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The Impact of Bond Measures of Self-Control on Deviance Among Korean Juveniles: Testing Hirschi's Redefinition of Self-Control

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Abstract

The purpose of the research was to develop and test a new measure of self-control based on the reconceptualization of self-control. A self-report instrument containing a broad bond-based self-control was developed and administered to a representative sample of youthful students and inmates in South Korea. Multiple ordinary least Squares (OLS) regression and path analysis were used to examine the influence of bond-based self-control on deviance. The findings generally indicate that the revised self-control measures, which included bond-based self-control measure were reliable and unidimensional. Importantly, the results showed that the new measures of self-control influences a decision to offend or not among Korean juveniles, which supports the revised concept of self-control theory.

Introduction

The central purpose of this study was to develop and test a new measure of self-control based on Hirschi's (2004) reconceptualization of self-control. Hirschi (2004) notes that his and Gottfredson's original presentation of self-control in their general theory (Gottfredson & Hirschi, 1990) represented a misunderstanding by them, and it was misleading to those who developed measures of self-control to test the general theory. The result was the development of a number of trait- or personality-based measures of self-control (i.e., the traits or personality factors of impulsivity, insensitivity, physicality, risk-taking, shortsightedness, and verbal deficits).

Hirschi (2004) regards measures of self-control based on personality elements as problematic. His redefined concept of self-control moves away from personality-based factors and their implications for the theory. Eventually, his reexamination of the concept and measurement of self-control has resulted in a theoretical reconciliation of the social control and self-control theory. He states, "self-control is the set of inhibitions one carries with one wherever one happens to go. Their character may be…identified by social control theory: attachments, commitments, involvements, and beliefs" (p.543-544).

Consequently, Hirschi (2004) presents the revised concept of self-control as having roots in social control or bond theory. In the revised concept, Hirschi defines self-control as the set of self-imposed inhibiting factors that influence the actor to consider the full range of potential costs of a particular act. Hirschi points out that the self-restraining attributes of self-imposed inhibitions are equivalent to the elements of the bond from the earlier social control theory. In particular, those who are characterized by the lack or absence of inhibitory factors (attachment, commitment, involvement, and belief), which affect the cognitive process of weighing the consequences of their acts, will tend to

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be relatively more involved in delinquent activities. Those who possess sufficient levels of these retraining factors are more likely than their less inhibited counterparts to consider the full range of the consequences or costs of their actions. In sum, Hirschi's bond-based conceptualization is a return to his original control theory of crime (1969), and it focuses on factors that influence the individual's decision to offend or not to offend when presented with the opportunity.

Literature Review

To date, only a small number of studies have empirically tested the general theory of crime in nations that are not North American (Hwang & Akers, 2003; Ribeaud & Eisner, 2006; Tittle & Botchkovar, 2005; Vazsonyi, Pickering, Junger, & Hessing, 2001; Vazsonyi, Wittekind, Belliston, & Loh, 2004; Wang, Qiao, Hong, & Zhang, 2002). These studies as well as those conducted in North America almost uniformly include a personality measure of self-control (Benda, 2005; Chapple, 2005; Delisi, Hochstetler, & Murphy, 2003; Gibson, Schreck, & Miller, 2004; Higgins & Ricketts, 2005; Morselli & Tremblay, 2004; Nakhie, Silverman, & LaGrange, 2000; Wright, Caspi, Moffitt, & Silva, 2001). The measures typically include the traits or personality factors of impulsivity, insensitivity, physicality, risk-taking, shortsightedness, and verbal deficits. As noted, Hirschi (2004) regards measures of self-control based on these six personality factors as problematic.

