

# PERCEPTUAL RESEARCH ON GENERAL DETERRENCE: A CRITICAL REVIEW

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Recent perceptual studies of general deterrence have been guided by an unnecessarily narrow conception of general deterrence, despite the methodological advances in this type of research. These studies, moreover, have failed to recognize the complexity of the perceptual processes that intervene between the threat or experience of legal sanctions and behavioral outcomes. Consequently, the conclusions drawn from the findings about the process of general deterrence are questionable. This paper critically reviews perceptual studies of general deterrence with a view toward expanding the scope of deterrence theory and stimulating research in new directions. Suggestions are made about the kinds of data and analyses needed to test such theory more adequately.

Deterrence theory implies a psychological process whereby individuals are deterred from committing criminal acts only if they *perceive* legal sanctions as certain, swift, and/or severe. Recognizing the importance of perception for the deterrence process, investigators initiated analyses of perceptual properties of sanctions (e.g., the perceived likelihood of arrest). This development marked a shift away from the previous focus of deterrence research on objective properties of sanctions (e.g., the actual likelihood of arrest).

In this review of empirical studies of general deterrence, we will not discuss research on objective properties of sanctions because this has been done by others (e.g., Tittle and Logan, 1973; Zimring and Hawkins, 1973; Gibbs, 1975, 1986; Blumstein *et al.*, 1978; Brier and Fienberg, 1980; Tittle, 1980; Bedau, 1982). Instead we will discuss research on the perceptual properties of sanctions as utilized in studies of general deterrence.<sup>1</sup> With the

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<sup>1</sup> General deterrence is achieved if persons avoid criminal behavior out

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exception of the early studies by Claster (1967), Jensen (1969), and Waldo and Chiricos (1972), this work has been done during the past ten years. While our comments have implications for the entire area of research, our attention is directed to the most recently published studies because they best exemplify the current state of the art. Our purpose is to identify and propose solutions for the important conceptual and theoretical problems that previous perceptual studies have not resolved.

Our review of cross-sectional and panel studies in the first part of this article will show how attempts to isolate a deterrent effect have glossed over the perceptual process implied by a theory of general deterrence. We argue that perceptual researchers should return to the insights presented over ten years ago by theorists like Andenaes (1974) and Gibbs (1975), although we refine their theoretical statements by suggesting that other preventive consequences of legal sanctions besides deterrence are perceptually mediated. In the second part of this paper, we draw out the implications of these refinements by broadening the meaning of general deterrence, and we offer suggestions for future research in this section and in the third part.

## I. THEORY AND RESEARCH ON GENERAL DETERRENCE

The concept of general deterrence has commonly been used in theorizing about the efficacy of legal sanctions as a form of crime control. Nonetheless, no formalized theory of general deterrence is universally accepted as complete and definitive. An essential ingredient of deterrence theory is a coherent view of the psychological processes an individual undergoes before committing a criminal act. The theory must take into account the perceptual linkages that lead to general deterrence as well as other preventive consequences of sanctions. Existing models specify perceptual properties of sanctions as an intervening mechanism linking objective properties of sanctions and criminal behavior. Further specification is needed, however, to advance deterrence theory and research and to clarify fully the precise mechanism by which legal sanctions prevent crime, be it general deterrence or one of many alternatives.

Theoretical models proposed thus far assume the logic of rational choice. The individual is accordingly presented as a ra-

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of the perceived threat or fear of the inherent elements of sanctions. Specific deterrence occurs when persons who have experienced sanctions refrain from crime out of the fear of being punished again. Perceptual processes surely operate in both types, but our review only focuses on studies of general deterrence. See Gibbs (1986) for the development of a theory of specific deterrence.

tional calculator, motivated to maximize (or at least optimize) personal gain. Given the opportunity to commit a criminal act, the person presumably weighs the costs and rewards of doing so in comparison to other behavioral options. The more the individual perceives legal sanctions as certain, swift, and/or severe, the greater is the perceived cost of crime and thus the probability of deterrence.

#### A. *Points of Emphasis*

Three points about this conception of general deterrence should be emphasized. First, it implies a *legal* theory of crime control, that is, a statement about the impact of legal sanctions on the incidence of crime. These sanctions can include the legislative prescription of punishments for various types of crime (e.g., statutory penalties), police practices (e.g., arrest), or the imposition of prescribed punishments on convicted offenders (e.g., sentences received and/or served). The scope of general deterrence theory has therefore been limited to the threat of legal sanctions.

Second, this conception holds that general deterrence presumably stems from the perceived threat or fear of the inherent elements of punishment itself, not through some indirect process (see, e.g., Gibbs, 1975, 1986; for a recent empirical application see Paternoster and Iovanni, 1986). Examples of general deterrence from fear of direct sanctions are (1) refraining from speeding for fear of a fine, (2) refraining from a felony for fear of incarceration, and (3) refraining from murder for fear of execution. An example of indirect "crime prevention," not general deterrence, is refraining from a criminal act because the perceived threat of punishment intensifies one's condemnation of the act, with such condemnation operating as a moral inhibitor to involvement. Gibbs (1975) refers to this preventive consequence of legal punishment as "normative validation."

Third, according to this line of reasoning, general deterrence is fundamentally a subjective phenomenon, or "a theory about the behavioral implications of subjective beliefs" (Lempert, 1982: 534). This is clearly exemplified in the rational choice models developed by economists such as Becker (1968) and Ehrlich (1973; for a nontechnical summary see Luksetich and White, 1982). These constructs explicitly define criminal action as a function of the expected costs and rewards associated with such behavior in comparison to alternative lines of action. Yet as Piliavin *et al.* point out, such models "must con-

sider those expectations as subjectively perceived by the actor, not as inhering in the actions" (1986: 102).

Economists have not incorporated perceptual variables into the models they estimate empirically. Instead they have been content with using objective measures as "proxies" for perceptions of the certainty and severity of legal sanctions in the general population (see, e.g., Blumstein *et al.*, 1978). This procedure places their theory of general deterrence in a precarious position. Because the perceptual assumptions of the theory are never tested directly, the empirical validity of the theory is always inferred. However, can objective measures be substituted for perceptual measures, which implies that there is a close, positive relationship between the objective reality of sanctions (i.e., their actual certainty and severity) and subjective beliefs about sanctions (i.e., their perceived certainty and severity)? Do these subjective beliefs operate to deter individuals from criminal actions, which implies that there is a close, inverse relationship between the perceived certainty and severity of sanctions and some measure of criminal activity? These illustrative questions remain unanswered if the perceptual aspects of general deterrence are not tested empirically.

