Functions of Crime: A Paradoxical Process

Allen E. Liska
State University of New York at Albany

Barbara D. Warner
University of Kentucky

Sociologists have long been interested in the functions of deviance and crime for the social order. Following Durkheim, functionalists argue that crime or the reaction to it (punishment) brings people together, thereby building social solidarity and cohesiveness, which in turn decreases crime. Recently, theory and research on the fear of crime argue, to the contrary, that crime or the reaction to it (fear) does not bring people together; rather it constrains their social interaction, thereby undermining instead of building social solidarity and cohesiveness. Additionally, opportunity (routine-activities) theory and research suggest that constraining social interaction to safe sites and times limits the opportunities for crime. This article attempts to combine the fear-of-crime and opportunity (routine-activities) research traditions in one model. The model first examined is a recursive one in which robbery constrains social interaction that affects other crimes. Then a nonrecursive model where robbery constrains social interaction that affects both other crimes and robbery is examined. Results suggest a model in which crime becomes stabilized through a negative feedback loop, as proposed by functionalists, but through processes more akin to those proposed in routine-activities theory. As robbery increases, so does the fear of crime that constrains social interaction. Although possibly undermining social solidarity, this process constrains opportunities for crime, thereby decreasing both robbery and other crimes.

In this article, we are concerned with a long-standing issue in the sociology of deviance: the functions of deviance and crime for social life. Draw-

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...ing on the Durkheimian tradition and the more recent developments in opportunity and routine-activities theories, we model the functions of crime and deviance for social life.

Durkheim (1933, 1938) wrote on both the normality and functionality of crime in social life. He argued that, whatever the distribution or range of behavior around a social norm, some proportion of the distribution is reacted to or defined as deviant or criminal in every society and that this proportion remains relatively stable over time. He further argued that crime is a necessary and functional part of social life.

Crime is functional for society because the community's reaction to it brings the community together and strengthens its moral boundaries. A specific level of social reaction—defining or punishing a given number of actions as deviant or criminal—maintains critical social states of society, such as cohesiveness, solidarity, and clear moral boundaries, which are necessary for social order and survival. Durkheim (1933) states: "Crime brings together upright consciences and concentrates them. We have only to notice what happens, particularly in a small town, when some scandal has just been committed. They stop each other on the street, they visit each other, they seek to come together to talk of the event and to wax indignant in common" (p. 102). Erickson (1966), interpreting Durkheim's thesis on the functionality of crime, writes: "The deviant individual violates rules of conduct which the rest of the community holds in high respect; and when these people come together to express their outrage over the offense and to bear witness against the offender, they develop a tighter bond of solidarity than existed earlier. The excitement generated by the crime, in other words, quickens the tempo of interaction in the group" (p. 4).

Traditionally, the theoretical logic of how functional social states, such as a specific level of crime or societal reaction, come into being and are maintained by their consequences has been vague and somewhat teleological; that is, the logic has been couched in terms of unobservable system targets, needs, or goals. More recent explanations, however, emphasize causal feedback models (Stinchcombe 1968). Functional social states are initiated and maintained through explicit causal feedback loops, which include both positive and negative effects (control loops). An increase in any one of the variables in the loop causes changes in other variables in the loop that, in turn, lead to decreases in the initially changed variable, thereby maintaining functional social states and system stability. Model 1 in figure 1 assumes that deviance/crime positively affects societal reaction, generally punishment, which intensifies social interaction in the community, which positively affects solidarity/cohesiveness, which in turn negatively affects deviance/crime. For example, an
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1. Functional Model

Deviance/Crime \[\rightarrow\] Societal Reaction \[\rightarrow\] Countered Social Interaction in the Community \[\rightarrow\] Cohesiveness/Solidarity

2. Fear of Crime Model

Deviance/Crime \[\leftarrow\] Societal Reaction \[\leftarrow\] Countered Social Interaction in the Community \[\leftarrow\] Cohesiveness/Solidarity

3. Criminal Opportunity (Routine Activism) Model

Countered Social Interaction in the Community \[\rightarrow\] Opportunity for Deviance/Crime \[\rightarrow\] Deviance/Crime

4. Fear of Crime/Criminal Opportunity (Routine Activism) Synthesis Model

Deviance/Crime \[\rightarrow\] Societal Reaction \[\rightarrow\] Countered Social Interaction in the Community \[\rightarrow\] Other Crimes

FIG. 1.—Modeling the consequences of deviance/crime for society

increase in crime, brought about by changes in various exogenous variables (e.g., unemployment), increases punishment, which intensifies social interaction in the community, which increases solidarity/cohesiveness, which in turn decreases crime. Because the causal loop consists of both positive and negative causal effects, the initial change dampens over time and the system tends toward long-term stability.

