

Victimization and the General Theory of Crime

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Theories of victimization developed independently of theories of offending, in spite of consistent findings of similarities between offenders and victims of crime. This study examines whether Gottfredson and Hirschi's (1990) general theory of crime, typically used to predict offending, also has relevance in understanding juvenile victimization. The data for this project are drawn from a sample of over 1,200 middle and high school students. Using structural equation models, the findings suggest that higher self-control does directly decrease victimization and that self-control also affects victimization indirectly through opportunities (peer deviance). Implications for the studies of victimization as well as the general theory of crime are discussed.

Keywords: self-control; opportunity; victimization; general theory

For nearly 30 years, those who study crime have demonstrated that victims of crime are overwhelmingly similar to offenders, being disproportionately young, poor, located in urban areas, Black, and male (Dobrin, Lee, & Price, 2005; Finkelhor, Ormrod, Turner, & Hamby, 2005; Gottfredson & Hindelang, 1981; Hindelang, Gottfredson, & Garofalo, 1978; Thacher, 2004; Thompson, Mitchell, & Dodder, 1984). In addition, victimization is not only concentrated in different groups but within individuals as "some people are more victim-prone than are others" (Gottfredson & Hindelang, 1981, p. 719). Given these similarities, it is possible that the same mechanisms that predict one form of criminal experience may also predict the other. Thus, the field of victimology may be served by drawing on theories within criminology that have been established to be consistent predictors of offending.

One of the most well-tested theories used to explain criminal offending is the general theory of crime. Gottfredson and Hirschi's (1990) assertion that self-control can be used to predict a wide range of criminal and analogous behaviors has been subjected to a variety of critiques (Akers, 1991; Barlow, 1991; Tittle, Ward, & Grasmick, 2003a) but has ultimately found a great deal of support (see Pratt & Cullen, 2000, for review).¹ Recent research on this theory has begun testing other assumptions in the theory, such as the stability of this characteristic (Arneklev, Grasmick, & Bursik, 1999), the source of self-control (Hay, 2001; Hay & Forrest, 2006; Nofziger, 2008), as well as the role of opportunities (Burton, Cullen, Evans, Alarid, & Dunaway, 1998; Burton, Evans, Cullen, Olivares, & Dunaway, 1999; Nofziger, 2001; Smith, 2004). Research on the general theory of crime has established the importance of this theory for examining criminal and analogous behaviors. This study suggests that applying this theory to victimization would provide a new view of the causes of this phenomenon as well as test the limits of how truly general the theory is.

EXTENDING THE GENERAL THEORY OF CRIME TO VICTIMIZATION

A number of studies have demonstrated that "the same factors that lead to criminality may also expose one to the risk of becoming a victim" (Wolfgang, Figlio, & Sellin, 1972, p. 169). While the general theory of crime was developed to explain criminal offending, the authors do acknowledge the similarities in victimization and offending (Gottfredson & Hirschi, 1990), and many of the elements of this theory could be logically extended to predict victimization.

According to Gottfredson and Hirschi (1990), criminal offending is not a unique phenomenon to be explained but rather part of a larger category of behaviors that all share certain characteristics. These include activities that provide immediate gratification and excitement, as well as those that take very little effort or planning. The differential tendency between individuals to engage in these types of behaviors could be predicted by self-control, defined as the ability to resist temptations of the moment (Gottfredson & Hirschi, 1990, p. 87). Self-control is a relatively stable characteristic that differs across individuals and develops early in life. Research on offending consistently supports the assumption that individuals with higher self-control, in comparison to those with less self-control, will be less likely to engage in crime and analogous behaviors throughout their lives (Arneklev et al., 1999; Hay & Forrest, 2006; Turner & Piquero, 2002).