The failure to address such questions can create perplexing problems. Consider a simple illustration. Suppose one finds that the objective certainty of arrest is negatively associated with the incidence of crime in metropolitan areas across the United States. Is this evidence of general deterrence? Perhaps. Yet the empirical finding could be the result of the moral condemnation of crime, meaning the degree of socially or self-defined dislike of lawbreaking behavior. Specifically, within those areas having a high degree of moral condemnation, the legal response to crime is intense (i.e., the likelihood of arrest is high). Because of such condemnation, individuals are inhibited from committing crimes (i.e., the crime rate is low). The deterrence theory conclusion that certainty of arrest has suppressed crime could therefore be a spurious interpretation of a relationship produced in fact by the moral condemnation of crime. Adding perceptual variables to the analysis can help to distinguish between competing interpretations of reported findings. If general deterrence is dependent upon individuals perceiving sanctions as costly, as implied by rational choice models, and if no association is found between such perception and lawbreaking behavior, then general deterrence is not a plausible explanation for the results. Some other process, such as moral condemnation, must be operating.

In sum, if social scientists are going to use a rational choice

model of human behavior to guide their thinking and research on deterrence, they must delineate the perceptual processes implied by that model and confront the difficult evidential problems of testing such a model. If this is not done, scientific knowledge and thus understanding about general deterrence will lack an empirical grounding and remain incomplete, the validity of the theory will remain a disputed topic, and accompanying sanction policies and practices will be guided by faith, not fact. In any case, the need for such work has been a moving force behind the perceptual research tradition that has developed over the past ten years.

### *B. Cross-Sectional Perceptual Studies*

Using survey methods, investigators have collected data on the perceived certainty of legal sanctions by asking respondents to estimate the chances of being caught and punished for committing various crimes. These estimates have been correlated with respondents' reports of their involvement in criminal activities. This correlation is expected to be negative if such perceptions promote deterrence. Hence a preliminary issue for perceptual research was to determine whether such a correlation could be found. Once detected, the research focus shifted to the empirical identification of the conditions under which the negative relationship holds.

**Problems of measurement and interaction.** A host of issues became evident in identifying such conditions. One early issue was whether perceptions of the certainty and severity of sanctions have similar effects on the incidence of crime. While the magnitude of the association varied across studies, investigators consistently found a negative association between perceived certainty and self-reported involvement in crime, but little evidence that perceived severity had such an effect (for reviews see Jensen *et al.*, 1978; Paternoster *et al.*, 1982). In fact, only one study (Kraut, 1976) reported evidence of a significant negative association between the perceived severity of sanctions and crime (Grasmick and Bryjak, 1980).<sup>2</sup>

These mixed results motivated some researchers to explore measurement problems concerning the perceived certainty and severity of sanctions as well as the possibility that the effect of perceived severity is dependent upon sufficiently high levels of

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<sup>2</sup> See Tittle (1980) for an exception concerning the severity of informal sanctions.

perceived certainty.<sup>3</sup> Two questions about measurement have been central to these studies. First, in measuring perceptions of certainty, should respondents be asked about perceptions of their own chances of capture and punishment (self-reference items) or the chances of others (other-reference items)? As Jensen *et al.* (1978) and Paternoster *et al.* (1982) clearly show, the variation of perceived certainty can be attributed largely to this measurement distinction. Self-reference measures tend to have stronger effects than other-reference measures.

Second, in measuring perceptions of severity, is it valid to assume that all respondents consider the same sanction as equally severe? According to Grasmick and Bryjak (1980), most measures have blurred the distinction between perceptions of certainty and severity and have implicitly assumed that evaluations of severity are constant across respondents. Erickson and Gibbs (1979) have shown that this clearly is not the case. Using a more refined measure of perceived severity (i.e., respondents' perceptions of the problem a penalty would cause in their lives), Grasmick and Bryjak (1980) found a significant negative effect of the perceived severity of sanctions. They also found that this effect is greater under higher levels of perceived certainty. Most other studies that have estimated interaction effects present just the opposite result (for an exception see Anderson *et al.*, 1977).

**Characteristics of acts and independent effects.** Another issue addressed in cross-sectional studies is whether negative effects of perceived certainty or severity vary according to the nature of the act. Normative characteristics of criminal acts, such as the degree of social disapproval, social condemnation, or moral commitment, have been primary considerations. Investigators also have used the legal distinction of crimes classified as *mala in se* or *mala prohibita*. Suffice it to say that the results of these analyses have been inconsistent, with some investigators finding that such characteristics are associated with an increase or even a decrease in reported effects (e.g., Waldo and Chiricos, 1972; Silberman, 1976; Grasmick and Green, 1980) and others discovering no such pattern (e.g., Jensen *et al.*, 1978; Tittle, 1980).

Tittle (1980) has also explored this issue using acts that tend to be repeated and those that provide a high degree of util-

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<sup>3</sup> The argument concerning an interaction effect is that the severity of sanctions may be irrelevant for deterrence if one believes that the sanction in question is rarely imposed. Such an effect is often called the "tipping point" or the "threshold effect."

ity (or desirability) for potential offenders. According to his findings, these characteristics are important in specifying the conditions under which perceptions of sanctions influence criminal involvement. Specifically, the negative effect of perceptions of certainty tends to be greater for crimes having a strong incentive for involvement.

Finally, investigators have estimated the independent effects of perceived certainty and severity, controlling for other correlates of crime. The findings have been mixed. Some researchers have been unable to separate empirically the independent effects of legal sanctions and extralegal sanctions (e.g., Erickson *et al.*, 1977; Williams and Gibbs, 1981), and others have found no independent effect of perceived certainty (e.g., Meier and Johnson, 1977). On balance, however, the bulk of the early perceptual studies have found independent effects of perceived certainty to be both significant and negative in direction (e.g., Burkett and Jensen, 1975; Silberman, 1976; Minor, 1977, 1978; Bailey and Lott, 1976; Grasmick and Milligan, 1976; Grasmick and Appleton, 1977; Jensen *et al.*, 1978; Tittle, 1980; Grasmick and Green, 1980).<sup>4</sup>

Despite important advances, early perceptual studies of general deterrence share a fundamental problem. Most used cross-sectional research designs in which past involvement in crime is correlated with current perceptions of sanctions. Since perceptions are measured after law violations have taken place, such an analysis reverses the logical temporal order implied by most theorizing about general deterrence. As many critics have noted, the association may indicate that individuals who were actively involved in crime in the past have lower perceptions of certainty and severity in the present precisely because they have escaped being caught and punished for their crimes. This has been referred to as the "experiential effect" (see, e.g., Greenberg, 1981; Paternoster *et al.*, 1983a, 1983b; Saltzman *et al.*, 1982; Minor and Harry, 1982).

