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GENDER, SELF-CONTROL, AND CRIME

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This article assesses empirically whether Gottfredson and Hirschi's "general theory" can account for the "gender gap" in crime and, when rival theories are included in the analysis, can explain criminal behavior for both males and females. Based on a sample of 555 adults, the results indicate that the relationship of gender to crime becomes nonsignificant when self-control is introduced into the analysis. Further, when males and females are analyzed separately, self-control is related, albeit differently, to males' and females' criminal involvement. These results suggest that Gottfredson and Hirschi's general theory should be incorporated into future empirical assessments of gender and crime.

The central thesis of Gottfredson and Hirschi's (1990) "general theory of crime" is that people lacking in self-control are predisposed toward criminal and deviant behaviors. "People who lack self-control," the authors contend, "will tend to be impulsive, insensitive, physical (as opposed to mental), risk-taking, short-sighted, and nonverbal, and they will tend therefore to engage in criminal and analogous acts . . . [which] . . . persist through life" (pp. 90-1).

A growing body of literature has emerged that has empirically assessed the general theory of crime. Although several studies have produced mixed results (see, for example, Benson and Moore 1992; Brownfield and Sorenson 1993; Polakowski 1994; Shaw and McKenzie 1991), this research generally supports Gottfredson and Hirschi's (1990) claim that low self-control is significantly related to drunken driving (Keane, Maxim, and Teevan 1993; Piquero and Tibbetts 1996; Shaw and McKenzie 1991; Strand and Garr 1992), self-reported juvenile delinquency (Wood, Pfefferbaum, and Arneklev 1993), official-delinquency (Brownfield and Sorenson 1993), and adult criminal and imprudent behaviors (Arneklev et al. 1993; Burton et al. 1994; Grasmick et al. 1993; Nagin and Paternoster 1993).

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With the exception of Keane et al.'s (1993) study of drunken drivers, previous investigations have largely neglected the implications of Gottfredson and Hirschi's (1990) general theory for exploring the relationship between gender and crime. In fact, previous research has limited concern for gender to the inclusion of sex only as a control variable (Arneklev et al. 1993; Gibbs and Giever 1995; Grasmick et al. 1993; Nagin and Paternoster 1993; Piquero and Tibbetts 1996; Wood et al. 1993) or has either omitted gender altogether from empirical analyses or used samples composed only of males (Brownfield and Sorenson 1993; Polakowski 1994; Shaw and McKenzie 1991). Nonetheless, Gottfredson and Hirschi's (1990) theory has direct implications for two important criminological issues (cf. Daly and Chesney-Lind 1988): the ability to account for the gender gap in crime and the generality of self-control as a causal variable across males and females.

In the sections that follow, we begin by elaborating the relevance of the general theory for these two issues. Using an adult community sample, we then assess empirically the ability of self-control to account for the gender gap and to account for variations in crime behaviors within gender groups.

GENDER AND THE GENERAL THEORY OF CRIME

Accounting for the Gender Gap

"As was true of age," observe Gottfredson and Hirschi (1990:145), "gender differences appear to be invariant over time and space. Men are always and everywhere more likely than women to commit criminal acts." Traditional criminology, they point out, often attempts to account for this gender gap by arguing that females have fewer opportunities for crime, especially due to their more extensive supervision by parents and other agencies of social control.

Gottfredson and Hirschi (1990) do not dispute that opportunity or "crime" factors may differentially affect male and female involvement in crime. They argue, however, that traditional perspectives may overestimate the effect of opportunity factors, especially in light of the fact that "male-female differences in the use of force and fraud emerge early in life, well before differences in opportunity are possible, and persist into adulthood, where differences in supervision by agents of social control are minimal" (p. 148). In contrast, they suggest that self-control may play a large role in accounting for gender differences in crime. Indeed, they predict a "substantial self-control difference between the sexes" (p. 147).

In our analysis, we first establish the presence of a significant relationship between gender and a measure of crime, and then assess whether a measure of self-control can account for this association. A measure of opportunity also is included in the analysis.[1]

The Generality of Self-Control

According to Gottfredson and Hirschi (1990), "people with high self-control are less likely under all circumstances throughout life to commit crime" (p. 118). The very generality of their theory, then, means that variations in self-control should explain not only the gender gap in crime and deviance but also differences among men and women in criminal behaviors. In fact, Gottfredson and Hirschi (1990) endorse the view that "variables related to differences in criminality among boys are the same as those for girls" (p. 148).

The contention that self-control should have similar effects on the conduct of men and women has implications for the criminological debate over the need for gender-specific theories of crime. Noting that major criminological theories were authored by men, focused on the behavior of men, and largely were tested using samples composed exclusively of men, feminist theorists have questioned the generalizability to females of these perspectives (for example, see Adler 1975; Daly and Chesney-Lind 1988; Leonard 1982; Smart 1976). In particular, traditional male-centered theories have ignored the role of patriarchal power relations in society and how these relations differentially shape the involvement of gender groups in crime (and victimization) (Berger 1989; Campbell 1990; Daly and Chesney-Lind 1988).