How to measure self-control has been an issue of continued debate in the field. Most studies turn to attitudinal measures, with a few studies employing behavioral indicators. According to most comparisons of these two methods, both produce similar effect sizes on a range of deviant outcomes (Pratt & Cullen, 2000; Tittle, Ward, & Grasmick, 2003b). However, a few recent studies have found conflicting results (Marcus, 2003; Tittle et al., 2003b). A potential problem relying on purely attitudinal measures is that self-report survey responses are in fact influenced by the individuals' self-control (Piquero, MacIntosh, & Hickman, 2000). One possible reason for this is that individuals low in self-control may interpret ideas of risk or excitement differently than will those with high self-control. At a more basic level, individuals low in self-control may be less willing to provide accurate information in a self-report survey. Thus, it is likely that "the level of self-control itself affects survey responses" (Hirschi & Gottfredson, 1993, p. 48). However, behavioral measures have been criticized as being tautological (Akers, 1991; Geis, 2000). In response to this debate, some studies have included separate measures of behavioral self-control and cognitive self-control (Evans, Cullen, Burton, Dunaway, & Benson, 1997; Marcus, 2003; Tittle et al., 2003b), in order to compare which measure is best able to assess self-control. Overall, comparisons of the two measures provide stronger support for behavioral measures, but regardless of how self-control is measured, this concept is strongly associated with a wide variety of forms of criminal, delinquent, and analogous behaviors (Pratt & Cullen, 2000).

While most tests of self-control theory have focused on this key concept, it is not the only important predictor in this theory. Whether or not the individual actually participates in crime is also influenced by opportunities. In general, there are abundant opportunities for crime to occur and to some extent, opportunities are independent and not related to any characteristics of the individual (Gottfredson & Hirschi, 1990, p. 248). However, there are situational characteristics that may directly influence the relative opportunities for crimes to occur.

Past work has established that when juveniles spend unstructured time socializing with peers they are much more likely to be involved in deviant activities (Osgood,

Wilson, O'Malley, Bachman, & Johnston, 1996). An important element of this previous work is that the peers do not have to be deviant for unstructured time to increase delinquency. The time spent with peers, rather than the actual deviance of peers, is the key in predicting deviance in several studies (Gold, 1970; Haynie & Osgood, 2005). However, there are several reasons to believe that association with more deviant peers would serve to increase opportunities for criminal offending or victimization even more than nondeviant peers. By spending time with others who engage in deviant activities, the juvenile is more likely to be in situations where crime occurs. In such situations, the juvenile may become involved in the event as either a victim or an offender. This possibility is supported by several studies that found that juveniles who associate with deviant peers are not only at higher risk for offending (Fagan, Weis, & Cheng, 1990; Johnson, Marcos, & Bahr, 1987; Nofziger, 2001; Warr, 1993a, 1993b) but are also more likely to become a victim of crime (Lauritsen & Quinet, 1995; Nofziger & Kurtz, 2005). One possible reason for this relationship is that juveniles are often victimized by their friends. In fact, in one study the most common offenders in cases of sexual abuse are actually reported as a friend of the juvenile victim (Stein & Nofziger, 2008). These studies suggest that opportunities to be involved in crime are "probably greater when one's friendship network has a higher proportion of criminals" (Longshore & Turner, 1998, p. 89).

In addition to the role of peers in predicting offending and victimization, those who are low in self-control are presumed to "distlike settings that require discipline, supervision, or other constraints on their behavior" (Gottfredson & Hirschi, 1990, p. 157). Such settings are likely to be ripe with opportunities for crime to occur. Whether or not the low self-control individual becomes a victim or an offender in such scenarios may be a matter of chance or luck. The same lack of self-control that leads someone to get drunk and initiate a fight may also place them in situations where others are drunk and they end up as the victim of an assault. The tendency for those with low self-control to act impulsively and physically, without considering others, may also "evoke or otherwise precipitate victimization" (Piquero, MacDonald, Dobrin, Daigle, & Cullen, 2005, p. 58). Therefore, it is likely that those with poor self-control will engage in activities that can lead to victimization as easily as criminal offending. Thus, the way in which self-control and opportunities work together is an important element of the general theory but is one that has often been omitted from tests of the theory.

Although a great deal of research has been conducted on the general theory of crime, very few have attempted to extend this theory to victimization.² One previous study examined how risky lifestyles, including victimization, were related to self-control among a Canadian sample (Forde & Kennedy, 1997). This study found that two forms of attitudinal measures of self-control influenced whether the individual reported having been a victim of a crime. In another study, Shreck (1999) found that a personality index of self-control predicted victimization among college students, and a third study concluded self-control also affected the risk of homicide victimization among an offender sample (Piquero et al., 2005). Thus, these previous studies indicate that the application of the general theory to victimization may be a useful means of understanding these experiences.

