Vulnerability Versus Opportunity: Dissecting the Role of Low Self-Control and Risky Lifestyles in Violent Victimization Risk Among Korean Inmates

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Abstract
The present study explores self-control, risky lifestyles, and domain-specific opportunities as explanations of violent victimization among adult male inmates from South Korea. Data were collected from the Inmate’s Conduct and Prison Security Survey in South Korea (N = 951). Structural equation modeling was used by applying a four-step process to examine the indirect effects of low self-control on prison victimization via risky lifestyles. We find that low self-control indirectly affects violent victimization via opportunities through risky lifestyles, and that risky lifestyles fully mediate the effect of low self-control on violent victimization in prison settings. Findings from the current study reinforce the contention that the relationship between low self-control and victimization includes a connection to opportunities for victimization. The results further suggest that the vulnerability that

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comes with possessing low self-control operates through the opportunities generated in living a risky lifestyle.

**Keywords**
domain-specific opportunities, self-control, prisons, victimization

**Introduction**

Identifying determinants of criminal victimization has become an area of substantial focus in modern day criminology and victimology. Theories from these fields, as well as integrated perspectives, suggest that individual factors and behaviors increase or decrease victimization risks by facilitating opportunities for victimization (see, for example, Cohen, Kluegel, & Land, 1981; Fattah, 2000; Hindelang, Gottfredson, & Garofalo, 1978; Schreck, 1999). Furthermore, situational frameworks suggest that the domain in which the crime takes place contextualizes these factors, making the determinants of victimization not only crime specific but also potentially domain specific (e.g., Fisher, Sloan, Cullen, & Lu, 1998; Lynch, 1987; Maxfield, 1987; Mustaine, 1997; Reynolds, Henson, & Fisher, 2011; Wooldredge, 1998; Wooldredge, Cullen, & Latessa, 1992). One such domain of victimization is the prison environment.

Prior research indicates that victimization within prisons is prevalent (e.g., Beck, Berzofsky, Caspar, & Krebs, 2013; Rantala & Beck, 2016), and that like other domains of victimization, these victimization experiences can be explained as a consequence of both individual and situational factors. A particularly useful theoretical framework is the lifestyle–routine activities perspective, which has been rigorously tested and supported as an explanation of victimization across victimization domains (e.g., Cohen et al., 1981; Kennedy & Forde, 1990; McNeely, 2015; Sampson & Wooldredge, 1987; Spano & Freilich, 2009). And, although the majority of this research has been undertaken among populations outside of prisons (e.g., Fisher et al., 1998; Lynch, 1987; Mustaine, 1997; Wooldredge et al., 1992), studies have also reported that in accordance with the theory, lifestyles and routines that expose inmates to victimogenic circumstances within prisons are at heightened risks of victimization (e.g., Wooldredge, 1998; Wooldredge & Steiner, 2013).

Complementing the lifestyle–routine activities perspective on victimization is Gottfredson and Hirschi’s (1990) general theory of crime. Briefly, this theory explains that self-control is an inhibitor of criminality, and that individuals with low self-control are more likely to engage in delinquent or criminal activities. Furthermore, as applied to criminal victimization, the theory
suggests that individuals with low self-control have a greater vulnerability to being victimized (Schreck, 1999; Schreck, Stewart, & Fisher, 2006; Schreck, Wright, & Miller, 2002). Interestingly, prison populations are distinct in that they capture the overlap between offenders and victims (e.g., Kerley, Hochstetler, & Copes, 2009; Pyrooz, Moule, & Decker, 2014; Stewart, Elifson, & Sterk, 2004)—suggesting not only a criminal propensity but also a victimization vulnerability. Furthermore, prisons themselves represent a unique context for victimization that limits the behavioral options of its inhabitants. By definition, direct control is exercised over prisoners’ lifestyles and routine activities, thereby limiting their autonomy. It is not clear in the greater literature, however, to what extent traits such as self-control can predict victimization risk in situations where individuals’ autonomy is limited in such a way (Pratt, Turanovic, Fox, & Wright, 2014).

The current study combines these three areas of emphasis—self-control, lifestyles/routine activities, and domain-specific opportunities—to identify determinants of victimization within the prison domain. In doing so, the current focus makes three primary contributions to the victimization literature. First and foremost, the present research tests the generality of self-control theory within the prison context. Prior research has revealed that self-control is a robust predictor of a number of crime-centric outcomes (Pratt & Cullen, 2000), including victimization (Pratt et al., 2014), but there is little research exploring its effects on victimization within the prison context.

Second, this is among the first empirical studies to examine inmate victimization within a joint self-control and lifestyle–routine activities framework, particularly within the prison context. Considering both of these perspectives concurrently is important because prior research indicates that risky lifestyles/routine activities may mediate the effect of self-control on victimization (e.g., Pratt et al., 2014; Schreck et al., 2002; Stewart et al., 2004; Turanovic & Pratt, 2014). Thus, it is important to consider both perspectives to guard against spurious results and arrive at solid conclusions regarding theoretical effects.