In contrast, other criminologists assert that the causal factors identified by traditional theories of crime affect men and women similarly (see Rosenbaum 1987; Smith 1979; Smith and Paternoster 1987). There is a body of evidence suggesting that these traditional theories—most notably, strain, social bonding (control), and differential association—have comparable effects across the genders (Akers et al. 1979; Cernkovich and Giordano 1979; Giordano, Cernkovich, and Pugh 1986; Paternoster and Triplett 1988; Smith 1979; Smith and Paternoster 1987).

In the current study, we explore whether self-control has general effects or gender-specific effects in explaining crime involvement. We also introduce measures for the traditional theories of strain, social bonding, and differential association. This approach allows us to assess both the generality of several theories across gender and the extent to which self-control retains effects when rival theoretical perspectives are in the same analysis. In this latter regard, previous research has generally not systematically assessed the

explanatory power of Gottfredson and Hirschi's general theory of crime when other criminological perspectives are taken into account (see Arneklev et al. 1993; Grasmick et al. 1993; Keane et al. 1993; Shaw and McKenzie 1991; Wood et al. 1993).[2]

METHODS

Sample

Data on adult criminality were gathered through a self-report survey of the general population aged 18 and older residing within the city of Cincinnati, Ohio, a Midwestern, urban area. Questionnaires were randomly sent to 1,500 individuals within our sampling frame. Following Dillman's (1978) Total Design Method, sampled individuals were sent a reminder letter shortly after the anticipated arrival date of the initial questionnaire mailing. Subsequently, two additional mailings of questionnaires were sent to those who had not responded. On the final mailing, we included a pen as an incentive to completing the survey. Finally, a private firm was hired to call each nonrespondent to solicit their participation. Another questionnaire was mailed to those individuals who agreed to participate in the survey.

For various reasons (e.g., change of address, death), 303 questionnaires could not be delivered. Of the 1,197 delivered surveys, 555 completed surveys were returned, a response rate of 46.6 percent. The response rate for White subjects, however, appears to exceed 60 percent, and thus our analysis is confined to Whites. We return to this issue below.

The sample generally represents the community from which it was drawn on a number of key attributes. The median age for the population under analysis (individuals 18 years of age and older) is 40.5 years of age, whereas the median sample age is 41 years of age (see U.S. Bureau of the Census 1992). Moreover, males older than age 17 compose 45 percent of the population, whereas for our sample they are 42 percent. Our sample's economic characteristics approximate those among the population. The sample's personal median income is nearly $23,000, whereas the population's personal median income is $21,006. With family income, the sample median is $30,000 and the population median family income is $26,774. Finally, 56.8 percent of the sample is not married.

The sample's main limitation, however, is that it underrepresents racial minorities: non-Whites make up 35.3 percent of the community but only 14.1 percent of the sample. Accordingly, we decided to restrict the analysis reported here to Whites.

In this regard, it is possible to estimate the approximate response rate for Whites in our sample based on the "number of deliverable surveys" (see Babbie 1990:183). As noted earlier, there were 1,197 people eligible to return surveys (that is, who had not moved, died, and so on).[3] According to the U.S. Census data, the community is 64.7 percent White and 35.3% non-White. Thus, of the 1,197 possible respondents, we would expect that there would be 778 Whites (64.7 percent) and 419 non-Whites (35.3 percent). Given that we received 477 surveys from Whites, their response rate is 61.3 percent (477 of 778 possible respondents). In contrast, only 78 of 419 non-White respondents returned a completed survey, a response rate of 18.6 percent. As a result, we confined the analysis to White respondents (however, the findings from analyses of non-Whites will be reported in footnote 12).[4]

Dependent Variable

General crime scale. Crime measures for the analysis were selected and modified from the National Youth Survey (NYS) delinquency scale (see Elliott and Ageton 1980). Modifications to items from the NYS delinquency scale consisted primarily of making items appropriate for adults instead of youths, such as replacing school-related items with workplace-crime items. In addition, newly developed items assessing adult participation in insurance fraud and tax cheating were included in the survey. Individual crime items in the crime scale are presented in Appendix 1.

Respondents were asked how many times during the past 12 months they had committed 20 various criminal acts (see Appendix 1). The response sets were open-ended. Scores on all 20 items were then summed to form a composite crime index.[5] The scale mean was 1.82, and the reliability coefficient was .60.

Independent Variables

Items used to assess self-control, strain, bonding, and differential association theories derive from previous research. For each item, respondents were instructed to respond by using a Likert-type scale that ranged from 1 = *strongly agree* to 6 = *strongly disagree.* When necessary, responses were recoded so that a high score on an item indicated the presence of low self-control, strain, bonding, or crime-oriented differential association.

General Theory

As noted, Gottfredson and Hirschi (1990) assert that low self-control increases the propensity for criminal behaviors. They also recognize,

however, that the availability of criminal opportunities will affect whether propensities can be acted upon. As a result, an adequate operationalization of their general theory should include measures of both self-control and opportunity. Most previous tests of the general theory, it should be noted, have not included opportunity in the analysis (for an exception, see Grasmick et al. 1993).