While the above criticism of the cross-sectional designs is of major significance, investigators using this approach have not been insensitive to the problem of temporal order (e.g., Silberman, 1976: 444; Jensen *et al.*, 1978: 74). Some have even tried to deal with the problem by asking respondents about their past perceptions of punishment (e.g., Teevan, 1976) or their projection of future involvement in crime (e.g., Tittle, 1980; Grasmick

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<sup>4</sup> Other investigators, using cross-sectional designs, have empirically examined the relationship between the objective and perceived properties of legal sanctions (e.g., Erickson and Gibbs, 1979; Parker and Grasmick, 1979; Williams *et al.*, 1980; Williams and Erickson, 1981).

and Green, 1980). These strategies, of course, raise longstanding questions about the accuracy of recall and the correspondence (or lack thereof) between what people say they will do and what they actually will do.<sup>5</sup>

### C. *Panel Studies of General Deterrence*

In response to the problem of temporal order, several studies conducted since 1980 have used panel data to test models of general deterrence. Two issues have been central for these studies: perceptual stability and lagged independent effects.

**Perceptual stability.** The first issue can be referred to as that of perceptual stability (e.g., Saltzman *et al.*, 1982; Minor and Harry, 1982). If investigators ask the same respondents the same question at two different times about, say, the chances of arrest for shoplifting, the responses should be relatively constant. If perceptual estimates are stable over time, then deterrence remains a plausible interpretation of the negative correlation between past criminal behavior and current perceptions of sanctions. Unstable estimates would raise questions about the validity of that interpretation. Paternoster *et al.* explain the issue as follows:

Cross-sectional data may only be used to estimate a deterrent effect if there is considerable stability in the perceptions involved. If we can assume that people's perceptions of the threat of legal sanctions are stable—that is, unmodified by experience—then their perceptions measured after their involvement in criminal acts will be an accurate estimate of their perceptions before such involvement. If perceptions are stable, then the observed negative correlations between perceptions and criminal involvement may be interpreted as evidence of deterrence. If perceptions are not stable over time, but are altered by experience, then cross-sectional data cannot be used to estimate a deterrent effect (1983a: 272).

Studies have consistently found that perceptions of legal sanctions are unstable (e.g., Saltzman *et al.*, 1982; Minor and Harry, 1982; Paternoster *et al.*, 1983a; Piliavin *et al.*, 1986). A typical conclusion is provided by Minor and Harry, who state that “since most of the perceptual deterrence research in the past decade has actually measured experiential effects, we consider the conclusions from that research regarding deterrence

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<sup>5</sup> Some researchers following up samples of respondents to see if their predictions of future behavior were accurate, have found high correlations between such predictions and subsequent behavior within the next year (e.g., Erickson, 1976: 226).



to be moot" (1982: 201). Similar conclusions have been drawn by Greenberg (1981) and Paternoster *et al.* (1983a).

**Lagged independent effects.** The second issue has been to reestimate the lagged independent effects of perceptions of legal sanctions on criminal involvement using panel data. In these tests, the variables have been arranged in the logical order implied by a theory of general deterrence; that is, measures of perceived certainty or severity of sanctions at one point in time ( $T_1$ ) are associated with measures of self-reported crime at a later point in time ( $T_2$ ).

With the exception of Bishop's (1984) study, the results have consistently shown that the effect of such perceptions is considerably smaller than previously reported in cross-sectional studies (e.g., Saltzman *et al.*, 1982; Minor and Harry, 1982; Paternoster *et al.*, 1983a). Furthermore, the experiential effect (criminal involvement at  $T_1$  predicting perceived certainty at  $T_2$ ) tends to be greater than the alleged deterrent effect (perceived certainty at  $T_1$  predicting criminal involvement at  $T_2$ , see Paternoster *et al.*, 1983b; 1985).

For those studies that incorporated extralegal sanctions, the effect of perceived certainty or severity was reduced substantially and in most instances became statistically insignificant (e.g., Paternoster *et al.*, 1983b; Paternoster and Iovanni, 1986). These studies have also shown, as has much of the cross-sectional research, that extralegal sanctions measured at  $T_1$  had significant negative effects on criminal involvement at  $T_2$ . Piliavin *et al.* (1986), however, found that the perceived risk of legal or extralegal sanctions was not significantly associated with self-reported crime. While their findings clearly do not support the argument that sanction threats deter, they reported other evidence that is consistent, at least in part, with a rational choice model of criminal behavior. Specifically, they found that the greater the perceived reward of crime, the greater the involvement in such behavior. A parallel result was reported several years ago by Tittle (1977), based on an analysis of cross-sectional data.

#### *D. A Critique of Panel Studies*

Before concluding that panel studies provide little support for a theory of general deterrence, a closer look at this research is warranted.

**Sampling limitations.** With the exception of the recent research by Piliavin *et al.* (1986), the results of the panel studies

are derived from four samples of adolescents. Paternoster and associates (Paternoster *et al.*, 1982, 1983a, 1983b, 1985; Paternoster and Iovanni, 1986) used data collected from both college and high school students. A replication by Minor and Harry (1982) also used a college sample, and Bishop (1984) analyzed a sample of high school students. Although some of these studies contain a frank discussion of the limitations of student samples (e.g., Paternoster *et al.*, 1983b), there is no recognition that student perceptions of sanctions may be relatively unstable because of age and other circumstances unique to students. For example, adolescents may be gaining “violation experience” (the impact of their own behavior on their perceptions of the certainty of sanctions) that contributes to the experiential effect. Students, more so than adults, may be exposed to other law violators who communicate to them the low risk of detection for offenses often common among this population segment (e.g., smoking marijuana or writing bad checks).<sup>6</sup> Some college students may even have been lectured on clearance rates and other “insider information” in their courses.

Furthermore, in its historical origins and contemporary practices, the juvenile justice system, unlike that for adults, is not officially designed to administer punishment for the purpose of deterrence.<sup>7</sup> Consequently, perceptions of the certainty of legal sanctions are more likely to be unstable and have less of an effect on the incidence of crime for juveniles than adults.<sup>8</sup> This is especially the case in the recent panel studies since they used offenses that tend to be less serious forms of delinquency. The one panel study reporting a significant negative effect of perceived certainty (Bishop, 1984) included more serious forms of delinquency than the other panel studies. The implication is that juveniles involved in more serious delinquency may be

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<sup>6</sup> Paternoster *et al.* do agree that “perceptions can be influenced not only by one’s own experience in criminal behavior or experiences with formal sanctions, but may also be affected by knowledge of others’ experience” (1983a: 297). However, they do not address the issue of whether adults and college students would have equal exposure to these influences.

