Some Correlates of Crime in Eighty-One Low-Population-Density and Predominantly White Counties in Kansas, 1994

by

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Abstract

Using data from eighty-one Kansas counties, all of which have a relatively low population density and are predominately white, I have examined the extent to which the following variables are related to property and violent crime: (1) median household income; (2) unemployment; (3) divorce rate; (4) proportion of children living in poverty; (5) percent of people with high school education or more; (6) birth to teen single mothers; and (7) out-of-home placement of abused and neglected children. The fact that this study is based on the predictors often associated with urban crime suggests that in both high-density urban areas and low-population areas crime tends to be associated with a range of other social and life-style conditions that place people, particularly youth, at a high risk of being the victimizer or the victim of crime.

Introduction

Criminologists have extensively studied the link between crime and social-ecological factors in urban areas (Shaw and McKay 1969; Block 1979; Smith and Jarjoura 1988; Roncek 1988; Schuerman and Kobrin 1986; Sampson and Lauritsen 1994; LaFree, Drass, and O'Day 1991). Many researchers have shown that crime tends to be higher in

densely populated urban areas than in low population-density rural areas. Urban areas, particularly those in which minority groups live, are characterized by crowded housing, physical deterioration of buildings, high poverty and divorce rates, high unemployment and/or underemployment, teen pregnancy, and out-of-home placement of abused and neglected children. To some, the data suggest that the presence of these social-ecological factors in urban areas has destroyed the capacity of the school and the family to control social behavior effectively, particularly among members of the underclass. L i t t l e attention has been paid, however, to the impact of some of the social-ecological variables identified above on the crime rates in less densely populated and predominantly white areas. This study is intended to fill this gap. Although urban and rural areas tend to show differences in terms of cultural and social-ecological conditions, there is no reason to assume that rural areas are necessarily different from urban areas in terms of those factors often associated with crime. Using data from eighty-one Kansas counties, all of which have a relatively low population density and are predominately white, I have examined the extent to which the following variables are related to property and violent crime: (1) median household income; (2) unemployment; (3) divorce rate; (4) proportion of children living in poverty; (5) percent of people with high school education or more; (6) birth to teen single mothers; and (7) out-of-home placement of abuse and neglected children. Despite the different interpretations of the relationship between these variables and crime, for many criminologists these variables represent predisposing factors which tend to increase the chances of one's being the perpetrator or the victim of crime (Cohen and Felson 1979; Miethe and McDowall 1993; Lynch and Cantor 1992; Maume 1989).

The purpose of this study, it should be emphasized, is not to establish the causal relationship between the independent variables previously mentioned and crime, an issue long debated among criminologists. Instead, the main concern of this paper is to specify the extent to which the independent variables included in the analysis are predictors of crime among the eighty-one counties.

Method

The data in this study were for 1994 and were taken from the *Kansas Statistical Abstract* (Helyar 1996), *Crime in Kansas* (Kansas Bureau of Investigation 1995 &1996), the *Kansas Kids Count Data Book* (Brunk et al. 1997), the *Kansas Annual Summary of Vital Statistics* (Kansas Department of Health and Environment 1995), and the *Kansas USD's Dropouts* (Kansas State Board of Education). The eighty-one counties included in this study had a ninety percent or more white population, and the population density of the sample ranged from two to forty-five residents per square mile. Table 1 describes the variables used in the study and summarizes the means and standard deviations for the variables.[1]

In the rest of this section, I specify each of the variables. I also provide a brief theoretical discussion of each of the independent variables and the expected relationship between the dependent and independent variables.

Table 1. Means and Standard Deviations of Variables, 1994.

Variable	Mean	St.D.
Aggravated Assault Rate[a]	1.21	1.04
Burglary Rate[b]	6.95	4.15
Theft Rate[c]	10.53	6.64
Motor Vehicle Theft Rate[d]	1.15	2.53
Property Crime Rate[e]	18.2	10.5
Violent Crime Rate[f]	1.42	1.13
Percent of Children in Poverty[g]	14.29	3.93
Divorce Rate[h]	3.85	1.62
Dropout Rate[i]	1.79	1.08
Median Family Income[j]	27278.59	3498.43
Percent High School Graduates or Higher, Age 25[k]	77.19	3.75
Percent Unemployment[l]	4.10	1.54
Rate of Out of Home Placement[m]	5.65	3.20
Percent of Birth to Single Teens[n]	6.39	2.64

Sources and Definition:

[a, b, c, e, f] *Crime in Kansas: 1993-1994*. Kansas Bureau of Investigation. Topeka, KS. (per 1,000 residents).