Low self-control. Gottfredson and Hirschi (1990:167) view low "self-control as a stable individual difference." Moreover, they contend that "people who lack self-control will tend to be impulsive, insensitive, physical (as opposed to mental), risk-taking, short-sighted, and nonverbal" (p. 90). Using this description of self-control provided by Gottfredson and Hirschi, we developed items to measure the concept of self-control. Thus, the items assess whether the respondents desire immediate gratification, are easily frustrated, are physical versus contemplative, verbal, and patient, and have a preference for risk.[6] The resulting self-control scale is a 12-item composite measure (alpha coefficient = .64) and is listed in Appendix 2. Scale items have been recoded so that high scores indicate low self-control.

Because their general theory of crime treats self-control as a unitary concept—that is, they do not suggest that different aspects of self-control have differential effects—we use a composite measure (see also Burton et al. 1994; Grasmick et al. 1993; Nagin and Paternoster 1993:478; Polakowski 1994; Wood et al. 1993). Use of a composite measure also allows for a more parsimonious analysis of the data.

Factor analysis was undertaken with items in the self-control measure. Although previous research (see Arneklev et al. 1993; Grasmick et al. 1993; Wood et al. 1993) has demonstrated through factor analysis that separate factors exist within the trait of self-control, our analysis of the items failed to identify distinct factors. Thus, we rely on a unidimensional or composite measure of self-control similar to those in previous tests (see Brownfield and Sorenson 1993; Nagin and Paternoster 1993; Wood et al. 1993). Moreover, the use of a composite measure of self-control is consistent with Gottfredson and Hirschi's (1990) statements; that is, "these variables should form a single . . . variable" (see, specifically, Brownfield and Sorenson 1993).

Opportunity. Not only self-control but also opportunity to engage in crime are important elements in general theory. Most tests of general theory have not included a measure of criminal opportunity (for an exception, see Arneklev et al. 1993; Grasmick et al. 1993). The opportunity for involvement in crime is measured here with a question asking respondents to "indicate the number of evenings per week you go out for recreation activities." Responses to this question range from 1 to 7 (mean = 1.69).

The rationale for employing this "routine activities" measure as an opportunity variable is that potential for criminal behaviors increases when individuals are away from home (see Cohen and Felson 1979; Miethe and Meier 1990; Pettiway, Dolinsky, and Grigoryan 1994). For example, Riley (1987) found that compared with nonoffenders, teenage offenders were more likely to spend leisure time away from home and "out" with friends and also to spend more money on recreational activities (which, of course, implies they are out more for recreation). Sampson and Groves (1989:794), following Cohen and Felson (1979), used time spent outside the home for leisure activities as a means of "tapping the 'routine activity' patterns of community residents."

Moreover, victimization studies have used similar measures of opportunity. Miethe, Stafford, and Sloane (1990) note that among other routine activities, frequent nighttime or daytime activity outside the home provides greater opportunity for potential victims to have contact with potential offenders (see also Garofalo 1987; Lynch 1987; Sampson and Wooldredge 1987). Finally, Miethe and Meier (1990:250) used "average number of nights per week spent outside the home for leisure and social activities" as one indicator of exposure of victims to motivated offenders. Although we believe that it is important to account for criminal opportunities in a test of general theory, we also recognize the limitations of using a single-item measure, and thus the results should be viewed with caution.[7]

Strain Theory

In traditional tests of Merton's "strain theory," strain is commonly operationalized by assessing the gap between the respondents' aspirations and expectations (Burton and Cullen 1992). Although such a measure was included in our data set, we did not use it in the current analysis because in previous research aspiration-expectation gap measures have generally not been related significantly to self-reported crime and delinquency (Burton and Cullen 1992; Johnson 1979; Kornhauser 1978). Separate analyses (not reported here) confirmed the lack of a significant association in our data between the aspirations-expectation gap and adult criminal involvement. Thus, this measure of strain was not included in the analyses.[8]

An alternative literature, however, has conceptualized strain as relative deprivation (see Agnew 1992; 1994, Agnew et al. 1996; Blau and Blau 1982; Burton 1991; Burton and Cullen 1992; Burton and Dunaway 1994; Passas 1987; Rosenfeld 1989; Thio 1975). In line with this view, we assessed relative deprivation with a three-item scale, which had a reliability coefficient of .75. This scale was designed to measure the strain associated with perceptions of inequality in material or economic possessions.

Scale items were created from previous research. Drawing on the work of Landis and Scarpitti (1965), respondents were asked to rate the question: "It bothers me that most people have more money to live on than I do." Two additional items were borrowed from Burton and Dunaway (1994) to assess feelings of deprivation based on individuals' relative comparison of themselves against others within their reference group (Merton 1957; Merton and Rossi 1968). Accordingly, subjects were asked to react to the following statements: "It's frustrating to see people driving nicer cars and living in nicer homes than I do"; "I get angry when I see people having a lot more money than I do."

Social Bond Theory

For adults, social bond theory asserts that individuals with strong ties to institutions such as family, friends, and work will be insulated from criminal involvement (cf. Covington 1985; Lasley 1988; Sampson and Laub 1990, 1993). Thus, we employ the adult social bond measure of marital status and the measure of attachment to family as controls in the analysis.