<sup>7</sup> We thank an anonymous reviewer for this insight.

<sup>8</sup> Hollinger and Clark (1983) and Grasmick (1985) have recently conducted research using adult samples and offenses more characteristic of adults (e.g., employee theft and tax evasion). Yet they have used cross-sectional designs, and thus their findings do not directly bear on changes in perceptions of certainty of punishment over time (instability). It is possible, however, that adults may not be immune to an experiential effect, and their perceptions of risk may be equally unstable (see, e.g., Piliavin *et al.*, 1986). Future research should distinguish between two sources of risk perception—personal experience and knowledge of the experience of others. We suggest that adolescents may have more exposure to the latter, but research that compares adolescents and adults is needed.

more sensitive to legal than extralegal sanctioning threats. Nevertheless, Piliavin *et al.* analyzed data from “adult offenders who previously had been incarcerated; adults who were known drug users; and adolescents age 17 to 20 who had dropped out of school” (1986: 104), but they found no relationship between the perceived risk of sanctions and self-reported law violations. So the “deterability” of adults versus adolescents and serious versus nonserious forms of crime remains an open question.

It is significant that the recent panel studies have used local samples, which raises questions about representativeness and thus whether generalizations are warranted. We are not suggesting that analyses based on local samples are misleading or useless. Rather, greater confidence can be placed in the conclusions of these analyses if they are corroborated by further research involving a nationwide sample. This is a natural next step for perceptual research on deterrence.

**Temporal lag.** An advantage of panel studies is that they permit estimating the effects of  $T_1$  perceptions of the certainty and severity of sanctions on  $T_2$  measures of behavioral involvement. This clearly puts the variables in the temporal order implied by deterrence theory. Yet the appropriate temporal lag between such perceptions and behavioral involvement has not been specified, and no evidence exists to indicate what that lag should be. Hence, it remains a speculative issue.<sup>9</sup>

One plausible argument is that if perceptions of sanctions influence an individual’s decision to refrain from a criminal act, this influence will operate in the immediate situation confronting the individual, not in some distant set of circumstances. This is especially so given that previous research, as reviewed above, has shown that perceptual estimates of certainty change from one point in time to the next. An implication of this argument for perceptual research on general deterrence is that as the temporal lag between the measurement of perceptions and the measurement of behavioral involvement increases, the likelihood of a significant association between these measurements decreases, even if perceptions promote deterrence within specific contexts. In fact, Piliavin *et al.* suggest that this may be why they, using a nine-month lag, found no significant effect of perceived risk on criminal involvement:

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<sup>9</sup> The issue of the appropriate temporal lag is not unique to perceptual research on general deterrence. The lag between objective measures of sanctions (i.e., actual sanctioning experiences) and criminal involvement is also problematic.

the effective assessments of risk are to some extent situationally-induced, transitory, and unstable. . . . If true, this could help explain the ineffectiveness of our risk variables—that is, if persons' perceptions of risk are unstable over time, and the causally-relevant perceptions are those more proximate to crime, our distal measures of perceived risk may be irrelevant to behavior (1986: 115–16).

Other panel studies, using six- to twelve-month lags, have also reported no effect of perceived risk on criminal involvement (with the exception of Bishop, 1984). Yet cross-sectional studies using projections of behavioral involvement in the future (e.g., the perceived likelihood a respondent will engage in the act during the next year) have reported significant negative associations between the perceived risk of sanctions and such projection (e.g., Tittle, 1980; Grasmick and Green, 1980; Grasmick, 1985). A possible explanation for the discrepancy between the findings of these cross-sectional studies and those of the panel studies is that projections of behavioral involvement are more closely associated with actual behavioral involvement in the immediate future than with actual involvement measured at a later point in time. Therefore, to the extent that perceptions of sanctions are causally relevant with regard to deterrence and that this is true only for those perceptions proximate to crime, one would expect the estimated effect of perceptions of risk on projections of future involvement to be greater than the effect of such perceptions on a measure of actual behavior obtained several months later.

Unfortunately, no data exist to determine whether shorter temporal lags between measurements of perceptions and actual behavior would increase the association between these two variables. Furthermore, obtaining self-reported involvement data for briefer intervals (e.g., days or weeks) would be generally impractical. Even if this were done, the procedure would yield an insufficient number of acts to permit a reliable analysis for types of crime having a low base rate in the population under study. Given these limitations, the most promising strategy is to determine the nature of the relationship between projections of future behavioral involvement for a designated period and self-reports of actual involvement during the same period. For example, investigators at  $T_1$  could ask respondents, "What is the likelihood that you would [commit a certain type of act] during the next six months?" Six months later (i.e., at  $T_2$ ), investigators could ask the same respondents, "Did you [commit a certain type of act] during the past six months? If so, how many times?"

These data would allow investigators to establish empirically the correlation between projections of involvement and self-reports of actual involvement. If the correlation turns out to be strong, this finding would justify the use of projections as a "proxy" for actual behavior in a cross-sectional design, which is less time-consuming and costly. It would also add credibility to the conclusions drawn from previous research using such measures. Additional evidence could be provided by determining whether the correlation between projections at  $T_1$  and self-reports at  $T_2$  is greater than the correlation between these projections and self-reports at  $T_3$ . These results would bear on the argument, stated above, about the waning effect of perceptions on behavior as the temporal lag increases. Collection of such data obviously requires a panel design, for advances in perceptual research on general deterrence should build upon the most recently published work. Our suggestions for further research, therefore, are made with this point in mind.