[g] *Kansas Statistical Abstract:1996*. University of Kansas. Lawrence, KS.

[h] *Kansas Annual Summary of Vital Statistics: 1995*. Kansas Department of Health and Environment. Topeka, KS. (No. of divorces divided by total population).

[i] *Kansas USD's Dropouts: 1990-91 through 1994-1995*. Kansas State Board of Education. Topeka, KS. (No. of H.S. dropouts divided by head count for 7 to 12 graders X 100).

[j,k,l] *Kansas Statistical Abstract:1995*. University of Kansas. Lawrence, KS.

[m,n] *Kansas Kids Count: 1997*. Kansas Action for Children and The University of Kansas. (Out of homeplacement=Number of placements divided by number of children age 18 and under X 1,000; Births to Single Teens=Number of teen births divided by total births X 100).

Dependent Variables[2]

Violent Crime Rate. Total violent crime rate consisted of the number of violent offenses reported to the police in each county per 1,000 population. It includes murder and non-negligent manslaughter, rape, robbery, battery, and aggravated assault.

Property Crime Rate. This dependent variable consisted of the number of property offenses reported to the police in each county per 1,000 population. It includes burglary, larceny, theft, and motor vehicle theft.

In addition to the above general dependent variables, I included in the study the following specific dependent variables: theft (not including motor vehicle theft), motor vehicle theft, burglary, and aggravated assault. Larceny, murder, non-negligent manslaughter, rape, robbery, and

battery were not individually examined because of the relatively low number of these crimes reported for each of the eighty-one counties.

Independent Variables

Median Household Income. Prior studies have identified income as a major predictor of crime, particularly violent crime (Shaw and McKay 1969; Block 1979; Schwartz 1988). Low income has been posited to precipitate violence by limiting the access to "resources to purchase relief from the pressures" of everyday life (e.g., childcare, leisure, vacations) (Schwartz 1988, p. 385). From this perspective, violent and property crimes are behavioral responses to social structural pressures. From a community perspective, the effect of income on crime is more pronounced in areas in which there is a high concentration of poverty (Warner and Pierce 1993). In these areas, poverty contributes to the weakening of the networks of formal and informal social control (Miethe and McDowall 1993, p.741). Overall, there are some indications that median family income is negatively correlated to property and violent crime (LaFree, Drass, and O'Day 1991). Accordingly, in this study, median household income was expected to be negatively related to violent and property crimes.

Unemployment Rate. Although the link between unemployment and crime has not been clearly established, it has been suggested that unemployment is positively related to violent crimes and property crimes. One argument is that violent behavior is a way of coping with the low self-esteem and frustration produced by unemployment or underemployment (Schwartz 1988). In

terms of property crime, researchers suggest that many offenders engage in property crimes to get the resources they need to survive or to maintain their drug habits. To be sure, some criminologists indicate that recent increases in property, violent, and drug-related crimes within inner cities (and to some extent rural areas) are related to the increase in unemployment, particularly among the youth, resulting from the "globalization" of the American economy during the last two decades (Hale and Sabbagh 1991; Freeman 1995). Given previous findings, I expected the rates of unemployment of the eighty-one counties to be positively related to property and violent crime rates.

Divorce Rate. A number of studies indicate that family structure is an important source of social control of offenders and non-offenders (Wright and Wright 1994; Sampson 1986, 1987). From this perspective, crime and delinquency rates tend to increase as the proportion of "broken homes" (divorced and mother-only households) increases. According to Wright and Wright (1994, p. 37) "this relationship may be causal (e.g., single mothers are less able to socialize their children) or may simply be spurious (e.g., neighborhoods with more single-mother households may also have more single, unattached high-risk males)." It is also possible that divorce creates a large pool of unattached males who are less restricted by the social control mechanism of being married and having a family. Following the literature on family structure and crime, I predicted a direct relationship between the divorce rate and the crime rate in the eighty-one counties. This is not to suggest that divorced or mother-only families are responsible for crime and delinquency. Instead, what is suggested is that family disruption is an additional attribute of those counties facing high crime rates.

School Dropout and Graduation Rates. For many years, researchers and policy makers have been intrigued by the connection between dropping out of school, crime, and delinquency (Elliot and Voss 1974; Thornberry, Moore, and Christenson 1985; Jarjoura 1993). In general, these studies suggest that youth who drop out of school are more likely to be arrested after they have dropped out than while they were in school. There also are indications that those who drop out of school because they dislike school or because they have been expelled for misconduct have a higher probability of getting involved in theft and drug-related crimes after dropping out than do those who stay in school (Jarjoura 1993). Theoretically, dropping out of school "removes one more set of controlling structures and actors that help resist and avoid deviant behavior."[3] At the same time, dropping out of school undermines family relationships and diminishes the chances of a person's getting a well-paid job. Faced with these realities, youth who drop out often get involved in delinquent behavior as a way of coping with family and job-related strains (Agnew 1985). Based on these findings, a positive relationship was expected between the dropout rates and the crime rates included in this study. Conversely, a negative relationship was expected between crime rates and the percent of people twenty-five years of age or more who have high school education or more.