Marital status. Although control theory has been most often used to explain juvenile delinquency, recent research has begun to apply this perspective to adult criminality. In these studies, marriage is seen as a social bond that, by providing informal social control, insulates individuals from criminal participation (Horney, Osgood, and Marshall 1995; Laub and Sampson 1993; Sampson and Laub 1990, 1993; see also Knight, Osborn, and West 1977; Rand 1987). Accordingly, in our analysis, we are able to use marital status as a measure of an adult social bond (1 = *married*, 0 = *unmarried*). The limit of this measure, however, must be noted: We are able to assess only marital status and not the quality of the marital relationship (see Sampson and Laub 1990, 1993).

Attachment to family. In previous research assessing control theory, and building on Hirschi's (1969) initial investigation, attachment to family (parents) is often used as a social bond measure. In fact, studies indicate that the effects of attachment on crime are more pronounced than other elements of the social bond identified by Hirschi. Accordingly, we include a measure of attachment to family of origin (or parents).

This measure allows us to assess whether long-standing attachments to parents insulates against crime in adulthood. Thus, drawing on research by LaGrange and White (1985) and Rosenbaum (1987), adults were asked to rate the level of "respect" for their mother and father. The second item is modified from previous tests of social bond (Burton et al. 1995; Eve 1978; Simons, Miller, and Aignor 1980) and asks whether subjects have "gotten

along" well with their parents. The level of reliability for the attachment to family scale is .86.

One potential limitation of using a family of origin measure with adults is that Hirschi's original theory was intended for youths and not adults. At the same time, Hirschi (1969) did not argue that parental attachments lose effects over time; in fact, in the general theory, he suggests that early family relations have life-long consequences (see Gottfredson and Hirschi 1990). Additionally, Sampson and Laub (1993:134-5) employed a measure of attachment to family in their reanalysis of the Gluecks' data, thus suggesting the importance of early childhood attachments on adult criminal participation. In any case, it remains a largely unexplored empirical issue as to whether continuing parental attachments affect criminal involvement in adulthood.

Differential Association Measures

The core thesis of differential association theory is that individuals' exposure to procriminal values and interaction with criminal associates (criminal friends) increases the likelihood of criminal involvement (Matsueda 1982; Matsueda and Heimer 1987). Thus, in the analysis, we control for three differential association variables: individual definitions toward the law, others' definitions toward the law, and number of criminal friends. These variables assess not only internalized values toward criminal involvement but also exposure to others' criminality.

Individual definitions toward the law. The individual definitions toward crime scale is composed of four items and has a reliability of .71. To measure individual definitions toward crime, items were created that assessed the degree of tolerance for criminal behavior, the moral validity of violating the law, and the level of agreement with committing criminal acts. We use these operationalizations of individual definitions toward crime because a core assumption of Sutherland's (1949) work is that individuals develop favorable or unfavorable internalized definitions toward violating the law. Thus, items for this measure ranged from unfavorable to favorable definitions toward criminal involvement.

To measure absolute disapproval toward violating the law, an item was adapted from previous research (Akers et al. 1989; Jackson, Tittle, and Burke 1986; Short 1960): "No matter how small the crime, breaking the law is a serious matter." A second item, "It is morally wrong to break the law," also assessed anticriminal definitions (see Jackson et al. 1986; Matsueda 1989; Silberman 1976; Tittle, Burke, and Jackson 1986). In contrast, to measure adults' "willingness" to violate the law, a third item was included: "Sometimes you just don't have any choice but to break the law." Similarly, drawing

from previous research (Krohn, Lanza-Kaduce, and Akers, 1984; Short, 1960), adults were asked: "If breaking the law really doesn't hurt anyone, and you can make a quick buck doing it, then it's really not all that wrong."

Others' definitions toward the law. This scale has three items and a reliability of .65. According to Sutherland (1949), criminal behavior occurs primarily through exposure to others holding definitions favorable toward violating the law. Relying on previous tests of differential association (Akers et al. 1979; Cressey 1953; Dull 1983; Griffin and Griffin 1978; Jaquith 1981; Johnson, Marcos, and Bahr 1987; Short 1960; Tittle et al. 1986), we included the item: "Many of the people I associate with think it's okay to break the law if you can get away with it." The second item is designed to determine the type of people (criminal or noncriminal) with whom an individual associates. Thus, subjects were presented with the question: "Most of the people I associate with would never break the law." In previous research, items similar to this have been related to delinquent involvement (Akers et al. 1989; Jackson et al. 1986; Kethenini 1990; Krohn et al. 1984; Orcutt 1987). Finally, the third item assesses the extent to which individuals are "often in situations where people encourage [them] to do something illegal."

Criminal friends. Numerous empirical tests of differential association theory have relied on measures of criminal friends as evidence of interaction with criminal members within an individual's primary group (see, for example, Akers et al. 1979; Dull 1983; Johnson et al. 1987; Warr and Stafford 1993; Winfree, Griffiths, and Sellers 1989). Thus, we employ a measure of the number of criminal friends as a control in our model. That is, to assess the number of criminal friends, respondents were asked the following question: "In the last 12 months, how many of your five closest friends have done something they could have gotten arrested for?"

Control Variables

The variables of age and income are employed as control variables in the analyses. Age is measured as years of age, whereas income is the annual household income.