Although historical and field observation studies based on the functionalist model provide interpretative descriptions of the above social process, suggesting how reactions to crime either function to increase boundary maintenance and solidarity (Erikson 1966) or fail to do so (Ben-Yehuda 1980), actual theory-testing research is limited to a few laboratory and survey studies. For example, Lauderdale (1976), in an experimental study, shows that an external threat increases both the rejection of deviants and social solidarity, but he does not show that the rejection of deviants mediates the effect of an external threat on solidarity.
In sum, Durkheim laid the foundations for examining the functions of deviance and crime in maintaining the social order. Recently, some researchers have formulated his ideas into causal models with negative feedback loops. This body of research, however, has not provided systematic evidence that deviance or crime, directly or indirectly through the societal reaction to it, affects any social state, such as social solidarity, cohesiveness, or clear boundaries, thought to maintain the social order.

Other bodies of literature that also bear on these issues have not been examined in relation to the functionalist model. The fear-of-crime literature bears particularly on the effect of crime on the intensity of social interaction in the community. Although most of this research is at the individual rather than the societal level of analysis, its relevance for macromodels is quite clear. It suggests that crime, especially robbery, affects the fear of crime, which in turn affects behavior. Fear of crime restricts and constrains rather than intensifies social interaction in the community, thereby decreasing social solidarity and cohesiveness (Hart, 1979; Goodstein and Shotland, 1980; Conklin, 1975). People who fear crime constrain their social behavior to safe areas during safe times, avoiding unsafe areas of cities and the businesses and residences located in them; and people who are unable to avoid living in unsafe areas frequently become prisoners in their own homes, afraid to walk the streets in their own neighborhoods (Skogan and Maxfield, 1981; Garofalo, 1979; Clarke and Lewis, 1982; Yin, 1985; and Liska, Sanchez, and Reed, 1988).

Clearly, the traditional functionalist and the fear-of-crime models make very different predictions regarding the effects of deviance and crime on social interaction in the community. The functionalist model suggests that deviance and crime, either directly or indirectly through the societal reaction to it (punishment), increase (intensify) social interaction in the community and thereby build social solidarity and cohesiveness; in contrast, the fear-of-crime model suggests that deviance and crime, especially robbery, through the societal reaction to it (fear), decrease (constraint) social interaction in the community and thereby undermine social solidarity and cohesiveness.

Let us turn now to the consequences of social interaction in the community, a pivotal concept in functionalist models. Durkheim (1933, pp. 102–3; 1938) argued that social interaction in the community reinforces common values and the common consciousness, which, through processes of socialization and social control, reduce criminal motivation, thereby reducing crime. Within the functionalist tradition, empirical support for this proposition, too, is mixed, weak, and indirect (Fischer, 1975; Crutchfield, Geerken, and Gove, 1982; South, 1987).
Criminal-opportunity theory also addresses the consequences of social interaction on crime but, like the fear-of-crime theory it also has not been examined in relation to the functionalist model. Opportunity theory suggests that offenders make rational choices and thus choose targets that offer a high reward with little effort and risk. A large part of this theory focuses on how variations in life-style or routine activities affect the opportunities for crime (Hindelang, Gottfredson, and Garofalo 1978; Cohen and Felson 1979; Cohen, Felson, and Land 1980). Routine activities are assumed to influence crime rates by affecting the convergence in time and space of the three elements necessary for a crime to occur: motivated offenders, suitable targets, and the absence of capable guardians. Because it assumes there is an ample supply of motivated offenders, this research focuses on the supply of suitable targets and capable guardians. Opportunity theory argues that when routine activities are constrained to the home, the home becomes a secure environment. People become guardians of it, of its possessions, and of each other. The dispersion of routine activities away from the home provides a supply of suitable targets that lack capable guardians.

Hindelang et al. (1978) were among the first to develop this idea under the rubric of life-style. They report that the high victimization rates of certain social categories, for example, young males, can be explained by their life-style, that is, by the fact that a high proportion of their activities take place away from home and during the night. Cohen and Felson (1979) develop this idea to explain trends in crime rates. They argue that changes in routine activities in recent years (e.g., away-from-home travel, single-person households, and labor-force participation of both spouses) leave a high percentage of homes unattended during the day and night and place people in relatively unguarded environments. They report that this dispersion of routine activities away from the home is positively related to rates of index crimes in the United States over the last century. Cohen et al. (1980), Cohen, Kluegel, and Land (1981), and Cook (1986) further develop this framework within a general opportunity theory of crime by showing how the life-style or routine activities of people alter the opportunity structure of crime, thereby explicitly showing how it influences crime. Considerable supporting research has appeared in the most recent literature (e.g., Miethe, Stafford, and Long 1987; and Messner and Blau 1987).

In general, this research suggests that intensified social interaction in the community decreases the guardianship of the home and thereby increases the likelihood of crimes against the home, such as burglary, and crimes against people, such as larceny, assault, rape, and robbery (fig. 1, model 3).
Although both the traditional functionalist model and the opportunity (routine-activities) model suggest a stabilizing process, they make very different predictions regarding the effects of social interaction in the community on deviance and crime. The functionalist model suggests that social interaction in the community increases social solidarity and cohesiveness, which in turn decrease deviance and crime, and the opportunity model suggests that social interaction in the community increases the opportunities for deviance and crime, which in turn increase deviance and crime.

