SPECIFYING THE DIRECT AND INDIRECT EFFECTS OF LOW SELF-CONTROL AND SITUATIONAL FACTORS IN OFFENDERS' DECISION MAKING: TOWARD A MORE COMPLETE MODEL OF RATIONAL OFFENDING*

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This paper builds on work by Nagin and Paternoster in which they contend that two recent developments in criminological theory, self-control and rational choice, have been explored separately rather than in conjunction with one another. In their analysis, Nagin and Paternoster found direct effects for variables from each of these theories and called for more research into simultaneous examination of the two. We build on their work by delineating a more highly specified model of rational offending, in which we observe that the research thus far has not examined the indirect effects of low self-control. We believe that this area is grossly underdeveloped and that such an examination is necessary for a more complete understanding of criminal offending. We advance three hypotheses concerning the integration of low self-control into a rational choice framework: (1) that low self-control will have both direct and indirect effects via situational characteristics on intentions to shoplift and drive drunk; (2) that situational characteristics will have direct effects on intentions to deviate, as well as effects on other situational factors; and (3) that a model uniting the effects of low self-control and situational characteristics will provide a good fit to the data. We find support for all these hypotheses and suggest that future theoretical developments will be improved by the integration of low self-control with situational characteristics in a more general model of offending.

It has been argued that criminology is in a state of theoretical paralysis (Wellford 1989:119) and that its theoretical developments have stagnated (Gibbs 1987). Recently, however, theorizing in criminology has undergone two important advances. One of these

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was proposed by Michael Gottfredson and Travis Hirschi (1990) in *A General Theory of Crime*. Their theory concerns individual differences, or propensities, that predispose an individual toward offending; their central concept is that of low self-control. The other theoretical advancement is the rational choice perspective (Cornish and Clarke 1986, 1987). This framework emphasizes the contextual and situational factors involved in decisions to offend, as well as the "choice-structuring" properties of offenses (Cornish and Clarke 1987:935).

Low self-control is established early and remains relatively stable throughout life. This is a characteristic of individuals who are more likely than others to engage in imprudent behaviors such as smoking, drinking, or gambling and commit criminal offenses such as shoplifting or assault. Gottfredson and Hirschi (1990:89) characterize low self-control as composed of elements such as immediate gratification, risk taking, orientation to the present, acts involving little skill or planning, and self-centeredness.

The rational choice framework focuses on situational inducements and impediments to offending (Cornish and Clarke 1986, 1987; Nagin and Paternoster 1993) such as the perceived costs (e.g., threat of sanctions) and benefits (e.g., pleasure) of crime. The rational choice model is consistent with a deterrence framework, especially in its focus on the perceived costs associated with committing an offense. It also includes the importance of examining an offender's perception of the benefits of offending and of informal and/or internal threats of sanction, which is absent from the traditional deterrence framework (Piliavin, Gartner, Thornton, and Matsueda 1986). Therefore the rational choice framework provides one way of looking at the influence of situational factors on offending. By the same token, this perspective is not confined to the situational determinants of (perceived) opportunity. Rational choice also examines how motivation is conditioned by situational influences and opportunities to commit crime.

Rational choice emphasizes would-be offenders' subjective perceptions of the expected rewards and costs associated with offending. From this perspective, a crime-specific focus is necessary because the costs and benefits of one crime may be quite different from those of another. This point suggests the importance of examining the choice-structuring properties of particular offenses (Cornish and Clarke 1987:935). Furthermore, the rational choice perspective suggests explanations in terms of those characteristics which promote or hinder gratification of needs, such as low self-control, shame, moral beliefs, threat of formal sanctions, or the pleasure of offending.

Situational factors and individual propensities are related to each other in a way suggested by Harold Grasmick and his colleagues. Grasmick, Tittle, Bursik, and Arneklev (1993b) noted that situational circumstances and individual characteristics may influence the extent to which low self-control affects criminal behavior. Thus the effect of low self-control depends on the situation; that is, low self-control may condition criminal behavior. Nagin and Paternoster (1993) have examined the compatibility of these perspectives. Using scenario data from a sample of college undergraduates, they found support for the underlying propensity (low self-control) argument advocated by Gottfredson and Hirschi, as well as some support for the effect of situational factors. Attractiveness of the crime target, ease of committing the crime with minimal risk, and perceptions of the costs and benefits of committing the crime were all related significantly to offending decisions. Their analysis, however, consisted solely of examining the direct effects of exogenous variables on the dependent variable (intentions to deviate).

Our analysis builds on Nagin and Paternoster's (1993) paper. We focus on specifying low self-control in an explicit causal model while taking into account the situational factors associated with offending decisions. We believe that low self-control has a direct effect on intentions to deviate, but we also argue that low self-control has indirect effects on these intentions, which operate through a variety of situational factors. These indirect effects are an important step in understanding criminals' decision-making processes.

Whereas Gottfredson and Hirschi distinguish between crime and criminality, Birkbeck and LaFree (1993) argue that theories of crime (situational explanations) should be united with theories of criminality (stable propensities). In this paper, following suggestions emanating from the work of Birkbeck and LaFree (1993) and Nagin and Paternoster (1993), we merge theories of crime (situational factors measured by subjective perceptions) and theories of criminality (low self-control) into a more highly specified causal model of rational offending. We argue that offenders are rational decision makers who are affected by various factors. These factors include not only an individual propensity to offend (i.e., low self-control) but also situational inducements (such as the pleasure of committing the crime) and situational impediments to crime (e.g., sanction threats, shame).

PREVIOUS RESEARCH

Perceived Sanction Threats and Perceived Pleasure

Deterrence concepts have been modified and expanded (Cornish and Clarke 1986, 1987; Paternoster 1989; Piliavin et al. 1986; Stafford and Warr 1993; Williams and Hawkins 1986), and recent research conducted within the rational choice framework (Bachman, Paternoster and Ward 1992; Klepper and Nagin 1989b; Nagin and Paternoster 1993), using factorial vignette surveys, has found support for perceptions of certainty and its negative effect on delinquent behavior. Given the consistency with which sanctions may deter certain individuals who commit certain crimes (Bachman et al. 1992; Klepper and Nagin 1989b; Nagin and Paternoster 1993; Smith and Gartin 1989), we contend that these factors are quite important in a general model of rational offending.