RESULTS

Zero-order correlations for the sample were undertaken to assess the relationship between low self-control and overall self-reported criminality (see Appendix 3). The findings indicate that low self-control is related significantly with overall offending ($r = .34$). Moreover, correlations were obtained

by gender groups. For males, the low self-control variable produced significant relationships with self-reported crime ($r = .36$), and among females, a significant relationship was observed with offending ($r = .31$). Thus, initial results indicate that regardless of gender, low self-control is related significantly with both male and female offending behaviors.

The Gender Gap and Criminality

One purpose of this investigation is to determine the presence of a "gender gap" in self-reported crime. Table 1 contains four regression equations assessing the effect of gender and general theory variables on crime. Equation 1 (top of Table 1) reveals that gender is significantly related with adults' self-reported offending, thus, these data indicate the presence of a gender gap, with males being more criminogenic. The second equation in Table 1 introduces the opportunity variable. Again, gender remains significantly related with adult offending.

To assess the ability of the general theory to account for the gender gap and crime, equation 3 contains a model that examines the relationship of measures of low self-control, opportunity, gender, age, and income on self-reported crime. Table 1 reports that the addition of the self-control variable in the model "eliminates" the gender effect on adults' crime among these data.

Following the lead of Grasmick et al. (1993), we also examine in Table 1 whether the interaction of (LSC × OPP) significantly affects offending. As suggested by Gottfredson and Hirschi (1990), the presence of opportunities for crime, coupled with an individual's low self-control, increases the likelihood of criminal involvement. The analysis in equation 4, however, reveals for the sample a nonsignificant relationship between the product term (LSC × OPP) and offending. In this equation, gender remains nonsignificant, and low self-control continues to have a significant effect on crime.[9]

The Generality of Self-Control by Gender Groups

The second purpose of this research is to assess the "generality of the theory" across gender—that is, will the trait of low self-control affect similarly both males' and females' criminal involvements? Accordingly, regression analyses were undertaken separately for males and females. Table 2 provides initial results by gender of the relationship of self-control variables and demographic controls on the dependent measure of crime.

Table 2 reports that low self-control is significantly related to both male and female offending.[10] The analysis also reveals among females the existence of a significant relationship between the interaction term (LSC × OPP)

TABLE 1: The Impact of Gender and Self-Control on Crime (beta values reported)

	Self-Reported Crime			
	Equation 1	*Equation 2*	*Equation 3*	*Equation 4*
General theory variables				
LSC	X	X	.27*	.23*
OPP	X	.10*	.05	–.14
LSC × OPP	X	X	X	–.16
Gender				
Being male	.14*	.14*	.07	.07
Control variables				
Age	–.24*	–.23*	–.16*	–.17*
Income	–.04	–.04	–.03	–.02

NOTE: LSC = Low Self-Control; OPP = Opportunity.
*$p < .05$.

TABLE 2: Self-Control, Age, Income, and Crime by Gender Groups (beta values reported)

	Males	*Females*
General theory variables		
LSC	.30*	.22*
OPP	.01	.13*
LSC × OPP	–.13	–.89*
Control variables		
Age	–.16*	–.13*
Income	–.02	–.09
R^2	.13	.12

NOTE: LSC = Low Self-Control; OPP = Opportunity.
*$p < .05$.

and self-reported offending. As such, these data suggest that Gottfredson and Hirschi's (1990) theory of self-control holds promise in explaining both male and female offending behaviors and has "generality" across gender groups.

To avoid any potential charges of employing a misspecified model, we introduce into the analysis measures from three major rival criminological theories: strain, bonding, and differential association.[11] Table 3 reports findings of these full models containing self-control, rival measures, and demographic controls for the dependent crime measure by gender groups.[12] The analysis reveals that low self-control is related significantly with criminal involvement for males but not for females. For females, however, the relationship between LSC × OPP and crime was significant.

TABLE 3: Self-Control, Rival Theories, Control Variables and Crime Behaviors by Gender Groups (beta values reported)

	Males	*Females*
General theory variables		
LSC	.20*	−.01
OPP	.02	.10
LSC × OPP	.04	−.64*
Strain		
Relative deprivation	.01	.04
Social bonding variables		
Attachment to family	−.04	−.06
Marital status (0 = not married)	.02	−.05
Differential association variables		
Individual definitions toward the law	.05	.20*
Others' definitions toward the law	.12	.12
Criminal friends	.04	.28*
Control variables		
Age	−.13	−.06
Income	−.09	−.06
R^2	.15	.28

NOTE: LSC = Low Self-Control; OPP = Opportunity.
*$p < .05$.

Among rival theories, only measures of differential association explain significantly females' criminal behaviors.[13] In contrast, measures of relative deprivation and social bonding were not related with crime for either gender in the analysis. For women, however, differential association measures are significant predictors of self-reported offending activities.

DISCUSSION

With few exceptions, previous empirical investigations (see Keane et al. 1993) assessing self-control theory have yet to conduct separate analyses by gender. This trend is notable in light of the scholarly appeal of the general theory (Akers 1991; Barlow 1991) and the recent studies undertaken (see Arneklev et al. 1993; Brownfield and Sorenson 1993; Burton et al. 1994; Evans et al. 1997; Gibbs and Giever 1995; Grasmick et al. 1993; Piquero and Tibbetts 1996; Polakowski 1994; Wood et al. 1993).