In sum, drawing on Durkheim, functionalists have examined the functions of deviance and crime for building the social order. Recently, some have built causal feedback models that assume that deviance and crime, either directly or indirectly through the reaction to crime (punishment), increase (intensify) social interaction in the community, which strengthens social cohesiveness, solidarity, and moral boundaries, which in turn decrease deviance and crime. While providing interpretative accounts of historical instances of this process, research in this tradition provides few tests of it.

We have reviewed two areas of research outside of the functionalist tradition that question the existence of such a process in contemporary urban societies. Fear of crime research suggests that crime decreases (constrains) social interaction in the community, thereby undermining solidarity and cohesiveness, and opportunity (routine-activities) research suggests that constrained social interaction in the community decreases the opportunities for deviance and crime, thereby decreasing deviance and crime. Drawing on these two research literatures, we formulate a model (fig. 1, model 4) that suggests that some deviance/crime, especially robbery, increases the fear of crime, which constrains social interaction in the community, and that constrained social interaction decreases these and other patterns of deviance/crime.

Our research examines this model, particularly three segments: (1) the extent to which some crimes, especially robbery, increase the fear of crime; (2) the extent to which the fear of crime affects (constrains) social interaction in the community; and (3) the extent to which constrained social interaction in the community in turn affects (increases or decreases) these and other crimes. Because no direct measures of either social solidarity/cohesiveness or opportunities for crime are available, this research cannot provide direct and crucial tests of the full models in figure 1. However, because the functionalist model suggests a negative relationship between social interaction in the community and crime and because the opportunity (routine-activities) model suggests a positive relationship between social interaction in the community and crime, this research does provide indirect and comparative tests of both models.
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PROCEDURES

Sample

The sample is composed of the 26 cities of the National Crime Survey (NCS), sponsored by the National Institute of Justice and directed by the Bureau of the Census. While these are the only cities for which data on both the fear of crime and constrained social interaction in the community are available, they include the largest cities in the United States and about one-sixth of the U.S. population. The NCS sampled about 10,000 households and interviewed about 30,000 respondents ages 12 or older from each of the 26 cities during 1973 and 1974. Approximately one-half of the respondents who were ages 16 or older were asked a battery of questions related to crime and victimization, including questions about the fear of crime and about social interaction inside and outside of the home.

Measures

Social interaction in the community is measured by two self-report items: “How often do you go out in the evening for entertainment, such as to restaurants, theaters, etc.?” (The answers were “once a week or more,” “less than once a week but more than once a month,” “about once a month,” “two or three times a year.”) “In general have you limited or changed your activities in the past few years because of crime?” (The answers were no and yes.) Both items vary considerably among the cities and are scored as the degree of constrained social interaction (CSI).

Societal reaction to crime (fear) is measured by two items: “How safe do you feel or would you feel out alone in your neighborhood at night (day)?” (The answers were, “very safe,” “reasonably safe,” “somewhat safe,” “very unsafe.”) The percentage of respondents feeling very unsafe during the day varies from 0.4% to 5.3% with a mean of 2.4%, and the percentage of respondents feeling very unsafe during the night varies from 11.9% to 32.1% with a mean of 21%. Fear of crime in large cities is clearly a nighttime phenomenon that varies considerably from city to city. While the absolute levels of fear change considerably from night to day, the correlation of nighttime and daytime fear is very high ($r = .91$).

To measure city crime rates, we can use either the Uniform Crime Reports (UCR) or the NCS data. Perhaps the most basic difference between them is that the UCR is a measure of crimes reported to the police and the NCS is a measure of all crimes, regardless of whether they have been reported to the police. Cohen and Land’s (1984) work empirically supports this distinction. They report that, when variables that can be assumed to affect the reporting of crime are controlled, the UCR and
NCS rates of most serious crimes (auto theft, robbery, burglary, and even rape) tend to converge. (Also see Gove, Hughes, and Geerken 1985.) The general theoretical question for deciding which data to use in this study is clear: Is fear of crime a response to the underlying crime rate as reflected in personal victimization and the victimization of friends and associates (communicated through interpersonal ties) or to the reported crime rate as reflected in the victimization of strangers (communicated through the media)? While there is some evidence for each process, research suggests that the first is the major process (Grabber 1980; Garofalo 1981; Sagan and Maxfield 1981). Hence, we select the NCS as the primary data source and use the UCR for validity checks at various stages of the analysis. Crime rates are computed on all serious crime directed at individuals or their property (rape, assault, robbery, burglary, larceny, and auto theft) except homicide, arson, and kidnapping, which are not available in the NCS.

We include other variables that theory and research suggest either affect two or more of the theoretical variables in the model and thus should be controlled in estimating the model or affect only one variable in the model and thus can be used as instruments in identifying the model. Although it is not easy to decide what other variables to include, general theories of crime suggest that economic structure, racial composition, age composition, family structure, population size, and geographical region affect both robbery and other crimes (e.g., Blau and Blau 1982; and Land, McCall, and Cohen 1990), and some research suggests that some of these variables also affect the fear of crime (e.g., Liska, Lawrence, and Sanchirico 1982).