**Premature dismissal of deterrence.** Another critical point is that a comparison of experiential and deterrent effects, when the former are greater in magnitude, may leave some unwary readers with the impression that deterrence is not operating. The very fact that violation experience will modify the perceived risk of sanctions does not negate the possibility of general deterrence (see, e.g., Elkand-Olsen *et al.*, 1984).<sup>10</sup> As discussed above, the argument is that such experience lowers the perceived risk of sanctions, which in turn frees the individual to commit even more crime. This pattern may not always hold. For example, it could be that for some individuals, getting away with offenses increases the perceived certainty of being caught by causing the development of a rough notion that one's luck is running out. An illustration of this point is that professional thieves learn to sense when a town is "getting hot" and thus cease their criminal activity for a while (see King and Chambliss, 1984). Drug dealers may reduce the frequency of their lawbreaking for similar reasons (see Ekland-Olsen *et al.*, 1984: 165). Furthermore, surely perceptions of risk vary (i.e., are unstable) for those who are heavily involved in criminal activity. If one is contemplating burglary, the perceived risk of capture

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<sup>10</sup> Studies of the determinants of perceived risk are rare: "Since perceived certainty and severity have been independent variables in deterrence research, little is known about how perceptions are shaped and reshaped over time" (Paternoster *et al.*, 1983a: 297). Nonetheless, see Richards and Tittle (1982) and Grasmick *et al.* (1983) for studies of the social class basis of such perceptions.

will undoubtedly be lower for burglarizing an unoccupied and isolated house in a new suburban development than one that is both occupied and in a well-traveled area. This difference in perception may play an important role in the choice of targets for crime. Thus the perceived risk is likely to vary by circumstances, especially for those who seriously consider criminal involvement.<sup>11</sup> Hence, unstable perceptual estimates and/or the detection of an experiential effect may raise questions about the “proxy assumption” that current perceptions can be used as a valid and reliable indicator of past perceptions, but such evidence should not be read as clearly falsifying a theory of general deterrence.

**Confusion of legal and extralegal sanctions.** Most panel studies, with the exception of Piliavin *et al.* (1986), have shown that the perceived risk of legal sanctions does not compare well to extralegal sanctions, such as loss of interpersonal or community respect and social disapproval, in controlling involvement in crime. The matter is complicated, however, because investigators have assumed that these variables operate independently of legal sanctions, as the term “extralegal” implies.

For example, Paternoster *et al.* (1983b) measured “informal sanctions” as the respondents’ perception of the disapproving reactions of significant others to their involvement in (not arrest for) crimes.<sup>12</sup> They found that apart from past criminal involvement, informal sanctions had the greatest effect on subsequent criminal involvement. Moreover, when the measure of informal sanctions was statistically controlled, the effect of the perceived certainty of arrest became statistically insignificant. The researchers also found that informal sanctions, along with past involvement in crime (the experiential effect), had a significant positive effect on perceived certainty. Within the context of their theoretical model, therefore, the implication is that the reported zero-order effect of perceived certainty is

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<sup>11</sup> Individuals may go through the following stages prior to the initial law violation: (1) A person contemplates the act; (2) then seeks information on the chances of being caught and punished, i.e., the enforcement climate (see Lempert, 1982: 532–33); (3) concludes the risk is low; and (4) finally commits the act. The experiential effect assumes that the perception of risk follows and flows from the involvement in the act. However, it is not the experience of the act that influences the perceived risk, but the deterrence process prior to the act that is operating. As Saltzman *et al.* have noted, “it appears justifiable to suggest that the relationship between perceived sanctions and behavior is likely reciprocal and processual” (1982: 184).

<sup>12</sup> The differences between disapproval for committing a criminal act and disapproval for being caught are important and will be discussed in the next section. In the absence of a theoretical model of general deterrence, these two concepts are often used interchangeably, with misleading results.

spurious and that “informal social influences are the most important factors in explaining conformity” (*ibid.*, p. 472).

Besides the problems of sampling limitations (student samples and trivial offenses) and temporal lag discussed above, an alternative reason for these findings is that a preventive consequence other than deterrence is operating. Specifically, it could be argued that the perceived certainty of legal sanctions strengthens one’s belief that others condemn the act. This belief may in turn reduce criminal involvement. In other words, because individuals perceive a high likelihood of arrest, they may also perceive that their close associates will strongly disapprove of their involvement in criminal activity, which prevents them from engaging in crime. While this sequence would not be indicative of a deterrent effect (as usually defined), it would show that legal sanctions play a significant role in the crime control process by maintaining the social disapproval of crime.<sup>13</sup>

Much of the confusion about the relative effect of legal versus extralegal sanctions is a consequence of investigators failing to heed the admonitions of Andenaes (1974) and Gibbs (1975) that legal sanctions can prevent crime through mechanisms other than general deterrence. We argue further that some of these preventive mechanisms, like general deterrence, are dependent upon perception, while others are not. To illustrate the point, consider the following illustration pertaining to capital punishment.

Imagine an increase in the number of offenders convicted of first-degree murder who are sentenced to death and actually executed within a given American state. Suppose further that this increase is associated with a subsequent reduction in the rate of first-degree murder. One reason for the reduction, of course, could be general deterrence. Potential offenders perceive the increased risk of execution, and this perception frightens them from committing murder. This sequence is consistent with the conception of general deterrence discussed earlier.

A competing interpretation of the reduction in murder is that the increased threat of execution intensifies the personal

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<sup>13</sup> This is not the only extralegal factor that could be affected. Perceptions of legal sanctions may play a role in normative validation so that among nonoffenders, knowing an act is illegal and perceiving a high risk of arrest, may strengthen the moral condemnation of the act. But among persons who have experienced arrest but little or no further legal sanction, there may be a view that the crime was not serious—a reduction in normative validation. This has been termed the normative erosion hypothesis (Erickson *et al.*, 1984). This points up the importance of distinguishing between specific and general deterrence. Those who have been sanctioned once, but not again, gain firsthand knowledge of the sanctioning process, which contributes to this erosion effect and indirectly weakens the preventive effect of normative validation.

and/or social condemnation of the crime, with condemnation operating as a moral inhibitor to the use of lethal violence. This explanation is consistent with a longstanding argument in the sociology of law, traced back at least to Durkheim, that legal punishment can reinforce the condemnation of wrongful acts. In other words, the commitment to the belief that an act (in this case, murder) is wrong can be strengthened by the knowledge that offenders are punished. Hence perceiving execution as certain can increase the condemnation of murder that in turn can reduce the incidence of such behavior.

Other preventive mechanisms of legal sanctions do not operate through perception yet still have a preventive effect on the incidence of crime. An example is the incapacitation that results when a particular type of sanction makes it physically impossible for the sanctioned offender to victimize others in society. To the extent that the rate of first-degree murder is largely a function of repeat offenders (which is in fact highly unlikely), increasing the objective certainty of execution could be associated with a subsequent drop in the first-degree murder rate because the repeat offenders have been incapacitated. In this particular case, the sequence is not dependent upon potential offenders perceiving the increased objective certainty of execution.