The research based on Hirschi's (2004) revised self-control concept has been sparse. Piquero and Bouffard (2007) empirically tested the new definition of self-control as proposed by Hirschi (2004). They presented two offending scenarios (i.e., a hypothetical drunk-driving incident and a hypothetical sexual-coercion incident) to a sample of approximately 200 university students. The dependent variables were measured by requesting that subjects rate the likelihood that they would engage in deviant behavior given the circumstances. Respondents were also asked to complete Grasmick et al.'s (1993) 24-item traditional self-control scale. Interestingly, Piquero and Bouffard (2007) included a measure of social bonding as a control variable. The measure of social bonding had eight items that were intended to tap attachment, commitment, and belief. The measure did not include involvement. Regression analyses showed that both self-control measures were significantly associated with the two types of criminal acts. They conclude that Hirschi's (2004) redefined self-control, as they measure it, was significantly and negatively associated with two types of criminal acts. When both measures of self-control competed with each other in the same regression model, the effects of Grasmick et al.'s (1993) scale on self-reported likelihood of deviant acts were not statistically significant. This finding can be interpreted as support for Hirschi's observation that the Hirschi and Gottfredson (1990) original presentation of self-control was misleading in specifying a list of elements such as impulsive, insensitive, physical (as opposed to mental), risk-taking, shortsighted, nonverbal and temper.

However, a possible shortcoming of Piquero and Bouffard's (2007) approach is that they did not take full advantage of the benefits cited about Hirschi's (2004) reconceptualization in measurement. Most notably, Piquero and Bouffard (2007) did not use the elements of the bond as indicators of self-control. While their measure does examine the perceived costs of a particular act to the individual or the influence of inhibitory factors, the authors do not specifically measure social bonds as inhibitory factors. Hirschi (2004) clearly postulates that such inhibiting factors could be identified using the four original bonds in the classic social control theory, and he suggests that these factors should be included in measures of redefined self-control.

Methodology

Sampling

The sample for this study included both youthful prisoners and high school students. Offenders and students were both sampled to ensure sufficient variability in the central variables and to test the assumption of the general theory of crime that the influence of self-control on deviant behavior is invariant across groups within culture. A survey instrument containing items designed to measure the major components of the revised self-control construct was administered to a sample of 708 youths in

South Korea. In particular, 340 youthful male inmates were randomly drawn from the Chunan youthful male prison in South Korea. This research site is the only one that specifically designated for housing males whose ages are around 16 through mid-twenty's. Along with youthful offenders, a sample of 368 male students at least18 years old (mostly grade 12) was randomly sampled from liberal high schools in Seoul.

Measures of Crime and Crime Equivalents

The questionnaire contains a modified version of a self-report crime, delinquency and deviance. Participants were asked to estimate their lifetime prevalence of committing various acts of crime and delinquency. The acts varied in seriousness. The scale contained a wide range of acts such as assault, vandalism, injury to an animal, stealing cash, theft of services, not paying debt, unapproved use of credit cards or checks, writing bad checks, unapproved vehicle use, privacy violation, using the identity of another person, illegal distribution of film, music and software, using drugs, tobacco use, and alcohol consumption. Items represented in the questionnaire were combined for some measures that contribute to the composite measure called the deviance index. Response categories were collapsed into a dichotomy for analysis (0=never committed the act; 1=committed the act at least once). The data appearing in Tables 1, 2, and Figure 1, which present the results of reliability analysis and principle component analysis, suggest that the internal consistency of the deviance index (.80) is good for research purposes and deviance is a unidimensional construct (DeVellis, 2003).

Table 1

Item Analysis of Deviance

Measures	Item-Total Correlations
Fighting	.383
Use of weapon	.458
Property damage	.519
Harm to animal	.414
Theft under $50	.555
Theft $50 and greater	.605
Theft of services	.249
Intention not to pay debt	.415
Unapproved use of credit or check	.448
Privacy violation	.344
Identity violation	.413
Copyright violation	.108
Bad check	.300
Unapproved vehicle use	.533
Prescription drug abuse	.341
Sniffing glue products and/or butane gas	.334
Marijuana	.362
Cocaine, crack, or methamphetamines	.276
Heroin	.297
Hallucinogens like LSD, mescaline, or ecstasy	.319
Tobacco	.467
Alcohol	.429

Cronbach's Alpha =.81

Table 2

Principal Component Analysis of Deviance

Factor	Eigenvalues	% of Variance
1	5.430	24.682
2	2.655	12.068
3	1.923	8.743
4	1.224	5.564