One or more measures of each of these concepts is examined. We include two dimensions of economic structure (income inequality and poverty). Income inequality is measured by the Gini index, which expresses the average differences in income between all pairs of individuals in the city relative to the average income of the city (1970 census). Poverty is measured by both mean family income and the percentage of families below the poverty line \( r = -.73 \). The former is computed from a self-report item in the NCS, and the latter is taken from the 1970 census. Racial composition is measured as the percentage of nonwhites and is taken from the 1970 census. Age composition is measured as the percentage of the population between age 15–19 and age 15–24 and is taken from the census. Family structure is measured as the percentage of heads of households that are married and is computed from the NCS. Population size is taken from the census (1970, 1975). Geographical region is measured by whether or not a city is located in the South.

Additionally, population density and crime coverage in the media are included as instrumental variables in the analysis. (The theoretical justi-
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...citation is discussed in "Results" below.) Density is measured as the ratio of the population to the square miles of a city (1970 census). As a measure of crime in the media, we analyze crime articles in the largest circulating daily newspaper in each of the 26 cities. Twenty-five editions of the leading newspaper from each city were selected randomly from a sampling frame of 365 days preceding the quarter in which the NCS data were collected in that city. Each newspaper was coded for the total number of crime articles in the first 15 pages and in the total newspaper, for the total number of specific crime articles (e.g., homicide, rape, and assault), and for the total number of multiple crime stories (e.g., rape and homicide); and each crime article was coded as local or nonlocal.

Data Analysis

The data analysis is sensitive to three issues: the sample size is limited; the measures of CSI are incomplete; and the validity of the NCS measures of some crimes is problematic.

While a small sample is not necessarily a problem, it poses two problems for this particular research. It limits the number of causal variables whose effects can be simultaneously estimated, and maximum-likelihood (ML) methods, typically used to estimate structural-measurement models, are sensitive to sample size (i.e., while asymptotically unbiased, the properties of small-sample ML estimates are not well known). The issue of small sample size was addressed in two ways. Through a series of preliminary analyses, we located those causal variables that have the most effect and included only them in the structural model. Additionally, we estimated the structural-measurement models by using both ML and least squares methods. Least squares estimates are less sensitive to sample size than are ML estimates (Long 1983). Following tradition, we report ML estimates in tables 1 and 2 and note any discrepancies between ML and LS estimates.

The second issue concerns the measure of CSI. The first item refers to only nighttime activities, and the second item, which includes both daytime and nighttime activities, refers to activities that have been either limited or changed because of crime. While these items operationalize part of the meaning of CSI, they constitute an imperfect measure. One item leaves out some activities that should be included (daytime activities), and the other includes some activities that should be excluded (changed activities). Ideally, we should include both daytime and nighttime activities and only activities that are limited, not changed, because of crime. However, the issue is not whether the measure is perfect but whether the error is systematic. That is, does it substantially change the measured covariance with other variables in the model? To be specific,
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is covariance with other variables in the model substantively different for constrained daytime activities than for nighttime ones and for changed activities than for limited ones?

We have no reason to believe this and considerable reason to doubt it. The measure of fear of crime includes two items (fear during the night and fear during the day) that might be expected to correlate with measures of constrained social interaction. Aggregated to the city level, they correlate .91 and both are highly correlated (ranging from .73 to .94) with both CSI items. Hence, we have every reason to believe that the measurement error is predominantly random, the net effect of which is to bias standardized estimates of the structural model downward. We address this problem analytically in a measurement model whereby we adjust for the measurement error (the specific or unique variance in each item) in estimating the structural model.

The third issue concerns various questions that have been raised over the years about measurement error in the NCS data. Most of these are problems typical of surveys, such as memory loss and interviewer bias, and many do not vary by city. For example, the amount of crime reported is certainly affected by how much interviewers probe the respondents, but there is little evidence that the degree of probing varies by city. Thus, when the data are aggregated to the city level these errors do not bias estimates of structural equations.3 One important question involves the low positive correlation between the NCS and UCR measures of rape and the negative correlation between the two measures of assault. While some differences between the NCS and UCR measures should be expected because they measure somewhat different things, the correlations for these crimes should be at least as moderately positive, or even as strongly positive, as they are for the other index crimes (see, e.g., Clarren and Schwartz 1976; Booth, Johnson, and Choldin 1977; Cohen and Lynch 1982; Decker, Shichor, and O'Brien 1982; Cohen and Land 1984).3

To examine the extent to which estimates of the structural equations are sensitive to errors in the NCS measures of rape and assault, we estimate the structural equations with and without the NCS measures of rape and assault and we estimate the structural equations with the substitution of the UCR measures of assault and rape for the NCS measures.

3 Even the sources of error that do vary by city are often random relative to the causal variables in the model.

3 These studies examine this covariance over some or all of the 26 cities for different crimes. (See Gove et al. [1985] for a review.) The findings are very consistent. The correlations for robbery, burglary, and auto theft are consistently very high; the correlations for larceny are consistently moderate; the correlations for rape are low; and the correlations for assault are negative. Hence, by the criterion of convergence, the validity of UCR and NCS is in question only for rape and assault.
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The results are presented in two main sections. Preliminary analyses first establish both the causal structure among the crime rates and the measurement structure. Causal structural analyses, then, estimate both a series of recursive structural models and more complex nonrecursive structural models.

