The Rationality of Sexual Offending: Testing a Deterrence/Rational Choice Conception of Sexual Assault

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Using a combination of hypothetical scenarios and survey-type questions, this study investigates the effect of the context of the offense, formal sanctions, informal sanctions, and moral beliefs on self-reported projections to commit sexual assault. Male college students read and responded to five scenarios each describing a hypothetical sexual assault by a male. Respondents were asked to estimate the certainty of formal and informal punishment for the scenario male, the extent to which they believed the male's actions were morally wrong, and the likelihood that they would do what the male did under the same circumstances. We found that projections to commit sexual assault were affected by two circumstances of the incident, the likelihood that the male would be formally sanctioned (dismissed from the university or arrested) and the respondent's moral beliefs. The significant deterrent effect observed for formal sanction threats was not invariant, however. The fear of formal sanctions had no effect when respondents were inhibited by their moral evaluation of the incident. The deterrent effect of formal sanction threats did not vary by the level of social censure for the scenario male's actions. The implications of these finding for previous and subsequent deterrence research are discussed.

Τhe issue of deterring rape and other sexual assaults is a particularly important one because sexual offenses are both brutalizing and common events for women in our society (Brownmiller 1976; Walker & Brodsky 1976; Estrich 1987). In 1989, the Uniform Crime Reports documented that there were some 94,504 forcible rapes in the United States, a rate of 38.1 per 100,000 (U.S. Department of Justice 1990). Because of a substantial underreporting of sexual offenses by victims, however, the actual occurrence of sexual assault is probably much

higher than this. For example, the National Crime Survey has estimated that there were 135,410 attempted or completed rapes in the United States in 1989, a rate of 70 per 100,000 persons 12 years old and older (U.S. Department of Justice 1991).

Even this may be a substantial underestimate of the number of women sexually assaulted each year and may obscure the fact that some subgroups of women may be singularly vulnerable to sexual assault. College women in particular may face a high risk of being sexually assaulted, not so much by strangers as in a stereotypical rape but by an acquaintance. Early surveys of college females found high incidence rates of sexual assault, with college males the most frequent offender (Kanin 1957, 1967; Kirkpatrick & Kanin 1957; Kanin & Parcell 1977). More recent survey research with college women corroborates these findings, reporting that about one out of every four university women has been the victim of a sexual assault (Koss, Gidycz, & Wisniewski 1987; Lott, Reilly, & Howard 1982; Muehlenhard & Linton 1987; Warshaw & Koss 1988; Ward et al. 1991; Sanday 1990). The perpetrators of these assaults are, more often than not, college males known to the victim.

The problem of sexual assault on college campuses, while not new, has taken on added importance in recent years. The rape/murder of a Lehigh University student provided the impetus for the Pennsylvania State Legislature to enact a law requiring state colleges and universities to publicize information about crime on campus. Subsequent to this, the U.S. Congress passed Public Law 101-542 which requires colleges throughout the United States to do the same.[1]

Although sexual assault is a relatively common event for women, their attackers are often portrayed as somewhat atypical. In both the scholarly and lay literature, sexual offenders are often depicted as either biologically or psychologically driven to commit their acts. A great deal of the psychoanalytic and psychological literature, for example, views sexual offenders as being compelled by an extreme loathing of women who use rape in an attempt to restore and express their masculinity or who have experienced some childhood trauma at the hands of a female (Groth 1979; Groth, Burgess, & Holmstrom 1977; Rada 1978).[2] Biologists and sociobiologists have devised theories of rape which attribute it to maladaptive evolution or medical

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[1] We would like to thank one of the reviewers for bringing this legislation to our attention.

[2] Groth et al. (1977:1243), for example, characterize the rapist as aberrational and pathological rather than typical and rational: "Rape is more than an illegal act and more than an extreme of cultural role behavior. From a clinical point of view, it is important that rape be defined as a sexual deviation and that the pathology of the offender be recognized." In Richard Rada's (1978:38) characterization of rapists, what needs to be understood is their past rather than present: "The literature suggests that

pathologies such as Klinefelter's Syndrome (Thornhill, Thornhill, & Dizinno 1986; Berlin 1983). Even some sociological theories of rape, while noting that sexual assault is an intentional act, anchor the offender's motivation in an almost blind obedience to subcultural beliefs rather than deliberate considerations of utility. Amir (1971:330), for example, claims that the motivation to rape is part of the "subculture of violence" characteristic of lower-class and minority communities. While receiving subcultural support, rape is presumed to be due to the troubled sexual identities of black males reared in predominately female families.[3]

Those who commit sexual assault are, therefore, often characterized as motivated more by sexual urges or aggressive drives than by a deliberate and rational calculation of consequences. Not all the literature characterizes sexual offenders in this deterministic light, however. Feminist scholars, while not generally focusing on the motivation of individual offenders, have repeatedly asserted that the institution of rape is the rational and deliberate byproduct of male domination (Bourque 1989; Brownmiller 1976; Medea & Thompson 1974; Schur 1984; Schwendinger & Schwendinger 1983; Estrich 1987; Smart 1989). As exemplified in the following description by Brownmiller (1976:191–92), this conception presumes a far more rational and hedonistic sexual offender:

> [T]he typical American rapist is no weirdo, psycho schizophrenic beset by timidity, sexual deprivation, and a domineering wife or mother. Although the psycho rapist, whatever his family background, certainly does exist, just as the psycho murderer certainly does exist, he is the exception and not the rule. The typical American perpetrator of forcible rape is little more than an aggressive, hostile youth who *chooses* to do violence to women. (Emphasis added)

We adopt a similar view of those who would commit sexual assault. Rather than compelled and driven by biological, psychological, or sexual forces, we suggest that the inclination to commit a sexual offense is willful and therefore subject to a rational calculation of utilities and disutilities.

In addition to the landmark work of feminist scholars, the image of sexual assault advanced here is influenced by both deterrence theory and the rational choice perspective. Deterrence theory would predict that, much like other offenses, the motivation to commit sexual assault is affected by the perceived costs

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parental rejection, domination, cruelty, and sexual seduction or over stimulation are important factors in the early life experiences of the rapist."

[3] Amir (1971:330) stated: "The Negro male's aggressive sexuality seems to be more problematical due to the strong need to overcome problems of masculinity and sexual identity. This is so because of the Negro family structure (mother-based family) and the need to overcome general social disadvantages, by substituting sexual aggressive masculinity for failures as a man in the economic and social status spheres."

of the crime. Such costs would include the certainty and sever-
ity of formal sanctions (Andenaes 1974; Gibbs 1975; Zimring &
Hawkins 1973). More specifically, what influences the decision
to commit an offense is the individual's perception of possible
legal consequences.

Like the deterrence doctrine, rational choice theory is a
utility-based conception of criminal offending (Clarke & Cor-
nish 1985).[4] Rational choice theorists have suggested that
would-be offenders are influenced by such costs and benefits of
their actions as the anticipated financial reward of the crime
and the likelihood of social censure. In addition to the immedi-
ate rewards and penalties of the crime, offenders are also
thought to be influenced by characteristics of the criminal
event itself, such as the location of the offense and the possible
response of the victim (Cornish & Clarke 1986, 1987). The spe-
cific circumstances of a criminal event may affect the likelihood
of offending through various means, including influencing
would-be offenders' assessment of the risks involved (Clarke &
Cornish 1985).