In sum, increasing the objective certainty of the death penalty could prevent first-degree murder through general deterrence or normative validation, both of which are dependent upon perception, as well as through incapacitation, which is not dependent upon such perception. Similar observations can be made concerning other legal sanctions, but it can be misleading to assume that the social condemnation of crime necessarily constitutes an extralegal influence on crime prevention. Even if a measure of condemnation has a significant negative effect on the self-reported incidence of crime, with a measure of perceived certainty having no effect, it does not necessarily follow that conformity springs from extralegal sources. Instead, social condemnation could be operating as an intervening variable, mediating the indirect effect of the perceived certainty of legal sanctions on crime. Clarity on this matter can be achieved only by dealing explicitly with the impact of perception on the other preventive consequences of legal sanctions besides general deterrence.<sup>14</sup> Furthermore, preventive consequences not depen-

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<sup>14</sup> This discussion should not be construed as suggesting that deterrence theory should subsume a theory of the social bond (see Hirschi, 1969) or vice versa. The implication is merely that the two kinds of theory should be integrated by examining the relationship between legal and extralegal sanctions,



dent upon perception (e.g., incapacitation) cannot be distinguished from those that are so dependent without conducting a perceptual study.

## II. CONCEPTUAL DISTINCTIONS BETWEEN LEGAL AND EXTRALEGAL SANCTIONS

Further perceptual research on general deterrence must distinguish legal and extralegal sanctions on both conceptual and empirical grounds and sort out the deterrent versus the nondeterrent but preventive effects of legal sanctions. How is this to be done? In the suggestions that follow, we emphasize how perception operates through various preventive mechanisms of sanctions, which constitutes the so-called rival hypotheses to general deterrence. Some of these hypotheses should, we argue, be seen as part of the general deterrence process.

### A. *The Preventive Mechanisms of Sanctions*

Gibbs (1975) described nine ways (besides deterrence) that the threat of sanctions can influence the crime rate. Some of these alternatives (e.g., reformation and punitive surveillance) are best seen as competitors to specific deterrence in that their impact is felt only by the formerly sanctioned. The other alternatives apply to the general population. As discussed above, many of these mechanisms have been measured and statistically controlled, but they have not been viewed as operating as an integral part of the legal sanctioning process. Rather, they have been treated as extralegal sources of social control. In any case, the most common result of controlling for these variables has been that the effects of perceived certainty and severity diminished or disappeared. Yet before drawing the conclusion that general deterrence is not important, the relationship of some of these alternative mechanisms to the process of general deterrence needs to be specified.

Table 1 lists some of the mechanisms expected to reduce the incidence of crime through the legal sanctioning process. The three categories are: (1) competing mechanisms of sanctions not mediated by perception (first column), (2) nondeterrent preventive mechanisms that do involve perception (second column), and (3) preventive mechanisms that are best seen as part of the general deterrence process (third column).<sup>15</sup> One

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emphasizing the role that perception plays in linking those sanctions. For attempts to examine deterrence processes within a broader context of control theory see Minor (1977; 1978), Meier and Johnson (1977), and Paternoster *et al.* (1983b).

<sup>15</sup> Table 1 illustrates only some of the possibilities under each of the

**Table 1.** Preventive Mechanisms of Sanctions (Other Than General Deterrence) in Three Categories of Legal Crime Control<sup>a</sup>

Nonperceptual Mechanisms Independent of Deterrence	Perceptual Mechanisms Outside of Deterrence	Perceptual Factors Best Seen as Part of Deterrence
Incapacitation	Enculturation (conform out of respect for authority)	Stigma of arrest <sup>b</sup> (social degradation and loss of respect due to being caught)
Habituation (previously perceptual)	Moral condemnation (self-defined dislike of an act) Normative validation (seeing others punished reinforces view that an act is wrong)	Commitment costs (cost of arrest for future goals) Attachment costs (loss of friends due to being caught)

<sup>a</sup> For detailed definitions and discussion of these mechanisms see Gibbs (1975; 1986).

<sup>b</sup> Stigma of the act via moral condemnation or loss of respect from others would be an extralegal sanction.

reason for making such distinctions is to argue that the notion of general deterrence should be broadened beyond the narrow conception discussed at the outset of this article.

### *B. The Stigma of Arrest*

When respondents are asked to anticipate the stigmatizing reactions of others to their being caught in a criminal act (e.g., degradation, disapproval, or loss of respect), they offer conjectures as to possible reactions, but what do these responses mean? Are the anticipated reactions a response to the fact that the criminal act occurred or to the fact that one was caught? In the case of marijuana use among college students, peers may not react negatively to the use of the drug but only to the fact that the person was arrested for its use. If persons anticipate that others will disapprove of their arrest for committing a certain act, and they refrain from that activity because they fear

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three categories; it is not exhaustive. For example, all nine alternatives to deterrence given by Gibbs (1975) are not included, in part because some (such as reformation) are best compared to specific deterrence. An integration of specific and general deterrence is necessary for a complete model of deterrence. Lempert (1982) has illustrated some of the interconnections, but more work is needed.

the stigma of being caught, this should count as an instance of general deterrence with a legal sanction being the source.

Alternatively, if the risk of arrest is seen as low and the severity of possible punishments is considered minimal, individuals might still be prevented from committing a crime because they anticipate stigmatizing reactions from others for involvement in crime itself. In this case, fear of stigma stems from the act, not the sanction, and thus operates as an extralegal sanction. These possibilities have not been considered in previous perceptual studies because researchers did not ask questions that permitted the anticipated stigma of arrest to be separated from the stigma of involvement in crime. Without such a distinction, investigators have frequently assumed that stigma is exclusively an extralegal sanction. By statistically controlling for this "extralegal" influence, therefore, part of the deterrence process pertaining to legal sanctions is lost.

The distinction between stigma of arrest and stigma of the act is most important for acts that are *mala prohibita*. Along with using marijuana, writing bad checks may be another activity for which the stigma of arrest exceeds the stigma of the act for college students.<sup>16</sup> Speeding violations and arrests for driving while intoxicated are other cases in which arrest may be more critical than knowledge that the act has been committed.<sup>17</sup> Lacking both a strong moral condemnation by potential

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<sup>16</sup> Writing checks with insufficient funds was one of the five law violations used by Paternoster and associates in their college sample (Paternoster *et al.*, 1982, 1983a, 1983b, 1985; Paternoster and Iovanni, 1986). However, this is a poor offense to use in testing deterrence hypotheses with students for two reasons. First, it is quite likely that bad checks among college students (and even adults) are more a function of poor timing than criminal intent; enforcement officials would find very few "criminal acts" among such incidents reported by the students. Few in college student samples would have the intent to defraud, and overdrafts are perhaps statistically normal in such samples. Hence the "crime" would be *mala prohibita* in that moral condemnation is unlikely to occur. A second problem is unique to the methods used to assess writing bad checks. Students were polled between January and June of their freshman year ( $T_1$ ) and then again one year later ( $T_2$ ). At  $T_1$  14.8% of the students reported having bounced one or more checks (Saltzman *et al.*, 1982: 182). From  $T_1$  until  $T_2$ , 31% admitted the activity (Paternoster *et al.*, 1983a: 278). The increase is very likely the result in that students frequently establish checking accounts just prior to entering college. Freshmen interviewed in January, for example, would only have a five-month period to recall (even though they were asked about acts committed during the past year). At  $T_2$  students would have had their accounts for the full twelve months. The increase could be due to the greater opportunity for poor timing to have occurred for those at  $T_2$ . Longitudinal studies should be evaluated as to the criminal nature of the items and the time frames when opportunities to violate the law are said to be equal.