RESULTS
Preliminary Analyses
Because the sample is small, not all of the crime rates can be examined simultaneously. Thus, we first examine the extent to which fear is related to different types of crime. The index of fear (fear during the day and night) is regressed on the five different crime rates. The findings show that only robbery is positively and substantially related to it. This is very apparent in even the simple correlations. The index of fear correlates .60 with robbery, −.34 with rape, −.51 with assault, −.57 with individual theft, and −.50 with household theft. This relationship is equally apparent in various regressions. When we do a stepwise regression, robbery enters early and maintains its positive and substantial relationship with fear when the other crime rates are entered. These results are similar to those reported in the literature (Garofalo 1979; Liska et al. 1982). (When UCR rates are used, the findings for robbery are similar.)

As is true with extant research, these preliminary findings suggest that crime is not causally homogeneous. Some crimes may cause fear and thereby constrain social interaction, and some crimes may be a consequence of fear and constrained social interaction. The positive relationship between robbery and fear suggests that robbery increases fear and thereby constrains social interaction. Some researchers (Garofalo 1979; Liska et al. 1982) suggest that this occurs because robbery is a violent and unpredictable crime committed by strangers and that these are the crime characteristics that induce fear. The negative relationship between the other crime rates and fear suggests that these crimes may be consequences, not causes, of both fear and constrained social interaction. Such negative relationships are anticipated by opportunity (routine-activities) theory. It suggests that when people remain in their homes they function as guardians of their homes (Cohen and Felson 1979; Messner and Blau 1987), which reduces burglary and household theft, and, by placing themselves in a relatively secure environment, they reduce individual theft and possibly assault and rape as well.

Rather than estimate separate structural equations for each of the four other crimes (rape, assault, household theft, and individual theft), we treat them as indicators of a latent variable, “other crimes.” Their corre-
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**Fig. 2.**—Recursive structural measurement model

Correlation of between .74 and .91 indicates that this is a reasonable way to proceed.

Accordingly, we develop a structural-measurement model consisting of four latent variables: robbery, other crimes, fear of crime, and constrained social interaction in the community. We conceptualize fear as a latent variable measured by fear during the day and fear during the night, and we conceptualize constrained social interaction as a latent variable measured by self-reports of social interaction during the evening and self-reports of changed or limited social interaction because of crime. When we allow the four latent variables to correlate, estimates of this measurement model show that fear of crime and constrained social interaction in the community are highly correlated, which supports the fear-of-crime/opportunity (routine-activities) model (fig. 1, models 2, 3, and 4). These two latent concepts correlate at .88, and the four measures of them correlate at between .73 and .94. Indeed, because they are so highly correlated we treat them as indicators of the same latent concept, herein referred to as CSI. This reconceptualization yields a structural-measurement model in which robbery increases constrained social interaction as measured by four indicators, which in turn decreases other crimes as measured by four indicators (fig. 2).

Causal Structural Analyses

The causal structural analyses are divided into two parts. First, we estimate a simple recursive model and examine the extent to which it can account for the observed correlations between robbery, CSI, and the other crimes. This allows us to establish a base from which to evaluate
estimates of the more complex models. We then progressively complicate
the basic recursive model by allowing error terms in the measurement
and structural models to correlate and by including various exogenous
causal variables. This allows us to observe how sensitive estimates of the
basic recursive model are to the exclusion of other variables. Second,
we estimate a nonrecursive causal model and observe how sensitive the
estimates are to different model specifications.

Recursive Structural-Measurements Model
We begin with the basic recursive structural-measurement model in
which robbery affects CSI and CSI affects other crimes, where no corre-
lated error in either the structural or measurement models is assumed,
and where no other causal variables are included. Estimates of this sim-
ple model provides a reference point from which to compare estimates
of more complex models. The estimates (robbery beta = .45; CSI beta
= -.72) provide a reasonably good fit to the data, yielding R$^2$'s of .29
and .43 for the CSI and other crimes equations, respectively, and a
$\chi^2/df$ ratio of 1.81 (table 1, model 1). The strong positive effect of robbery
on CSI supports the fear-of-crime hypothesis, and the strong negative
effect of CSI on other crimes supports the routine-activities hypothesis
that social conditions that confine people to their homes decrease personal
and household crime.

To examine the extent to which these estimates of the structural model
may be biased because of measurement error in assault and rape, we
reestimate the basic model. First we delete NCS rape, then NCS assault,
and then both NCS rape and assault; and, second, we substitute UCR
rape for NCS rape, UCR assault for NCS assault, and then both UCR
rape and assault for NCS rape and assault. The results are clear and
straightforward. Deleting either or both NCS rape and assault from the
measurement model or substituting either or both UCR rape and assault
for NCS rape and assault does not change estimates of the structural
model. In sum, while unique measurement error weakens the correlations
between NCS and UCR measures of rape and assault, when these NCS
measures are part of a multiple index measurement model, as is the case
in our research design, the measurement error need not bias estimates of
the structural parameters of the model.\(^4\)