The current study adds to the literature in three ways. First, the few studies on self-control and victimization have utilized either very high-risk groups (Piquero et al., 2005), or samples of adults with fairly low levels of victimization (Forde & Kennedy, 1997; Schreck, Wright, & Miller, 2002). In contrast, this study utilizes juveniles in middle and high school, an age group that is typically more deviant than adults but not uniquely at high risk. Second, this study develops a measure of self-control that incorporates both cognitive

and behavioral measures. This approach minimizes the difficulties associated with each type of measure. Third, this is the only study known to include a measure of opportunities along with self-control in predicting victimization.

To examine the utility of the general theory to the study of victimization, this study tests three hypotheses: (a) higher self-control will decrease victimization; (b) self-control will remain significant while opportunities for victimization are controlled; (c) self-control will have an indirect influence on victimization through opportunities. Support for the final hypothesis would be demonstrated through the finding that self-control decreases opportunities, which in turn moderates the effect of self-control on victimization. Therefore, the effects of self-control on victimization are not only direct but also operate through the mechanism of opportunities.

DATA AND METHODS

This study uses data collected from over 1,200 juveniles as part of a larger project supported by the National Science Foundation (Tucson Youth Project, principle investigators Travis Hirschi and Michael Gottfredson). The purpose of the full study was to compare and test measures of both social control and self-control theories. In addition, a variety of topics of interest to the investigators and the participating schools were included, such as bullying experiences, dating violence, and knowledge or use of alcohol, drugs, and tobacco. The data were collected through self-report surveys of students in four middle and high schools in Arkansas. The survey instrument contained 200 items that included measures of self-control as well as a range of different victimization items. Several surveys had to be excluded due to excessive missing data or due to students using the answer sheets to create pictures (such as a smiling face) or words (e.g. "this sucks") rather than actually responding to questions. After elimination of surveys that were unusable, there were a total of 1,139 students in the sample.

Table 1 provides the distribution of the final sample. The sample was fairly evenly divided among boys and girls, and was predominantly White (85.3%). Due to restrictions on using students in grades 8 and 12, the sample only has a few in the youngest and oldest age groups but is then evenly distributed among the 15-, 16-, and 17-year-olds. Approximately 55% of the students lived in an intact family structure (with both their biological mother and biological father), and the majority of the juveniles reported their family income to be above national poverty levels.

Analysis

Due to the nature of the variables of interest, structural equation models (SEM), are estimated using analysis of moment structures (AMOS). Each of the key concepts of self-control, opportunity, and victimization is a latent variable composed of numerous observed variables in the data, and SEM allows for more accurate estimation of structural relationships between such latent variables than other analysis methods. However, as a first step in the analyses, a series of principle component factor analyses and reliability tests were conducted on the items prior to subjecting the items to confirmatory factor analyses (CFA) and structural models.

For each model in these analyses, AMOS generates a number of different fit indexes (Bentler, 1990; Bollen, 1986, 1989; Hu & Bentler, 1995, 1999). For the purposes of this study, three different fit measures are reported. Measures of absolute fit are typically based

TABLE 1. Characteristics of Respondents in National Survey of Adolescents

	Frequency	Percent ^a
Male	558	49.0
Female	572	50.2
White	971	85.3
Non-White	151	13.3
Age		
14 or younger	102	9.0
15	382	33.5
16	379	33.3
17	236	20.7
18 or older	37	3.2
Intact family	625	54.9
Not intact	503	44.2
Family income		
Less than \$10,000	83	7.3
\$10,000-\$25,999	160	14.0
\$26,000-\$39,999	248	21.8
\$40,000-\$65,999	247	21.7
More than \$66,000+	284	24.9

^aPercentages represent valid percents and thus do not total 100% due to missing data.

on the assumption of a normally distributed chi-square (χ^2). Such measures are highly influenced by any nonnormality in the data as well as large sample sizes. Thus, such measures are not appropriate for the current analysis, and alternative measures that are based on a comparison between an independent model and the proposed model are utilized. The comparative fit index (CFI) and the root mean square error of approximation (RMSEA) are both based on a noncentral χ^2 distribution. Models are judged to be acceptable if the CFI is above .90 and the RMSEA is close to zero, with any value over .10 indicating a poor fitting model. The other measure, the Tucker-Lewis Index (TLI), adjusts somewhat for the complexity of the model and has been demonstrated to be relatively unaffected by sample size. Similarly to the CFI, for the TLI, values closer to 1 indicate better fit, with values over .90 indicating a good fit of the model to the data.