The rational choice framework has focused strongly on the pleasure of offending (Bachman et al. 1992; Nagin and Paternoster 1993; Piliavin et al. 1986). Most researchers have found that the perceived benefits of criminal offending are important in a would-be offender's calculations, perhaps even more important than the estimated costs (Nagin and Paternoster 1993:482). The anticipated rewards or gains from offending may be more important than the potential costs to these individuals because the former are more immediate and more characteristic of risk taking and short-term gratification (Gottfredson and Hirschi 1990). Jack Katz (1988) argues that there are "seductions of crime," which result from the thrills and pleasures provided by committing criminal acts. Other research, however, suggests that seductions are influenced by several background factors including age, gender, and the strain associated with inadequate economic opportunities (McCarthy 1995). Almost all previous empirical tests of deterrence models neglected this beneficial dimension of offending; the few studies that have examined this construct find support for perceived pleasure (Nagin and Paternoster 1993; Piliavin et al. 1986).[1]

Shame

Thomas Scheff (1988) labeled shame as an important factor for social control. Scheff's work was followed closely by John Braithwaite's (1989) *Crime, Shame, and Reintegration*, which

[1] Some may argue that the pleasure associated with offending is only part of the story, and that often the more important situational factors are the amount of time and energy saved (as in drunk driving) and the value of goods stolen (as in shoplifting). Because of the lack of significant findings from Nagin and Paternoster's (1993) vignettes of these conditions, we did not vary these situational characteristics.

caused an immediate increase in the attention given to shame in criminology. Early theorizing on shame, however, tended to focus on acts of shaming by others (e.g., disintegrative/reintegrative shaming) rather than on the internal emotion of shame felt by the individual. Therefore those theorists implied that to experience shame, one must be shamed by a social audience. This assumption is not supported by the psychological literature on shame; in fact, the early researchers in this area acknowledged that most experiences of shame are not preceded by an act of shaming (H. Lewis 1971; Piers and Singer 1953). Experiences of shame are the result of a global, internal evaluation of the self in which the actor temporarily loses some of his or her self-esteem (M. Lewis 1992). Although acts of shaming by others may elicit shame in an individual, such an act need not occur to cause the person to feel that emotion (Lewis 1992; Piers and Singer 1953). In other words, individuals can be shamed without the presence of an audience (see Grasmick and Bursik 1990).

Despite the lack of criminological theory on the phenomenological nature of shame, researchers recently have attempted to measure the subjective experiences of shame within a rational choice framework. In these studies (Grasmick and Bursik 1990; Grasmick, Bursik, and Kinsey 1991; Grasmick, Tittle, et al. 1993b; Nagin and Paternoster 1993) respondents have been asked to describe the shame they felt, or would feel, if they had committed, or intended to commit, specific criminal offenses such as drunk driving, littering, date rape, tax evasion, or petty theft. Shame was found to have a strong inhibitory effect on the commission of all these offenses. Furthermore, for some of the offenses shame had the strongest effect of all the variables specified in the model, including formal sanctions (Grasmick and Bursik 1990). Thus a deterrent effect of shame seems to be strongly evident in the criminological literature.

Low Self-Control

Gottfredson and Hirschi (1990:90) contend that individuals with low self-control will tend to engage in criminal and analogous acts. Their ideas, which have met with some opposition (Akers 1991; Barlow 1991; Polk 1991), have generated a number of empirical studies (Benson and Moore 1992; Brownfield and Sorenson 1993; Gibbs and Giever 1995; Grasmick, Tittle, et al. 1993b; Keane, Maxim, and Teevan 1993; Nagin and Paternoster 1993; Polakowski 1994; Wood, Pfefferbaum, and Arneklev 1993). Although these studies generally support low self-control, some examination of this work is necessary. First, Grasmick, Tittle, et al. (1993b) developed

a psychometric scale that measured low self-control, based on the criteria outlined by Gottfredson and Hirschi. The findings of their study, which examined only direct effects, indicated that low self-control was related strongly to offending (force and fraud). Keane et al. (1993) examined the relationship between low self-control and drinking and driving. Employing a behavioral measure of self-control (use of seat belts), they found that for both males and females, low self-control was an important predictor of driving under the influence of alcohol.

Gottfredson and Hirschi (1990:90) also believe that low self-control may manifest itself in various imprudent behaviors such as smoking, drinking, and gambling. Using the same data and measures as found in Grasmick, Tittle, et al. (1993b), Arneklev, Grasnick, Tittle and Bursik (1993) tested this proposition. The results were mixed; on one hand, the low self-control index had a direct effect on an individual's participation in various imprudent behaviors. Yet one component of that index (risk taking) was more strongly predictive than the scale as a whole. Furthermore, smoking appeared to be unaffected by low self-control.[2] Similarly, Wood et al. (1993) argued that although low self-control was a significant predictor of imprudent behaviors and some forms of delinquency, their results suggested that the low self-control measure, as well as the different dependent variables, should be dissaggregated.

Gibbs and Giever (1995) examined the manifestations of low self-control on a sample of college undergraduates by creating an attitudinal measure of low self-control and examining its impact on two noncriminal behaviors, cutting class and alcohol consumption. They found that low self-control was the strongest predictor of these behaviors. Their study, however, did not include factors other than self-control, such as moral beliefs or perceived threat of sanctions.

Moral Beliefs and Prior Offending

In addition to the variables discussed above, we included two other variables in the model specification: moral beliefs and prior offending. Moral beliefs are necessary in the study of any rational choice framework because such beliefs impede criminal behavior; theorists have stressed the importance of internalized moral constraints (Bachman et al. 1992; Bishop 1984; Grasmick and Bursik 1990; Paternoster, Saltzman, Chiricos and Waldo 1983; Tittle 1977,

[2] This result may be due to the average age of the sample (46.5 years). It could be that these individuals began to smoke before the effects of smoking were known to be undesirable (Arneklev et al. 1993).

1980). We also included prior offending as a control variable because it could capture the influence of other sources of stable criminality (Nagin and Paternoster 1991, 1993).

PROPOSED MODEL

The proposed model assumes that a rational human actor with low self-control encounters situational factors which push him or her toward crime (pleasure of the offense) and/or away from crime (moral beliefs, perceived risk of sanctions, and situational shame). When the push toward crime is greater than the push away from crime, an individual is more likely to choose crime. This idea is summarized by Gottfredson and Hirschi (1990:89) when they observe that a major characteristic of those with low self-control is the tendency to respond to tangible stimuli in the immediate environment and to have a concrete "here and now" orientation (also see Hirschi and Gottfredson 1993).

Although our theoretical model relies heavily on the most recent statement of control theory outlined by Gottfredson and Hirschi, it is not meant to downplay the importance of earlier control theorists, particularly Walter Reckless (1961; also see Toby 1957). In his seminal piece, Reckless noted that inner containment consists mainly of self-control, while outer containment represents the structural buffer in the person's immediate social world which is able to hold him or her within bounds (Reckless 1961:44-45). Expanding upon the idea of outer containment, one could easily infer that sanctions, pleasure, and shame are structural buffers in an individual's immediate social world. Moreover, Block and Flynn (1956:61) state that "there are many variables in the personality of the delinquent and the delinquency-producing situation itself which the investigators may not readily discern and which themselves may constitute the critical factors involved in the delinquent act." Conceivably, then, one could argue that our theoretical model is a refinement, an extension, and an empirical test of Reckless's theory and of Block and Flynn's assertions (also see A. Cohen 1955).

