1980. Results from a series of multilevel analyses indicate that church attendance (the frequency of attending religious services) has significant inverse effects

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on nondrug illegal activities, drug use, and drug selling among disadvantaged youths. Religious salience (the perceived importance of religion in one's life), however, is not significantly linked to reductions in juvenile delinquency. We discuss the implications of our findings, focusing on individual religiosity as a potentially important protective factor for disadvantaged youths.

Both recent reformulation and the original version of the social disorganization perspective provide a theoretical framework to explain why inner-city black male youths are one of the highest-risk groups for criminal offending in the United States. As indicated in early studies of "good" boys in "bad" neighborhoods, however (e.g., Reckless, Dinitz, and Murray 1956), there is still room for observing differences in behavioral outcomes among at-risk youths living in the same environment, even though the effects of the social context are obviously profound. The within-group variation, as the "resilient youth" perspective suggests, can be explained by the extent to which an individual adolescent is protected from the negative influence of surroundings by his or her relationship with institutions of informal social control such as the family. In the present study we examine the potential importance of religious commitment in protecting and supporting black male youths in escaping from the crime of inner cities.

PRIOR RESEARCH

Previous studies consistently showed that inner-city black youths, especially males, are one of the groups most at risk for criminal offending (Blumstein et al. 1986; Elliott, Huizinga, and Menard 1989; Sampson 1987). According to the core argument of social disorganization theory, the structural deficiencies and disadvantages of inner-city black communities lead many youths living in these communities into criminal and deviant activities (Bursik 1988; Sampson and Groves 1989; Shaw and McKay 1942). Many urban black youths, however, do not turn to crime and deviance, even though they live in socially disorganized communities. That is, a significant proportion of youths, in the face of structural adversity, develop through adolescence without serious behavioral problems (e.g., Williams and Kornblum 1985). Consequently it is important to understand the factors that protect disadvantaged young people from negative community influences.

Social disorganization is a macro-level concept; thus, theories and research based on this perspective focus on aggregate-level relationships. It is difficult, however, to ignore its relevance to the present study as a context for individual-level causation of youth crime and deviance.

Researchers on "resilient youths" are interested in identifying what they call "protective factors," which buffer or shield at-risk children and adolescents such as inner-city African-American vouths from negative behavior and costly societal outcomes (Rutter 1985; Smith et al. 1995; Werner 1989; Werner and Smith 1992). Although the protective factors most often studied include variables assessing family, school, and peer relations (Smith et al. 1995), individual religiosity also has been found significant, even though resilience researchers have studied it infrequently (Anthony and Cohler 1987). Similarly, criminological researchers repeatedly find significant negative effects of individual religiosity on adolescent deviance, especially ascetic deviance such as alcohol and drug use (Benda and Corwyn 1997; Brownfield and Sorenson 1991; Burkett and Warren 1987; Cochran and Akers 1989; Elifson, Petersen, and Hadaway 1983; Johnson, Larson, and Pitts 1997; Tittle and Welch 1983). Still relatively lacking, however, is research on whether individual religiosity protects at-risk adolescents who live in poverty tracts, such as urban black youths, from engaging in crime and deviance.

THE PRESENT STUDY

We define individual religiosity as the extent to which an individual is committed to the religion he or she professes and to its teachings, such that the individual's attitudes and behaviors reflect this commitment.² When we apply this definition to the present study, we expect that urban black youths who are religiously committed, attend religious services more frequently and attribute more significance to religion in their lives than do those who are less strongly committed. That is, the concept of religiosity can be measured by its behavioral and attitudinal indicators (Larson, Sawyer, and McCullough 1998). Why, however, should we expect religiously committed adolescents to behave more conventionally than their nonreligious peers?

A fundamental answer is that those youths who frequently attend religious services and consider religion an important part of their lives are bonded to an institution of informal social control to which nonreligious youths are not, namely religious institutions such as the church (Hirschi 1969). Thus, religious youths' behavioral patterns are expected to be guided by sanctions derived from

² In this study we use the term *religion* to refer only to traditional organized religions such as Christianity, Judaism, Islam, and Buddhism; we do not include so-called religious cults, some of whose teachings directly contradict conventional norms. (Satanism, for example, promotes hatred.) In addition, given the present definition, we use *religious commitment* interchangeably with *religiosity* throughout this paper.

religion to which the behaviors of nonreligious youths are not subject. In regard to social bonding, for example, youths who attend church are expected (1) to be attached to the church (i.e., church members and groups); (2) to be committed to church teachings or precepts; (3) to be involved in church-oriented activities and lifestyles; (4) to have conventional beliefs internalized and strengthened through their religion as well as through relationships nurtured in the church; and (5) to be exposed to more definitions favoring conformity than favoring deviance.