Utility-based theories of human behavior such as deter-
rence and rational choice theory may not by themselves offer a
complete theoretical understanding of the decisionmaking pro-
cess undertaken by would-be offenders. One of the criticisms
leveled against these approaches is that they fail to consider the
role of persons' moral positions and beliefs (Etzioni 1988). The
behavioral theory from this more normative view is that per-
sons may refrain from offending not only because they fear the
consequences of their action but because they believe the act to
be morally wrong. Moral evaluations of conduct may also con-
dition the effect of utilitarian factors. For example, some indi-
viduals may be so effectively restrained by moral inhibitions
that instrumental considerations are irrelevant. Other, less
morally inhibited individuals, however, may need the restraint
provided by sanction threats. These theoretical expectations
are supported by previous empirical research which has
demonstrated that, in addition to and independent of formal
and informal sanctions, moral inhibitions are an important
source of social control (Grasmick & Green 1980, 1981; Pater-
noster 1987). In view of this, we will supplement our deter-
rence/rational choice model by including a consideration of
persons' moral evaluations of sexual assault. It should be clear
that we do not view moral commitments as a type of cost, but

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[4] There are many different "versions" of a rational choice perspective of criminal
offending (see the articles in Cornish & Clarke 1986). Our working assumption is that
while persons may contemplate the costs and rewards of offending, and are influenced
by such considerations, they do not necessarily maximize their expected utility. Limita-
tions of information collection, storing, and processing make persons in our view more
minimally than optimally rational (Cherniak 1986).

we do feel that behavior may be guided and influenced by noninstrumental, normative factors.

While deterrence and the rational choice perspectives are certainly not novel approaches to the study of criminal behavior, we are extending this theoretical model to an offense that has generally not been considered easily deterred. Our assumption is that the commission of a sexual assault is the product of a calculated decision. The factors that influence this decision include would-be offenders' assessment of the likelihood of legal consequences, anticipated informal costs, the immediate context of the sexual assault, and the perceived morality of the behavior. In suggesting that sexual assault may be deterrable, we are extending the work of those who have examined the social control of spouse assault (Williams & Hawkins 1989) and violence in dating relationships (Miller & Simpson 1991). The extent to which sexual assault may be subject to conscious calculation is as yet unknown. While a voluminous literature exists concerning the utilitarian nature of instrumental and minor forms of offending,[5] little research to date has been directed at the rational nature of sexual assault, in spite of its theoretical and public policy importance.

Our specific purpose here is to examine those factors that may constrain persons from committing acts of sexual assault. Unlike previous deterrence research which has used either aggregate level data or individual surveys that ask for self-reported offending, the research reported here is based on responses to hypothetical scenarios. Respondents (male college students) read detailed descriptions of a situation involving a male and a female which culminated in the male forcing the female to have sexual intercourse. After reading the scenario, respondents were asked to estimate the probability that they would behave as the scenario male did under the same conditions. In addition, they were asked various questions about the act and the likely consequences of the male's actions (e.g., whether they thought the male's behavior was morally wrong, whether the victim would report the assault, whether the male would be arrested or dismissed from school). The focus of the analysis was to determine the relationship between contextual characteristics of the offense, various formal and informal sanction threats, moral inhibitions, and the estimated probability that the respondent would commit an act of sexual assault.

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[5] Most, though not all, deterrence research has been done on minor offending. Important exceptions include the work by Thurman (1989), Klepper & Nagin (1989a, 1989b), Grasmick & Scott (1982), and Tittle (1980), who examined the deterrence of tax cheating, a serious nonviolent offense. In addition, Tittle (1980) examined the possible deterrence of assault; Lanza-Kaduce (1988), of drunk driving; and Williams & Hawkins (1989), of spouse assault. Tests of the rational choice perspective have often been restricted to property offenses such as shoplifting, robbery, and auto theft (Cornish & Clarke 1986, 1987).

Previous Deterrence Research

In recent years, researchers have understood the deterrence process to be based on threat communication (Waldo & Chiricos 1972; Geerken & Gove 1975). That is, persons were assumed to be affected by their *perception* of the certainty and severity of sanction threats rather than by objective properties of punishment. After years of empirical work, it was noted that since deterrence theory hypothesizes an inverse relationship between perceptions of sanction threats and subsequent offending, empirical research should be conducted with panel data. Panel researchers have since tried to cabin the deterrence process by examining the relationship between estimates of perceptions at one point in time (T_1) and behavior occurring during a later period $(T_1 - T_t + 1)$ (for reviews of this literature, see Williams & Hawkins 1986; Paternoster 1987).

In recent years, however, critics have noted important limitations of panel-level perceptual deterrence research. Grasmick and Bursik (1990) have observed[6] that since deterrence theory suggests that would-be offenders are deterred, if at all, by the perceptions they have of sanction threats *at the time they are contemplating offending*, panel studies are not the optimal research strategy since they measure perceptions that are too far removed in time. More specifically, panel researchers may measure perceptions of punishment certainty and severity weeks or months before an offense is considered or committed. To capture the social psychological process of deterrence, they note, researchers must examine the *instantaneous* relationship between sanctions and offending. As a practical methodology, Grasmick and Bursik argue for the use of behavioral intentions as the dependent variable in deterrence research. That is, they suggest that deterrence hypotheses can be tested by examining the relationship between persons' current perceptions of sanction threats and their current estimates of the probability of offending.

Although interest in it has recently been revived, self-reported judgments of potential action (projected criminality) have previously been employed in perceptual deterrence research. It was used over ten years ago in Tittle's (1977, 1980) research and Grasmick's earlier work (Grasmick & Green 1980; Grasmick, Finley, & Glaser 1984).[7] In addition to Grasmick and

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[6] See also Piliavin et al. 1986:115–16; Williams & Hawkins 1986:555–57.

[7] Perhaps the first to use projected future behavior in a deterrence study was Erickson 1976; see also the work of Jensen & Stitt 1982. A projected estimate of committing an offense in the future has also been used in previous rape research. Tieger 1981, e.g., asked his male respondents to estimate the likelihood (on a 5-point scale) that they would commit a rape. Malamuth & Check 1983 used a nearly identical measure.

Bursik's (1990) recent use of self-reported projected criminality, it has been successfully used in several other recent studies (Murray & Erickson 1987; Klepper & Nagin 1989a, 1989b; Thurman 1989). In the current research on sexual assault, we will continue the strategy of using respondent's self-reported projection of the likelihood of offending.

A second criticism that has been leveled against perceptual deterrence studies applies to both panel and cross-sectional designs. While persons' perceptions of sanction threats and probability of committing a crime are clearly influenced by the numerous contextual circumstances surrounding an offense (e.g., the relationship between the victim and offender, the resistance offered by the victim, the location of the crime), researchers have not provided these important contextual elements when querying their respondents. Instead, they have asked very general questions about the risk of punishment that require respondents to imagine the circumstances under which they would commit (or would consider committing) an offense. Klepper and Nagin (1989b:724) have referred to this as the "artificiality" of the measurement process in perceptual deterrence research. Asking respondents to respond to a vague inquiry such as "how likely is it that you would be arrested for using marijuana" requires them to contrive the circumstances under which marijuana would be used. If the imagined circumstances on which their response is based are different from those existing at the time the offense is contemplated, the perceptions of risk may very well be measured with substantial error. Such measurement error is likely to attenuate and will certainly bias estimates of the relationship between perceptions and behavior.

In response to this problem, Klepper and Nagin (1989a, 1989b) have argued for the use of offending scenarios in deterrence research. In these scenarios, respondents are provided with important contextual information that describes a hypothetical criminal offense. For example, Klepper and Nagin presented respondents with offending scenarios involving tax noncompliance and systematically varied conditions likely to affect perceptions of the certainty and severity of punishment and the rewards of noncompliance. Thus, respondents were contemplating the risks and rewards of offending within a specific context. Thurman (1989) also employed a similar approach with a factorial survey strategy in his recent study of tax noncompliance.