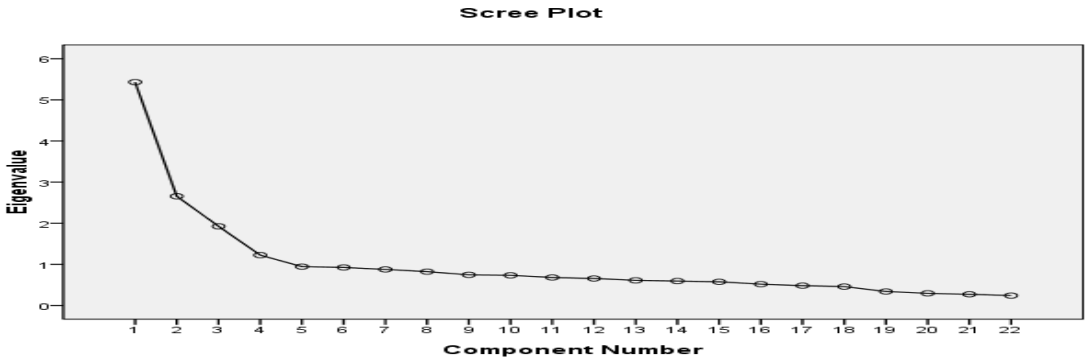

Figure 1. Scree plot for deviance items.

As can be seen in Table 1, approximately four-fifths (n=18) of the corrected item-total correlations for items included in the Deviance Index exceed the standard of .3 we used to indicate an item of respectable quality (DeVellis, 2003). Items that were particularly weak (<.2) include copy right violations; illegal distribution of copyright protected materials like computer software programs, movies, and/or video games. The Scree Plot (Figure 1) for the deviance shows a precipitous drop in the eigenvalues for the components extracted following the first component. The first component accounts for only approximately 25 percent of item variance (see Table 2). The percentage of variance explained, however, declines and levels off following component 1. This suggests a one-component solution or a single deviance dimension.

Bond-based Measure of Self-Control

Hirschi's (2004) presents new measures of self-control as a broader concept, which focuses on inhibitory factors affecting cognitive assessment of consequences. The factors are social bonds (attachment, involvement, commitment, and belief) rather than traits (impulsivity, insensitivity, physicality, risk-taking, present orientation, and verbal capacity).

The questionnaire administered to the sample contains 29 bond-based self-control measures or inhibitory factors. Tables 3, 4 and Figure 2 present information on the statistical qualities of the bond-based self-control scale.

Table 3

Item-Analysis of Bond-based Self-Control

Measures	Item-Total Correlations
I care a lot about what my parents think of me.	.416
If I lost the respect of my parents, I would be very upset.	.412
I feel I can talk to my parents about most things.	.415
I value the opinion of my parents about most things.	.395
I would be very upset if I did something to let down my parents.	.445
My parents' respect means a great deal to me.	.544
I have such a close relationship with my parents that I wouldn't want to do anything to jeopardize it.	.460
My parents are pretty well informed about what is happening in my life.	.402
I have a great deal of admiration for my parents.	.380
My parents consider me trustworthy.	.461
It is very important to me to be the respected by friends whose values I respect.	.345
The opinion of me held by friends I respect matters a lot me.	.328
In most cases, if I hurt the feelings of a friend, it would bother me a great deal.	.352
Most of my friends place great importance on graduating from (high) school.	.183
Graduating from (high) school is a very high priority for me.	.337
Doing well in school is important to most of my friends.	.285
School is not very important to most my friends.	.188
Most of my close friends are ready to party 24/7.	.128
I consider (high) school mostly a waste of my time.	.215
A lot of my friends plan on dropping out of school or already have dropped out.	.239
There are a number of situation in which it is ok to lie.	.072
Although it's a violation of the law to drink and drive, the police should let people off when they're just a little over the legal limit.	.156
If you have a chance to get around rules and regulations, you should take it.	.215
I believe rules were made to be broken.	.107
Doing the right things is always more important than getting what you want.	.066
How much time you spent on the average day playing electronic games such as grand theft auto, sudden attack, and lineage while in the community.	.195
How much time you spent on the average day cruising around at night while in the community.	.239
How much time you spent on the average day killing time talking on the phone or text messaging friends while in the community.	.168
How much time you spent on the average day voluntarily reading literature, playing a musical instrument, and/or participating in the arts or sciences while in the community.	.044