Measures

Control Variables. The analyses include controls for the demographic characteristics often associated with both victimization and offending. Sex (1 = female), race (1 = White, 0 = non-White), and whether the juvenile is living in an intact home (1 = yes) are all dichotomous variables. The age of the respondents ranges from 14 or younger to 18 or older, and family socioeconomic status is reported from the juvenile on a five-point scale from less than \$10,000 to a high category of \$66,000 or more.

Self-Control. As a way of addressing the critiques of how to measure self-control, indicators of both attitudes and behaviors were considered in this study. Unlike past studies that developed two separate measures for these different types of items, preliminary analyses

TABLE 2. Fit Statistics for Measures of Self-Control, Opportunity, and Victimization

Latent variable	Cronbach's alpha	RMSEA	CFI	TLI	N items
Self-control	.790	.088	.982	.976	15
Opportunities	.704	.034	.999	.997	7
Victimization	.753	.069	.984	.969	8

using principle components and CFA indicated that these measures tapped one underlying concept. Therefore, a total of 15 items are combined into one measure of self-control. These items formed a highly reliable scale ($\alpha = .79$) and were fairly evenly divided between attitudinal and behavioral measures. A CFA using AMOS also demonstrated that these 15 items significantly load onto one latent concept of self-control. The standardized maximum likelihood estimates (*MLE*) of each item on self-control is provided in the appendix. The fit indexes, for self-control as well as the other measurement models in the analysis, are listed in Table 2.

Opportunities. To measure victimization opportunities in this study, a total of eight items are used (see appendix for full list of items and Table 2 for fit indexes from the CFA). Following the lead of past research (Cerkovitch & Giordano, 1987; Hirschi, 1969; LaGrange & Silverman, 1999; Nofziger, 2001; West & Farrington, 1977; Wilson, 1980), three of these items focus on how well the juveniles are supervised by their parents. The remaining items are indicators of participation in unstructured activities and juvenile exposure to criminal others, such as deviant peers. A final measure of opportunities is whether the juvenile has been asked to join a gang. Such a measure may be an additional indicator of the deviance of the juveniles' peers if they have acquaintances or friends who are in a gang. In addition, even if none of the juveniles' immediate friends are in a gang, living in an area where gangs are present may make the juvenile more susceptible to criminal victimization. A basic finding is that communities with a higher number of active gangs have higher rates of crime (Block, 2000). Thus, if the juvenile is in close enough proximity to gangs to have been asked to join, they are likely living in a community with higher crime rates and are thus more likely to become a victim of crime themselves.

Victimization. This study examines a range of victimization experiences from fairly minor acts, such as being the victim of bullying, to being assaulted with a weapon. Eight specific experiences are used to represent the latent variable of victimization. Respondents indicated whether they ever experienced each form of victimization on a four-point scale (0 = never, 1 = once or twice, 2 = several times, 3 = many times). The mean and standard deviation of each item are displayed in the appendix, along with the *MLE* of the items for the measurement model. As with both the self-control and opportunity measures, principal components factor analyses indicated these items loaded most consistently on one factor, and the combined scale was very reliable ($\alpha = .753$). The fit statistics for the CFA for this measurement model are displayed on Table 2.

RESULTS

Victimization is very common in this sample, with only 4.6% of the sample reporting that they had not experienced any of these acts. While most of the sample experienced some

victimization, the mean level of each form of victimization is low. Only two forms, being teased, and having something stolen, has a mean greater than 1. The mean of an additive measure of victimization is 5.26 ($SD = 3.82$), with a maximum of 24. Therefore, most of the individuals in this sample have experienced more than one form of victimization.

By far the most common type of victimization was having something stolen, with over 84% of the sample reporting such an experience. However, most respondents report only one such incident (57%), with 7.4% reporting that such an event happened to them many times. In contrast, another form of what is typically considered to be minor victimization, verbal bullying, is clearly a repetitive problem, with over 14% reporting that this had happened many times in their lives. The most serious form of victimization in this study, assault with a weapon, is the least common, with only 17% of the sample reporting any such act. However, 20 respondents report that this had occurred to them many times.