Although a few deterrence researchers have recently employed offending scenarios with great success, Grasmick and Bursik (1990:844) have noted a possible limitation of this approach: "[W]ith [scenario] methods, variables such as moral commitments, attachments to significant others, etc., are more

difficult to incorporate. While it might be possible to experimentally manipulate some of these variables and measure others in these designs, researchers generally have failed to do so.'' Their point is that important variables, such as moral beliefs and informal sanctions, found in previous research to be related to persons' probability of offending may be difficult to include as explicit scenario conditions. As a result, previous scenario researchers have generally not attempted to measure them with survey questions. The importance of this omission is that the social control process, and the role of perceived sanction threats in that process, cannot be adequately understood until these other factors are also considered.

The methodology employed in the research reported on here is designed to address this potential limitation by combining hypothetical scenarios with traditional survey techniques. Our strategy both draws from and extends the work of others before us. Like Tittle (1980) and Grasmick (Grasmick & Green 1980; Grasmick et al. 1984; Grasmick & Bursik 1990), we have employed self-reports of projected criminal behavior as the outcome variable. Drawing on the successful experiences of Klepper and Nagin (1989a, 1989b), we have used contextually specific offending scenarios to measure important characteristics of the criminal event. In addition, we have extended this previous work by having subjects respond to a series of survey-type questions designed to elicit information about their moral beliefs and perceptions of informal controls.

More specifically, respondents in our research read and responded to five scenarios, each involving a sexual assault. Several specific conditions of the described sexual assault were deliberately manipulated. In response to each scenario, respondents were asked a battery of questions intended to measure their perceptions of the risk of formal and several types of informal social sanctions, their moral evaluation of the act described in the scenario, and the estimated probability that they would behave as the scenario male did under the same set of described circumstances. In this way, we were able to estimate the relative and instantaneous effect of formal and informal sanction threats, scenario conditions, and persons' moral beliefs on the likelihood that they would commit sexual assault.

Methods

Sample

Since we were interested in those factors that may constrain would-be offenders from committing an act of sexual assault, we restricted the study to males only because females are unlikely to commit sexual assault. Females' contemplation of the

offense after reading the scenarios would, therefore, be highly contrived. We further limited the sample to male college students. Although some have criticized perceptual deterrence research for its reliance on convenience samples of student populations (Jensen, Erickson, & Gibbs 1978; Williams & Hawkins 1986), we believe that there are important substantive advantages of a college sample for this particular research. Since male college students are actively involved in social relationships with women, we expected them to be at particular risk of committing sexual offenses. As noted earlier, previous research suggests that sexual assault is not an uncommon event among college students, with estimated prevalence rates around 20%. The use of a college sample, therefore, allows us to study a particularly important and widespread social problem—sexual assault on a college campus. Because of their active involvement in dating relationships that involve sexual behavior, we also believed that it would be a meaningful task for male college students to read and respond to scenarios that portray a sexual assault. The scenario descriptions would not, therefore, involve a contrived or artificial situation. Because of the particular salience of the behavior, we anticipated accurate and substantively interesting data. In sum, we believe that any loss of generalizability from a college sample is more than offset by strategic, substantive advantages.

The respondents in this study consisted of 94 male undergraduate students enrolled in introductory social science courses at a state university in New England. The students were given extra credit for their participation in the study, and were administered the data collection instrument during nonclass hours. The mean age of the respondents was 19.1 years with a range from 17 to 38. Of the sample about 75% were freshman, 13% sophomores, 5% juniors, and 6% seniors.

The Scenarios

Under an adaptation of the factorial survey methodology developed by Rossi and Anderson (1982), each male student was given a packet of five scenarios to respond to. Our methodology differs from that first used by Rossi and Anderson in one important respect. In their vignettes they explicitly specified the probability of sanction. In our research, which is similar to Klepper and Nagin's (1989a, 1989b), we specified the circumstances of the offense and asked respondents to assign their own risk perceptions given the stipulated circumstances. We chose not to experimentally manipulate the levels of perceived certainty because we did not wish to give respondents values which they may have thought unnaturally high or low. Instead, like Klepper and Nagin, we queried respondents about per-

ceived risks under the very specific conditions described in the scenario. In this way, our approach is also similar to traditional deterrence researchers who have used questionnaire items to ask respondents to estimate the perceived likelihood of sanctions for some given behavior. Our strategy simply provides a more specific context for that query.

The content of each scenario was computer generated from a file containing six different situational and behavioral dimensions considered potentially relevant to the commission of a sexual assault: (1) victim's situation prior to the assault, (2) victim/offender relationship, (3) victim's initial response, (4) offender's action, (5) victim's reaction, and (6) outcome for the victim. Appendix A lists the different elements under each of the dimensions. These six dimensions were selected because previous research and theory has suggested that such factors affect a person's likelihood of committing sexual assault and his estimate of the possible consequences of such action (Bourque 1989; Tieger 1981; Koss et al. 1987; Malamuth 1981; Malamuth, Haber, & Feshbach 1980; Ward et al. 1991; Warshaw & Koss 1988). The computer program selected one element out of each of the six dimensions for inclusion into a particular scenario. Items from each dimension were sampled independently of every other dimension.[8] Thus, each scenario represented one combination of variations from the six dimensions under study. One example of a complete scenario developed from this sampling procedure follows:

> Lori is a 20-year-old female. When returning to her apartment from a party, she was approached by Tom, a 22-year-old male who Lori had been dating for six months. He accompanied her home. After Tom was inside the apartment, he told her that he wanted to have sex with her. She said no and told him to leave but he didn't. Tom ignored her. Lori allowed Tom to start kissing her. She later said no again but Tom continued and had sexual intercourse with her anyway. Tom then left.

After reading each scenario, respondents were asked a series of questions regarding the described incident, including their estimate of the likelihood that the female would report the incident, that the male would be dismissed from school or arrested, and the likelihood that his action would be disapproved of by his friends, relatives or himself if he were arrested. In addition, respondents were asked to indicate the likelihood that they would do what the scenario male did under the same circumstances. A more detailed description of these ques-

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8 The scenario elements selected from the computer program were not completely random since certain outcomes would have been illogical (such as the victim receiving cuts and bruises from the offender when no physical force was used). Illogical combinations of elements were made impossible to occur.

tions is presented in the following sections and in Appendix B. As is the case with factorial survey designs (Rossi & Anderson 1982), the unit of analysis in this study is the person-scenario and not the individual respondent. There were a total of 470 observations (five scenarios for each of 94 male respondents). After missing data were deleted, the number of observations was reduced to 464.