Cronbach's Alpha =.74

Table 4

Principal Component Analysis of Self-Control

Factor	Eigenvalues	% of Variance
1	5.528	19.061
2	2.665	9.191
3	2.256	7.779
4	1.660	5.725
5	1.437	4.955
6	1.410	4.862
7	1.172	4.040

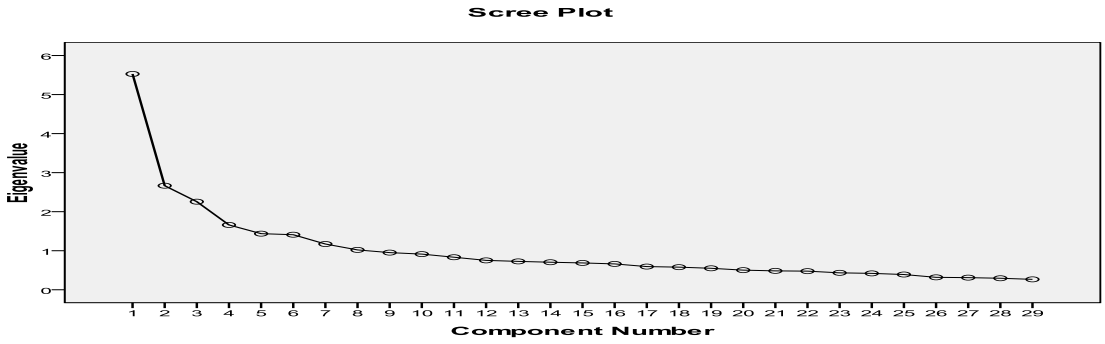

Figure 2. Scree plot for self-control items.

As can be seen in Table 3, the Cronbach's alpha is .74. This represents acceptable internal consistency for research purpose (DeVellis, 2003). Table 3 shows that the item-total correlations for the 14 bond-based self-control items are .3 or greater with the majority of them intended to measure attachment. Six of the 7 commitment items had an item-remainder correlation less than .3, and three commitment items had item-total correlations less than .2. Five belief items had substandard item-total correlation (<.3). The remaining four weak items (<.3) were intended to measure involvement. Table 4 presents the factor loadings for the PCA for the bond-based self-control measure; the scree plot is presented in Figure 2. The first component extracted accounted for 19 percent of the item variance in self-control. The scree plot in Figure 2 shows that three components emerged before the elbow of the curve indicating a two-or three-factor solution. The second and third components are relatively weak compared to the first component. The bond-based self-control scale in this study has acceptable internal consistency reliability, relatively weak item-total correlations except for the attachment items, and a distribution of eigenvalues indicating a broad construct.

Results

Bivariate ordinary least squares (OLS) regression was used to examine the influence of bond-based self-control on deviance for the entire sample. The results displayed in Figure 3 show that bond-based self-control is statistically related to self-reported involvement in deviant behavior. The beta weight ($B = -.28$, $p \leq .001$) indicates that those higher in self-control are less likely to be involved in deviant behavior.

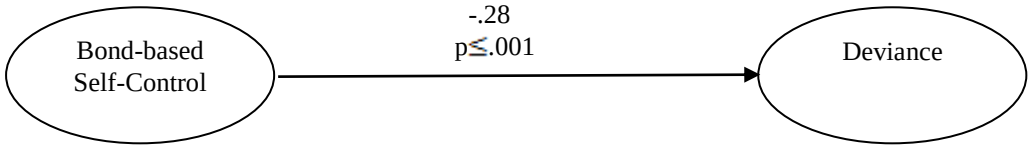

Figure 3. The influence of bond self-control on deviance for the entire sample.

In addition, a test of the cross-group applicability of self-control was conducted using bivariate ordinary least squares (OLS) regression for students and youthful offenders respectively. The beta weight or path coefficient (B = -.25, p ≤ .001) shown in Figure 4 indicates that bond-based is statistically related to deviance for high school students.