MODEL SPECIFICATION

We propose a general model of rational offending that unites low self-control with situational variables. The model assumes that low self-control is a stable personality characteristic and that prior offending and moral beliefs are characteristics antecedent to situational factors; these characteristics have direct effects on intentions to deviate and indirect effects that operate through situational characteristics associated with offending. Situational characteristics include the perceived pleasure associated with the act, the

probability of sanctions as a result of committing the act, and the shame associated with committing the act. The dependent variable is an individual's intention to deviate.

Let us explain the proposed causal links in the model. The first set of variables—low self-control, moral beliefs, and prior offending—are time-stable and antecedent to the situational variables. Because most of the previous research on low self-control concentrated on direct effects, our model explicitly takes into account the indirect effects of low self-control. Much to their credit, Gottfredson and Hirschi (1990:95) anticipated these indirect effects when they argued that the impulsive or short-sighted person fails to consider the negative or painful consequences of his acts. As a result, such a person has fewer negative consequences to consider. Following this line of reasoning, we argue that low self-control will have a positive effect on perceived pleasure, and negative effects on both perceived sanctions and shame. Short-sighted individuals (i.e., those with low self-control) are more likely not to perceive shame and sanctions as important because these are long-term outcomes, whereas they perceive pleasure as a short-term result of committing an offense. In agreement with previous self-control research, we also predict that low self-control will have a positive, direct effect on intentions to deviate.

Like Gottfredson and Hirschi (1990), we believe that an individual's moral beliefs against committing an act should be associated positively both with perceived sanctions and with the shame associated with offending because belief in the morality of the law should increase the saliency of being caught as well as the shame associated with committing crime. Moral beliefs also should have a negative effect on an individual's perceived pleasure and should be related negatively to intentions to deviate. As for the third of these antecedent variables-prior offending-we hypothesize that an individual's prior offending should be related positively to perceived pleasure and intentions to deviate, and negatively to perceived sanctions and shame.

The mediating variables in the model are the situational characteristics associated with criminal offending. We propose that they have direct effects on intentions to deviate and indirect effects through other situational variables. In regard to direct effects, perceived pleasure should have a positive effect on intentions to deviate, while perceived sanctions and shame should inhibit such intentions. Similarly, perceived pleasure should exert a negative effect on perceived shame, while shame should have a positive effect

on perceived sanctions and perceived sanctions should have a positive effect on perceived pleasure, in keeping with Katz's (1988) "sneaky thrills."

METHODS

We collected data through a self-administered questionnaire that presented respondents with a realistic scenario describing in detail the conditions in which an actor commits a crime. The respondents were told only that the actor committed the act, not whether he or she approved of the act. Thus we focus not on the hypothetical actor's perceptions or approval of the act, but rather on the respondent's perceptions and approval. The questions were designed to measure respondents' perceptions of the costs and benefits of committing the offense described in the scenario, to estimate the probability that they would commit that offense, and to estimate the chance that their committing the offense would result in arrest and in exposure without arrest.

The scenario method differs from conventional data collection in perceptual social control/deterrence research in that it uses hypothetical, third-person scenarios of offending to elicit the dependent variable. This strategy has been used successfully in recent research on rational choice (Bachman et al. 1992; Klepper and Nagin 1989a, 1989b; Nagin and Paternoster 1993). The primary weakness of this approach is that an expressed intention to offend is not synonymous with actual offending. Fishbein and Ajzen (1975), however, argue that a person's intention to perform a particular behavior should be highly correlated with the actual performance of that behavior.[3] This proposition is supported empirically by Green (1989), whose two-wave panel design revealed a high correlation (r = .85) between intentions and actual performance of deviant behavior. In addition, Kim and Hunter's (1993) recent meta-analysis produced a strong relationship between attitude, intention, and behavior. In all, the scenario method is the best approach available because of its advantages, its realistic nature, and the specificity of the scenarios.[4]

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[3] Fishbein and Ajzen (1975) identify three criteria for maximizing the correspondence between intentions and actual behavior. The first of these criteria is the degree to which the intentions are measured with the same specificity as the behavior that is being predicted. The scenarios presented here include highly specific circumstances (see appendix). The second criterion is the stability of the expressed intention. In view of the realistic and specific conditions of the scenarios, there is no compelling reason to question the stability of these intentions. The final criterion is the degree to which the respondent can willfully carry out the intention.

[4] Our scenarios were designed after those used by Nagin and Paternoster (1993) in regard to detail and contextual specificity. We achieved specificity by presenting details of the circumstances of the offense, such as naming the bar where

The realistic and specific nature of the scenarios allows us to examine the effect of situational factors on both the intentions to offend and the anticipated risks and rewards of these behaviors. Without these contextual specifications, the respondents would impute their own details; such a situation would "undoubtedly vary across respondents and affect their responses" (Nagin and Paternoster 1993:474). Also, individuals may vary in their definition of illegal behavior. If these differences in definition vary systematically with responses measuring variables of interest, analysis of the effects of such variables on actual behavior may be misrepresented (Nagin and Paternoster 1993).

Another, perhaps more important advantage of the scenario method is its capacity to capture the "instantaneous" relationship between independent variables and the respondent's intentions to offend (Grasmick and Bursik 1990). Previous cross-sectional and panel studies on deterrence used measures of past behavior or behavior within waves to measure the dependent variable (e.g., Bishop 1984). Because perceptions of risk are unstable over time, however, this lagged type of measurement is not appropriate. These designs would tend to find lagged effects for independent variables that remained stable over time, such as moral beliefs, but no lagged effects for independent variables that are not stable, such as perceived of threats sanction (Grasmick and Bursik 1990). Therefore, because the scenario method permits the examination of "instantaneous" relationships, it is preferable to traditional designs.[5]

Sample and Scenario Design

Respondents were undergraduates at a major East Coast university, enrolled in several large introductory criminal justice

the actor is drinking or the type of item the actor is shoplifting. The scenario approach has been used as well in research on death penalty juries (Bohm 1991).

[5] We systematically varied the location of the intention questions for both the drunk driving and the shoplifting scenarios. In approximately half of these scenarios, the dependent variable item was placed directly after the scenario; other perceptual items (e.g., moral beliefs, perceived certainty) followed (this position was coded 0). In the other half, the dependent variable was located at the end of the battery of perceptual items (this position was coded 1). We adopted this procedure to examine for possible differences due to responses on the dependent variable item affecting the responses on the subsequent perceptual items. For instance, if the dependent variable item is placed directly after the scenario, the respondents may base their perceptions on their previous response to the dependent variable item. In contrast, if the dependent variable item is placed after the perceptual items, respondents may respond differently on the dependent variable item if they have thought carefully about their perceptions regarding the offense. Bivariate correlations showed that the location of the dependent variable item did not have a significant effect on respondents' intentions to commit drunk driving or to shoplift ($r = .06$ and $-.05$ respectively). Therefore, we did not include this variable in the multivariate analyses.

courses in the fall 1993 semester. A total of 349 males and 293 females (642 in all) completed the questionnaire. Although participation was voluntary, only 4 percent of potential respondents refused to participate; given this small amount, analysis and conclusions appear not to be threatened by response bias. The respondents ranged in age from 17 to 35; the median age was 19. Because we selected introductory classes that fulfill general core requirements for the university curriculum, a substantial majority of students (69 percent) were not criminal justice majors and were currently in their freshman and sophomore years. In addition, questionnaires were administered during the second week of the semester. Therefore it is very unlikely that responses were biased by students' knowledge of deterrence or correctional concerns.[6] Listwise deletion of missing cases resulted in a sample of 604.