Third and finally, the current study examines a previously unexplored population with respect to these research questions—adult male inmates from South Korea. Most of the extant research testing these perspectives has examined U.S.-based populations (e.g., Kerley, Hochstetler et al., 2009; Wooldredge, 1998; Wooldredge & Steiner, 2013), and although prior research has involved individuals from South Korea in answering analogous research questions (e.g., Cho, 2016; Yoon, 2009, 2011), the present research is unique in its focus on this population. An analysis of individuals from other countries is essential to confirm that the theories are generalizable beyond Western cultures. Furthermore, identifying risk factors for victimization within
Korean prisons provides empirical data to practitioners and policy makers with the potential of preventing inmate victimization.

To address these issues, the current study analyzes self-report victimization data collected in 2009 in collaboration with the Korean Correctional Service (KCS) and Kyonggi University. The sample contains 951 adult male inmates from 20 prisons from throughout South Korea.

Activity Domains, Opportunities, and Victimization

Opportunity theories suggest that the occurrence of most criminal events is contingent upon a favorable combination of circumstances in which offenders, victims, and environments play key roles (e.g., Cohen et al., 1981; Hindelang et al., 1978; Miethe & Meier, 1990). Briefly, lifestyle-exposure theory posits that the probability of criminal victimization increases among individuals who participate in risky activities that expose them to criminogenic circumstances (Hindelang et al., 1978). Similarly, routine activity theory explains that criminal events occur when the convergence of motivated offenders, suitable targets, and facilitating environments creates opportunities for victimization (Cohen & Felson, 1979; Cohen et al., 1981). The empirical research surrounding these perspectives reinforces their utility in explaining several crime-related outcomes, including victimization (see, for example, Spano & Freilich, 2009).

However, it has also been pointed out that broad concepts such as “lifestyle” and “routine activity” are nearly unlimited in the ways that they can be conceptualized, thus limiting their usefulness in practical terms (see, for example, Pratt & Turanovic, 2016). For instance, the earliest studies utilizing these frameworks viewed public activities outside the home as risky and conducive to victimization (e.g., Hindelang et al., 1978; Miethe & Meier, 1990; Sampson & Wooldredge, 1987). Yet, a focus on public activities is not fruitful for all types of victimization or victimization circumstances, such as those that occur within the home (e.g., Finkelhor & Asdigian, 1996; Sween & Reyns, 2016). A possible solution to this issue is to adopt a domain-specific view of how these concepts operate by dividing “... both victimization and life activities into ‘domains’ that are defined by place and activity” (Lynch, 1987, p. 285). In other words, domain-specific opportunities are created through domain-specific lifestyles and routine activities.

In studying victimization with prisons, then, it is important to develop measures of these theoretical concepts that reflect risky lifestyles or routine activities within prison contexts. Prior studies that have tested the opportunity perspective in the prison context support its use in explaining prison victimization (see Steiner, Ellison, Butler, & Cain, 2015, for a review). Within
this body of research, important distinctions are evident with respect to inmate activities that are structured (e.g., prison programming) versus those that are unstructured (e.g., recreational activities, illicit activities; Copes, Higgins, Tewksbury, & Dabney, 2010; Steiner et al., 2015; Wooldredge, 1998; Wooldredge & Steiner, 2013). From an opportunity perspective, structured activities suggest an increased level of guardianship against victimization, whereas those that are unstructured imply decreased guardianship. For instance, in a recent review of the inmate victimization literature, Steiner and colleagues (2015) reported that involvement in recreational activities and inmate history of prison misconduct were consistent predictors of victimization and, thus, are risky. Similarly, gang membership and participation in the prison economy have also been linked to inmate victimization (e.g., Copes et al., 2010; Fox, Lane, & Akers, 2013; Rufino, Fox, & Kercher, 2012).

Although an opportunity perspective on inmate victimization is valuable, it is not entirely complete. Research has also investigated the effects of prison-level variables (e.g., crowding, level of security, architectural design), as well as inmate characteristics (e.g., age, gender, race, mental health), and identified several corresponding links to victimization. Furthermore, although included in far fewer studies to date, research also suggests that inmates’ level of self-control is an important consideration in the dynamics of victimization of “high risk” populations (e.g., parolees) as well as those within the prison context (e.g., Delisi, Hochstetler, & Murphy, 2003; Kerley, Hochstetler et al., 2009; Piquero, MacDonald, Dobrin, Daigle, & Cullen, 2005; Stewart et al., 2004).