Endogenous Variable—Projected Criminality

Similar to a few deterrence studies (Tittle 1977, 1980; Grasmick & Green 1980; Grasmick et al. 1984; Grasmick & Bursik 1990; Klepper & Nagin 1989a, 1989b; Thurman 1989), the outcome variable in this research is not the respondents' actual behavior but their self-reported estimate of the probability that they would commit an offense in the future.[9] After reading each

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[9] A number of questions may arise with respect to the use of self-reported likelihood of offending in the future. First, it should be clear that we are measuring an estimated judgment or projection to offend, not actual behavior, and that the correspondence between such projections and actual behavior may be problematic (see the review of the literature in Fishbein & Ajzen 1975). However, the following should be noted in defense of our use of self-reported projected criminal behavior, more specifically, sexual assault:

- Self-reported intention to commit sexual assault has been successfully used in other studies (Tieger 1981; Malamuth & Check 1983). Malamuth & Check 1893 have found that these projections of behavior have predictive validity in that they are correlated with other indicators of sexual aggression (see also Malamuth 1981; Tieger 1981; Malamuth et al. 1980).
- Fishbein and Ajzen 1975:368–81 have, after their extensive research with behavioral intentions, concluded that the correlation between an intention to act and actual behavior is enhanced when the intention to offend is under specific conditions, when the expressed intention is stable, and when the individual can willfully carry out the intention. The strategy employed here enables us to maximize the correspondence between intention and action. Projected behavior is measured under very specific conditions. Given the specificity of the scenarios and the fact that they involve situations which are not foreign to our respondents, there is no reason to suspect instability in the expressed intentions. In addition, the behavior in question is under the general volitional control of the respondents and many impediments to behavior (the context of the offense, moral inhibitions, formal and informal sanction threats, possible loss of self-respect) have been measured and will be controlled.
- Self-reported projections of behavior have been shown to be correlated with self-reported prior behavior, and the correlations between projections of behavior and key social control variables are comparable to those when prior behavior is used (Tittle 1980; Grasmick & Green 1980; Erickson 1976; Murray & Erickson 1987).
- Self-reported projections of behavior are moderately correlated with subsequent behavior (Murray & Erickson 1987).
- Cognitive psychologists interests in risk judgment have made extensive use of projected behavior (Kahneman, Slovic, & Tversky 1982; Nisbett & Ross 1980). In fact, a great deal of the research by those interested in decisionmaking under uncertainty has involved the use of behavior intentions (see generally the articles in the *Journal of Risk and Uncertainty*).
- An analysis of the data suggests that our respondents were candid and sincere in reviewing the scenarios. Most respondents (52%) did, in fact, report that for all five scenarios they could never do what the scenario male did—which was in fact to sexually assault a woman. Moreover, none of the respondents reported nonzero probabilities for all five scenarios. This suggests that the students not only answered candidly, but seriously considered each scenario.

scenario, respondents were asked to estimate the likelihood that they would behave as the male did under the same set of circumstances. More specifically, the respondents were asked, "What would be the likelihood that you would do what Tom [the scenario male] did under these circumstances?" Possible response options ranged on an 11-point continuum anchored at 0 ("no likelihood at all") to 10 ("definitely would").

Responses to the prospective behavior question were dichotomized into a binary variable coded 0 for no probability of doing what the scenario male did and 1 for those with a nonzero probability. The dichotomization was necessary because the distribution of this variable was somewhat skewed. Although respondents reported a nonzero probability of committing a sexual assault in a considerable proportion of the judgments (17%), there was little variation above the nonzero level.[10]

This dichotomized outcome variable can be justified on theoretical grounds. The categorization of the probability of committing sexual assault into "would never do it" and "would have some probability of doing it" will allow us to examine the process of absolute deterrence (Gibbs 1975). Absolute deterrence refers to the case where persons completely refrain from committing an offense because of the fear of sanction threats and only requires the separation of nonparticipants (zero probability) from participants (nonzero probability). Measuring our endogenous variable in this way allows us to estimate the effect of sanction threats and other variables on the probability or likelihood of a sexual assault.

Exogenous Variables

One focus of this research was to determine the extent to which the projected likelihood of committing sexual assault was related to respondents' perceptions of the certainty of formal and informal sanctions. Two sources of formal sanctions were measured (see Appendix B). One of these was a measure of the perceived likelihood of being dismissed from the university for committing sexual assault. The second was a measure of the perceived chance of being arrested. Both of these are considered as formal costs since each concerns punishment by duly constituted authority. The perceived certainty of each was measured by asking respondents to estimate on an 11-point scale from 0 ("no likelihood at all") to 10 ("definitely would happen") the likelihood that the male described in the scenario would be dismissed from the university or arrested. The corre-

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[10] The actual distribution of the estimated probability of offending on the 11-point continuum was as follows (frequency in parentheses): 0 (387), 1 (37), 2 (10), 3 (11), 4 (9), 5 (5), 6 (0), 7 (1), 8 (1), 9 (0), 10 (5).

lation between these two sources of formal sanction risk was very high (Pearson $r = .95$), making it impossible to disentangle their effects. For this reason, a composite scale of *perceived risk of formal sanction* was created by summing responses to the two items.[11] This variable indicates the degree to which respondents think that the male described in the scenario would be formally sanctioned, either by the university or the legal system, for his action. Higher scores on this scale correspond to a greater risk of formal punishment.

In addition to the perceived risk of formal sanction, the perceived risk of two kinds of informal costs were directly measured. One of these was a measure of *social censure* or disapproval by significant others. This is what Grasmick and Bursik (1990) have recently referred to as "embarrassment." Respondents were asked to estimate on an 11-point scale the likelihood that the scenario male's friends or relatives would disapprove or lose respect for him if he did get arrested for the incident. The second measure of informal sanctions was a self-imposed punishment based on a *loss of self-respect*, what Grasmick and Bursik (1990) have recently referred to as "shame." Respondents were asked to estimate on an 11-point scale the likelihood that the scenario male would lose respect for himself if he were arrested for the offense. For both variables the response options ranged from "no likelihood at all" (0) to "definitely would happen" (10). Higher scores on these two items correspond to a greater certainty of informal sanctions. Although these are perceived informal costs of offending, the question asked respondents to estimate the likelihood of these costs arising if the scenario male *were arrested.* Since the perception of possible informal costs is made contingent on a formal sanction (arrest), any inhibition should be attributed to a deterrent effect (Williams & Hawkins 1986).

Finally, respondents' were asked about their *moral beliefs* regarding the sexual assault described in each scenario. After reading each scenario, respondents were asked, "How morally wrong is this incident?" The provided response options ranged

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[11]   Our intention in this article was not to examine the independent role of formal *legal* sanctions specifically but to examine the importance of formal and informal kinds of threats. Unfortunately, the very high multicollinearity that we have here is really a disease without a cure. We could have conducted independent examinations of university and legal punishment, and we did so. The multivariate analysis was done including university punishment and legal punishment separately, and the results were identical (as would be the case with a correlation of .95 between the variables, since the analyses are virtually redundant). Thus, we could only conclude from our analysis that one or both of these punishments has a significant deterrent effect, although we could not tell which. It was interesting to find, however, that, at least in the eyes of these males, the consequence of being dismissed from the university was essentially identical to that perceived for an arrest.

on an 11-point scale from "Not Wrong" (0) to "Very Wrong" (10).[12]

Scenario Conditions

The rational choice perspective would suggest that offending decisions are affected by situational characteristics of the criminal event (Clarke & Cornish 1985; Cornish & Clarke 1986, 1987). Drawing on this, explicitly manipulated scenario conditions describing the sexual assault served as explanatory factors, in addition to the above-mentioned exogenous variables derived from questionnaire items. As discussed previously, there were six scenario conditions or dimensions: (1) the situation, (2) the relationship between the victim and offender, (3) the victim's initial response, (4) the offender's response, (5) the victim's second response, and (6) the harm visited on the victim, with several levels under each dimension (see Appendix A). These scenario conditions reflect what Cornish and Clarke (1987:935) have referred to as the "choice-structuring properties" of an offense. These properties are those specific characteristics of a crime that affect a would-be offender's cost/benefit analysis.