The Scenarios

Under an adaptation of the factorial survey methodology developed by Rossi and Anderson (1982), each student was given two scenarios—drunk driving and shoplifting—to which to respond. All of the scenarios were framed in settings familiar to these college student respondents. Selected scenario conditions were varied experimentally across persons. Respondents were asked to estimate the probability that they would commit the act specified in the scenario, to predict the chance that their commission of the offense would result in arrest, and to answer questions designed to measure their

[6] The use of convenience samples in deterrence research is questionable and has drawn some criticism (Jensen, Erickson, and Gibbs 1978; Williams and Hawkins 1986). The major objection is that of representativeness. Large public universities, however, contain a moderate number of marginal offenders (Matza 1964), particularly for the kinds of offenses that are the focus of this study. In our data, 44 percent of respondents admit to having committed drunk driving in the past year (17 percent committed shoplifting in the past year). Furthermore, a Bureau of Justice Statistics Report (R. Cohen 1992) reveals that the rate of arrest for driving while under the influence of alcohol (DUI) is highest for persons between ages 21 and 24. Those in the 18-20 age range have the second highest arrest rate for DUI. Also, a survey of 1,287 university students conducted in 1991 revealed that almost one-half were regular users of alcohol; 45 percent of these reported consuming four or more drinks at a time, and more than half reported driving within an hour after consuming their last drink (Kuhn 1992). When subjects in our sample were asked the likelihood of drinking and driving under the conditions of the scenario presented to them, only 33 percent reported "no chance." Shoplifting also has been shown to be quite common among young adults (Empey and Stafford 1991); self-reports show that shoplifting is about as common as drinking (Elliott, Ageton, Huizinga, Knowles, and Canter 1983; Hindelang, Hirschi, and Weis 1981). When subjects in our sample were asked the likelihood of committing shoplifting under the conditions of the scenario presented to them, only 37 percent reported "no chance." In addition, arrests for theft reported by the university police department totaled 1,267 for 1992; an overwhelming number of these crimes were committed by students. Given this information, one can conclude that college student populations contain frequent offenders in situations involving drunk driving and shoplifting; thus college samples are appealing for studies such as this.

perceptions of the costs and benefits of committing the offense described in the scenario. In the present analysis, then, all respondents receive the opportunity to commit the same crimes in the same setting.[7]

MEASUREMENT OF VARIABLES

Intentions to Deviate

Separate models are estimated for each type of offense. The dependent variable is the respondent's estimate of the chance that he or she will do what the character did in the scenario. We measured intentions to offend on a scale from 0 (no chance at all) to 10 (100 percent chance). Responses were solicited for both the drunk driving (INTENTDD) and the shoplifting (INTENTSH) scenarios.

Shame

Shame is measured by two items following each scenario, which ask the respondent (1) "what is the chance" and (2) "how much of a problem" would loss of self-esteem be if he or she were to do what the actor in the scenario did, even if no one else found out. Responses to both of these items were measured on an 11-point scale (0 = no chance/no problem to 10 = 100 percent chance/very big problem). We computed shame (SHAME) by multiplying the responses of the two items; higher scores reflect a higher likelihood that the individual would feel shame if he or she were to commit the specified act.

Low Self-Control

We operationalized low self-control with a psychometric scale borrowed from Grasmick et al. (1993b), which includes 24 items intended to measure the six elements of low self-control.[8] We coded these items on a five-point Likert-type scale (1 = never to 5 = very

[7] We varied the level of risk of exposure (informal and formal) in both the shoplifting and the drunk driving scenarios. Preliminary analysis revealed no effect for these scenario-varied conditions; as a result, they were not estimated in the LISREL equations. Furthermore, we used gender as a control variable in preliminary analyses. After controlling for low self-control, the effect of gender was not significant in predicting intentions to either shoplift or drive drunk. In addition, gender had no significant effect on the other exogenous variables. Thus we did not examine gender in the LISREL models. These results confirm Gottfredson and Hirschi's (1990:144-49) predictions concerning gender, low self-control, and crime and they are consistent with previous research regarding similarity between males and females in offending behavior regarding shoplifting and drunk driving (Grasmick, Bursik, and Arneklev 1993a; Hindelang et al. 1981; Keane et al. 1993; Nagin and Paternoster 1993; Yu, Essex, and Williford 1992).

[8] Persons interested in obtaining a copy of the low self-control scale can write to us or consult Grasmick et al. (1993b) or Nagin and Paternoster (1993).

often) and created a composite measure of self-control (SELFCONT) by summing the responses across 24 items. High scores on the scale indicate low self-control. This instrument was used in two previous studies (Grasmick et al. 1993b; Nagin and Paternoster 1993), both of which provided strong reliability and validity support for the scale. The high estimated reliability coefficient (α = .84) gave us confidence in the internal consistency of the scale. Furthermore, the factor loadings provided by a principal-components factor analysis were comparable to those reported by Grasmick et al. (1993b).

Perceived External Sanctions

Respondents were asked to estimate the chance of arrest (*Pf*: risk of formal discovery) and the chance that others would find out if they were not arrested (*Pi*: risk of informal discovery). To measure the perceptions of the implications of discovery, we asked respondents to estimate the probability that discovery by arrest or informal exposure would result in dismissal from the university (*Pdf*, *Pdi*), loss of respect by close friends (*Pff*, *Pfi*), loss of respect by parents and relatives (*Ppf*, *Ppi*), and diminished job prospects (*Pjf*, *Pji*). Each of these perceptual measures is intended to measure the risks of informal sanctions that may threaten an individual's "stake in conformity," or bonding to the moral order. To measure the perceived risk of formal sanctions, we asked respondents to estimate the risk of jail (*Pjaf*). The drunk driving scenario was followed by an additional item measuring the perceived chance of losing one's driver's license (Plf) if an arrest was made. All responses were measured on an 11-point scale (0 = no chance at all to 10 = 100 percent chance).