**Self-Control and Victimization**

Gottfredson and Hirschi’s (1990) general theory of crime explains that criminal, delinquent, and deviant behaviors occur as a consequence of a lack of individual self-control. Persons with low self-control are said to possess the following six characteristics that predispose them to these behaviors: impulsivity, a preference for simple tasks, risk seeking, a preference for physical activities, self-centeredness, and temper (Gottfredson & Hirschi, 1990; Grasmick, Tittle, Bursik, & Arneklev, 1993). Highlighting its compatibility with the opportunity perspective, the theory views these characteristics as a propensity toward criminality in which individuals will be more likely to take advantage of criminal opportunities (e.g., Gottfredson & Hirschi, 1993; Hay & Forrest, 2008; LaGrange & Silverman, 1999; McGloin, Sullivan, Piquero, & Pratt, 2007). The theory has been vigorously debated and tested, and generally supported as an explanation of these crime-centric outcomes (see Pratt & Cullen, 2000).
Low self-control has also emerged as a consistent predictor of criminal victimization, where instead of a propensity toward criminality, individuals possess a vulnerability to becoming crime victims (e.g., Schreck, 1999). In linking self-control with victimization, Schreck (1999) argued that the six dimensions of self-control could be reconceptualized to account for this vulnerability, viewing them instead as a lack of future orientation, empathy, tolerance for frustration, diligence, risk avoidance, and a preference for physical activities. This connection between low self-control and vulnerability to victimization implies two important links to opportunity. First, individuals with these qualities will be more vulnerable to victimization because their behavior will be more likely to facilitate criminal opportunities (e.g., by placing the potential victim in high risk situations). Second, there is an overlap between offenders and victims, in which the two possess similar characteristics and are often drawn from the same pool (e.g., Jennings, Piquero, & Reingle, 2012; Nofziger, 2009; Schreck, Stewart, & Osgood, 2008; Turanovic & Pratt, 2013).

Overall, a large body of victimization research has reinforced the idea that low self-control increases victimization risk. In a recent meta-analysis of the relationship between self-control and victimization, Pratt and colleagues (2014) reported that self-control is “. . . consistently and significantly related to victimization across variations in the measurement of key variables, sampling approaches, and model specification across studies” (p. 103). However, the authors cautioned that the effects of self-control were significantly reduced in studies where intervening causal processes (i.e., opportunity factors) are taken into account. All told, then, it is important to gauge the effects of both opportunity and self-control in assessing victimization risk, particularly within prisons as unique domains of victimization. Integrating these two perspectives on criminal victimization, the present study identifies factors impacting violent victimization risk within the prison context.

The Present Study

The current study integrates the aforementioned theoretical arguments surrounding the effects of low self-control with those of the opportunity perspective to investigate two primary research questions. First, we examine the effects of low self-control on violent victimization among prison inmates in South Korea. For reasons articulated by Schreck (1999) and supported in subsequent research (e.g., Pratt et al., 2014), low self-control appears to elevate victimization risk in terms of its direct impact via vulnerability. Second and relatedly, the present study examines the indirect effect of low self-control by way of its influence on risky lifestyles and routine activities, and further
explores whether these opportunity factors mediate the effects of low self-control on victimization. Although prior research has indicated support for the role that these theoretical concepts separately play in explaining victimization among inmates, they have not been examined jointly. It is also noteworthy that the present study addresses these issues with respect to inmates from South Korea—a population that has thus far not been examined in light of these research questions. Figure 1 provides a path model illustrating the hypothesized causal connections between these theoretical concepts on inmate victimization risk. Specifically, hypotheses for the current study are as follows:

**Figure 1.** Path diagram of measurement and structural models. Note. Lsc1 = physical; Lsc2 = easy tasks; Lsc3 = lost temper; Lsc4 = exciting; Lsc5 = insensitive; Lsc6 = immediate pleasure; RL1 = possessed contrabands; RL2 = left designated area; RL3 = transactions; VioVic1 = hit by fist or foot; VioVic2 = been immersed in water; VioVic3 = been hit by garbage.
Hypothesis 1: Low self-control has a positive direct effect on violent victimization risk. 

Hypothesis 2: Risky lifestyles have a positive effect on violent victimization risk. 

Hypothesis 3: Low self-control has a positive indirect effect on violent victimization risk through its prior impact on risky lifestyles. 

Partial structural regression equation modeling is applied to the current study for several reasons, including the research purpose and hypotheses, the latent construct and nature of core variables (e.g., self-control and risky lifestyles), and consideration of measurement error to produce less biased outcomes.

Method
Survey, Sample, and Data

Data for the present student were collected in 2009 through self-report survey by the Department of Correctional Studies at Kyonggi University in South Korea as part of the Inmate’s Conduct and Prison Security Survey. The survey instrument primarily featured questions about the causes and effects of prison life on inmate misconduct and victimization in prisons. Prior to survey administration, the project received the approval of the institutional review boards of both the Korea Correctional Service (KCS) in the Ministry of Justice and Kyonggi University. A cover letter signed by the KCS accompanied the survey instrument, explaining the purpose of the survey. Respondents were instructed that their participation was completely voluntary, that non-participation would not result in any negative consequences, and that their responses were confidential. An original questionnaire was written in Korean to be administered in prison to participating inmates. To ensure conceptual equivalence of contents in two languages, the Korean version of questionnaire was translated into English during the analysis by bilingual criminal justice faculty members.

The sampling strategy for the present study involved a two-stage process in which prisons were sampled purposively, followed by a purposive sample of inmates. First, 20 Korean correctional facilities were selected for inclusion based on three characteristics: representation of the four major regional headquarters, the type of prison, and the prison’s operating capacity. All told, 13 prisons with more than 1,000 inmates and seven prisons with less than 1,000 were selected. Next, 60 adult male inmates were randomly chosen from the larger facilities (i.e., those with more than 1,000 inmates) and 40 were selected from smaller facilities (i.e., those with less than 1,000 inmates).
Only inmates serving a year or longer were selected for inclusion in the study. Cases with missing values were removed from the analyses, resulting in a final sample of 951 adult male inmates.