\(^4\) Differences between the measurement errors of NCS and UCR rape and assault are
reflected in differences between the measurement coefficients, not the structural ones,
of the model. Using UCR measures does yield lower R$^2$'s for both rape and assault
and a slightly higher $\chi^2$ for the model, perhaps reflecting more error in the UCR than
in the NCS measures.
To examine the stability of the model estimates, we systematically allow various error terms to correlate. On examining the residual (error) correlation matrix that falls out of the estimates of the basic model, we allow specific error terms in the measurement model to correlate. First, we free the correlations between specific error terms of the indicators of the same latent concepts; second, we free the correlations between specific error terms of the indicators of different latent concepts; and, third, we free the correlations between specific error terms of the indicators of both the same and different latent concepts. While χ²’s and χ²/df ratios of the models progressively decrease, the decreases are not statistically significant, except in a very few cases, and the structural parameters remain remarkably stable.

For further observation of the stability of the estimates, we include in the model eight exogenous variables (poverty, income inequality, percentage nonwhite, percentage age 15–19, percentage age 15–24, percentage married, population size, and region) that research suggests may affect two or more of the basic model variables (robbery, CSI, and other crimes). Because the sample size is small, yielding few degrees of freedom, we enter these exogenous variables first one at a time and then in various combinations of two at a time, which allows each to affect all three of the basic model variables.

Over the course of these analyses, two of the variables consistently affect two of the three variables of the basic model (percentage nonwhite affects robbery and CSI and poverty affects CSI and other crimes), and the other variables affect only one of the three variables of the basic model (e.g., income inequality affects robbery). However, inclusion of any of the other variables does not significantly alter the estimates of the effect of robbery on CSI or the effect of CSI on other crimes. Estimates of the robbery effect remain statistically significant and vary from a beta of .32 to one of .60, depending on the combination of other variables included, and estimates of the CSI effect also remain statistically significant and vary from −.42 to −.73, depending on the combination of other variables included. Nonetheless, we revise the basic model to allow poverty to affect both CSI and other crimes and to allow percentage nonwhite to affect both robbery and CSI because these effects are reasonably consistent over different analyses. For the revised model, estimates of the robbery effect on CSI and the CSI effect on other crimes are .40 and −.48, respectively (table 1, model 2).

Finally, assuming that some variables that are not part of our data set may affect two or more of the three endogenous variables of the revised model, we examined the residual (error) matrix that falls out of estimates of the structural models. It shows a substantial positive correlation (r = .38) between robbery and other crimes, which suggests that some vari-
## Table 1

### Recursive Structural Models (Standardized ML Estimates)

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Basic Model (Model 1)</th>
<th>Models with Controls</th>
<th>Models with Controls</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Rob</td>
<td>CSI</td>
<td>OC</td>
</tr>
<tr>
<td>Rob</td>
<td>.45&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSI</td>
<td></td>
<td>-.72&lt;sup&gt;a&lt;/sup&gt;</td>
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</tr>
<tr>
<td>% Nonwhite</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poverty</td>
<td>.29&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.43&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.05&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>$R^2$</td>
<td>1.81&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Rob = robbery; CSI = constrained social interaction; OC = other crimes (rape, assault, personal theft, and household theft).

<sup>a</sup> Beta > 2 times SE.

<sup>b</sup> Beta > 1.5 times SE.

<sup>c</sup> Beta > 1.0 times SE.
ables not in our data set may well affect robbery and other crimes and may thus obscure the indirect effect of robbery on other crimes as mediated through CSI. We therefore reestimate the above revised model by allowing these two error terms to correlate. This yields two changes in the parameter estimates. The poverty effect on other crimes decreases to approximately zero, and the effect of CSI on other crimes increases from \(-.48\) to \(-.89\) (table 1, model 3). Trimming the path from poverty to other crimes, we again reestimate the model. Estimates of this model (table 1, model 4), which are similar to those of the previous model, show that CSI strongly decreases other crimes and that robbery increases CSI, thereby indirectly decreasing other crimes.\(^5\)

In sum, estimates of the basic recursive model show that robbery strongly and positively affects CSI, which strongly and negatively affects other crimes. This pattern of findings emerges consistently when errors in the measurement model are allowed to correlate, when other causal variables are included in the model, and when errors in the structural model are allowed to correlate.

Nonrecursive Structural-Measurement Model

Theory and our empirical findings suggest a reciprocal effect between robbery and CSI; that is, if CSI reduces other crimes, it may also reduce robbery. This effect, however, may be obscured in OLS estimates by the strong positive effect of robbery on CSI.

Locating instruments to identify reciprocal effects can be a problem in the social sciences. Because theory is not well developed, it is difficult to hypothesize with certainty that a variable affects one endogenous variable but not another and, at the same time, is not affected by the endogenous variables. Yet, in many cases reasonable assumptions can be made that are consistent with both theory and research. In this case we feel that population density (population per square mile) constitutes a good instrument for robbery. Density has a long history as a salient variable in the urbanization process and has been repeatedly hypothesized to affect deviance and crime (see Wirth 1938; Fischer 1975). Fischer, in fact, argues that density is the primary variable that accounts for urban unconventionality. Recent ecological studies report significant relationships between both UCR and NCS measures of crime and population density (Harries 1974; Wilson and Boland 1976; Decker et al. 1982). On the other

\(^5\) While the LS estimates differ somewhat from the ML estimates, the pattern of ML and LS estimates is very similar.