In the general theory, Gottfredson and Hirschi (1990) assert that "low self-control" has consequences that transcend forms of crime, behaviors, and offender characteristics including gender. Accordingly, the purpose of this study was twofold: (a) to determine empirically whether Gottfredson and

Hirschi's (1990) self-control theory is capable of accounting for the gender gap in criminality and (b) to assess the generality of self-control theory across gender groups when rival theories are employed as statistical controls. Several conclusions are suggested by our analysis.

First, the analysis revealed that self-control accounted for the "gap" between gender and crime in our community sample of adults. Again, previous research on this issue is in short supply. Even so, although introduced only as a control variable and not as a variable of theoretical interest, we could examine in three studies whether gender remained statistically significant in a multivariate analysis that also included a measure of self-control. The results, however, are inconsistent, with gender having varying effects with self-control in the analysis. Thus, Wood et al.'s (1993) study of high school students revealed that across a number of analyses, self-control (or its components) typically did not eliminate the gender gap for delinquency and imprudent behaviors; still, in three instances the gender effect was accounted for. Nagin and Paternoster's (1993) study of college students found that with self-control in the model, gender remained significant for intentions to drink and drive but was nonsignificant for intentions to commit theft. In another college student study, Gibbs and Giever (1995) found that self-control eliminated the gender gap in cutting classes but did not do so for levels of drinking.

These inconsistent results would not be predicted by the general theory. It should be recognized, however, that these three studies did show some evidence that self-control can account for gender differences in misconduct. Further, these studies can be challenged for their methodological limitations (e.g., not including a measure of opportunity; limited dependent variables). We also could not determine from the analyses in which gender remained significant whether self-control might have reduced the gender gap, even if it did not fully account for it. In light of these considerations, it is perhaps best to treat our findings, which are supportive of the general theory, as suggestive of the utility of self-control to explain gender differences in crime. At the very least, further research on this issue is warranted.

Second, the data reveal qualified support for the generality of self-control's effects across males and females. The results in Table 2, which report general effects across gender, appear to be based on a misspecified model. When measures of other theories are introduced (Table 3), we see that self-control remains statistically significant only for males, with no other theoretical variable having an effect. For females, however, the product term of Low Self-Control (LSC) × Opportunity (OPP) is statistically significant, but not self-control.

One possible interpretation of this result is that opportunity is less determinative of males' criminality. In *A General Theory of Crime*, Gottfredson

and Hirschi (1990) note that crime requires the intersection of low self-control and opportunity, but they also indicate that crime is easy to commit and thus that opportunities for crime are ubiquitous (see, for example, pp. xv, 4). They comment briefly on gender and crime, and, although avoiding specific hypotheses, suggest that gender differences exist in both self-control and opportunities (pp. 144-9).

Taking these observations together, it may be that criminal opportunities are sufficiently ubiquitous for males that self-control emerges as the main factor distinguishing men who commit crimes from those who do not. In contrast, given the greater constraints often placed on females (Hagan 1989), and that accompany their lifestyles, women's criminal involvement may depend more closely on females with low self-control gaining access to illegal opportunities (see also Steffensmeier 1983). This line of reasoning gains some support from the finding that the variable of criminal friends has a significant impact only on female crime. Although typically seen as a measure of differential association theory, criminal friends may also be seen as providing opportunities or "illegitimate means" for crime (see Cloward 1959; Cloward and Ohlin 1960; see also Alarid et al. 1996).

We offer this interpretation cautiously, because our measure of opportunity—"number of nights out for recreation"—is limited. Thus far, tests of the general theory have employed either no measure or very limited measures of opportunity. An important avenue of research is thus to incorporate more extensive measures of opportunity into analyses that examine the impact of self-control on crime. We suggest further, however, that our results indicate the need to examine whether these variables have similar or different effects by gender.

Although not the focus of this article, we should note that the generality of self-control across gender gains additional support from data that we collected on what Gottfredson and Hirschi (1990) call "analogous behaviors"—also termed "imprudent behaviors" by Grasmick et al. (1993). Essentially, these are deviant acts that share common characteristics with crime (e.g., immediately gratifying, easy to commit), but that fall outside Gottfredson and Hirschi's (1990) definition of crime as "acts of force or fraud undertaken in the pursuit of self-interest" (p. 15). An analysis of these acts is relevant, because Gottfredson and Hirschi (1990) contend that "gender differences in behaviors analogous to crimes are similar to those found for crime" (p. 147). In any event, we regressed a 20-item measure of analogous behaviors on the full model of general theory and rival theories measures.[14] Consistent with Gottfredson and Hirschi's generality thesis, low self-control was significantly related to analogous behaviors for both males and females (see also Keane et al. 1993).

Additional insights on the general effects of self-control can be drawn from Keane et al.'s (1993) analysis of the relationship between indicators of self-control (e.g., not using a seat belt) and drinking and driving behavior. Based on a roadside traffic survey, they found that across gender, low self-control was significantly related to blood alcohol content. As Keane et al. (1993) conclude, their study furnishes "evidence for a general theory of criminality, one that holds, at least in this instance, for both females and males" (p. 44).