<sup>17</sup> In recent years, moral condemnation of drunk driving has increased due to increased fatalities, publicity from Mothers Against Drunk Driving (MADD), and the like. Consequently in this case the stigma of the act may now equal or exceed the stigma of arrest.

perpetrators and a significant stigma attached to the act itself by others, *mala prohibita* crimes afford the greatest potential for pure deterrence. But does this distinction make any sense for crimes that are *mala in se*? Moral condemnation of these crimes assures conformity in most cases, and this process is correctly termed an extralegal sanction outside of deterrence. Yet for some individuals, the stigma of arrest may be more important than stigma of the act for *mala in se* offenses. For example, Miller (1958) asserts that lower class males may engage in frequent law violations without experiencing any stigma attached to these acts. Being caught, however, becomes stigmatic if it happens too often. Too much trouble with the law is not valued and reduces the male adolescent's prestige. Trouble avoidance of arrest is seen as one of the focal concerns of the lower class culture. Studies assessing the relative stigma of acts and arrests are needed to provide a test of the role of each source of stigma in the crime control process as well as a test of assertions like Miller's.

### C. Attachment Costs

The stigma of arrest refers to reputational damage. By contrast, attachment costs are negative consequences for relationships with close friends and relatives. The emphasis here is on the prospects of actual jeopardy to such relationships, not merely reputational damage. Being arrested may or may not weaken attachment to significant others. Adversity may cause friends and relatives to rally to the support of the accused. For example, Lempert found that in some cases the threat of arrest for a father failing to make child support payments prompted aid "from his parents, friends, siblings, second wife, or current girlfriend" (1982: 545). Supportive responses might also occur after contact with enforcement agencies.

More important than the actual response of significant others is the perception of what their response is likely to be. Deterrence researchers should realize that "the perceived risk of disruption rather than the strength of the relationship is the crucial variable. Strong relationships may or may not be disrupted by criminal sanctions" (Ekland-Olsen *et al.*, 1984: 163). This anticipated response will be conditioned by a rough calculation of the disruptive potential of knowledge of the act compared to knowledge of the arrest. Attachment costs associated with arrest (or any other form of legal sanctioning) are legal controls, while those associated with the criminal act itself are extralegal controls. Many students writing bad checks know

they will receive a sympathetic family response. The parents simply transfer more money into the students' accounts. But being arrested for passing such checks is seen by the student as having the potential of disrupting or ending the relationship.<sup>18</sup> This difference in perceived reactions could produce restrictive deterrence (i.e., writing fewer bad checks) or absolute deterrence (i.e., writing no bad checks for fear of arrest and the resulting associational disruption with significant others).

#### D. *Commitment Costs*

A third component of anticipated negative consequences of being arrested involves some judgment of past accomplishments being jeopardized and/or future goals being foreclosed or made more difficult to achieve. If individuals expect that an arrest record will hurt their future employment chances, educational opportunities, or marriage prospects, general deterrence is more likely to occur. This is also the case if such a record results in the loss of a job or expulsion from school. The threat posed to past investments or future stakes increases the perceived costs of being caught.

Unfortunately, perceived costs to future goals are frequently treated as independent of deterrence. For example, Paternoster *et al.* (1983b) developed an index called "Stakes" from a series of questions that asked for judgments of how an arrest would affect future goals such as obtaining a college degree or a good job. Lacking a general deterrence model that includes commitment costs, they used the Stakes index as a control variable when estimating the effect of the perceived certainty of arrest on self-reported crime. Not surprisingly, the effect was reduced. The result was the unnecessary conclusion that general deterrence was not important. If the researchers had treated commitment costs as a variable supplementing perceived risk, their conclusion might have been quite different.

We would predict that general deterrence is more likely to operate when a person perceives a high probability of arrest *and* (1) when others disapprove of or generally discredit the potential offender, thus creating a reputational stigma of arrest, (2) when the arrest is perceived as possibly jeopardizing rela-

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<sup>18</sup> Attachment costs could be appropriately used as an extralegal sanction if questions were asked about the expected reactions from others to the knowledge of a person's involvement in crime (without reference to arrest). For example, Paternoster *et al.* "measured the degree to which the respondents risked informal sanctions for five illegal behaviors by asking them to indicate the reactions that their mother, father, best friend, boy/girlfriend would have if the respondent were to commit each act" (1983b: 463).

tionships with significant others, or (3) when the arrest is seen as possibly destroying past accomplishments and/or future opportunities. If these perceived costs are salient to the individual, deterrence may be achieved even though the person perceives the certainty of arrest as low. If the perceived costs of arrest are minimal, however, we would expect the perceived certainty of arrest to have a weak influence on the deterrence of crime. Under these circumstances, being arrested would have little meaning for the individual. Yet all things being equal, the greater the perceived costs of arrest (such as those outlined above), the greater should be the negative effect of perceptions of certainty on the incidence of crime.