Based on previous research findings (Bachman & Ward 1990; Bourque 1989) and preliminary analyses with these data, we binary-coded the levels of each of these dimensions.[13] In each case, the response coded 1 was hypothesized to be inversely related to the respondents' estimates of formal and informal sanction threats and their moral beliefs and positively related to their self-reported projection of committing sexual assault. For example, the dimension labeled "victim's second response" was coded 0 if the victim was too frightened to protest or had started screaming and crying or started fighting

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[12] The distribution of this variable was skewed (mean = 9.206; standard deviation = 1.695), with a large proportion of the respondents falling in the upper end (high moral beliefs). The moral beliefs item was analyzed both as a continuous and as a dichotomous variable (with several different cutoff points) with little substantive difference in the results. For example, when moral beliefs was made a dichotomous variable, where scores from 0 to 9 were recoded to 0 and scores of 10 recoded to 1, the T-ratio for the logistic regression coefficient was -5.814; this compares to a T-ratio of -5.784 when left as a continuous variable (see Table 1).

[13] The dichotomized dimensions were recoded as follows:
DIMENSION I—shopping = 0, returning from a party, returning from a party with too much to drink = 1
DIMENSION II—acquaintance, stranger = 0, dating = 1
DIMENSION III—she said no and tried to push him out = 0, she said no and told him to leave, she told him to leave = 1
DIMENSION IV—Tom threatened to beat her, Tom threatened to cut her, Tom beat her, Tom cut her = 0, Tom ignored her, Tom argued and tried to persuade her = 1
DIMENSION V—Lori was too frightened to protest, Lori started screaming and crying, Lori started fighting back = 0; Lori allowed Tom to kiss her, Lori allowed Tom to kiss and fondle her = 1
DIMENSION VI—Lori was bruised, Lori had cuts and bruises, Lori required psychological counseling = 0; Tom then left = 1

Table 1. Maximum Likelihood Logit Estimates Predicting Self-reported Projection of Committing Sexual Assault

	Coefficient	Std. Error	t
Female returning from party/drinking	1.020	.400	2.550
Male used no physical force or threat of physical force	.524	.613	.856
Male did not injure female	−.334	.947	−.352
Female permitted male to kiss/fondle her	1.107	.402	2.750
Couple had been dating	−.334	.331	−1.010
Female offered no physical resistance	.301	.375	.801
Loss of self-respect	.032	.074	.426
Social censure	.017	.082	.210
Perceived risk of formal sanctions	−.113	.035	−3.204
Moral beliefs	−.564	.097	−5.784
Constant	2.847	1.265	
Likelihood ratio $\chi^2 = 149.57$, 10 d.f.			

back, and coded 1 if she had allowed the male to kiss her or kiss and fondle her. We presumed that those scenarios in which the female had permitted the male to kiss and fondle her would be perceived by our respondents as less morally repugnant, less likely to result in formal or informal sanctions, and that respondents would be more likely to project that they would behave as the scenario male did.

Findings

Deterring Sexual Assault

Table 1 reports the results of a logistic regression analysis in which the outcome variable is the respondent's self-reported likelihood of committing sexual assault under the conditions described in each scenario. Exogenous variables include the six scenario conditions, and the measures of perceived risk of formal sanction, social censure, loss of self-respect, and moral beliefs.

The logit results indicate that, consistent with deterrence theory, perceived risk of formal sanction had a significant restraining effect on projected sexual assault ($b = −.113, p < .01$). The more certain respondents were that the scenario male would be dismissed from school or arrested, the less likely they were to report that they would commit sexual assault under the same set of hypothetical conditions. Our finding of a significant deterrent effect for formal sanctions is contrary to much of the panel deterrence literature, although it is consistent with the recent findings of Klepper and Nagin (1989a, 1989b) and Grasmick and Bursik (1990). No deterrent effect was found for social censure or loss of self-respect. The logit coefficient for

both of these variables was positive, contrary to expectations, but neither was significantly different from 0. In projecting the probability that they would commit sexual assault under hypothetical conditions, these males did not seem to be affected by the reactions of friends and relatives or by any sense of shame or diminished self-respect.[14]

In addition to the threat of formal sanctions, however, these males were effectively inhibited by their moral evaluation of the act. When respondents thought that the male's behavior in the scenario was morally offensive, they were significantly less likely to report that they would behave similarly compared to those scenarios where they perceived the male's behavior as less morally wrong ($b = -1.978$, $p < .001$). In addition to the fear of being dismissed from school or being arrested, then, these males were affected by moral considerations.[15]

The logit model also revealed that self-reported projections to commit sexual assault were directly affected by two of the scenario conditions. Respondents reported that they would be more likely to commit sexual assault when the victim was described as returning from a party or returning from a party where she had been drinking than if she were returning from shopping ($b = 1.020$, $p < .01$). Self-reported projections of committing sexual assault were also more likely if the scenario fe-

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[14] Our finding that social censure (a form of informal sanction) is unrelated to self-reported offending is contrary to much of the previous deterrence literature. Our null finding regarding the effect of a perceived loss of self-respect is also inconsistent with Grasmick and Bursik's (1990) recent study, which reported a significant relationship between their measure of shame and intentions to offend. Our failure to find a deterrent effect for social censure and loss of self-respect is not to due multicollinearity. Social censure and loss of self-respect were related to the other exogenous variables, but the correlations were all moderate (less than .40). Our exogenous variables, then, were conceptually and empirically independent.

The difference between our findings and those from other research may reflect measurement differences between the studies. First, unlike most previous measures of informal sanction threats, our operationalization of social censure and loss of self-respect reflect the risk of sanction *contingent on arrest*. Second, our measure of social censure and loss of self-respect reflects respondents' perception that the *scenario male* would have his conduct disapproved of by others or himself. It *does not* reflect respondents' perceptions of *their own* fate as have these other deterrence studies. Previous deterrence research has suggested that deterrent effects are more likely when self-referenced measures of sanction threats are employed. Our findings indicate only that males' intentions to commit sexual assault are not affected by their estimate of what would happen to the scenario male if he were arrested. It would, therefore, be premature to conclude from our reported results that there is no deterrent effect for social censure or a loss of self-respect.

[15] Projection to commit sexual assault was also analyzed as a continuous variable. It will be remembered, however, that this variable was skewed (see note 12). In about 83% of the scenarios respondents reported a zero probability of committing a sexual assault. Because of this, we estimated the model with a censored dependent variable regression model—tobit regression. The substantive results of the tobit regression were identical to that reported in Table 1. Projections to commit sexual assault were significantly affected by two scenario conditions (returning from a party and if the female allowed the male to kiss/fondle her), the risk of formal legal sanctions, and moral beliefs. The significance levels in the tobit model were the same as those in the logit model reported in Table 1.

male allowed the male to kiss and/or fondle her than if she resisted ($b = 1.107$, $p < .01$). None of the other manipulated scenario conditions was directly related to self-reported projections of committing sexual assault.