We hypothesize that religious inner-city black male youths are less likely than their nonreligious peers to engage in criminal and deviant activities. In other words, we expect the religiosity-deviance relationship to be non-spurious. The effects of religiosity on adolescent deviance should remain significant after controlling for other predictors of deviance which are correlates or consequences of religious bonding. For example, church-attending youths are expected to show stronger attachment to parents, greater commitment to school, and/or more involvement in conventional activities because of their beliefs; in turn, these attachments reduce their chances of making delinquent friends and engaging in deviant activities, as compared with youths who do not attend church. It is also likely that church-attending youths live with parents who teach these values and behaviors. Thus, to control for potential confounding effects, it is necessary to conduct a multivariate analysis to separate the religious effect from the effect of other social institutions such as the family and school.

DATA AND MEASUREMENT

Data from the National Bureau of Economic Research

Data analyzed to test the present hypotheses are drawn from the National Bureau of Economic Research (NBER), a coalition of research economists interested in black youths' joblessness in America. NBER researchers developed a survey (Survey of Inner-City Black Youth) in response to the perceived inadequacy of existing governmental data, to study and understand unemployment among American black youths living in inner-city poverty tracts. According to Freeman (1986), the NBER survey provides the most detailed information on the largest sample of such youths available in social science research. Our exhaustive review of available data sets confirms that the NBER remains the only such comprehensive data set.

The NBER survey was administered in 1979 and 1980 by Mathematica Policy Research, Inc. to black males age 16 to 24 living in Boston, Chicago, and Philadelphia.³ The sample included persons living on city blocks identified by the 1970 census as containing at least 70 percent black residents and 30 percent families living below the poverty line. Because of this sampling strategy, the NBER data are suitable for the present study: although we focus on disadvantaged inner-city youths, the data still allow for within-sample differences. Well over 2,800 survey interviews were attempted in the worst poverty tracts of these three cities, and more than 2,300 were completed. The 82.6 percent response rate tends to create confidence that the data reflect a representative sample in these three cities.⁴

Measures of Delinquency

In the NBER data set, each item of delinquency is measured on a dichotomous scale. The respondents were asked to indicate whether they had committed any illegal activities over the past 12 months (see Appendix Table A1). We computed three dependent variables from various measures of illegal activities: (1) nondrug crime (coded 1 if the respondent reported involvement in any of the nondrug illegal activities, 0 otherwise); (2) drug use (coded 1 if the respondent reported drug use, 0 otherwise); and (3) drug selling (coded 1 if the respondent reported involvement in drug sales, 0 otherwise). We used these dependent variables to evaluate whether religiosity has a consistent effect on different types of crimes.

Measures of Religiosity

Researchers are understandably skeptical or at least concerned about the validity of using a single item—church attendance—as a measure of religiosity because it "might so closely reflect family expectations and life styles, or even parental coercion" (Tittle and Welch 1983:654). Thus it can be argued that a youth's church attendance reflects not so much his or her own religious commitment as the family's or parents' religious commitment. This is a valid concern, as is the observation that treating religiosity as a multidimensional concept is methodologically more desirable (Gorsuch

³ Appendix Table A1 contains a variable-by-variable breakdown of the questions included in the NBER survey. Response categories as well as coding values are displayed in this table.

⁴ As an additional check on the representativeness of the sample, we compared characteristics of youths in the current survey with those of youths from the same geographical areas surveyed in the 1980 census, and found no evidence of systematic biases.

and McFarland 1972). Most previous research, however, has employed church attendance as a measure of religious commitment; in general, it is typified by a significant inverse association with deviance, at least at the bivariate level (see Evans et al. 1995; Johnson 1987; Tittle and Welch 1983). Although some studies report that this bivariate relationship decreases substantially as other theoretical variables (e.g., family or formal control variables) are introduced into the initial equation, nobody has yet argued convincingly that church attendance is an unacceptable or invalid measure of religious commitment. On the contrary: a recent study, for example, "confirms the efficacy of behavioral indicators of religiosity (usually attendance) so prevalent in prior research" (Evans et al. 1995: 210). Thus we assume that church attendance is a reasonably valid, though not perfect, measure of religiosity for criminology as well as other fields (Gorsuch and McFarland 1972; Larson et al. 1998). Because it is self-reported, we assume that it primarily reflects a youth's own religiosity rather than the parents'.