These measures of risk probably would have little effect on intentions unless associated with perceptions of some cost (Grasmick and Bursik 1990). Thus we asked respondents to estimate the perceived severity of each sanction. Specifically, we asked each subject to estimate "how much of a problem" each sanction would pose for them. All responses were measured on an 11-point scale (0 = no problem at all to 10 = a very big problem). To create the composite scale of perceived external sanctions, we multiplied each risk-perception response by the corresponding severity-perception response. Then we summed these separately for drunk driving and for shoplifting (PEREXSAN); higher scores on the scale correspond to a high degree of perceived risk and cost of performing the act in question for that individual. We used the following formula:

$$PEREXSAN = Pi\ [(Pdi)\ (Sd) + (Pfi)\ (Sf) + (Ppi)\ (Sp) + (Pji)\ (Sj)] + Pf\ [(Pdf)\ (Sd) + (Pff)\ (Sf) + (Ppf)\ (Sp) + (Pjf)\ (Sj) + (Plf)\ (Sl) + (Pjaf)\ (Sja)],$$

where Sd equals the perceived severity of sanction d (dismissal from university) and all other variables are as defined previously.

Moral Beliefs

To measure the perceived immorality of the behavior, we asked respondents to estimate how morally wrong they thought the incident would be if they were to commit drunk driving and shoplifting (MORALS). Response options varied on an 11-point scale (0 = not morally wrong at all to 10 = very morally wrong). Although some may contend that our respondents may not regard the behaviors under study as criminal or morally wrong, the mean moral value was 7.80 against drunk driving and 7.57 against shoplifting. These findings indicate that most of our respondents perceive even these behaviors as morally wrong.

Perceived Pleasure

To measure perceived pleasure, a single item asked respondents to estimate "how much fun or kick" it would be to commit drunk driving and shoplifting under the conditions specified in the scenarios (PLEASURE). Responses varied on an 11-point scale (0 = no fun or kick at all to 10 = a great deal of fun or kick).

Prior Offending

In addition to the variables discussed above, we included prior offending as a control in the model. We did so to capture the influence of sources of stable criminality extraneous to that of persistent individual differences due to personality traits included in the model (such as low self-control). To measure prior offending (PRIOROFF), we included two items (one for each scenario offense) that asked the respondents how many times in the past year they had driven while drunk and how many times they had shoplifted.[9]

[9] In the models that follow, when we investigate intentions to drive drunk, we use a past behavior measure: the number of times in the past year the respondent has driven drunk. Similarly, when we examine intentions to shoplift, we use a past behavior measure of respondent's previous shoplifting. An anonymous reviewer observed correctly that a situational variable from the perspective of rational choice theory may be a dispositional variable from the perspective of self-control theory, such that one can use the drunk driving (past behavior) variables to predict shoplifting and can use the shoplifting (past behavior) variables to predict drunk driving. Insofar as dispositions rather than situations are at work, the results should be largely the same in either case. For the sake of brevity and because it is not the focus of the present analysis, we did not examine this issue here. We plan on assessing this issue, however, in future work with these data.

Hypotheses

In this paper we postulate and examine three hypotheses:

H_1: Low self-control has both direct and indirect effects via situational factors on intentions to deviate;

H_2: Situational characteristics have both direct and indirect effects on intentions to deviate and on other situational variables;

H_3: The model uniting the effects of low self-control and situational characteristics of crime will provide a good fit to the data.[10]

RESULTS

We estimated models for intentions to drink and drive and to shoplift. Insignificant paths were eliminated, and we reestimated the models. Although the models for the two offenses exhibited similar results, some minor differences emerged. The analysis that follows employs the LISREL VII estimation program. LISREL's structural equation model specifies the causal relationships among the latent variables, and describes the causal effects and the amount of unexplained variance (Joreskog and Sorbom 1989). The program treats the summated scales as single-item indicators and then produces a chi-square test statistic that examines the goodness of fit of a particular model for a sample of covariance or correlation matrices. Moreover, LISREL provides full-information maximum-likelihood estimates, while allowing for the simultaneous testing of the structural equation and the measurement models. In this analysis we assume perfect measurement and concentrate solely on the structural equation model. In addition, we consider the variables in the present analysis as latent constructs. Because a latent variable cannot be observed directly, and thus cannot be measured, low self-control and other indicators in the model are measured by self-report responses. Thus the unobserved latent variables become observed latent constructs that represent the underlying constructs of interest.

Tables 1 and 2 report the bivariate correlations of the variables for shoplifting and for drunk driving. Because this paper focuses on constructing a model that unifies low self-control with situational factors of crime, we concentrate on the maximum-likelihood estimates provided by LISREL.[11]

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[10] To examine the validity of this hypothesis, the LISREL computer program provides a chi-square statistic that estimates the goodness of fit of the model.

[11] In using LISREL or other structural equation modeling programs, it is always good practice to provide the bivariate correlations from which the model was estimated.

Table 1. Correlation Matrix for Intentions to Shoplift (N = 604)

	SELFCONT	PEREXSAS	PRIOROFS	PLEASURS	MORALSSH	SHAME	INTENTSH
SELFCONT	1.0000						
PEREXSAS	−.1416**	1.0000					
PRIOROFS	.1099*	−.0471	1.0000				
PLEASURS	.2549**	−.0427	.2069**	1.0000			
MORALSSH	−.2775**	.3604**	−.1088*	−.2809**	1.0000		
SHAME	−.2808**	.4827**	−.1443**	−.2927**	.5625**	1.0000	
INTENTSH	.3405**	−.1675**	.2927**	.4142**	−.4328**	−.4482**	1.0000

* $p < .01$; ** $p < .001$

Table 2. Correlation Matrix for Intentions to Drive Drunk (N=604)

	SELFCONT	PEREXSAS	PRIOROFD	PLEASURD	MORALSDD	SHAME	INTETDD
SELFCONT	1.0000						
PEREXSAD	−.1595**	1.0000					
PRIOROFD	.1698**	−.1953**	1.0000				
PLEASURD	.2871**	−.1292**	.0538	1.0000			
MORALSDD	−.2499**	.3663**	−.0988*	−.2169**	1.0000		
SHAME	−.2836**	.5241**	−.2192**	−.2733**	.4216**	1.0000	
INTENTDD	.3234**	−.3660**	.4222**	.3749**	−.3266**	−.4029**	1.0000

* $p < .01$; ** $p < .001$

Analysis of Shoplifting

According to Hypothesis 1, low self-control will have a direct effect on intentions to deviate and indirect effects on intentions to deviate through situational factors. Significant maximum-likelihood estimates for shoplifting may be found in Table 3 and Figure 1. Of the four paths estimated for low self-control, three are significant. Low self-control has a direct positive effect (b = .153, t = 4.438) on intentions to shoplift and a direct positive effect (b = .178, t = 4.502) on perceived pleasure, an indication that the higher one scores on the low self-control scale, the more likely one is to intend to shoplift and to perceive pleasure from shoplifting. Low self-control has a direct negative effect (b = –.102, t = –2.889) on shame, indicating that the higher one scores on the low self-control scale, the less likely one is to experience shame due to shoplifting. The only insignificant effect is the effect of low self-control on perceived risk of sanctions.