In 2009, there were a total of 47 correctional facilities in South Korea, and a total of 53 correctional facilities were operating in April, 2016, including one juvenile correctional institution, one open correctional institution, one women’s correctional institution, two correctional institutions for vocational training, and one private prison (Legal Research and Training Institute, 2016). Upon entry, prisoners are classified through a classification review, which contains risks and needs criteria and then assigned to a cell. Based on the needs assessment, much like U.S. corrections, several rehabilitative interventions, such as education programs, vocational programs, psychological treatment, and work assignments, are provided. Furthermore, religious activities, calls, letters, and visitations are allowed under certain codes of correctional ethics and regulations. One noteworthy difference between Korean and U.S. corrections is that there are no security levels in Korean prisons.

**Measures**

**Dependent variable**

*Violent victimization.* Three types of violent victimization experiences were included in the analyses: (a) been hit by fist or foot by fellow inmates, (b) been immersed in water by fellow inmates, and (c) been beaten with objects by fellow inmates. Participants selected the number of times they had been victimized, ranging from 0 (*never*) to 3 (*6 or more times*). These three indicators were treated as latent constructs and the one-factor measurement model indicated a good fit to the data (root mean square error of approximation [RMSEA] = 0.000 [0.000, 0.000], comparative fit index [CFI] = 1.000, Tucker–Lewis index [TLI] = 1.000, and standardized root mean square residual [SRMR] = 0.000). All item loadings on these latent factors were found to be statistically significant and substantial as well (item loadings from .60 to .83). Table 1 provides the descriptive statistics for these three variables.

**Independent variables.** Self-control was measured with six questions, each representing a distinct dimension of self-control: (a) “I prefer to do things physical rather than verbal”; (b) “When I encounter some difficult or complicated tasks, I usually give up”; (c) “I lose my temper easily”; (d) “I sometimes like to do things that are a little exciting”; (e) “I often enjoy teasing others”; and (f) “I do whatever brings me pleasure here and now.” Respondents answered on a scale from 1 (*strongly disagree*) to 4 (*strongly agree*), with a higher score indicating a lower level of self-control. All item loadings
on the latent factor were found to be statistically significant and sizable (item loadings from .60 to .76) and the one-factor measurement model provided a reasonably good fit to the data (RMSEA = 0.061 [0.043, 0.080], CFI = 0.968, TLI = 0.947, and SRMR = 0.027). Table 1 includes descriptive statistics for these measures of self-control.

**Mediator: Risky lifestyles.** Although there are no universal measures of lifestyle–routine activities concepts, particularly within prison settings, in the present study, risky lifestyles are measured by three unstructured activities: (a) possession of contraband, (b) broken away from designated area, and (c) participated in transactions. Originally, the respondents answered on a scale from 0 (never) to 3 (6 or more times) on a 4-point scale, but these items were highly skewed to the right and a measure of kurtosis was more than 20.00 for two items. To deal with the

### Table 1. Descriptive Statistics (N = 951).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>%</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
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<tr>
<td>Violent victimization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Been hit by fist or foot</td>
<td>0.17</td>
<td>0.54</td>
<td>0.54</td>
<td>0-3</td>
<td></td>
</tr>
<tr>
<td>Been immersed in water</td>
<td>0.04</td>
<td>0.27</td>
<td>0.27</td>
<td>0-3</td>
<td></td>
</tr>
<tr>
<td>Been beaten by objectives</td>
<td>0.07</td>
<td>0.32</td>
<td>0.32</td>
<td>0-3</td>
<td></td>
</tr>
<tr>
<td>Low self-control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td>1.54</td>
<td>0.70</td>
<td>0.70</td>
<td>1-4</td>
<td></td>
</tr>
<tr>
<td>Easy tasks</td>
<td>1.76</td>
<td>0.75</td>
<td>0.75</td>
<td>1-4</td>
<td></td>
</tr>
<tr>
<td>Lost temper</td>
<td>1.88</td>
<td>0.86</td>
<td>0.86</td>
<td>1-4</td>
<td></td>
</tr>
<tr>
<td>Exciting</td>
<td>1.72</td>
<td>0.77</td>
<td>0.77</td>
<td>1-4</td>
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<tr>
<td>Insensitive</td>
<td>1.45</td>
<td>0.59</td>
<td>0.59</td>
<td>1-4</td>
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<tr>
<td>Immediate pleasure</td>
<td>1.85</td>
<td>0.83</td>
<td>0.83</td>
<td>1-4</td>
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<td>Risky lifestyles (mediating variable)</td>
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<tr>
<td>Possessed contraband</td>
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<td>Left designated area</td>
<td>76</td>
<td>8.0</td>
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<tr>
<td>Transaction</td>
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<tr>
<td>Age (year)</td>
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<td>10.15</td>
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<tr>
<td>Marital status (single = 1)</td>
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<td>Infraction record</td>
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</tr>
<tr>
<td>Length of time served (logged)</td>
<td>3.17</td>
<td>1.02</td>
<td>1.02</td>
<td>−1.10-6.04</td>
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</tr>
<tr>
<td>Institutional programs</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Vocational training</td>
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<td>26.2</td>
<td>0-1</td>
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<tr>
<td>Academic education</td>
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<td>26.5</td>
<td>0-1</td>
<td></td>
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<tr>
<td>Psychological treatment</td>
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<td>12.6</td>
<td>12.6</td>
<td>0-1</td>
<td></td>
</tr>
<tr>
<td>Working</td>
<td>593</td>
<td>62.4</td>
<td>62.4</td>
<td>0-1</td>
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</tbody>
</table>

\(^{a}\text{Dummy coded.}\)
violation of normality assumptions, each item was transformed and dummy coded (0 = never and 1 = yes). These three indicators were used to construct a latent factor for unstructured risky lifestyles. All item loadings on the latent factor showed statistically significant and sizable (item loadings from .67 to .87). Descriptive statistics for these measures of risky lifestyles are provided in Table 1.