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TABLE 1
NONRECURSIVE STRUCTURAL MODEL (Standardized ML Estimates)

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Rob</th>
<th>CSI</th>
<th>OC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rob</td>
<td>. .</td>
<td>.39</td>
<td>. .</td>
</tr>
<tr>
<td>CSI</td>
<td>-.63</td>
<td>. .</td>
<td>-.99</td>
</tr>
<tr>
<td>% Nonwhite</td>
<td>.36</td>
<td>.22</td>
<td>. .</td>
</tr>
<tr>
<td>Density</td>
<td>.96</td>
<td>. .</td>
<td>. .</td>
</tr>
<tr>
<td>Media</td>
<td>. .</td>
<td>.22</td>
<td>. .</td>
</tr>
<tr>
<td>Poverty</td>
<td>. .</td>
<td>.42</td>
<td>. .</td>
</tr>
<tr>
<td>R^2</td>
<td>.90</td>
<td>.84</td>
<td>.33</td>
</tr>
<tr>
<td>χ^2/df</td>
<td></td>
<td>1.84</td>
<td></td>
</tr>
</tbody>
</table>

Note.—Rob = robbery; CSI = constrained social interaction; OC = other crimes (rape, assault, personal theft, household theft).
* Beta > 2 times SE.

hand, we know of no theoretical or empirical support for population density's affecting fear or CSI, except of course through its effect on crime.

We also feel that a good case can be made that the newspaper coverage of homicide constitutes an instrument for CSI. Theory and research generally suggest that crime coverage affects the fear of crime and constrains social interaction through that fear (Graber 1980; Heath 1984). Liska and Baccaglini (1990) show that the newspaper coverage of homicide, but not the coverage of other crimes, substantially affects the fear of crime, one of the two components of the CSI measure. They also show that homicide coverage is not affected by fear, robbery rates, or other crime rates, nor does it in turn affect robbery and other crime rates.

Now, consider an extension of model 4 in table 1 that allows CSI and robbery to affect each other, using population density as an instrument for robbery and using media coverage as an instrument for CSI. To obtain statistically efficient estimates, we estimate the model, using full information maximum-likelihood methods. The estimates (table 2) are as follows. The media coverage effect on CSI and the population density effect on robbery are positive as hypothesized, the percentage nonwhite effects on robbery and CSI are similar to those reported in table 1; the robbery effect on CSI and the CSI effect on other crimes are also similar to those reported in table 1; and the effect of CSI on robbery is negative, which is similar to the effect of CSI on other crimes. It seems that CSI negatively affects both other crimes and robbery. Generally, the model provides a reasonably good fit to the data, yielding a χ^2 ratio of 1.84.

To examine how sensitive these estimates are to our specification of
the model, we also estimate various respecifications. First, because our analyses (reported in table 1) show that poverty has little effect on other crimes, the poverty path was trimmed from the final recursive model (table 1, model 4) and therefore not included in the nonrecursive model. However, because some research suggests that poverty does affect crime, we estimate three respecifications of the model in table 2, one in which poverty affects CSI and other crimes, one in which it affects CSI and robbery, and one in which it affects CSI, robbery, and other crimes. Second, because the sample size is limited, we also estimate the model with both poverty and percentage nonwhite deleted. All of these respecifications yield estimates very similar to those in table 2 and reveal exactly the same causal structure as is revealed by the estimates in table 2.

To examine the extent to which these estimates of the structural model may be biased owing to measurement error in the assault and rape variables, we again reestimate the model, first deleting rape, then, deleting assault, and then deleting both rape and assault, and, second, substituting UCR rape for NCS rape, substituting UCR assault for NCS assault, and then substituting both UCR rape and assault for NCS rape and assault. As in the most basic model, when we delete NCS rape and assault or substitute UCR rape and assault for NCS rape and assault, there is little change in the estimates of the structural parameters of the model.

In sum, the estimates of the nonrecursive model are relatively insensitive to various specifications in which the specific control variables are changed, and different structural and measurement error terms are allowed to correlate, and insensitive to whether NCS or UCR measures of rape and assault are used in the measurement model. It seems that CSI negatively affects robbery as well as other crimes. The negative effect on the other crimes can also be observed in the OLS estimates because other crimes have little effect on CSI, but the negative effect of CSI on robbery cannot be observed in OLS estimates because of the strong positive effect of robbery on CSI. When we control for this effect in the simultaneous equation estimates, the negative effect of CSI on robbery is also clearly evident.