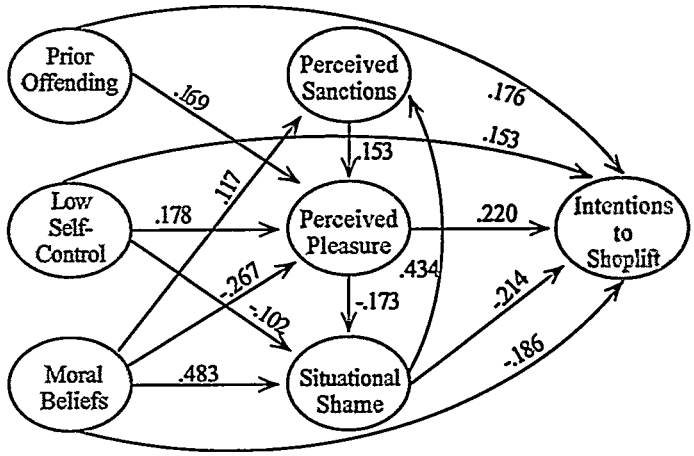

Figure 1.

Therefore low self-control not only has a direct effect on intentions to shoplift; it also indirectly affects intentions to shoplift through situational variables (pleasure and shame). These results are consistent with Gottfredson and Hirschi's (1990:95) idea that individuals with low self-control will be less likely to consider the consequences of offending.

Hypothesis 2 indicates that situational characteristics should have direct effects on intentions to shoplift and indirect effects on intentions to shoplift which operate through other situational factors. With the exception of perceived sanctions, both shame (b = –.214, t = –5.372) and perceived pleasure (b = .220, t =6.270) have the

Table 3. Significant Full-Information Maximum-Likelihood Estimates for Intentions to Shoplift (N=604)

Dependent Variables	Independent Variables					
	Shame	Perceived Sanctions	Perceived Pleasure	Moral Beliefs	Prior Offending	Low Self-Control
Intentions to Shoplift	−.214	a	.220	−.186	.176	.153
Shame	—[b]	—[b]	−.173	.483	—[a]	−.102
Perceived Sanctions	.434	—[b]	—[b]	.117	—[a]	—[a]
Perceived Pleasure	—[b]	.153	—[b]	−.267	.169	.178

NOTE: LISREL shows the effects of columns on rows.
[a] Path estimated but not significant.
[b] Path not estimated.

expected effects on intentions to shoplift. The null results for perceived sanctions are not surprising: Shoplifting is a very common crime and one that can be committed with relative impunity; thus an individual's perception of being caught would likely not be salient.

As for the other effects, shame ($b = .434$, $t = 9.745$) has a positive effect on perceived sanctions, indicating that the more likely one is to perceive shame, the more likely one is to perceive the threat of sanctions as salient. Even though perceived sanctions do not affect intentions to shoplift, they affect perceived pleasure in a rather interesting manner: Perceived sanctions have a positive effect ($b = .153$, $t = 3.398$) on perceived pleasure, in keeping with Katz's (1988) notion of "sneaky thrills." It appears that among our respondents, the more one perceives the risk of sanctions as high, the more pleasure one perceives from shoplifting. Finally, perceived pleasure has a negative effect on shame ($b = -.173$, $t = -4.468$): The more one perceives pleasure from shoplifting, the less likely one is to feel shame.

Other effects include those of the other two exogenous variables, prior offending and moral beliefs. Prior offending has positive effects on intentions to shoplift ($b = .176$, $t = 5.322$) and on perceived pleasure ($b = .169$, $t = 4.421$), indicating that the more times respondents have shoplifted in the past, the more likely they are to intend to shoplift and to perceive pleasure from shoplifting. Prior behavior does not exert an effect on perceived sanctions. Moral beliefs are the only exogenous variable to be significant and consistent with all effects as predicted. Moral beliefs have the predicted negative effects on intentions to shoplift ($b = -.186$, $t = -4.669$) and on perceived pleasure ($b = -.267$, $t = -6.287$), indicating that the stronger one's moral beliefs against shoplifting, the less likely one is to intend to shoplift or to perceive pleasure from shoplifting. Likewise, moral beliefs have the predicted positive effects on shame ($b = .483$, $t = 13.599$) and on perceived sanctions ($b = .117$, $t = 2.691$), indicating that the stronger one's moral beliefs, the more likely one is to perceive shame and sanctions as important.

The indirect, direct, and total effects of the exogenous variables are displayed in Table 4. Because previous researchers did not examine the indirect effects of low self-control, we concentrate on those effects. (See Table 4 for the indirect effects of other exogenous variables.) Most of the influence of low self-control is direct, .153. Low self-control, however, also exerts important indirect effects on intentions to shoplift, totaling .065. The combined direct and indirect effects for low self-control equal 219. Of all the exogenous variables in the model, the total effects for low self-control rank second

only to moral beliefs. These results signify the importance of specifying all types of effects of low self-control, particularly indirect effects.

Table 4. Indirect, Direct, and Total Effects of Exogenous Variables on Intention to Shoplift

	Exogenous Variables					
	Low Self-Control	Prior Behavior	Moral Beliefs	Shame	Sanctions	Pleasure
Direct Effect	.153	.176	−.186	−.215	0	.220
Indirect Effects	.065	.043	−.159	.017	.037	.034
Total Effects[a]	.219	.219	−.345	−.197	.039	.254

[a] Total effects may not equal the direct and indirect effects added together because of rounding error.

To test the third hypothesis, we constructed a model that united the effects of low self-control and of situational characteristics. To determine whether the proposed model fit the data adequately, we examined the chi-square statistic of the model. Because chi-square is sensitive to sample size and to departures from normality in the data, there are alternative methods for assessing the goodness of fit of a model; one such method is the ratio of chi-square to degrees of freedom. Smith and Patterson (1985) suggest that values of 5 or less indicate an adequate fit. For this model the value is 1.01 (4.05/4), indicating an adequate fit to the data.

Other methods of interpreting the chi-square statistic have been proposed (Hayduck 1987; Hoelter 1983; Smith and Patterson 1985). One of these approaches, critical N, is the size of the sample that would be required to make the observed difference significant. The formula for critical N is

$$CN = \frac{(z\ crit + \sqrt{(2df - 1)})^2}{\frac{2\chi^2}{(N - G)}} + G$$

where $z\ crit$ is the critical value for the normal variable z at a given probability level ($z\ crit$ at a .05 probability level is 1.65), N is the number of observations, G is the number of groups, df is degrees of freedom, and χ^2 is the chi-square of the model.

Both Hoelter (1983) and Smith and Patterson (1985) suggest that critical Ns of 200 or more provide an acceptable fit. In this model the critical N is 1,374, suggesting a very adequate fit. In confirming Hypothesis 3, then, two separate diagnostic statistics show that our estimated model provides a good fit to the data and gives credence to the unification of two separate tracks of theoretical

thought—low self-control and situational factors—into a more complete model of offending.