**Control variables.** Based upon theoretical assumptions and previous studies of victimization in prison contexts, several individual characteristics of inmates are used as control variables. These include age ($M = 39.12$), marital status (single = 1), infraction record (yes = 1), length of time served$^3$ (log), and participation in institutional programs (vocational training, academic education, psychological treatment/therapy, and working at a factory in prison; yes = 1). As Korean population is primarily homogeneous in terms of language, race, and the culture, race/ethnicity was not included in the present study.

**Analytic Strategy**

Structural equation modeling (SEM) is employed in the current study. When the main research variables are latent constructs in nature, SEM is recommended to produce more reliable and accurate outcomes. When compared with other multivariate analysis techniques, SEM yields less biased outcomes by considering measurement errors (Kline, 2011) and is especially useful when assessing direct and indirect effects. In the present study, M-Plus (Version 7.0) was used as the primary statistical software and weighted least squares with robust standard errors and mean- and variance-adjusted chi-square (WLSMV) is employed.$^4$

We apply a four-step process to examine the indirect effects of low self-control on victimization via risky lifestyles. First, measurement models for main latent variables were constructed and their relationships (confirmatory factor analysis [CFA]) evaluated to provide a test of the theoretical framework (see Figure 2). Second, a structural equation model (a saturated model) was established to examine whether the main independent and the mediating variable significantly influenced violent victimization risk. Third, a final (trimmed) model was evaluated using only the statistically significant paths to obtain more accurate assessment of the indirect effects of low self-control. Finally, bootstrapping was conducted to get bias-corrected confidence intervals (CIs) for the indirect effect. A global model fit was assessed for all models with the RMSEA (study criterion of 0.06 or lower), the CFI (minimum study criterion of 0.90 or higher), and TLI (study criterion of 0.90 or higher). In addition, the measurement models were modified by allowing correlated residuals among measures relied upon modification indices (MIs) and expected parameter change in standardized units (standardized Expected parameter change [EPC]).
Figure 2. Measurement model with standardized coefficients (N = 951).

Note. Circles represent latent constructs and rectangles represent observed variables. \( \chi^2(47) = 88.382, \) CFI = 0.981, TLI = 0.974, and RMSEA = 0.030, 95% CI = [0.020, 0.040]. CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error of approximation; CI = confidence interval; Lsc1 = physical; Lsc2 = easy tasks; Lsc3 = lost temper; Lsc4 = exciting; Lsc5 = insensitive; Lsc6 = immediate pleasure; RL1 = possessed contrabands; RL2 = broken away from designated area; RL3 = participated in transactions; VioVic1 = hit by fist or foot; VioVic2 = been immersed in water; VioVic3 = been hit by garbage.

Results

CFA

CFA is an essential step before estimating a full SEM model because it assesses the adequacy of the hypothesized relationships and constraints between the observed indicators and the underlying latent construct (Little, 2013). Figure 2 presents the results of the CFA as a baseline model, and the
standardized path coefficients between the three latent factors in the model indicate correlation coefficients. A correlation matrix for all covariates is provided in the appendix (Table A1).

The results indicate that the model fits the data well, $\chi^2(47) = 88.382$, $CFI = 0.981$, $TLI = 0.974$, and $RMSEA = 0.030$, $95\% CI = [0.020, 0.040]$. In addition, all item loadings on the three latent factors are statistically significant and substantial ($p < .001$). Moreover, low self-control is moderately correlated with risky lifestyles and violent victimization: correlations between low self-control (LSC) and violent victimization ($r = .156$, $p < .001$) and between LSC and risky lifestyles ($r = .243$, $p < .001$). One important finding is that the correlation between risky lifestyles and violent victimization is relatively strong ($r = .526$). This result is consistent with many previous studies suggesting 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).

Mediation Analyses: The Saturated Model

Because the measurement model suggests significant associations among the three constructs and adequate relationships between the observed indicators and the underlying latent construct, the next step is to estimate a full SEM model (a saturated model) controlling for all relevant covariates. Based upon the theoretical framework, the measurement model turns to structural regression model (see also Figure A1 in the appendix). In the structural regression model, the indirect effects of low self-control on victimization risk via risky lifestyles can be examined. Table 2 presents the standardized coefficients from the saturated model. All item loadings on three latent factors are statistically significant ($p < .001$) and the overall model fits the data well, $\chi^2(119) = 203.528$, $CFI = 0.975$, $TLI = 0.960$, $RMSEA = 0.027$, $95\% CI = [0.021, 0.034]$.