To confirm these findings, we utilized a second estimation strategy. Since each of our male subjects responded to five scenarios, the observations (scenario responses) are not independent events. The problem is that even with controls for individual characteristics elicited with the survey questions, unobserved individual differences (fixed individual effects) will undoubtedly remain. As an alternative estimation strategy we analyzed the data using a "random effects" probit model (Maddala 1987; Nagin & Paternoster 1991a). This model allows the estimation of all structural effects shown in Table 1 and partitions the disturbance term into two components. One of these components is a standard error term that is assumed to be independently and normally distributed both across persons and scenarios. The second measures an individual specific effect that does not vary across scenarios. This term captures unmeasured fixed individual effects commonly affecting the response of each person to the five scenarios.[16]

The results of the random effects probit model concur with the logit results reported in Table 1 and discussed above. Not surprisingly, this analysis revealed that unmeasured fixed individual effects significantly affected responses to the scenarios. Even when this fixed individual effect was controlled, however, self-reported projections to commit sexual assault were significantly related to the same set of variables as found in the logit analysis reported in Table 1. Projected intentions to offend

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[16]   The structure of the model is as follows:

$$y_{ij}{}^* = z_i\gamma + w_j\alpha + x_{ij}\theta + \epsilon_{ij}, \tag{1a}$$
$$\epsilon_{ij} = \tau_i + v_{ij}, \tag{1b}$$
$$y_{ij} = y_{ij}{}^* \text{ if } y_{ij}{}^* > 0, \tag{1c}$$
$$y_{ij} = 0 \text{ if } y_{ij}{}^* \leqq 0, \tag{1d}$$

where the index i denotes the ith individual in the sample, the index j denotes the jth scenario, $y_{ij}{}^*$ is a latent variable, z_i is a vector measuring characteristics of i which are invariant across j (e.g., religion), w_j is a vector measuring characteristics of j which are invariant across i (e.g., the scenario specifies that the women physically resists), x_{ij} is a vector of variables which vary across i and j (e.g., i's perception of the probability of arrest in j), θ, α, and γ are parameters to be estimated and y_{ij} is i's estimate of the probability of his engaging in the act described in j.

For the purposes of this analysis it is useful to think of $y_{ij}{}^*$ as an index of i's utility of engaging in the behavior described in j. The model assumes that $y_{ij}{}^*$ is a function of measured characteristics of the individual (z_i), the situation (w_j), and their interaction (x_{ij}) and of ϵ_{ij}. The disturbance term ϵ_{ij}, as defined by (1b), includes two components. One is τ_i, where τ_i is an individual specific effect that does not vary across scenarios. It is assumed to be independently and normally distributed across the population with a mean of 0 and standard deviation of σ_τ. The second component is v_{ij}, which is assumed to be independently and normally distributed both across persons and scenarios with a mean of 0 and a standard deviation σ_v.

The two-component error structure is designed to take account of the statistical complications arising from having multiple observations on each respondent. Specifi-

Table 2. OLS Regression Coefficients for the Effect of Scenario Conditions on Perceived Risk of Formal Sanctions and Moral Beliefs

Scenario Conditions	Perceived Risk		Moral Beliefs	
	b	(T)	b	(T)
Female returning from party/drinking	−.815	(−1.261)	.039	(.247)
Male used no physical force or threat of physical force	−3.448	(−3.930)	−.514	(−2.407)
Male did not injure female	−2.436	(−2.059)	−.270	(−.937)
Female permitted male to kiss/fondle her	−3.248	(−3.295)	−.857	(−3.573)
Couple had been dating	−2.408	(−3.872)	−.587	(−3.882)
Female offered no physical resistance	−.480	(−.738)	−.396	(−2.505)
Constant	17.426		10.374	
R^2	.17		.13	

were positively affected by two scenario conditions, the perceived risk of formal sanctions and moral beliefs. These corroborative findings give us greater confidence in the reported logistic regression results. Since the latter model is more familiar to most readers, only these are reported.

In addition to directly affecting the estimated likelihood of committing sexual assault, it is also possible that the specific circumstances of a criminal event would have an indirect effect through their effect on perceived sanction threats and persons' moral assessments of an act. To examine this possibility, we regressed the formal sanctions and moral beliefs variables on each of the six scenario conditions. The results are reported in Table 2.

Four of the six scenario conditions did significantly affect persons' estimates of the certainty of being formally sanctioned. Respondents perceived a lower probability of the scenario male being arrested or dismissed from the university if he had been dating the female, if the female was not harmed during the incident, if she allowed the male to kiss and fondle her, and if the male did not physically injure or threaten to injure her in the completion of the act. Collectively, these four characteristics portray a sexual assault in a dating relationship that involved some consensual foreplay and no injury or threat of injury. Under these conditions, our respondents perceived a

cally, the τ_i component of the disturbance term is intended to capture unmeasured fixed individual effects commonly affecting the response of i to all j scenarios.

The parameters of this model, γ, α, θ, σ_τ and τ_v can be consistently estimated by maximization of the following likelihood function:

$$
\prod_i \frac{1}{(2\pi)^{1/2}\sigma_\tau} \int_{-\infty}^{\infty} \exp(-.5\tau^2/\sigma^2_\tau) \left[\prod_j^{y_{ij}=o} \Phi\left[-(z_i\gamma+w_j\alpha+x_{ij}\theta+\tau)/\sigma_v\right] \right]
$$
$$
\left[\frac{1}{(2\pi)^{1/2}\sigma_v} \prod_j^{y_{ij}>0} \exp(-.5([y_{it}-(z_i\gamma+w_j\alpha+x_{ij}\theta+\tau)]^2/\sigma^2_\tau) \right] d\tau. \qquad (2)
$$

significantly lower likelihood that the scenario male would be formally sanctioned. One reason for this may be that the respondents believed that under such conditions the female would be less likely to report the offense. Further data analysis supports this. As part of the questionnaire, the respondents were asked to estimate the probability that the female would report the incident to a university official or the police. A regression analysis indicated that the same four scenario conditions also significantly and inversely affected the perceived probability that the female would report the incident. Respondents saw formal sanctions as less certain under some conditions, then, in part because they perceived that the victim would not report the offense.

Three of the same four contextual characteristics also indirectly affected the projected probability of sexual assault through their effect on moral beliefs. Respondents were less likely to perceive the male's behavior as morally offensive if the couple had been dating, if the male did not use force or the threat of force, and if the female allowed the male to kiss and fondle her. In addition, our respondents were more morally tolerant of the scenario male's behavior if the female offered no physical resistance prior to the sexual assault. This suggests that the specific context of the criminal event affects the decision to offend by modifying the extent to which the offense is perceived to be morally repugnant.

Specifying the Deterrence of Sexual Assault

Thus far, we have found evidence of a significant deterrent effect for the perceived certainty of formal sanctions. This deterrent effect may not, however, be an invariant one. Several previous deterrence researchers have noted that sanction threats may work only or better under particular conditions. Tittle (1977, 1980) and Grasmick and Green (1980, 1981) have suggested that since those with strong moral inhibitions are already effectively controlled, the fear of punishment will work only for those without such inhibitions. Tittle (1980; Tittle & Logan 1973), Grasmick and Green (1980), and more recently, Williams and Hawkins (1986) have also hypothesized that the threat of formal sanctions will act as an effective deterrent only when supplemented by informal costs.[17]

We tested for the possibility of an invariant deterrent effect by examining the relationship between perceived risk of formal

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[17] Both of these hypotheses have also been suggested by Braithwaite (1989:73) in his recent book, *Crime, Shame and Reintegration:* "Nevertheless, just as shaming is needed when conscience fails, punishment is needed when offenders are beyond being shamed." Braithwaite's point is that when persons are not effectively restrained by the two dimensions of shaming (the "pangs of conscience" and social disapproval), the fear of punishment may be the sole remaining deterrent.

sanction and projected behavior at varying levels of moral be-
liefs and social censure.[18] Respondents' judgments in the 464
scenarios were divided into two groups, those where the male's
action were described as morally wrong (high moral beliefs)
and those where the male's actions were judged less morally
wrong (low moral beliefs).[19] These judgments were also di-
vided into three levels of perceived social censure; high, me-
dium, and low.[20] The logit model in Table 1 was then estimated
separately within each group.[21] If the above hypotheses are cor-
rect, perceived formal sanctions should have the strongest de-
terrent effect when combined with low moral beliefs and high
social censure. The summary results are reported in Table 3.