In the present study, we operationalize religiosity with two items: (1) a behavioral measure, the frequency of attending church services (henceforth *church attendance*), and (2) an attitudinal measure, the perceived importance of religion in one's life (henceforth *religious salience*). The first item, simply a measure of church attendance, is the response to the question "In the last twelve months, about how often have you attended religious services?" Response categories are more than once a week (coded 6), once a week (coded 5), two or three times a month (coded 4), once a month (coded 3), several times a year (coded 2), and not at all (coded 1).

Religious salience, an attitudinal measure of religiosity, is the response to the question "How strong a role does religion play in your life?" Response categories are very strong (coded 5), strong (coded 4), somewhat strong (coded 3), weak (coded 2), and none (coded 1).

METHODS

We used a multilevel hierarchical model to analyze the data. With this model, we are able to apply explicit controls for city-level differences when evaluating within-individual variations so that we could estimate more accurately the effects of religion on individual behavior. As stated earlier, the NBER data were collected from three cities. The data set contains a two-level structure: the cities define level 2, while the subjects define level 1 (Goldstein 1995). A two-level hierarchical structure is achieved by nesting subjects within cities.

In the multilevel hierarchical analysis, the level 1 model must be specified first because it determines the meaning of the level 2 model. The level 1 model can be summarized in the following equation:

$$y_{ij} = \sum_{k=0}^{p} \beta_{jk} x_{ijk} + e_{ij}$$

where i is the index for subjects, j is the index for cities, k is the index for explanatory variables, and x_{ijk} is an explanatory variable that varies across individuals.

A level 2 model can be specified for a coefficient in the level 1 model that varies across cities:

$$\beta_{jk} = \beta_k + e_{2kj}$$

where β_k is the city-level intercept and e_{2kj} is the level 2 residual for the coefficient associated with the k^{th} variable (For a detailed discussion of the two-level model, see Goldstein, Healy, and Rasbash 1994.)

Because we use three different dependent variables, we estimated three models to test the independent effect of religiosity on different offense categories. The key independent variables in the model were church attendance and religious salience.

We also added several variables shown to be causes and correlates of crime (Blumstein et al. 1986; Bursik 1988; Hirschi 1969; Sampson 1987): age, education, single parent at age 14, public housing, household size, belief in education and work, commitment to work, productive hours, and gang membership (Detailed descriptions of these variables are provided in Appendix Table A1). We used a logistic function to analyze the data when the dependent variable was a dichotomous variable. In the case of continuous variables, we used a normal function.

RESULTS

Because this study is based on cross-sectional data, causal inferences cannot be made from the present findings. Yet if we find a significant effect of either religiosity measure on deviance after controlling for other variables of informal social control (e.g., family and school), such a finding could suggest that a youth's religiosity may play an independent role as an additional protective factor.

Hierarchical Analyses

We conducted three analyses for the three dependent variables to test the relationship between religiosity and delinquency. These analyses allow us to adjust for different sources of influence so that we can determine the net effect of religiosity or religious commitment on measures of deviance. For each delinquency measure, we first examined the effects of the two religiosity measures on the outcome while controlling for demographic characteristics, family background, social bonding, and gang membership.

In Table 1 we present the logistic coefficients and odds ratios for all the variables included in the analysis. The influence of church attendance is in the expected direction and is significant across all three measures of deviance. On the other hand, religious salience is not significantly related to any of the three dependent variables. Several other variables also have significant effects on the dependent variables. Most of these effects are in the expected direction. In the model for nondrug crime, age, residence in public housing, and gang membership are related positively to the dependent variable, whereas household size, belief in job and education and hours spent in productive activities are related negatively. In the model for drug use, age and gang membership have positive effects, while commitment to work and hours in productive activities have negative effects. Finally, in the model for drug dealing, hours spent in productive activities has a negative effect on the dependent variable, and gang membership has a positive effect.