As hypothesized, the results provided in Table 2 indicate that low self-control has a positive and significant direct effect on risky lifestyles ($\beta = .173$, $p < .001$). In addition, risky lifestyles exert a positive and significant effect on violent victimization ($\beta = .423$, $p < .001$). However, the effect of low self-control on violent victimization is not found to be significant. The findings indicate that low self-control itself does not directly affect violent victimization. Instead, low self-control indirectly affects violent victimization via opportunities through risky lifestyles in prison contexts. The results of indirect effects show that lower levels of self-control significantly lead to higher scores on violent victimization through its prior impact on risky lifestyles after controlling for all the relevant covariates ($\beta = .073$, $p = .001$).

Other covariates, including age ($\beta = .319$, $p < .001$), single ($\beta = .423$, $p < .001$), infraction record ($\beta = -.273$, $p = .007$), and work in prison ($\beta =$
.167, \( p < .001 \) are also found to be significant predictors of risky lifestyles. Other structured programs, such as academic education, vocational training, and psychological therapy were not found to be significant predictors of risky lifestyles. However, only two covariates, age \((\beta = .380, p < .001)\) and length of time served \((\beta = -.062, p = .024)\) were significant predictors of violent victimization. Single relationship status and work in prison were marginally significant. Overall, the \( R^2 \) values for the latent constructs of risky lifestyles and violent victimization indicate that approximately 36% of variance of risky lifestyles and around 45% of variance of violent victimization were explained by a set of covariates included in the model.

### Mediation Analyses: The Trimmed Model

To obtain more accurate estimates of the indirect effects of low self-control on victimization risk through risky lifestyles, the saturated model was re-estimated only using the statistically significant paths. Academic education, vocational training, and psychological therapy were dropped because these

<table>
<thead>
<tr>
<th>Variables</th>
<th>Saturated model</th>
<th>Trimmed model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low self-control</td>
<td>0.173*** (0.043)</td>
<td>0.012 (0.024)</td>
</tr>
<tr>
<td>Risky lifestyles</td>
<td>0.423*** (0.063)</td>
<td>0.062* (0.027)</td>
</tr>
<tr>
<td>Age</td>
<td>0.319*** (0.044)</td>
<td>0.380*** (0.029)</td>
</tr>
<tr>
<td>Single</td>
<td>0.423*** (0.113)</td>
<td>-0.194 (0.102)</td>
</tr>
<tr>
<td>Infraction record</td>
<td>-0.273*** (0.102)</td>
<td>0.044 (0.066)</td>
</tr>
<tr>
<td>Length of time served</td>
<td>0.098 (0.062)</td>
<td>-0.062* (0.027)</td>
</tr>
<tr>
<td>Academic education</td>
<td>-0.088 (0.066)</td>
<td>-0.041 (0.040)</td>
</tr>
<tr>
<td>Vocational training</td>
<td>0.090 (0.056)</td>
<td>0.031 (0.022)</td>
</tr>
<tr>
<td>Psychological therapy</td>
<td>-0.072 (0.053)</td>
<td>0.042 (0.034)</td>
</tr>
<tr>
<td>Work in prison</td>
<td>0.167*** (0.039)</td>
<td>0.039 (0.020)</td>
</tr>
<tr>
<td>R(^2)</td>
<td>.363</td>
<td>.450</td>
</tr>
</tbody>
</table>

Note. Standard errors are presented in parentheses. PSRC = partial structural regression coefficients. \*\( p < .05 \). \*\*\( p < .01 \). \*\*\*\( p < .001 \).
variables were not statistically significant with either the violent victimization or risky lifestyles. Moreover, path coefficients for insignificant variables on the dependent variable, including low self-control, single, infraction record, and work in prison were set to zero. The results of the trimmed model are presented in Figure 3 and standardized coefficients are presented in Table 2. All item loadings on the three latent factors are statistically significant ($p < .001$) and the overall model is consistent with the data, $\chi^2(97) = 187.954$, CFI = 0.971, TLI = 0.959, RMSEA = 0.031, 95% CI = [0.025, 0.038]).

The results from the trimmed model indicate that path coefficients for low self-control and risky lifestyles improved. However, the significant effects of work in prison in the saturated model disappeared in the trimmed model. The results of indirect effects show that the lower levels of self-control significantly lead to
higher scores on violent victimization through its prior impact on risky lifestyles after controlling for psychological therapy and income (β = .081, p < .001).

Bootstrapping

The indirect effect of the mediating variable is examined using the bias-corrected bootstrapped CIs (Hayes, 2013). Bootstrap methods are particularly useful and produce the most accurate CIs in testing indirect effects in mediation models (MacKinnon, Lockwood, & Williams, 2004; Shrout & Bolger, 2002). Regarding the skewed distribution of several covariates in the current structural equation model, the use of bootstrapping is a better technique than p-value tests for evaluating indirect effects. Therefore, 95% CIs were applied and bootstrapping with the 1,000 times of sampling distribution of indirect effects was conducted.