To determine the relationship between self-control, opportunities, and victimization, a series of SEMs were conducted. The first model examined the relationship between self-control and victimization (hypothesis 1). The second model added the direct effect of opportunities on victimization (hypothesis 2). The final model tests both the direct effects of self-control and opportunities and included a path between self-control and opportunities, thus allowing for an indirect effect of self-control on victimization through opportunities (hypothesis 3). In each model, the demographic controls of the respondents' age, sex, race, family income, and having an intact family were also included. Table 3 lists the *MLE* of the key structural relationships between the demographic controls, self-control, opportunities, and victimization in order to allow for comparison across the three models.

For the first model, nearly all these controls are significant, and in the expected directions. One exception is age, which fails to reach significance. As would be expected, White juveniles who live in intact families with higher incomes are less likely to experience victimization. In the final two models that include both opportunities and self-control, the only two controls that remain significant are living in an intact family and family income.

TABLE 3. Standardized *MLE* of Key Relationships and Fit Statistics for Structural Models

	Model 1	Model 2	Model 3
Sex	.075*	.057	.054
Age	-.037	-.060	-.054
White	-.061*	-.060	-.056
Intact family	-.123***	-.112***	-.105***
Family socioeconomic status	-.095**	-.085*	-.078*
Self-control → Opportunities	-.567***	-.441***	-.368***
Self-control → Opportunities	.281***	.248*	-.858***
RMSEA	.070	.070	.064
CFI	.967	.958	.965
TLI	.962	.951	.960
NPAR	89	115	116
R-squared	.367	.313	.386

Note. NPAR = number of parameters estimated.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Juveniles from intact families, and in families with greater economic resources, are less likely to be victimized. Therefore, when controlling for the relationships between self-control and opportunities, race, sex, and age are not significant, but family structure and economic standing do seem to provide some continued protective effects.

One interesting finding in the first model is that the effect of sex is in the opposite direction as would be expected, with girls having higher victimization. Since most research indicates that girls are less victimized (LaGrange & Silverman, 1999; Lauritsen, 2001; Lauritsen & Quinet, 1995), this is unexpected. One possible explanation is that controlling only for self-control clouds the relationship between sex and victimization by failing to account for opportunities. Since sex falls to nonsignificance in the models that control for both self-control and opportunities, this indicates a potential mediation effect between sex, self-control and opportunities, and victimization. Such a relationship should be explored in future work, but for the purposes of this study, the primary relationships of interest are between self-control, opportunities, and victimization.

In the first model, the direct relationship between self-control and victimization is significant ($p < .001$) and in the expected direction. Specifically, an increase in self-control decreases victimization by .567. Thus, this supports the first hypothesis in this study. The second model includes both independent variables of self-control and opportunities. Lower self-control remains significant ($p < .001$) and decreases victimization by .441, while greater opportunities increase victimization by .281 ($p < .001$). The magnitude of the effect of self-control does drop between models 1 and 2 but not substantially enough to conclude that opportunity fully mediates the effect of self-control on victimization. Hypothesis 2 is therefore largely supported.

The key structural relationships for the full model are presented in Figure 1. In the full model, self-control has a direct negative effect on victimization ($MLE = -.368$, $p < .001$). Self-control is also a significant and negative predictor of opportunity ($MLE = -.858$, $p < .001$). Finally, opportunity is a significant and positive predictor of victimization ($MLE = .248$, $p < .05$), thus indicating there will be both a direct and indirect effect of self-control on victimization. In comparing model 1 and the final model, the direct effect of self-control on victimization does decrease, indicating that the effect of self-control on victimization is at least partly moderated by opportunity, thus supporting the final hypothesis. The total effect of self-control (direct and indirect through opportunity) on victimization