Births to Teen Single Mothers. This variable is often used as an indicator of overall social well-being and of the capacity of the family to control the behavior of youth. In general, "children born to adolescent mothers are likely to be at risk of abuse and neglect, poverty, and social, emotional, and cognitive disabilities" (Medora, Goldstein, and Hellen 1994, p. 581). Similarly, single teenage mothers

are more likely to drop out of school, to live in poverty, and to engage in aggressive and abusive behavior towards their children (Jarjoura 1993) or to be the victims of violence. Following this line of reasoning, I predicted a positive relationship between the percentage of births to teen single mothers and crime.

Out of Home Placement. According to some studies, a significant number of children who are removed from their homes are more likely to come from poor families who live in crime-ridden neighborhoods (Thieman and Dail 1997). In many instances, these children are removed from their homes because of parental maltreatment, neglect, and/or abuse (Nelson, Saunders and Landsman, 1990). In other instances, children are placed in community residential programs (e.g., foster homes, group homes) for the purpose of reforming their behavior (Bartollas 1993). In any case, the proportion of children placed in out-home programs may be perceived as an indicator of the failure of original families to provide for their children, and/or to control their behavior. In this study, it was expected that counties having high property and violent crimes will also exhibit a relatively high percentage of children placed in out-home programs.

Results

Correlations
Table 2 presents the correlations among the variables included in the study. Several relationships are worth noticing. The data indicate moderate but significant correlation among some of the independent variables. For instance, "children in poverty" is positively related to "high

school dropout," "birth to teen mothers," and "unemployment." Similarly, the "dropout" variable is positively related to "out-of-home placement," "birth to teen mothers," and "unemployment." As I explain below, to address any potential problem of collineality among the independent variables, the data were analyzed by using stepwise regression technique.

As expected, property crime is significantly and positively correlated with the variables "children in poverty," "divorce," "high school dropout," "out-of-home placement," and "birth to teen mothers." Contrary to what was expected, the data show a negative correlation between property crime and unemployment. In terms of violent crime, this is positively correlated with "children in poverty," "divorce," "high school dropout," "out-of-home placement," "birth to teen mothers," and "unemployment."

Regression Results

Stepwise multiple regression technique was used to determine the statistical relationship between the dependent and independent variables. This technique eliminates from the regression model any independent variable that is significantly correlated with other independent variables (e.g., unemployment and children living in poverty; r=.60), leaving in the regression equation only those variables that have a significant and independent predictive ability (Kvanli 1988, p. 876).

The results of the regression analysis are reported in Table 3. Except for "motor vehicle theft," which is significantly related to "unemployment," "divorce" and the "percent of children living in poverty" are not significantly related to property and violent crimes. These findings are inconsistent with those reported in previous studies. However, consistent with other studies, counties reporting

a high number of property crimes also report a significant number of "high school dropouts," children in "out-of-home placement," and "births to teen single mothers." These four variables explain about 41% (r^2 =.408) of the variance in property crimes. Interestingly, counties with a significant number of people with high school education or more also are more likely to report more property crimes. Regarding violent crimes, the data indicate that counties with high levels of violent crimes also have high levels of "births to teen mothers" and a high number of children in out-of-home placement. Together, these two variables account for about 40% (r^2 =.396) of the variance in violent crimes.

Looking at the specific types of crimes, contrary to expectation there is a significant and positive relationship between income and theft, motor vehicle theft, and burglary. However, as expected and consistent with previous studies, dropping out of high school is significantly related to theft, burglary, and aggravated assault.

Discussion and Conclusions

Drawing from the research literature on crime in high population density and urban areas, in this study I have identified some of the predictors of crime in eighty-one counties in Kansas that are characterized by having a relatively low population density and a high concentration of white residents. In general, the analysis supports some of the expected statistical relationships between the social-ecological variables identified in the literature, and property and violent crime rates of the eighty-one counties. Specifically, "dropping out of high school," "out-of-home placement," and "birth to teen mothers" appear to be good predictors of crime, particularly property crime. What this

finding suggests is that, as routine activities and life-style theorists argue (Cohen and Felson 1979), dropping out of school, being placed in out-of-home institutions, or being a teenage mother may pose certain high-risk factors in terms of becoming a victimizer or the victim of theft, burglary, and aggravated assault.