Analysis of Drunk Driving

The significant maximum-likelihood estimates for drunk driving are shown in Table 5 and Figure 2. For low self-control, three of the four effects are significant. Low self-control has direct positive effects on intentions to drive drunk ($b = .108$, $t = 3.167$) and on perceived pleasure ($b = .251$, $t = 6.308$), indicating that the higher one scores on the low self-control scale, the more likely one is to intend to drink and to perceive pleasure from drunk driving. Low self-control exerts a negative effect on shame ($b = -.124$, $t = -3.257$), indicating that persons with low self-control are less likely to feel shame. As in the analysis of shoplifting, the effect of low self-control on perceived sanctions is insignificant.

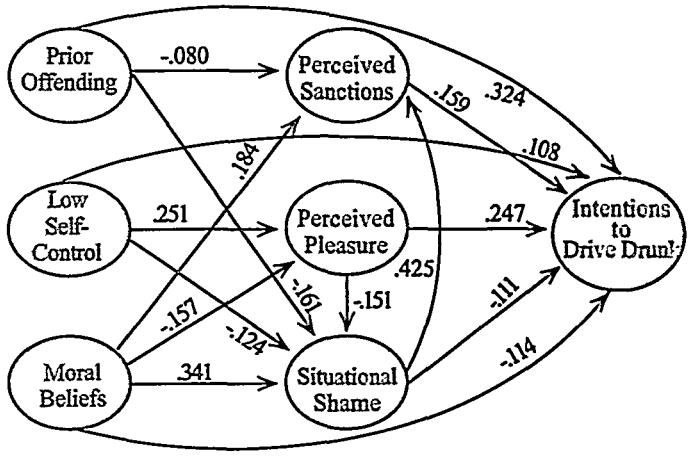

Figure 2.

All three situational factors have the expected effects on intentions to drive drunk. Shame ($b = -.111$, $t = -2.796$) and perceived sanctions ($b = -.159$, $t = -.4.219$) exert the expected negative effects on intentions to drink and drive, indicating that the more one perceives sanction threats and shame as important, the less likely one is to intend to drive drunk.[12] Perceived pleasure has the expected

[12] This is the only effect for perceived sanctions and differs from the results for shoplifting. The sanction effects for drunk driving appear to be direct—not indirect, as they were for shoplifting—perhaps because of recent moral campaigns targeting drunk driving and because of the harshness of penalties that are reported by the media. This result is consistent with recent research concerning perceived sanctions and drunk driving (Grasmick, Bursik, and Arneklev 1993a; Nagin and Paternoster 1993).

Table 5. Significant Full-Information Maximum-Likelihood Estimates for Intentions to Drive Drunk (N=604)

Dependent Variables	Independent Variables					
	Shame	Perceived Sanctions	Perceived Pleasure	Moral Beliefs	Prior Offending	Low Self-Control
Intentions to Drive Drunk	−.111	−.159	.247	−.114	.324	.108
Shame	—[b]	—[b]	−.151	.341	−.161	−.124
Perceived Sanctions	.425	—[b]	—[b]	.184	−.080	—[a]
Perceived Pleasure	—[b]	—[a]	—[b]	−.157	—[a]	.251

NOTE: LISREL shows the effects of columns on rows.
[a] Path estimated but not significant.
[b] Path not estimated.

positive effect ($b = .247$, $t = 7.313$) on intentions to drive drunk, indicating that the more pleasure one perceives from drunk driving, the more likely one is to intend to drive drunk. Other effects for perceived pleasure include a negative effect on shame ($b = -.151$, $t = -4.057$), indicating that the more pleasure one obtains from drinking and driving, the less likely one is to lose self-esteem. Shame has a positive effect ($b = .425$, $t = 11.123$) on perceived sanctions, indicating that the more one perceives shame as salient, the more likely one is to perceive sanction threats as also important.

Effects of the other two exogenous variables (prior offending and moral beliefs) are largely as expected. Prior offending has a negative effect on shame ($b = -.161$, $t = -4.498$) and on perceived sanctions ($b = -.080$, $t = -2.295$), indicating that the more one has driven drunk in the past, the less likely one is to feel shame and to perceive sanctions as important. In addition, prior offending has a positive effect on intentions to drive drunk ($b = .324$, $t = 9.946$), which indicates that the more one has driven drunk in the past, the more likely one is to intend to drive drunk. Prior offending has no effect on the perceived pleasure of drunk driving.

All four moral belief effects are significant. Moral beliefs has negative effects on intentions to drink and drive ($b = -.114$, $t = -3.177$) and on perceived pleasure ($b = -.157$, $t = -3.959$), indicating that the stronger one's moral beliefs are against drunk driving, the less likely one is to intend to drive drunk and the less likely one is to derive pleasure from drinking and driving. Moral beliefs also have positive effects on shame ($b = .341$, $t = 9.269$) and on perceived sanctions ($b = .184$, $t = 4.925$), indicating that the stronger one's moral beliefs are, the more likely one is to experience shame and to perceive sanctions as important.

As in the analysis of shoplifting, low self-control not only exerts a direct effect on intentions to drink and drive but also indirectly affects intentions to drink and drive through certain situational characteristics. These findings are consistent with Gottfredson and Hirschi (1990:95) in that the effects of the perceived consequences of offending are conditioned by the individual's level of self-control. Table 6 displays the indirect, direct, and total effects of the exogenous variables for the drinking and driving model. As in the shoplifting analysis, we concentrate on the effects of low self-control. For the drunk driving analysis, the direct effect of low self-control is .108. Possibly more intuitive and certainly more interestingly is the finding that the summed indirect effects of low self-control on intentions to drive drunk is .091, almost equal to the direct effect.

The total effect of low self-control, with the direct and indirect effects summed, is .199, third highest among the exogenous variables.

Table 6. Indirect, Direct, and Total Effects of Exogenous Variables on Intention to Drive Drunk

	Low Self-Control	Prior Behavior	Moral Beliefs	Shame	Sanctions	Pleasure
Direct Effect	.108	.324	−.114	−.111	−.159	.247
Indirect Effects	.091	.041	−.133	−.068	0	.027
Total Effects[a]	.199	.366	−.247	−.179	−.159	.274

[a]Total effects may not equal the direct and indirect effects added together because of rounding error.

Results concerning Hypothesis 3 in regard to drinking and driving are similar to those for shoplifting. To determine whether the model constructed for drunk driving fit the data adequately, we performed the same two tests as we conducted for shoplifting. The first test examined the ratio of chi-square to degrees of freedom. Values of less than 5 indicate an adequate fit to the data; our value was .33 (1.00/3). In the second test, the value of the critical N was 710, greater than 200. Both tests assure us that the model uniting self-control with situational characteristics fits the data quite well.