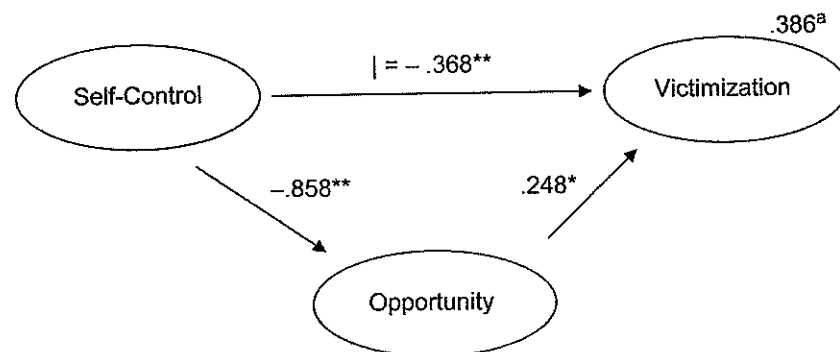


Figure 1. Standardized effects of structural elements in the full model on victimization.

^aSquared multiple correlation.

* $p < .05$. ** $p < .001$.

is $-.580$. In the full model, the R^2 for victimization is $.386$, indicating that 38.6% of the variation in victimization is explained by this model. This is an improvement of only 1.9% over model 1 but 7.3% over model 2, thus indicating that it is necessary to include the relationship between self-control and opportunity to have a fully specified model.

DISCUSSION

The purpose of this study was to determine whether the general theory of crime can be of benefit to the study of victimization. The traditional approach divides theories into explanations of offending or victimization and ignores the reality that there is a great deal of overlap in these experiences. Thus, it is potentially much more useful to seek theories that can explain both these outcomes rather than imposing a potentially misleading division that may only serve to limit our understanding of the nature of criminal and deviant experiences. By demonstrating that a theory designed to explain offending does in fact contribute to our understanding of victimization, it is possible to enhance our understanding of these experiences.

The significant relationship between opportunity and victimization found in this study indicates a need to examine the contextual effects of self-control. It is likely that experiences of both offending and victimization are based only partly on individual characteristics and are also affected by "the social circumstances in which those with low self-control are embedded" (Piquero et al., 2005, p. 67). While these circumstances may include the larger contexts of race relations, socioeconomic status, or neighborhood characteristics that affect many individuals, they are also the immediate situations that provide opportunities for crimes to occur where the individual may become either an offender or a victim.

This study provides important insights into the relationship between offending and victimization, but there are several important limitations. While there are benefits in using a sample of juveniles such as in this study, this is not nationally representative. The author knows of no representative studies that include measures designed specifically to measure self-control, and particularly that incorporate both attitudinal and behavioral indicators of this concept. To move forward in tests of this theory, it is necessary to develop such data that not only incorporate good measures of self-control but also of opportunities. While this study develops a measure of opportunities that is an indication of the general potential for juveniles to find themselves unsupervised and in unstructured activities or groups where deviance is more plentiful, and thus where the opportunities for victimization are more likely, more specific forms of opportunities should be developed.

A final limitation is the cross-sectional nature of these data. The models presented in this study presume that self-control is the precursor of family monitoring and peer deviance (opportunities). However, how well parents monitor is argued to be a crucial step in the development of self-control at younger ages (Gottfredson & Hirschi, 1990). It is presumed that parents who adequately monitor their teenaged children would have also monitored them in earlier years, during the important formation of self-control. Thus, the causal order of this may be more complex than represented here. In addition, an alternative perspective that can not be adequately tested due to the use of cross-sectional data is that association with deviant peers is the catalyst that serves to decrease the juvenile's self-control, and thus affect victimization. While Gottfredson and Hirschi argue that self-control develops early in life, preferably before school age, they do acknowledge the possibility that it can be influenced by later factors such as the school (Gottfredson & Hirschi, 1990, p. 105).

Since other socializing influences may affect self-control after the family has failed, it is possible that peers are one such group. Thus, while the models in this study are theoretically consistent with the general theory of crime, it is possible that some relationships may be found to be reciprocal, or even reversed, in longitudinal data.

The results of this study, and the potential limitations, suggest at least two areas for future research. First, although it has been argued that longitudinal data is not necessary to fully test the general theory of crime (Gottfredson & Hirschi, 1990), and use of such data is problematic for reasons such as attrition being related to self-control of participants (Hirschi & Gottfredson, 1993), it would be useful to definitively demonstrate the causal order between self-control and opportunities. Second, it is clear from this study that tests of the general theory should include measures of opportunities. While self-control alone does predict the outcomes being examined, the fact that at least part of this effect is mediated by opportunities is masked if such a measure is not also included in the model. Thus future studies utilizing the general theory to explain either victimization or offending are remiss if they do not include opportunities, as well as a consideration of the relationship between self-control and opportunities.