These findings suggest that church attendance (a behavioral measure of religiosity) and religious salience (an attitudinal measure of religiosity) are different constructs that may or may not affect distinct categories of deviance. Thus, research exploring the relationship between religiosity and deviance will be unnecessarily shortsighted unless it includes more than one measure of religiosity. Further, the current findings suggest that the impact of church attendance is not limited only to "minor" acts of deviance, but applies as well to more serious forms of deviance.

In Table 2 we use a set of predicted probabilities to show how different levels of church attendance reduce the likelihood of criminal involvement. These are predicted probabilities based on results of the two-level hierarchical model. When we compute the probabilities, we hold all the variables other than church attendance at their mean values.

Table 1. Logistic Coefficients and Odds Ratios from Binomial Two-Level Hierarchical Model of Involvement in Nondrug Crimes, Drug Use, and Drug Dealing

		Nondrug Crimes	86		Drug Use			Drug Dealing	
	^	S.E.	Odds Ratio	γ	S.E.	Odds Ratio	٨	S.E.	Odds Ratio
Intercept	63	(.63)	.53	-1.17	(.49)	.31	-2.73	(.93)	.07
Church Attendance	13	(.04)	88.	20	(03)	.82	22	(.07)	.81
Religious Salience	03	(90)	.97	04	(,04)	96.	.02	(30.)	1.02
Age	.04	(:03)	1.04	.14	(.02)	1.14	90.	(.04)	1.06
Education	04	(.04)	96.	05	(.04)	.95	.05	(.07)	1.05
Both Parents at 14	04	(.12)	96.	12	(60°)	68.	.07	(.17)	1.07
Household Size	04	(.02)	96.	.02	(.02)	1.02	05	(.04)	96.
Public Housing	.20	(.12)	1.23	03	(.10)	76.	90.	(.18)	1.08
Belief in Education and Work	-:30	(.08)	1.35	90	(.07)	1.06	.18	(.12)	83
Commitment to Work	17	(.13)	.85	25	(11)	.78	12	(.19)	89.
Productive Hours	-1.43	(.20)	.24	82	(.18)	44.	-1.55	(.27)	.21
Gang Membership	1.26	(.31)	3.53	1.25	(.30)	3.49	2.10	(.33)	8.17

Table 2. Predicted Probabilities of Criminal Involvement, by Level of Church Attendance

-	Nondrug Crimes	Drug Use	Drug Dealing
Not at All	.31	.48	.33
Several Times a Year	.29	.43	.29
Once a Month	.26	.39	.24
2 or 3 Times a Month	.24	.34	.21
Once a Week	.21	.30	.17
More Than Once a Week	.19	.26	.14
Mean	.28	.42	.27
Probability of Decline in Crime from Low to High Church Attendance	.39	.46	.57

In general, the probabilities declined as the level of church attendance increased. For example, the probability of committing a nondrug crime decreased from .31 for respondents who did not attend church to .19 for those who attended church more than once a week, when all other variables were held at their means. Overall this represents a 39 percent reduction in the probability of committing a nondrug crime. Similarly, the probability of drug use decreased from .48 for youths reporting that they did not attend church to .26 for those who attended frequently. This translates to a 46 percent reduction in the probability of drug use. Finally, the probability of drug dealing decreased from .33 for frequent attenders to .14 for nonattenders, or a 57 percent reduction.

DISCUSSION AND CONCLUSIONS

We find that church attendance has a significant impact on various measures of deviance among disadvantaged youths living in poverty tracts. This pattern remains even with controls for background and nonreligious or secular bonding and learning variables.

Finding a significant bivariate association between church attendance and deviance is not uncommon for criminologists (Evans et al. 1995; Johnson 1987; Johnson et al. 2000; Tittle and Welch 1983). When previous researchers used multivariate analyses, however, they tended to report that the effect of church attendance is either spurious or, at best, indirect (Benda 1995; Benda and Corwyn 1997; Cochran, Wood, and Arneklev 1994; Elifson et al. 1983) The present finding is different from those accounts: we find that the effect of church attendance on deviance remains significant fairly consistently for certain measures of deviance in the sample under study here.