It is important to keep in mind that these comments pertain to the stigma, commitment, and attachment costs associated with legal sanctions (e.g., arrest), not with involvement in crime itself. If an individual anticipates that others will strongly condemn a criminal act and thus react negatively to his or her involvement in such behavior, and if this perception is more salient to the individual than the costs associated with arrest, then extralegal sources of control may prevent crime. Measurement of perceived sanction costs should therefore be useful in conceptually and empirically identifying legal and extralegal sanctions. Such data could also shed light on the reasons why potential perpetrators of crime *fear* sanction threats and thus why they are *deterred* by these threats.<sup>19</sup>

### III. METHODOLOGICAL SUGGESTIONS

The theoretical expansion of general deterrence presented here will undoubtedly create significant methodological challenges not only for dealing with the measurement issues discussed but also for addressing other theoretical matters. Gathering any data on perceptual properties of sanctions raises serious questions about the validity of both the measurement

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<sup>19</sup> Perceptions of costs, like perceptions of certainty, are a cognitive dimension of sanctions in that they reflect the likelihood that specific consequences will occur, at least in the mind of a potential perpetrator. Regardless of the perceived likelihood of these consequences, such data do not indicate whether the potential perpetrator considers them personally meaningful. For example, perceiving arrest as certain and the associated stigma, attachment costs, or commitment costs as high will have little influence on behavior if little importance is placed on these consequences. In short, regardless of the distinction between consequences of being involved in the act and consequences of being legally sanctioned, investigators must measure both the perceived likelihood of occurrence and the perceived severity of these consequences (i.e., evaluations of gravity of the consequences for a respondent). For a thorough discussion of the measurement of perceived severity see Erickson and Gibbs (1979), Grasmick and Bryjak (1980), and Paternoster and Iovanni (1986).

and underlying theoretical assumptions. For example, do individuals really have a well formulated and relatively elaborate set of ideas about the sanctions associated with specific types of crime? Does this set of ideas remain fixed over time and across situations? Do individuals truly work through this set of ideas if and when they contemplate crime? Even if we assume that “real life” responses to situations become routinized so that lengthy contemplation is not required, as Tittle (1980: 34) suggests, is it safe to assume that once routinized, individuals can readily articulate to an interested researcher the underlying rationale of these responses?

These questions are troublesome because respondents are asked to perform a novel task—making fine distinctions about the potential consequences of committing criminal acts. This task, moreover, is usually performed within the context of a contrived research setting rather than a “real life” situation. With rare exceptions (e.g., Sherman and Berk, 1984), field experiments on deterrence have not been done, and there is a need for more research along this line that incorporates the collection of perceptual data as part of the research design. Clearly, asking individuals randomly assigned to a more severe punishment category why they subsequently curtailed criminal activity could provide meaningful insights into questions such as whether they feared future repunishment (specific deterrence) or whether the punishment experience transformed the meaning of the act from acceptable to unacceptable or criminal behavior (moral education).

Other methodological strategies should also be explored in an effort to clarify the role of perception in the deterrence process. Case studies utilizing in-depth interviews of individuals involved in specific types of criminal activity could be highly informative. Such work could provide insights into the ways perceptions of sanctions are formed and incorporated in the decision-making processes that lead to behavioral outcomes. Lempert’s (1982) work on the context of enforcement suggests one possible starting point. Organizational factors (e.g., size of enforcement staff, reactive or proactive enforcement philosophy, and agency concern with enforcement) have an impact on the perception of the “enforcement climate” among potential offenders. The transformation of these organizational factors into risk perception may occur through informants (for example, divorce counsel may communicate child support sanctioning probabilities to clients) or by knowledge of others who have been sanctioned (*ibid.*). How extensively this information is disseminated among potential offenders is partly a function of

networks of interpersonal contacts, as illustrated by research on drug dealers (Ekland-Olsen *et al.*, 1984). In other words, organizational variables of enforcement (i.e., Lempert's enforcement climate) can shape risk perceptions as relevant information is processed through the networks of contact described by Ekland-Olsen *et al.* (1984). Research on this process could show how perceptions of sanctions are formed and how they in turn influence behavioral decisions.

Nonetheless, survey research will continue to be the main method of investigating the perceptual aspects of general deterrence. The challenge is to design measures that will neither artificially create nor mask dimensions of the deterrence process in operation. The goal is to gain an increasingly reliable and accurately specified picture of how that process works. Survey research may never yield truly definitive conclusions, but it can at least reduce the number of interpretations offered for reported findings. We believe that this can be achieved through a continuation of multiwave panel research designs in which individuals are asked to respond to questions that distinguish between the perceived costs of engaging in crime and of being caught (or, more generally, experiencing sanctions of some type).

#### IV. CONCLUSION

Deterrence theory has been confined to the crime preventive consequences that directly result from the fear of legal sanctions. It is now time to explore the value of expansion beyond this boundary. We are not alone in making this suggestion. It has been implied, for example, in statements like the following:

From a sociological viewpoint, the concept of deterrence is unduly restricted for sanction-behavior relationships because it deals only with legal sanctions and illegal conduct. There is no theoretical reason why the notion of deterrence cannot be extended to other types of sanctions and other types of conduct, but the research literature has generally ignored them (Meier *et al.*, 1984: 68).

We have offered a reconceptualization of general deterrence so that an expansion might occur, with the emphasis being on the identification of the direct (i.e., fear) and indirect consequences (i.e., stigma, attachment, and commitment costs) of legal sanctions that promote deterrence.

If, as we have illustrated, deterrence is seen as a process, then the broadening of general deterrence notions may be feasible and beneficial for the following reasons. First, the basic



element of deterrence—fear—is a phenomenon that extends beyond the intrinsic elements of legal sanctions. Just as one may fear the deprivation caused by prison, so might a potential wife abuser fear the emotional devastation created by the condemnation of others if he is arrested.

Second, as implied by the above statement by Meier *et al.*, it is arbitrary to limit the notion of general deterrence strictly to the direct fear of legal sanctions (i.e., their intrinsic elements) unless a plausible and compelling theoretical argument can be offered as to why this should be done. To our knowledge, no explicit argument about this matter exists in the literature. We are not suggesting that such a theoretical argument cannot be formulated. Thus far, however, tradition, dating back to the legal doctrines of Bentham and Beccaria, has determined the prevailing interpretations of the impact of legal sanctions. This restricted usage of the concept may stifle the advancement of deterrence theory in important new directions.

We are not proposing that everything that reduces crime through sanction threats should be counted as general deterrence. We feel, however, that there is much room for expansion between the narrow conception of general deterrence critiqued in this paper and the largely noncognitive process of punishment described by the operant psychologist. Specifying the perceptual linkages that distinguish deterrence and other perceptually mediated but nondeterrent preventive consequences of sanctions is but a first step in a larger agenda that may permit growth in both research and policy domains.

We have offered some suggestions about new directions that survey research might take, including the development of measures of the perceived costs of criminal involvement versus the perceived costs of sanctioning experiences. We have argued that research on general deterrence should be extended to nationally representative samples of adults and that the issues of temporal lag should be empirically addressed. This, of course, would require the continued use of multiwave panel designs. In any case, the suggestions express our hope that further research along these lines will provide greater clarity in understanding the nature of the relationships between sanctions and crime.

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