Table 3 reports only the logit coefficients for the loss of
self-respect, social censure, perceived risk of formal sanctions,
and moral beliefs. Since the effects for the six scenario
conditions did not substantially vary across groups and were
comparable to those reported in Table 1, we do not report
these results. The logit coefficient for the perceived risk of
formal sanctions reveals that when the scenario male's behavior
was judged to be morally offensive (high moral beliefs), the
threat of formal punishment had no effect on the respondent's

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[18] It could be argued that these separate groups models are misspecified because
in stratifying our sample we have excluded variables (moral beliefs from the first set of
models and social censure from the second) that significantly affect the outcome varia-
ble. Variations in moral beliefs *within* the two groups stratified as low and high moral
beliefs could still be related to self-reported intentions to offend, and variations *within*
the three groups stratified as low, medium, and high social censure could still be re-
lated to behavioral intentions. If so, the estimated structural effects of included vari-
ables may be biased. In contemplating this possibility, we reestimated each model with
the omitted variable included (except for the model involving high social beliefs be-
cause moral beliefs was a constant in the group). In no case were the results reported in
the body of the article materially altered.

[19] The distribution of this variable was skewed with the male's behavior being
judged in most scenarios as "morally wrong." On the 0–10 response continuum where
10 was "very wrong," responses of 0–9 were categorized as low moral beliefs ($n=131$),
responses of 10 were categorized as high moral beliefs ($n=333$).

[20] The response options for the social censure variable were arrayed on an 11-
point continuum from 0 to 10. The three groups were collapsed as follows; scores of 0,
1, 2, 3, or 4 were recoded into low social censure ($n=174$), scores of 6, 7, or 8 were
recoded into medium social censure ($n=145$), scores of 9 or 10 were recoded into high
social censure ($n=145$). Other attempts to categorize the judgments into two and four
groups and using different cutoff points for the trichotomy produced similar
substantive results.

[21] In this analysis, we are testing for an interaction effect between moral beliefs
and the perceived certainty of formal sanctions and between social censure and
perceived certainty. A more traditional test for an interaction effect, and one which
would not have involved a loss of statistical power, would be to introduce into the
regression equation a multiplicative term consisting of the product of the two variables
whose interaction is suspected. This could not be done for the interaction involving
moral beliefs and perceived certainty because the product term was too collinear with
its two constituent elements. It was, however, possible to do for the interaction
involving social censure and perceived certainty. The results of this model are
consistent with the analysis reported in Table 3. The interaction term was
nonsignificant, as was the additive term for social censure. The additive coefficient for
perceived formal sanctions remained inverse and significant.

Table 3. Summary of the Effect of Exogenous Variables on Self-reported Projections of Committing Sexual Assault at Two Levels of Moral Beliefs and Three Levels of Social Censure

| | Moral Beliefs | | | | Social Censure | | | | | |
| | High (n=333) | | Low (n=131) | | High (n=174) | | Medium (n=145) | | Low (n=145) | |
	b	(T)	b	(T)	b	(T)	b	(T)	b	(T)
Loss of self-respect	-.077	(-.699)	-.014	(.133)	.037	(.368)	.242	(1.407)	.022	(.115)
Social censure	-.189	(-1.517)	.162	(1.434)	—	—	—	—	—	—
Perceived risk of formal sanctions	-.021	(-.411)	-.239	(-3.901)	-.121	(-2.205)	-.073	(-1.158)	-.206	(-2.273)
Moral beliefs	—	—	—	—	-.457	(-4.084)	-1.076	(-3.782)	-.458	(-1.436)

projection of committing sexual assault ($b=-.021$, $p>.05$). The perceived risk that the male would be dismissed from the university or arrested did not, therefore, serve as an effective deterrent. In these instances, moral inhibitions alone were effective constraints. When the scenario male's behavior was deemed less morally offensive (low moral beliefs), however, there was a strong and significant deterrent effect for perceived formal sanctions ($b=-.239$, $p<.001$).[22] In fact, the deterrent effect of formal sanctions observed for the full sample (see Table 1) was due almost entirely to its effect within this group. Only when persons were not restrained by moral inhibitions did the fear of formal punishment effectively deter.

Sanction threats may have been completely irrelevant under the condition of high moral beliefs because of the fact that the strong moral condemnation of the sexual assault described in the scenario made respondents unlikely to commit the act no matter what the anticipated costs. In fact, when moral condemnation was strong, our respondents reported a nonzero probability of committing a sexual assault in only 6% of the scenarios. Conversely, when moral beliefs were low, respondents reported some probability of committing sexual assault in 45% of the scenarios. The restraint of moral inhibitions, then, may under some circumstances be so strong that they preclude the consideration of instrumental concerns, such as the risk of formal sanctions.

There was, however, little support for the hypothesis that the deterrent effect of formal sanction risk is an increasing function of perceived social disapproval. Table 3 shows that perceived formal sanctions had a significant deterrent effect not only when the likelihood of social censure was high ($b=-.206$, $p<.01$) but also when social censure was low ($b=-.121$, $p<.05$). Formal sanction risk had an inverse but nonsignificant effect at the mid-range of social censure ($b=-.073$, $p>.05$). At least with regard to the offense of sexual assault and this one type of social cost, the deterrent effect of formal sanction risk does not appear to be a function of the level of perceived informal costs. These findings are consistent with the recent research of Nagin and Paternoster (1991b), who reported that, contrary to the Williams and Hawkins hypothesis, the threat of formal sanctions was a deterrent regardless of the level of informal sanctions.

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[22] A t-test for the difference between the two regression coefficients (perceived formal sanctions at high and low moral beliefs) indicated that they were significantly different from each other.

Summary and Discussion

Our assumption in this research has been that the inclination to commit sexual assault would be responsive to utilitarian considerations and individuals' moral positions. We found that the self-reported projection to commit a sexual assault was influenced by the context of the offense, formal sanction threats, and moral beliefs. The results of this study are therefore generally consistent with the tenets of the rational choice perspective and recent deterrence research. We should, however, make two brief caveats at this point. First, some of our results are inconsistent with some of the findings from previous deterrence research. Second, our findings may not be generalizable to other samples.

Contrary to much of the deterrence literature that has used panel designs, we found that the perceived risk of formal sanctions did have a significant deterrent effect. Our findings in this regard are consistent with the recent work of Klepper and Nagin (1989a, 1989b) and Grasmick and Bursik (1990), who also reported evidence of a deterrent effect. As Klepper and Nagin (1989a:742) have suggested, the difference between these two groups of findings may be due to the different research designs employed. Their study, our research, and Grasmick and Bursik's (1990:844) all estimated what the latter have referred to as an "instantaneous" deterrence relationship—the effect of current perceptions on current intentions to offend. All three of these studies employed projections of future behavior as the outcome variable. The generally null findings of the panel researchers may be due to an attenuation of any deterrent effect due to the instability of measured perceptions. Contrary to the conclusion of the panel studies, this more recent deterrence research strategy employing measures of prospective behavior suggests that the fear of formal punishment may provide an effective inhibition to some forms of offending and some types of offenders.

Our findings are also inconsistent with previous deterrence research on a second issue. Prior studies, both cross-sectional and panel, have generally found informal sanctions to be very effective sources of social control—particularly in the form of expressed disapproval from important others. We found no such evidence. Perceived social censure was unrelated to projections of committing sexual assault. In their deterrence studies, Williams and Hawkins (1989) and Grasmick and Bursik (1990) also found no relationship between anticipated social disapproval and their measures of offending. How can these more recent findings be reconciled with earlier research?