Like previous researchers, we operationalized religiosity by using church attendance and religious salience. Though church attendance is far from a perfect measure of religiosity, it has been validated in previous research as quite a relevant proxy for religious commitment. Because our measure of church attendance is similar to that used by previous researchers, it is unlikely that the difference between our findings and those of others is due to differences in measurements of this simple but important concept. Thus it is worth discussing the possible causes of the differences in findings between our study and previous studies on youth deviance.

A key difference between this and previous studies is found in the type of data examined. In the present study we analyzed data collected from a representative sample of high-risk youths, namely inner-city black males. Further, previous studies, which reported no significant direct effect of youths' religiosity on deviance, tended to rely on limited samples that did not contain sufficient proportions of disadvantaged youths, where religion might have its most important effects. Specifically, researchers often analyzed data collected from a sample containing a disproportionately large number of rural youths (Benda 1995; Benda and Corwyn 1997). When largely or exclusively urban data are employed, the samples tended either to be too small, to lack an acceptable sampling frame, to be predominately religious, or to be drawn from a relatively prosperous county (Burkett and Warren 1987; Cochran et al. 1994; Elifson et al. 1983; Smith et al. 1995).

Although the use of data from a nonrandom sample is problematic for confirmatory research, nothing is inherently wrong with analyzing data from a sample of youths who are religious or are living in a rural or prosperous urban community. The use of such data, however, is expected to systematically decrease the chance of observing significant independent effects of religiosity on deviance for the few who might be disadvantaged. According to Tittle and Welch (1983), individual religiosity has its greatest impact on behavior in secularized and disorganized communities and becomes least effective in highly integrated and organized communities; religious morality is redundant in such communities, given the other sources of moral authority and social control. Thus, when researchers analyze data from a sample of youths who live in relatively organized areas such as rural or prosperous urban communities, they are less likely to observe an independent effect of religiosity on deviance than when they examine data from youths who live in socially disorganized areas such as inner-city poverty tracts.

The present findings provide at least partial support for Tittle and Welch's argument. Church attendance, in the current study, has an independent effect on non-drug crime, drug use, and drug dealing among the disadvantaged youths. This finding gives credence to the notion that individual religiosity may be a strong factor in insulating young black males from the various forms of deviance so often associated with inner-city poverty tracts.

The social disorganization model of urban youth deviance posits that the effect of social disorganization, caused by ecological conditions of local communities, is mainly indirect and operates through the weakened structure of social control, especially informal control. Thus a social policy implication of this perspective is the consideration of how to bolster weakened social control mechanisms such as the family, and how to encourage utilization of other institutions, especially religious institutions such as churches, whose ability to offer social control remains largely intact.

Criminologists historically have focused on the former but have paid little attention to the latter when they address the etiology of deviance among disadvantaged urban youths, whose chance to escape from the crime of inner-cities is relatively slight. Yet this matter could be relevant, given the high prevalence of religion as a matter of choice among youths. One also might argue that participating in a church community is the protective factor. Indeed, if church attendance matters to adolescents, as it does to many (Liu et al. 1998; Weaver, Koenig, and Larson 1997), we should consider studying how inner-city churches may be linked to efforts to reduce crime and delinquency.

Several limitations in the current study must be noted. First, this study is cross-sectional, and we will not argue that cross-sectional data are as good as longitudinal data for etiological research, as do some criminologists (e.g., Gottfredson and Hirschi 1990). We believe, however, that cross-sectional studies such as ours can make an important contribution because our data allow us to examine individual differences in estimating the effect of religiosity on deviance.

Second, even though we argued earlier that church attendance as a single-item factor is an acceptable (if not a favored) measure of religiosity, it would be advantageous to incorporate multidimensional measures of religiosity in future studies.

Third, we could not build measurement models of the "concepts" examined here because for most of these concepts only a single item (attendance or salience) was available in the present data. Yet because those concepts, including religiosity, are not directly observable, it is appropriate to apply latent-variable modeling to examine the effect of religiosity on deviance. We did so, and this approach also enabled us to control for measurement errors.

Finally, we were not able to examine whether youths' religiosity has a significant independent effect on deviance for groups other than black males living in inner-cities. Although we suspect that the effect of religiosity on deviance is unlikely to be race- or sexspecific, future researchers should examine whether there is any significant interaction between individual characteristics and the effect of religiosity on deviance.