In summary, the results reported here are largely consistent with the general theory of crime. This conclusion has two implications for future research. On one hand, research on Gottfredson and Hirschi's perspective cannot afford to ignore, as it largely has thus far, gender. As noted, we need further confirmation that self-control can account for the gender gap, and we need to determine in more detail the generality of the effects of self-control and opportunity for males and females. On the other hand, scholars interested in gender and crime cannot afford to ignore the general theory. At the very least, it appears that self-control has implications for understanding male and female crime. An important next step in research is thus to assess empirically how the general theory accounts for gender-related aspects of crime in comparison to gender-specific theories of crime (see Cloward and Piven 1979; Hagan 1989; Naffine and Gale 1989).

APPENDIX 1
Individual Items Measuring Crime scale

1. Avoided paying for small things such as food or movies
2. Filed false insurance claims
3. Provided liquor to a minor
4. Claimed false deduction on tax return you knew was false
5. Did not report all income on tax return
6. Been involved in gang fights
7. Bought, sold, or held stolen goods
8. Taken a vehicle for a ride without owner's permission
9. Thrown objects at cars or people
10. Stole things less than $5 at work
11. Stole things at work valued between $5 and $50
12. Stole things at work worth more than $50
13. Stole things less than $5 at places other than work
14. Stole things worth between $5 and $50 at places other than work
15. Carried hidden weapon
16. Damaged property belonging to family member
17. Damaged property belonging to others
18. Committed burglary
19. Assaulted others
20. Committed felonious assault with intent to kill or seriously injure

Cronbach's alpha = .60

APPENDIX 2
Items Composing Self-Control Measure

If I see something in a store that I want, I just buy it.
I'd rather spend my money on something I wanted now than to put it in the bank.
I don't deal well with anything that frustrates me.
I really get angry when I ride behind a slow driver.
If someone insulted me, I would be likely to hit or slap them.
I enjoy activities where there is a lot of physical contact.
I like to read books.
The best way to solve an argument is to sit down and talk things out, even if it takes an hour.
I enjoy roller coaster rides.
Even when I'm not in a hurry, I like to drive at high speeds.
I like to take chances.
The things I like to do best are dangerous.

Cronbach's alpha = .64

APPENDIX 3
Zero-Order Correlations of Theoretical Variables, Demographic Controls, and Crime for Sample

	Opportunity	*Low Self-Control*	*Relative Deprivation*	*Family Attachment*	*Marriage*	*Individual Definitions*	*Others' Definitions*	*Criminal Friends*	*Age*	*Income*	*Gender*	*Crime*
Opportunity	1.00											
Low Self-Control	.14*	1.00										
Relative Deprivation	−.06	.28*	1.00									
Family Attachment	.05	−.18*	−.12*	1.00								
Marriage (0 = unmarried)	−.26*	−.06	−.06	.04	1.00							
Individual Definitions	.05	.42*	.20*	−.33*	−.07	1.00						
Others' Definitions	.02	.46*	.21*	−.24*	−.01	.52*	1.00					
Criminal Friends	.13*	.40*	.13*	−.23*	−.06	.38*	.53*	1.00				
Age	−.15*	−.40*	−.28*	.19*	.05	−.26*	−.19*	−.32*	1.00			
Income	.01	−.07	−.11*	−.01	.08	−.07	−.17*	−.10*	−.01	1.00		
Gender (0 = female)	−.01	.25*	−.01	−.07	.19*	.20*	.27*	.15*	.02	.15*	1.00	
Crime	.11*	.34*	.16*	−.18*	−.09*	.34*	.36*	.34*	−.25*	−.15*	.13*	1.00

*$p < .05$.

APPENDIX 4
Items Composing Imprudent Behaviors Scale

1. Had accident in your car
2. Skipped work without an excuse
3. Been suspended from a job
4. Been drunk in public
5. Smoked pack of cigarettes in one day
6. Parked car illegally
7. Been loud and unruly in public
8. Hitchhiked illegally
9. Had accident in your home where you hurt yourself
10. Been so sick you couldn't leave the house
11. Speeding in vehicle
12. Begged money from strangers
13. Driven car while drunk
14. Urinated in public
15. Used marijuana
16. Used hallucinogens
17. Used amphetamines
18. Used barbiturates
19. Used heroin
20. Used cocaine

Cronbach's alpha = .74

NOTES

1. Opportunities to engage in crime is an important dimension of Gottfredson and Hirschi's (1990:119) general theory. That is, in the absence of opportunities, the presence of low self-control will likely not result in criminal offending. Thus, we include a measure of "opportunities" in this analysis.

2. To our knowledge, only several exceptions exist. First, in an analysis that included measures of competing theories, Burton et al. (1994) found that self-control was the strongest predictor of criminal behavior. Their study, however, did not focus on the issue of gender. Second, Nagin and Paternoster (1993) assessed measures from "shaming" and "rational choice" theories, but also did not assess the effects separately for gender groups. Finally, although Brownfield and Sorenson (1993) tested self-control and social control measures to explain delinquency, their analyses were limited only to males.

3. According to Babbie (1990), it is appropriate to calculate the response rate based on the number of deliverable surveys. As Babbie (1990) notes, "In computing response rates, the accepted practice is to omit all questionnaires that could not be delivered. In your methodological report, you should indicate the initial sample size and then subtract the number that could not be delivered due to bad addresses, death, and the like. The number of completed questionnaires is then divided by the net sample size to produce the response rate. As a result, the response rate is

really a measure of your success in persuading sample members to participate; you could not count against yourself sample members you could not even contact" (p. 183).