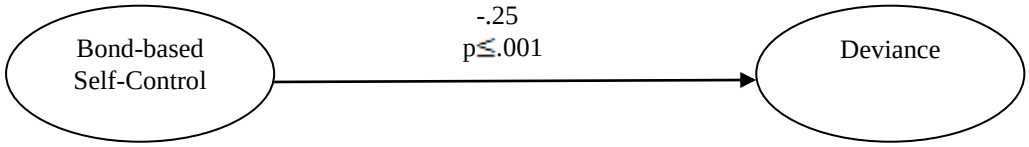

Figure 4. The influence of bond self-control on deviance for high school sample.

The beta weight or path coefficient (β = -.27, p ≤ .001) shown in Figure 5 shows that bond-based self-control is statistically related to deviance in the offender sample too. The results presented in Figures 4 and 5 support the cross-group applicability of the revised concept of self-control. In both groups, students and inmates, those higher in self-control are less likely to report deviant behavior.

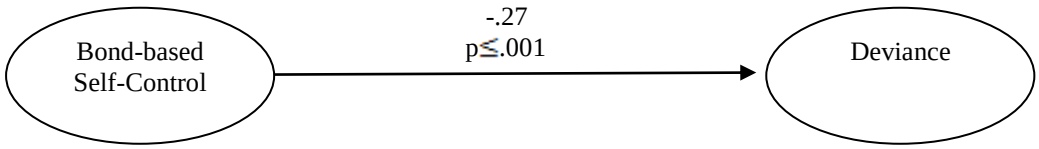

Figure 5. The influence of bond self-control on deviance for offender sample.

Figure 6 presents a model featuring the indirect effects of sample/group on deviance mediated by self-control. Sample/group has a negative direct effect on bond-based self-control (B = -.11) and bond-based self-control has a negative direct effect on deviance (B= -.28). The indirect effect of sample/group on deviance mediated by self-control is ((-.112) (-.280) or .031) which is insubstantial.

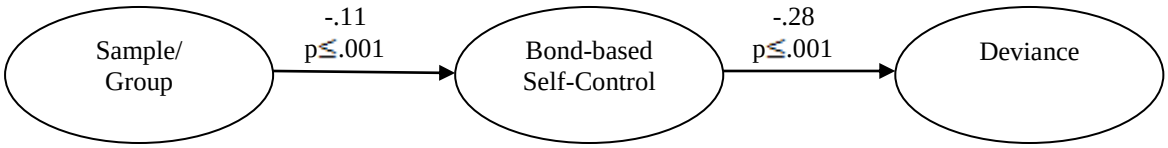

Figure 6. The indirect effects of sample/group on deviance mediated by bond-based self-control.

Figure 7 presents the independent effects of bond-based self-control and sample/group on deviance. Both bond-based self-control and sample/group have a significant influence on level of participation in deviance. The partial beta weight or path coefficient measuring the influence of bond-based self-control on deviance is -.24. For sample/group, the partial regression coefficient is .36.

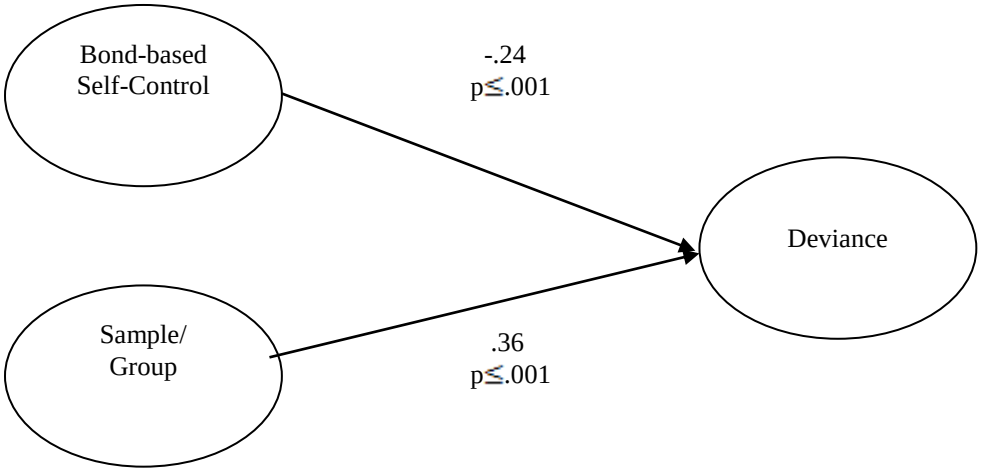

Figure 7. The direct effects of bond-based self-control and sample/group on deviance.