Despite these limitations, we believe that the present study sheds new light on youths' religiosity and deviance by consistently finding a significant independent effect of church attendance on various forms of deviance among inner-city black male youths. Indeed, this study provides new evidence that the effect of religiosity on deviance for disadvantaged youths is neither spurious nor simply indirect. Because of initial results showing the importance of church attendance as a protective factor for disadvantaged youths from socially disorganized communities, where family, school, and neighborhood often tend to function poorly, this topic warrants further investigation.

REFERENCES

- Anthony, E.J. and B.J. Cohler. 1987. The Invulnerable Child. New York: Guilford Press.
- Benda, B.B. 1995. "An Examination of a Reciprocal Relationship between Religiosity and Different Forms of Delinquency within a Theoretical Model." Journal of Research in Crime and Delinquency 34:163-86.
- Benda, B.B. and R.F. Corwyn. 1997. "Religion and Delinquency: The Relationship after Considering Family and Peer Influence." Journal for the Scientific Study of Religion 36: 81-92.
- Blumstein, A., J. Cohen, J.A. Roth, and C.A. Visher. 1986. Criminal Careers and Career Criminals. Washington, DC: National Academy Press.
- Brownfield, D. and M. Sorenson. 1991. "Religion and Drug Use among Adolescents:

 A Social Support Conceptualization and Interpretation." Deviant Behavior
 12:259-76
- Burkett, S.R. and B.W. Warren. 1987. "Religiosity, Peer Associations, and Adolescent Marijuana Use: A Panel Study of Underlying Causal Structures." *Criminology* 25: 109-31.
- Bursik, R.J., Jr. 1988. "Social Disorganization and Theories of Crime and Delinquency: Problems and Prospects." Criminology 26:519-51.
- Cochran, J.K. and R.L. Akers. 1989. "Beyond Hellfire: An Exploration of the Variable Effects of Religiosity on Adolescent Marijuana and Alcohol Use." Journal of Research in Crime and Delinquency 26:198-225.
- Cochran, J.K., P.B. Wood, and B.J. Arneklev. 1994. "Is the Religiosity-Delinquency Relationship Spurious? A Test of Arousal and Social Control Theories." Journal of Research in Crime and Delinquency 31:92-123.
- Elifson, K.W., D.M. Petersen, and C.K. Hadaway. 1983. "Religiosity and Dalinquency." Criminology 21:505-27.
- Elliott, D.S., D. Huizinga, and S. Menard. 1989. Multiple Problem Youth: Delinquency, Substance Use and Mental Health Problems. New York: Springer-Verlag.
- Evans, T.D., F.T. Cullen, R.G. Dunaway, and V.S. Burton, Jr. 1995. "Religion and Crime Reexamined: The Impact of Religion, Secular Controls, and Social Ecology on Adult Criminality." Criminology 33:195-217.