We also consider a second nonrecursive model that allows for a reciprocal effect between other crimes and CSI. Perhaps the strong negative effect of CSI on other crimes obscures a weak effect of other crimes on CSI in OLS estimates. To identify the equations, we again used density as an instrument for crime (other crimes) and media coverage of homicide as an instrument for CSI. The estimates are neither consistent nor robust but depend on the model specification, that is, on what control variables we include and what error terms we allow to correlate. Hence, we find little empirical support for a causal effect of other crimes on CSI.
SUMMARY OF RESULTS

Drawing on correlations and regressions of fear and CSI on five index crimes, we first formulate a model where some crimes (e.g., robbery) positively affect fear, which constrains social interaction in the community, which in turn negatively affects other crimes. Very high correlations between the indicators of fear and constrained social behavior and between the indicators of the other crimes suggest a structural-measurement model in which robbery positively affects CSI as measured by indicators of both fear and constrained social behavior, which negatively affect other crimes as measured by four indicators. Estimates of the two structural parameters of this recursive model are remarkably stable when we substitute UCR measures for NCS measures of rape and assault, when we allow different measurement and structural error terms to correlate, and when we enter different combinations of exogenous variables into the model. Finally, we estimate two nonrecursive models: one that specifies a reciprocal effect between robbery and CSI and one that specifies a reciprocal effect between other crimes and CSI. While providing no support for the latter model, our analysis provides strong support for the former one and shows that the reciprocal effects between robbery and CSI are insensitive to different measures of crime and various model specifications. Generally, our findings show that some crimes (e.g., robbery) constrain social interaction in the community, which in turn reduces both other crimes and robbery.

These results, of course, must be viewed with some caution for two reasons. First, although the 26 cities include all of the large U.S. cities and about one-sixth of the U.S. population, the number of sampling units is relatively small. This small sample makes statistical significance difficult to achieve; however, we have retained in the models only those variables that consistently achieve conventional levels of statistical significance. The small sample also limits the number of causal variables that can be simultaneously included in an estimation equation; however, we have estimated the effects of different combinations of exogenous causal variables, and the estimated parameters are remarkably stable across different models in which we allow or do not allow the error terms to correlate. The small sample also raises questions about the properties of the ML estimates; however, we have supplemented them with LS estimates, thereby building our confidence in the estimates.

Second, the study measures the reaction to crime as fear and as constrained social interaction in the community. As we already mentioned, the measure of the latter is more limited than we prefer; however, while it is not ideal, we have no reason to believe that it includes systematic measurement error. Indeed, the strong relationship between the measures of CSI and fear of crime suggests that the measurement error is predomin-
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nately random. We address this issue through a measurement model that adjusts estimates of the structural model for random measurement error.

DISCUSSION

Durkheimians have long argued that crime is functional for societies. Crime or the reaction to it (punishment) brings righteous people together to "wax indignant," thereby building social solidarity and cohesiveness, which in turn decreases crime. They describe a system of relationships between crime, societal reaction, and social solidarity/cohesiveness that tends toward long-term stability (see fig. 1, model 1). While this idea has been appealing to sociologists, the extant literature provides mostly interpretative accounts of historical instances rather than systematic tests of the model. Recent theory and research on the fear of crime has argued to the contrary that crime or the reaction to it (fear) does not bring people together. Instead, it constrains their social interaction to private places, making many of them prisoners in their own homes, thereby undermining rather than building social solidarity and cohesiveness.

Clearly, Durkheim was referring to rural and highly cohesive societies with low crime rates. In these societies the reaction to crime (punishment) may well bring people together to wax indignant and thus to reaffirm their common values, thereby building social solidarity and cohesiveness, decreasing crime, and maintaining stability over time. On the other hand, in urban societies, where crime rates are generally high, the reaction to crime (fear) may keep people apart. This may undermine social solidarity/social cohesiveness, which in turn may increase crime, or this may limit the opportunities for crime, which in turn may decrease crime. Our analysis suggests that in the contemporary urban United States, the latter process is dominant.

These findings seem to be best explained within a general routine-activities framework that may be conceptualized as part of an emerging opportunity theory of crime (Cohen, Felson, and Land 1980; Cohen, Kluegel, and Land 1981; Cook 1986). Assuming that there is a constant motivation to commit crime, opportunity theorists argue that variation in the opportunity to commit crime explains much of the variation in crime. Routine-activities theory and research suggest that the organization of contemporary society, particularly the organization of work and the family, disperses activities away from the home, increasing the supply of targets (particularly households) that lack capable guardians, thereby increasing the opportunities for crime, which in turn increases crime. Cook (1986) suggests not only that routine activities influence crime but also that crime influences routine activities, that is, that a reciprocal causal process underlies the relationships between them. Extending this
theory, we examine empirically how some crimes (e.g., robbery) in contemporary urban societies intensify fear, which constrains routine activities to the home, which in turn decreases these and other crimes.

Thus, we propose a model for contemporary urban societies that suggests a stabilizing process, as proposed by functionalists, but with different, if not contrary, processes than those they proposed. That is, in contemporary urban societies, where crime rates are generally high, the reaction to crime, instead of bringing people together, keeps them apart. While undermining community social solidarity, this process also constrains opportunities for crime, thereby decreasing crime. We therefore conclude with a somewhat paradoxical view of crime in contemporary urban societies. On the one hand, certain crimes seem to increase fear and constrain social interaction in the community; on the other, because of this effect, these and other crimes seem to decrease. Because it constrains routine activities to the home, the fear of crime, as a reaction to crime, may indeed function to control crime.

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