The unexpected finding that income is positively related to theft, motor vehicle theft, and burglary should be interpreted with caution. On the one hand, previous findings showing that income is inversely related to property crime may be analytically useful in explaining the sources and causes of criminal motivation and behavior (e.g., frustration, strain). On the other hand, such an interpretation fails to account for the influence of the social-ecological environment in the motivations and the decision to commit a crime (Miethe and McDowall 1993). From this perspective, the positive relationship found in this study may be a reflection of the influence of social-ecological factors. Consistent with the routine activities approach (Cohen and Felson 1979; Lynch and Cantor 1992: Maume 1989) it could be argued that the income characteristics of a neighborhood may be indicative of the availability of temporarily vacant households due to employment and/or school and the availability of material and economic goods that are attractive to motivated offenders. In other words, the successful operation of criminals depends, to a great extent, on the availability of suitable targets.

Moreover, the fact that this study is based on the predictors often associated with urban crime suggests that in both high-density urban areas and low-population areas crime tends to be associated with a range of other social and life-style conditions that place people, particularly youth, at a high risk of being the victimizer or the victim of crime. However, more research is needed in order to identify more

adequately the predictors of crime in rural (and urban) areas.

Notes

1. The relatively large standard deviations for aggravated assault, burglary, theft, and motor vehicle theft reflect the presence of extreme high and low values for these variables.

2. The main source of crime statistics in this study was *Crime in Kansas* (Kansas Bureau of Investigation 1995 &1996). Official statistics pose a series of methodological problems. Significant among these is the fact that many crimes are not reported to the police, and even if they are reported the police may not include all of the crimes reported. In other instances, the statistics on crime might be affected by the record-keeping practices and the technology available to collect and report the data (see Wilson & Petersilia 1995).

3.Thanks to one of the anonymous reviewers for suggesting this interpretation. Theoretically, this argument is consistent with the literature discussed in the introduction of this paper.

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Table 2. Correlation Coefficients (R) for Variables in the Analysis.

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13
V1 Aggravated Assault													
V2 Burglary	.41**												
V3 Children In Poverty	.14	.20											
V4 Divorce and Dissolutions	.16	.26*	.14										
V5 High School Dropout	.38**	.48**	.53*	.22									
V6 Income	.19	.29**	-.56**	-.09	-.08								
V7 Motor Vehicle Theft	.18	.54**	.20	.08	.18	.19							
V8 Out-of-Home Placement	.21	.33**	.40*	.04	.45**	.02	.09						
V9 Property Crime Total	.40**	.66**	.27*	.27*	.51**	.09	.35**	.45**					
V10 High School or More	.05	.04	-3.9**	-.03	-.20	.43**	-.06	-.08	.16				
V11 Teen Mothers	.28*	.46**	.54**	.33**	.55**	-.12	.33**	.35**	.46**	-.14			
V12 Theft	.38**	.96**	.08	.26*	.39**	.36**	.55**	.29**	.64**	.13	.38**		
V13 Unemployment	.16	.39**	.60**	.32**	.49**	-.21	.37**	.19	-3.4**	-3.0**	.56**	.23*	
V14 Violent Crime Total	.54**	.41**	.31**	.24*	.47**	.09	.17	.41**	.68**	.07	.59**	.36**	.26*

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Table 3. Standardized Regression Coefficients for the Effects of the Independent Variables on
Property Crime, Violent Crime, Theft, Motor Vehicle Theft, Burglary, and Aggravated Assault.

Independent Variables	Property Crime	Violent Crime	Theft	Motor V. Theft	Burglary	A. Assault
Children in Poverty	-.110	-.087	.024	-.234	.128	.120
Divorce	.133	.068	.166	-.029	.131	.050
High School Dropouts	.324*	.141	.267*	-.004	.329**	.399**
Median Family Income	.046	.147	.411**	.280**	.359**	.220*
Out-of-Home Placement	.238*	.236*	.085	.008	.081	.034
High School or More	.234*	.163	.052	-.072	-.004	.045
Births to Teen Mothers	.235*	.506**	.281*	.185	.321**	.129
Unemployment	.132	-.099	.048	.425**	.193	.019
R^2	.408	.396	.355	.209	.409	.193
Adjusted R^2	.377	.381	.330	.189	.386	.172

* Significant at the 0.05 level. (2-tailed)
** Significant at the 0.01 level. (2 tailed)