CONCLUSION

Building on the early work of Nagin and Paternoster (1993), we set out here to combine two different paths in theoretical criminology into a more complete model of offending. One path attributes crime to individual differences that are established early in life, specifically in low self-control. According to the second path, crime is the result of situational factors associated with criminal offending, such as the perceived costs and benefits of crime. As observed by Nagin and Paternoster (1993:489), these two paths have been explored separately rather than in conjunction. On the basis of our analysis, we find support for a model that integrates these two paths. The model holds after controlling for several important factors and performs well in two different tests designed to measure the fit of the model to the data.

Aside from delineating and testing a more complete model of rational offending, this paper represents the first attempt to examine the indirect effects of low self-control. This attempt is especially important because previous research in low self-control examined only the direct effects of low self-control and rational

choice characteristics (Grasmick et al. 1993b; Nagin and Paternoster 1993). Of all our findings, the indirect effects of low self-control were the most interesting. In fact, these effects were more complex than we had imagined originally. We found that low self-control had similar effects on shame and perceived pleasure across offenses, but exerted no effect on perceived sanctions in either scenario. Modeling indirect effects of low self-control is a difficult task, which we undertook with almost no previous theoretical guidance. Such effects probably depend on the offense, but currently we have too little information about the indirect effects of low self-control on offending. Additional theoretical work and further modeling of the total effects are priorities in self-control research.

The model we have presented here may be extended in the following ways. First, we would like to see future studies examine a wide array of criminal and deviant behaviors, such as drug use, sexual assault, burglary, and robbery. Insofar as Gottfredson and Hirschi are correct, low self-control should be related to all types of criminal and deviant behaviors. Second, many variables could be interchanged with and/or added to our list of situational variables. We contend that because different offenses require different situational characteristics and circumstances, these mediating factors may change in type—but they will be situational factors nonetheless. For example, an examination of marijuana use may require inclusion of a situational variable such as the ease of obtaining marijuana, whereas an examination of breaking and entering would require situational characteristics such as the lack of capable guardians, lack of a security system and the time of day or night. Still other examples of situational variables would include peer delinquency and peer associations. Because delinquency is overwhelmingly a group phenomenon (Reiss 1986), inclusion of such a measure has the potential to enhance the predictability of our model. This discussion should make apparent that although situational characteristics may vary in type depending on the crime, the framework of the model will remain the same: Time-stable variables such as low self-control will always precede and influence the situational variables.

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Appendix. Scenarios Used in the Study

Scenario 1: Drunk Driving/Low Risk

It's about two o'clock in the morning and Mark has spent most of Thursday night drinking with his friends at the "Vous." He decides to leave the Vous and go home to his off-campus apartment, which is about 10 miles away. Mark has had a great deal to drink. He feels drunk and wonders if he may be over the legal limit and perhaps he should not drive himself home. He knows people who have driven home drunk before, and none of them have ever gotten caught. Mark also knows that no one else will find out that he drove home drunk because only he knows how much he drank. In addition, Mark realizes that if he gets a ride home, he will have to take a bus back to the Vous in the morning to pick up his car. Mark decides to drive himself home.

Scenario 2: Drunk Driving/High Informal Risk

It's about two o'clock in the morning and Mark has spent most of Thursday night drinking with his friends at the "Vous." He decides to leave the Vous and go home to his off-campus apartment, which is about 10 miles away. Mark has had a great deal to drink. He feels drunk and wonders if he may be over the legal limit and perhaps he should not drive himself home. Mark knows that the chance of getting caught by the police is very low because he knows people who have driven home drunk, and none have ever gotten caught. But he also knows that some of his friends and members of his family may find out he drove home drunk since he saw many people he knew at the Vous. Mark realizes that if he gets a ride home, he will have to take a bus back to the Vous in the morning to pick up his car. Mark decides to drive himself home.

Scenario 3: Drunk Driving/High Formal Risk

It's about two o'clock in the morning and Mark has spent most of Thursday night drinking with his friends at the "Vous." He decides to leave the Vous and go home to his off-campus apartment, which is about 10 miles away. Mark has had a great deal to drink. He feels drunk and wonders if he may be over the legal limit and perhaps he should not drive himself home. Mark knows that the local police have recently implemented a "crackdown" on drunk driving, and in fact he knows two people who were arrested for drunk driving after leaving the Vous the week before. But Mark realizes that if he gets a ride home, he will have to take a bus back to the Vous in the morning to pick up his car. Mark decides to drive himself home.

Scenario 4: Shoplifting/Low Risk

It's Sunday evening, and David has gone to a small, privately owned convenience store to buy batteries for his alarm clock. He needs the batteries because he has to wake up very early the next day to take an exam for his 7:30 class. David will be studying most of the night, and he knows that if he doesn't have batteries for his alarm clock he will probably oversleep. The store is about to close when David realizes he does not have enough money to buy the batteries. The batteries are small enough to hide on himself without anyone noticing. He has enough money to buy a soda, so that no one will be suspicious of his not buying anything. David notices that he is out of sight of the only clerk, who is reading the newspaper behind the counter. He knows several people who have taken small items from the store and have not gotten caught, and in fact there seem to be no video cameras or other types of security devices in the store. Since David is alone, he knows that his friends have little chance of finding out if he takes the batteries. David decides to take the batteries.

Scenario 5: Shoplifting/High Informal Risk

It's Sunday evening. David and his best friend, Brian, have gone to a small, privately owned convenience store to buy batteries for David's alarm clock. David needs the batteries because he has to wake up very early the next day to take an exam for his 7:30 class. David will be studying most of the night, and he knows that if he doesn't have batteries for his alarm clock he will probably oversleep. The store is about to close when David realizes he does not have enough money to buy the batteries. He asks Brian if he can borrow some money, but Brian says he doesn't have any. The batteries are small enough to hide on himself without anyone noticing. David notices that he is out of sight of the only clerk, who is reading the newspaper behind the counter. He has enough money to buy a soda, so that the clerk will

not be suspicious of his not buying anything. In addition, he knows several people who have taken small items from the store and have not gotten caught, and in fact there seem to be no video cameras or other types of security devices in the store. David decides to take the batteries.

Scenario 6: Shoplifting/High Formal Risk

It's Sunday evening. David and his best friend, Brian, have gone to a small, privately owned convenience store to buy batteries for David's alarm clock. David needs the batteries because he has to wake up very early the next day to take an exam for his 7:30 class. David will be studying most of the night, and he knows that if he doesn't have batteries for his alarm clock he will probably oversleep. The store is about to close when David realizes he does not have enough money to buy the batteries. He asks Brian if he can borrow some money, but Brian says he doesn't have any. The batteries are small enough to hide on himself without anyone noticing. David knows that this store tends to prosecute shoplifters if they are caught, and in fact he read in the paper that someone was recently convicted for shoplifting a small item from this store. David takes the batteries and leaves immediately.