4. The response rate for Whites is, as noted, an estimate. If non-Whites were more likely to have moved and thus been a disproportionate percentage of the 303 respondents to which a survey was nondeliverable, then the base of eligible White respondents would be larger than 778; if so, the response rate reported here would be a high estimate. In any case, however, the response rate for Whites is reasonably high.

5. Logarithmic transformations of individual crime item scores resulted in substantial reductions in their skewness and kurtosis. Examination of residuals and plots indicated that the frequency distributions of the crime variables were much more normal with more equally distributed variances than the original scores (both assumptions underlying ordinary least squares regression). Moreover, the mean for men is 2.78, and for women it is 1.09. Overall, then, males averaged more self-reported crime than females in the sample, which is consistent with numerous studies reporting sex differentials in self-reported offending.

6. Because the data for this study were collected before other studies testing the general theory were published, we were not able to use items measuring self-control that subsequently appeared in print following Gottfredson and Hirschi's (1990) work (see, in particular, Arneklev et al. 1993; Grasmick et al. 1993). Nonetheless, similar to other research, our measure of self-control is related significantly to crime behaviors (see analysis to follow). The fact that measures of self-control independently formulated by different researchers produce similar results lends credence to the conclusion that the relationship of self-control to crime/deviance is not due to a unique operationalization of the construct of self-control.

7. As a reviewer pointed out, our measure of opportunity does not pertain equally to all offenses in the scale. Thus, although nights out may increase chances for street crimes, it does not have any ostensible connection to increasing opportunity for income tax evasion and work-related crimes. To check this possibility, we reanalyzed the data, splitting the offense items into those that nights out would not provide opportunities to commit (6 items) and those for which it might increase chances to offend (14 items). The six items included the following offenses: theft at work below $5, theft at work between $5 and $50, theft at work beyond $50, claimed false deduction on tax return, not reporting all taxable income, and filing of false insurance claims. In both analyses, low self-control was significantly related to higher criminal involvement. However, as would be expected, nights out was significantly related to crime only for the 14-item scale.

8. In our data, a strain measure of blocked opportunities also exists. In determining the use of either relative deprivation or blocked opportunities, the alpha level of reliability was .59 for the blocked opportunities and .75 for relative deprivation. Thus, we employed the measure with the greatest reliability (relative deprivation) for the analysis.

9. Whereas Grasmick et al. (1993) found a significant relationship between the product term (Low Self-Control Crime Opportunity) and crime in their study, for our total sample, we did not. One explanation for our non-significant results may be that our opportunity measure differs from theirs. Whereas their opportunity measure was designed to assess "criminal opportunities," our opportunity measure derives from the "routine activities" literature, which is "nights out" away from home. However, below we will assess the product term by gender groups, given that gender is the focus of this investigation.

10. Though the findings are not reported here, measures of differential association also eliminated the relationship between gender and crime in the analysis. A model containing only differential association variables, age, sex, and income were regressed on crime. Differential association variables assessing individual definitions toward crime and number of criminal friends were significantly related with offending and "eliminated" the effect of gender on crime. In a direct test between self-control and differential association measures for the total sample,

however, the measure of low self-control exhibited a stronger relationship with general crime than did any variable in the model.

11. Hirschi (1969) has identified strain theory and cultural deviance/differential association theory as a rival of control theory. "Take, for example, my version of social control theory," observes Hirschi (1969:43), "this theory was developed in explicit opposition to strain theory and cultural deviance theory." The issue of whether Hirschi's original social bond theory and Gottfredson and Hirschi's (1990) self-control theory are incompatible, however, is more complicated. Nagin and Paternoster (1993), for example, see self-control and social control theories as compatible. But this is not the position taken by Hirschi and Gottfredson (1995) in a recent exchange with Sampson and Laub (1995). In brief, Hirschi and Gottfredson take the position that any relationship between bonds is a consequence of self-control and that any relationship between bonds and crime is spurious. Thus, although there is no inherent incompatibility between social bond and self-control theory, Hirschi and Gottfredson define social bond theory as a rival perspective.

12. Regression analyses also were undertaken separately for non-White males ($n = 23$) and females ($n = 55$) for the crime measure. Among the theoretical variables, low self-control produced the greatest effects on crime. The only other variable significantly related to either genders' offending is criminal friends. These results must be viewed with caution given the extremely small number of cases in this separate analysis.

13. As such, among tests of traditional theories of crime, research has long found gender (i.e., being male) to be significantly related with various forms of offending and delinquency behaviors (see, for example, Agnew and White 1992; Benda and DiBlasio 1991; Burton et al. 1995; Daly and Chesney-Lind 1988; Mak 1990; Paternoster and Triplett 1988; Simons et al., 1980; Winfree, Sellers, and Clason 1993).

14. Imprudent behaviors is measured with a 20-item scale (see individual items in Appendix 4). Again, results reveal that low self-control was significantly related to both male (Beta = .21) and female (Beta = .19) involvement in analogous behaviors.

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