One possible explanation may be the declining significance of social sanctions over the past decade. Braithwaite (1989) has

suggested that an internalized moral code and public expressions of disapproval, two dimensions of "shaming," are perhaps the most effective means of social control. He further suggests that this process of shaming is more effective in some cultures (Japanese) than in others (American). It is conceivable that the importance persons attach to the approval of others may vary over time as well. Data in the cross-sectional and panel studies were collected in the 1970s and early 1980s, while Grasmick and Bursik's, Williams and Hawkins's, and our research are of more recent vintage.

Grasmick and Bursik (1990:856) have suggested that the difference in findings between more recent and earlier deterrence research on this point may also be due to the nature of the samples used. Most previous deterrence research was conducted on teenage samples; Grasmick and Bursik used a sample of adults. The age of the sample in our research, with a mean of 19 years, is somewhere in between the two. Grasmick and Bursik have argued that social disapproval may be more salient for youth than for adults. While raising these points, we believe that it is impossible to come to any definitive conclusion regarding the importance of informal social sanctions at this time. It is an issue that only additional research can address.

We should also note that our failure to find a significant effect for the perceived loss of self-respect is contrary to the findings of both Grasmick and Bursik (1990) and Williams and Hawkins (1989), who have found self-imposed punishment to be a particularly effective constraint to offending. Our null finding is perhaps due to the manner in which this construct was operationalized in our research. Both Grasmick and Bursik and Williams and Hawkins asked respondents about *their own* loss of self-respect or guilt. We asked our respondents to estimate the likelihood that *the scenario male* would lose respect for himself if arrested for the act. It is possible that our respondents would feel that while they personally may be deterred by the prospect of guilt or shame if arrested for sexual assault, anyone who did what the scenario male did would not be. Congruous with this conjecture, previous research has shown that self-referenced measures of deterrence variables affect behavior more than other-referenced ones (Jensen et al. 1978; Paternoster et al. 1982, 1983).

Although we have found evidence that intentions to commit sexual assault may be deterred by perceptions of the certainty of formal sanctions, this deterrent effect may be restricted to those who perceive the severity of punishment to be high. Our college students may have such a strong investment in a conventional life that being dismissed from school or being arrested is particularly costly. In other words, they have so much to lose that the risk of punishment above some minimal level

may effectively deter them. This effect was alluded to by Klepper and Nagin (1989b) in their deterrence study of tax compliance with an upper-middle-class adult sample. We do not know how strong a deterrent effect would be found among those with far less to lose by their criminality.

Finally, although we did find a deterrent effect for the perceived risk of formal sanctions, it should be kept in mind that respondents' moral beliefs were a more important source of social control and that the effect of formal sanction threats was conditioned by moral beliefs. We found that when the male's behavior in the scenario was thought to be morally wrong, our respondents were unaffected by instrumental concerns of cost/benefit. Their moral condemnation of the action was so strong that they could not even consider the possibility of offending. Braithwaite (1989) and Etzioni (1988) may be correct, then, in their assertions that moral rules are extraordinarily important considerations in decisionmaking. The role of moral factors should continue to be the subject of deterrence research. If our results are corroborated by others, it would suggest that a deterrence/rational choice model cannot stand alone. A complete understanding of persons' decisions to commit a criminal offense would have to include normative considerations along with considerations of cost and reward.

Our objective in this research has been an important though modest one. With a research design that is a hybrid of traditional survey and recent scenario-based approaches, we attempted to study the deterrence process as it pertains to a serious, and heretofore neglected, offense—sexual assault. We hope that our success with this method will spur additional research with different offenses, samples, and measurement approaches. Although our reported findings are preliminary, we believe that we have shown that our research design can be employed to gather useful data to answer substantively interesting questions regarding deterrence and social control.

This research agenda also promises to have important public policy implications. The data from our study are consistent with much previous research which suggests that sexual assault on college campuses is both common and, under some circumstances, tolerated. Although state and federal legislation may require the publication of campus crime rates, this is not enough. Such efforts may deter some females from attending particular colleges but will do little to deter some men from committing sexual assault. Our research has indicated that sexual assault may be inhibited by a two-pronged approach. One would involve an appeal to morality by educating males that unwanted sexual intercourse under any condition is an act of violence and a morally deplorable offense. A second approach would be through the threat and imposition of formal punish-

ment. If our findings are replicated, they would suggest that in the absence of moral inhibitions, would-be offenders may still be effectively deterred by the threat of formal punishment. Given the prevalence and importance of the problem, work along the lines suggested here is long overdue.

Appendix A

CONSTANT: Lori B. is a 20-year-old female.

DIMENSION I: Victim's Situation prior to Assault
1. When returning to her apartment from shopping
2. When returning to her apartment from a party
3. When returning to her apartment from a party where she had too much to drink

CONSTANT: She was approached by Tom, a 22-year-old male
DIMENSION II: Victim/Offender Relationship
1. who Lori had been dating for six months. He accompanied her home.
2. who Lori had been met through a mutual friend. He accompanied her home.
3. who Lori did not know. He asked her if he could use her phone and she let him in.

CONSTANT: After Tom was inside the apartment, he told her that he wanted to have sex with her.
DIMENSION III: Victim's Initial Response
1. She said no and told him to leave but he didn't.
2. She told him to leave but he didn't.
3. She said no and tried to push him out of the apartment but she couldn't.
4. She tried to push him out of the apartment but she couldn't.

DIMENSION IV: Offender's Response
1. Tom ignored her.
2. Tom argued with her and tried to persuade her.
3. Tom threatened to beat her with his fists if she didn't.
4. Tom threatened to cut her with a knife if she didn't.
5. Tom beat her with his fists.
6. Tom cut her with a knife.

DIMENSION V: Victim's Second Response
1. Lori allowed Tom to start kissing her. She later said no again but Tom continued and had sexual intercourse with her anyway.
2. Lori allowed Tom to start kissing and fondling her. She later said no again but Tom continued and had sexual intercourse with her anyway.
3. Lori was too frightened or intimidated to protest and Tom had sexual intercourse with her.

4. Lori started screaming and crying but Tom had sexual intercourse with her anyway.
5. Lori started fighting back by hitting and kicking but Tom had sexual intercourse with her anyway.

DIMENSION VI: Harm to Victim
1. Tom then left.
2. Tom then left. Lori was bruised.
3. Tom then left. Lori had cuts and bruises.
4. Tom then left. Lori required psychological counseling.

Appendix B
Item Wording from Questionnaire

1. Perceived Risk of Formal Sanctions

"Now we'd like to ask you some questions about things that might happen as a result of this incident. For all questions, please answer according to a 0 to 10 scale with 0 meaning 'no likelihood at all' and 10 meaning 'definitely would happen.' You can answer with any number from 0 to 10."

Tom would be dismissed from school?
Tom would get arrested by the police?

2. Moral Beliefs

"We would like to ask you some more questions about what this incident means to you. For each question, please circle the number from 0 to 10 which best reflects your opinion."

How morally wrong is this incident?

3. Social Censure

"Suppose Tom did get arrested by the police for this incident. What would be the likelihood of the following things happening then?"

Tom's friends or relatives would disapprove or lose respect for him?

4. Loss of Self-Respect

"Suppose Tom did get arrested by the police for this incident. What would be the likelihood of the following things happening then?"

Tom would lose respect for himself?

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