Figure 8 presents the path model of the direct and indirect effects of sample/group on deviance. Sample/group has a positive indirect effect on deviance through bond-based self-control ((-.112) (-.240) = .026). Sample/group has a substantial positive direct effect on deviance (.358). The total effect of sample/group on deviance is the sum of the direct and indirect effects (.358 + .026 = .384).

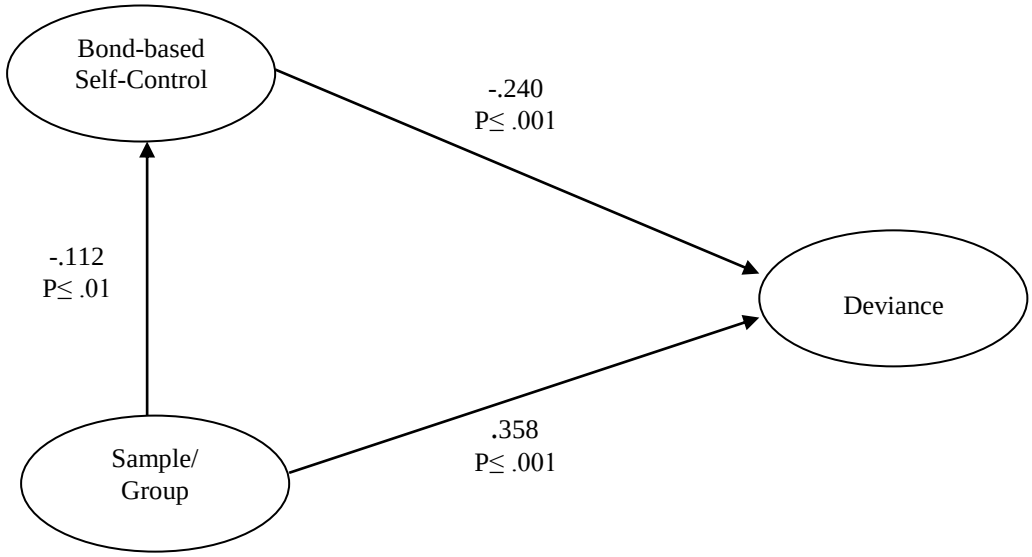

Figure 8. The direct/indirect effects of sample/group on deviance through general bond self-control.

Discussion

In 2004, Hirschi changed the concept of self-control from personality-based to bond-based, which represented a return to his original social control or social bond theory (1969). A central purpose of this research was to adequately measure self-control in South Korea on the basis of Hirschi's reconceptualization. The current study provides evidence that supports the revised self-control measure (bond-based) as a reliable indicator in Korean samples. The deviance measure used in this study was also found to have good reliability and unidimensionality. The findings also suggest that the bond-based self-control measure has at least a modest influence on crime and deviance. In terms of cross-group applicability, the self-control-deviance relationships were not very different in the two samples. In particular, the beta weight of bond-based self-control for offenders was slightly larger than that for students, which implies that self-control can apply to different groups who have different life experiences. Conversely, this result also implies general theory of crime can be tested using any population.

The results from this study should be seen as a small step in testing Hirschi's revised conceptualization of self-control. For example, female are not included in sample, which means that the generalizability of the findings is limited in scope. Thus, future research should employ demographically diverse samples. Although the revised self-control measures tested here were found to be a reliable, some items (i.e., general involvement and belief items) resulted in poor item-total correlations. This suggests different methodological approaches (e.g., the use of hypothetical scenarios) should be explored to develop the most complete set of self-control measures. Finally, this study does not include a measure of parental management so it can test only part of the model. According to Gottfredson and Hirschi (1990), individual differences in self-control are established early in life by parental practices. It is assumed that low self-control is the result of poor parental management during the first five to eight years of children's' life. Thus, although testing a full model of general theory of crime was beyond the scope of this study, future research should include parental management structure to examine the relationship between parental and revised self-control structures.

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