The results of the bootstrapping are displayed in Figure 4. Results support the research hypothesis that the association between low self-control and violent victimization risk was mediated by risky lifestyles, as indicated by the exclusion of 0 from the 95% CIs for the indirect models (indirect bootstrapped β = .081, p = .039, SE = 0.039, 95% CI = [0.004, 0.157]). In short, risky lifestyles fully mediate the effect of low self-control on violent victimization in prison settings. This finding provides support for the theoretical assumption of a general theory of crime that lack of self-control affects victimization risk via opportunity, such as risky lifestyles (e.g., Schreck, 1999).

Discussion and Conclusion

Due to its popularity as an explanation for criminality, delinquency, and analogous outcomes, it has become almost a necessity in victimization research.
to consider the effect of self-control in the risk/victimization calculus. Numerous studies have found a link between low self-control and criminal victimization (see Pratt et al., 2014), but the nature of this relationship has not been entirely explained. Schreck (1999) and others (Piquero et al., 2005; Stewart et al., 2004) assert that the dimensions of low self-control create vulnerability to victimization as a by-product. However, it has not always been clearly articulated in the victimization literature precisely how this vulnerability elevates victimization risk. Implicit in these arguments is the idea that individuals with low self-control have a greater likelihood than others to find themselves or their property in situations that are conducive to victimization. For example, persons with low self-control are more likely to take risks and not consider the long-term consequences of an impulsive decision, thereby facilitating an opportunity for their victimization. Thus, in using low self-control as an explanation for victimization, researchers have often assumed that there is a connection between self-control and victimization opportunities.

In light of this, the aim of the present research was to examine the effects of low self-control and risky lifestyles (i.e., opportunity) as they relate to violent victimization risk among Korean prison inmates. Accordingly, three hypotheses were tested using SEM techniques, with the results more fully illuminating the relationships between these theoretical variables and victimization risk. First, it was hypothesized that low self-control would have a positive direct effect on violent victimization risk—this hypothesis was rejected. Second, we hypothesized that risky lifestyles would positively impact victimization risk. The results of the present analyses suggest that this is indeed the case. Finally, it was hypothesized that low self-control would impact violent victimization through risky lifestyles. This hypothesis was also supported, with the results of the bootstrapping analysis (Figure 4) suggesting that risky lifestyles fully mediate the effect of low self-control on violent victimization. These results, taken together, reinforce the contention that the relationship between low self-control and victimization includes a built-in connection to opportunities for victimization. The results further suggest that the vulnerability that comes with possessing low self-control operates through the opportunities generated in living a risky lifestyle.

Answering these research questions provides empirical evidence in important areas of the victimology literature, but the findings should nevertheless be considered in light of the study’s four primary limitations. First, the data are cross-sectional in nature, and although this is typical in victimization research (e.g., Finkelhor & Asdigian, 1996; Kerley, Hochstetler et al., 2009; Schreck, 1999), it also creates potential temporal ordering
issues with respect to the independent and dependent variables. Second, our measure of self-control was not based wholly on Grasmick and colleagues’ (1993) well-accepted scale, but instead on an abbreviated and adapted version of that scale. Despite this, we are confident that the measure employed in the present study reflects the theoretical concept. Furthermore, Pratt and Cullen (2000) have noted that “self control’s effects are sufficiently robust that they are not sensitive to different ways in which self-control is operationalized” (p. 952). Third, characteristics of the prison contexts were not statistically controlled in the present study because these data were not available. Subsequent research might consider collecting data on the prison-level contexts in addition to the individual-level data from prisoners themselves. Fourth and finally, our results are limited to male prison inmates. Previous research has revealed substantive gender differences between male and female inmates regarding prison life, and thus, research is needed to replicate these analyses among female inmates.

These limitations aside, in testing our hypotheses, the present study also addressed three gaps in the extant victimology literature, additionally suggesting possible directions for future research. The first of these involved the exploration of the effects of self-control on victimization risk in the prison domain. The present study is among the first to investigate these relationships, with the results underscoring that the connection between self-control and victimization is complex. Although the present study found evidence of risky lifestyles as a mediator between self-control and victimization in prison, other research has reported that this relationship is instead direct (e.g., Kerley, Hochstetler et al., 2009; Nofziger, 2009). A potential explanation for these findings is that the self-control perspective assumes that individuals will have autonomy of decision making, and thereby shape the opportunities around them. Yet, within prisons, this autonomy is tightly controlled, thereby limiting the ways that self-control can be expressed as victimization risk, or as Pratt and colleagues (2014) put it, “. . . is there any room left for self-control to play a role in the explanation of victimization?” (p. 105). The findings from the present study suggest the role self-control plays is through its effects on risky lifestyles.

To truly unpack the complex nature of this relationship, future research may benefit from examining how the six dimensions of self-control uniquely affect victimization risk, rather than treating them as a combined theoretical concept (e.g., Nofziger, 2009). For example, Kerley, Hochstetler, and colleagues’ (2009) study suggests that only risk taking, which would arguably generate victimization opportunities, elevates victimization risk. At the same time, it may be that these dynamics are only evident in prison domains. Either
way, more research is needed to explore how self-control impacts victimization—both inside and outside prisons.