- Goldstein, H. 1995. Multilevel Statistical Models. London: Wiley.
- Goldstein, H., M. Healy, and J. Rasbash. 1994. "Multilevel Time Series Models with Applications to Repeated Measurement Data." Statistics in Medicine 13:1643-
- Gorsuch, R.L. and S. McFarland. 1972. "Single vs. Multiple-Item Scales for Measuring Religious Values." Journal for the Scientific Study of Religion 11:53-64.
- Gottfredson, M.R. and T. Hirschi. 1990. A General Theory of Crime. Stanford, CA: Stanford University Press.
- Hirschi, T. 1969. Causes of Delinquency. Berkeley, CA: University of California
- Johnson, B.R. 1987. "Religiosity and Institutional Deviance: The Impact of Religious Variables upon Inmate Adjustment." Criminal Justice Review 12:21-30.
- Johnson, B.R., D.B. Larson, and T.G. Pitts. 1997. "Religious Programming, Institutional Adjustment and Recidivism Among Former Inmates in Prison Fellowship Programs." Justice Quarterly 14:145-66.
 Johnson B.R., S.D. Li, D.B. Larson, and M.E. McCullough. 2000. "A Systematic Re-
- view of the Religiosity and Delinquency Literature: A Research Note." Journal of Contemporary Criminal Justice 16:32-52.
- Larson, D.B., J.P. Sawyer, and M.E. McCullough. 1998. Scientific Research on Spirituality and Health: A Consensus Report. Rockville, MD: National Institute for Healthcare Research.
- Liu, Q.A., V. Ryan, H. Aurbach, and T. Besser. 1998. "The Influence of Local Church Participation on Rural Community Attachment." Rural Sociology 63:432-50.
- Reckless, W., S. Dinitz, and E. Murray. 1956. "Self-Concept as an Insulator Against Delinquency." American Sociological Review 21:744-56.
- Rutter, M. 1985. "Resilience in the Face of Adversity: Protective Factors and Resistance to Psychiatric Disorder." British Journal of Psychiatry 147:589-611.
- Sampson, R.J. 1987. "Urban Black Violence: The Effect of Male Joblessness and Family Disruption." American Journal of Sociology 93:348-82.
- Sampson, R.J. and W.B. Groves. 1989. "Community Structure and Crime: Testing Social-Disorganization Theory." American Journal of Sociology 94:774-802. Shaw, C.R. and H.D. McKay. 1942. Juvenile Delinquency and Urban Areas. Chi-
- cago, IL: University of Chicago Press.
- Smith, C., A.J. Lizotte, T.P. Thornberry, and M.D. Krohn. 1995. "Resilient Youth: Identifying Factors That Prevent High-Risk Youth from Engaging in Delinquency and Drug Use." Current Perspectives on Aging and the Life Cycle 4:217-
- Tittle, C.R. and M.R. Welch. 1983. "Religiosity and Deviance: Toward a Contingency Theory of Constraining Effects." Social Forces 61:653-82.
- Weaver, A., H.G. Koenig, and D.B. Larson. 1997. "Marriage and Family Therapists and the Clergy: A Need for Clinical Collaboration, Training and Research." Journal of Marital and Family Therapy 23:13-25.
- Werner, E.E. 1989. "High Risk Children in Young Adulthood: A Longitudinal Study from Birth to 32 Years." American Journal of Orthopsychiatry 59:72-81.
- Werner, E.E. and R.S. Smith. 1992. Overcoming the Odds: High Risk Children from Birth to Adulthood. Ithaca: Cornell University Press.
- Williams, T.M. and W. Kornblum. 1985. Growing Up Poor. Lexington, MA: Lexington Books.

Appendix Table A1. Variables and Measurement

<u>Variable</u>	Description	Scale
Drug Use	Has respondent used marijuana or other illegal drugs?	0. No 1. Yes
Drug Dealing	Has respondent sold marijuana or drugs during the last four weeks?	0. No 1. Yes
Nondrug Crime	Has respondent done any illegal activity within the last twelve months, including: Illegal gambling, sold stolen goods, burglary, shoplifted/stole from cars, mugging or purse snatching, robbery, cashed/forged stolen checks, con game, swindle, or fraud, and other illegal activities.	0. No 1. Yes
Church Attendance	In the last twelve months, about how often have you attended religious services? (reverse coded)	 6. More than once a week 5. Once a week 4. 2 or 3 times a month 3. Once a month 2. Several times a year 1. Not at all
Religious Salience	How strong a role does religion play in your life? (reverse coded)	5. Very strong 4. Strong 3. Somewhat strong 2. Weak 1. None
Age Education	How old are you (in years)? What is the highest grade or year of regular school that you have actually completed?	15-24 1-17
Both Parents Present at Age 14	Were you living with both your mother and your father when you were 14 years old?	0. No 1. Yes
Public Housing	Living in public housing or housing project	0. No 1. Yes
Household Size	Number of persons in household	0-18
Belief in Education and Work	If you work hard and get a good education you'll get ahead in America. (reverse coded)	3. True 2. Somewhat true 1. Not true at all
Commitment to Work	Index of two items: (a) importance of being able to find steady work and (b) importance of working at a job (alpha = .66)	 Not at all important Somewhat important Very important
Productive Hours	Proportion of daily hours spent on the following activities: (1) working for pay, (2) travel to or from work, (3) in school, (4) working around the house, (5) reading books, (6) studying/doing homework, (7) searching for a job, (8) watching children/keeping house	072
Gang Membership	Are you a member of a street club or gang?	0. No 1. Yes
Boston	Is R living in Boston?	0. No 1. Yes
Chicago	Is R living in Chicago?	0. No 1. Yes