This study also suggests that understanding the overlap between victimization and offending may not need the development of new theories. Instead, these two areas of research, that have often remained separate, should seek to draw on the insights and theories of the other to better understand the full experience of involvement in criminal acts.

NOTES

1. Some criminologists have questioned whether this theory can be utilized to explain white-collar, corporate, or other forms of elite crimes (Barlow, 1991; Benson & Moore, 1992; Geis, 2000). However, recent work has found that self-control is able to significantly predict white-collar arrests, as well as a variety of arrests for street crimes (DeLisi, 2001).

2. Arguing that individual self-control may be a cause of victimization may be interpreted as blaming the victim. This is not the intent or implication of the current study. First, self-control is not a product of absolute free will and choice on the part of the individual but is developed in childhood based on the ability of caregivers to adequately instill this trait. Such ability can be influenced by many structural and social factors. Second, there is no claim that those with low self-control are deserving of victimization. Instead, the activities that result from their low self-control increase their vulnerability and thus put them at higher risk.

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APPENDIX: STANDARDIZED MAXIMUM LIKELIHOOD ESTIMATES¹ FOR MEASUREMENT MODELS OF SELF-CONTROL, OPPORTUNITY, AND VICTIMIZATION

Self-Control²

Have you ever . . .

1 = many times, 2 = several times,
3 = once or twice, 4 = never

	<i>MLE</i>
Stayed away from school because you had better things you wanted to do	.525
Been sent out of the classroom by a teacher	.629
Been suspended or expelled from school	.536
Been in a car, truck, or motorcycle accident	.289
Shot dice for money	.687
Bet money on sporting events	.647
Played cards for money	.696

Please indicate how strongly you agree or disagree with the following statements. (five-point range: strongly disagree to strongly agree)

Hitchhiking is too dangerous for me.	.412
I try hard at school.	.409
I lose my temper easily.	.263
Sometimes, I take a risk just for the fun of it.	.349
An easy life is a happy life.	.283
There is no good reason for one person to hit another.	.412
I see no need for hard work.	.378
I try to get things I want even when I know that it's causing problems for other people.	.362

Opportunity

For the first three items, respondents indicated how strongly they agreed or disagreed with the statement (Strongly Agree = 1 to Strongly Disagree = 5).

	<i>MLE</i>
Coding for remaining opportunity items are indicated in parentheses.	
My parents know where I am when I am away from home.	.546
In general, my parents like my friends.	.412
My parents always know who I am dating.	.430
Have you ever gone looking for someone to hang around with at night? (1 = Never, 2 = Once or Twice, 3 = Several Times, 4 = Many times)	.508

How many hours per week do you spend riding around in a car with friends? (1 = None, 2 = 1 to 2, 3 = 3 to 4, 4 = 5 to 6, 5 = 7 or more)	.425
How any of your friends been picked up by the police? (1 = None, 2 = 1 friend, 3 = 2 friends, 4 = 3 friends, 5 = More than 3 friends)	.646
Have you ever been asked to join a gang? (No = 0, Yes = 1)	.478

Victimization

Have you ever . . .

Coding: 0 = never, 1 = once or twice, 2 = several times, 3 = many times	<i>Mean</i>	<i>SD</i>	<i>MLE</i> ¹
Been teased, called names, or been picked on by someone at school?	1.259	.029	.470
Been intentionally excluded from a group at school?	.699	.026	.450
Had something stolen from you?	1.177	.023	.501
Been beaten up, or physically hurt, on purpose?	.436	.022	.678
Had something taken from you by force?	.568	.022	.646
Been hit by someone you were dating?	.264	.019	.414
Been hit by either parent?	.680	.028	.478
Been assaulted by someone using a weapon?	.230	.017	.525

NOTES

1. Standardized maximum likelihood estimates are all significant at $p < .001$.
2. All items coded to indicate greater self-control, more opportunities, and higher victimization.