Relatedly, the second goal of the present study was to identify risk factors for prison victimization within a joint lifestyle–routine activity and self-control framework. Because opportunities will necessarily be domain specific, the present study operationalized these concepts according to the prison context. On this point, we found that opportunities generated through risky prison lifestyles (e.g., possessing contraband, leaving designated areas) were strong antecedents to violent victimization, and that as discussed, low self-control was predictive of which inmates were exposed to such opportunities for victimization. Although prior work has identified risky lifestyle and routine activity behaviors as risk factors (e.g., Wooldredge, 1998; Wooldredge & Steiner, 2013), these studies have for the most part not assessed the impact of self-control. Our results suggest that within the prison context, the effects of low self-control on victimization risk are expressed through risky lifestyles and activities, and therefore, that it is not necessary to consider it when explaining prison victimization. However, replication of these findings is necessary before such conclusions can be reached. Furthermore, as previously noted, it may be that different dimensions of self-control yield differential effects of victimization—both within the prison domain and without. Additional research is needed to investigate this possibility.

The third aim of the present research was to provide much-needed diversity with respect to the cultural populations within which these theoretical perspectives are tested. Few studies have examined the effects of self-control or opportunity on crime-centric outcomes in Asia generally or Korea specifically (e.g., Jennings, Park, Tomsich, Gover, & Akers, 2011; Kerley, Xu, Sirisunyaluck, & Alley, 2009; Messner, Lu, Zhang, & Liu, 2007; Rebellon, Straus, & Medeiros, 2008), and none has investigated how they separately or jointly affect victimization among prisoners. Doing so is valuable in testing and potentially expanding the generality of the theories, as well as in providing empirical evidence for policy makers outside Western cultures. We recognize that applying these theories to South Korean prisoners limits the generalizability of our findings to a degree, but conversely, for theories that have been tested and retested as many times as these perspectives have, it is also necessary to view them through other cultural lenses. In this case, it appears that low self-control only increases the likelihood of being a victim of prison violence through its influence on risky lifestyles. Replication or refutation of this finding is also necessary for criminologists and victimologists to understand the scope of these theories.
**Appendix**

**Figure A1.** The saturated model with standardized coefficients (N = 951).

*Note.* All the exogenous variables are included but shown with a single rectangle. Standard errors for path coefficients are presented in parentheses. $\chi^2(119) = 203.528$, CFI = 0.975, TLI = 0.960, RMSEA = 0.027 (95% CI = [0.021, 0.034]). Lsc1 = physical; Lsc2 = easy tasks; Lsc3 = lost temper; Lsc4 = exciting; Lsc5 = insensitive; Lsc6 = immediate pleasure; RL1 = possessed contrabands; RL2 = broken away from designated area; RL3 = participated in transactions; VioVic1 = hit by fist or foot; VioVic2 = been immersed in water; VioVic3 = been hit by garbage. CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error of approximation; CI = confidence interval.

* $p < .5.$ ** $p < .01.$ *** $p < .001.$

**Table A1.** Correlations Between Latent Factors and Exogenous Variables.

<table>
<thead>
<tr>
<th></th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
</tr>
</thead>
<tbody>
<tr>
<td>$X_1$</td>
<td>.09</td>
<td>.54***</td>
<td>.39***</td>
</tr>
<tr>
<td>$X_2$</td>
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<td>.28***</td>
</tr>
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<td>.02</td>
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<td>.03</td>
<td>.08</td>
<td>.14***</td>
</tr>
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<td>$X_7$</td>
<td>.02</td>
<td>.05</td>
<td>.01</td>
</tr>
<tr>
<td>$X_8$</td>
<td>.19***</td>
<td>.25***</td>
<td>.30***</td>
</tr>
</tbody>
</table>

*Note.* $F_1$ = low self-control; $F_2$ = risky lifestyles; $F_3$ = violent victimization; $X_1$ = age; $X_2$ = single; $X_3$ = infraction record; $X_4$ = length of time served (log); $X_5$ = academic education; $X_6$ = vocational training; $X_7$ = psychological therapy; $X_8$ = work in prison.

*p < .01, two-tailed.*
Declaration of Conflicting Interests
The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding
The author(s) received no financial support for the research, authorship, and/or publication of this article.

Notes
1. Fixed factor method is utilized to assess all measurement models used in the current research. Rather than marker variable method of scaling, either fixed factor method or the effects coding method is recommended (see Little, 2013).
2. The one-factor measurement model for victimization and risky lifestyles has a perfect fit (just-identified model) due to the zero degrees of freedom and the just-identified model was generally preferred (see Brown, 2015; Little, 2013).
3. Length of time served was multiplied by the natural log to normalize the time served distribution.
4. Although maximum likelihood (ML) estimation is commonly used in structural equation modeling (SEM), we chose weighted least squares with robust standard errors and mean- and variance-adjusted chi-square (WLSMV) due to several reasons. First, some of our measures violate the normality assumption. For example, several measures have positive skewed distribution (e.g., risky lifestyles) and a measure of multivariate kurtosis was more than 10.00 for four indicators in the current study. Second, some dichotomous indicators used in the current study do not allow us to utilize ML estimation. WLSMV, however, allows one to correctly estimate when dichotomous or categorical variables are involved in latent constructs (Muthén & Muthén, 1998-2015).
5. Although the true mediating effects should be examined through longitudinal analysis, the term mediation is used in the current study based on the stability assumption that self-control is invariant and does not change after early in life.

References


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