

Low Self-Control and Property Crime:  
Testing Gottfredson and Hirschi's General Theory of Crime

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## Introduction

The General Theory of Crime (1990), a collaborated book written by Michael Gottfredson and Travis Hirschi, outlines the foundation of criminality from the perspective of its authors. Being roughly 20 years old, the general theory of crime is merely in its adolescence in respect to the lifespan of social theories. In terms of the impact it has had in the criminology community, Goode posits that “no book in the field of criminology is quoted, commented on, and critiqued as much as General Theory, and none has been both widely praised and damned as much” (2008: 7). Acting as a general theory, Gottfredson and Hirschi’s theory rejects the common assumption that each theory should explain only a fragment of the picture and sets out to explain “all types of crimes regardless of social class, ethnicity and gender of the perpetrator” (Nakhaie, Silverman, & LeGrange, 2000: 39).

What they propose is that the variation in individual tendencies to engage in crime is a function of self-control, “the degree to which a person is vulnerable to the temptations of the moment” (Connor, Stein, & Longshore, 2009: 137). While many criminological theories attempt to explain the factors that predispose individuals to crime and delinquency and how to avert them, Gottfredson and Hirshi argue that we are born with such predispositions. That is, they suggest that low self-control, the central determinant of criminality, is not produced by discipline, training, or socialization. Rather, low self-control is viewed as both natural and universal, and that people are “born with the desire for easy and immediate gratification, which leads them to engage in acts – such as crime and analogous behaviors – that provide such gratification” (Cullen, Unnever, Wright, & Beaver, 2008: 61). Gottfredson and Hirshi thus argue, as to maintain a fundamentally sociological thesis, that the root cause to the underdevelopment of self-control is the lack of adequate child rearing practices by parents, leading to poor socialization.

This paper will explore the central propositions of Gottfredson and Hirschi’s general theory discussed above while taking into consideration and controlling for relevant variables. The relationship between a multidimensional measure of self-control and property crimes will be analyzed using a large-scale representative sample of Canadian children, something that has been overlooked in most of the literature. In addition, six distinct dimensions of self-control will be regressed independently to detect whether some are more important than others in explaining property crime among children.

## Literature Review

From the time of its inception, the various propositions of general theory have been the focus of numerous experiments and statistical analyses. Using a sample of 6500 U.S. adolescents in grades 7 to 12, Cretacci (2008) analyzed the impact of self-control and other risk factors in explaining property crimes, drug use, and violent crimes. In his analysis, he controlled for attachment to social bonds such as parents, friends, school, and religion. He found that low levels of self-control were associated with involvement in property crimes and drug use, but not violent crimes. This study only partially supports Gottfredson and Hirschi's theory, indicating that self-control does not equally explain all categories of crime.

Fetchenhauer, Simon, and Fetchenhauer (2008) examined the interaction between self-control and the delay of gratification in explaining deviant behaviour in a sample of 88 middle-class, moderately educated German participants. Their results indicated that the participants' degree of self-control was more important in their decision to cheat on a wine tasting task when they received their rewards immediately after the experiment; self-control was less important in their decision when they were made to wait 6 weeks for their reward. While there were several shortcomings to the experiment, the results nevertheless support the core assumptions of general theory to the extent that it takes both a "potential perpetrator *and* [that] perpetrator to expect immediate rewards for his or her deviant behaviour" (33) which is the essence of self-control.

Research by Piquero, Jennings, and Farrington (2010) focused on the effectiveness of self-control improvement programs in children and adolescents up to age 10 and their effects on delinquency outcomes. A meta-analysis of 34 studies found that self-control improvement programs can improve children's self-control and that these interventions can indeed reduce delinquency. The researchers concluded that "self-control is malleable, that self-control can be improved, and," most important to the current study, "reductions in delinquency follow from this self-control improvement" (829).

Using a sample of 619 offenders, both juvenile (27%) and adult (73%), Longshore (1998) conducted a prospective test of self-control as a predictor of property crimes, including arson, theft, burglary, forgery, and larceny, as well as personal crimes, including rape, homicide, assault, and robbery. In both the bivariate regression model as well as the multivariate regression condition, which included controls such as age, gender, ethnicity, the researchers found that the numbers of both property crimes and

personal crimes were higher among those who measured low in self-control. The results of this study, as well as those mentioned above, are notable since property crimes by their very nature, “unsophisticated, spur-of-the-moment acts guided by the desire for immediate gratification” (Swatt and Meier, 2008), are especially susceptible to the effects of self-control.

Gottfredson and Hirschi describe the availability of crime, criminal opportunity, as a mediating factor between low self-control and criminality. They argue that characteristics of the target or situation such as “the ease with which buildings can be entered, the accessibility or convenience of the target to the potential offender, the portability and disposability of available goods, and the presence of obvious deterrents” (1990: 219) are important interceding determinants of crime. They go further to suggest, however, that since most offenses are easy to commit and the opportunities to do so are constantly available, those with low self-control will inevitably be involved in criminal behaviour. Several experiments have thus tested for an interaction effect between self control and opportunity (Fetchenhauer et al., 2008; Cretacci, 2008; Longshore, 1998); that is, whether the effect of self-control on crime differs across the degree of opportunity. However, the results from such studies have been rather sporadic and, similar to Gottfredson and Hirschi’s own explanation of opportunity, its influence, empirically, is unclear.

Major differences in criminality between males and females are also consistent both empirically and theoretically. Gottfredson and Hirschi argue that by increasing supervision, parents are seeking to minimize opportunities for crime, “especially for daughters” (1990: 148). Further, they suggest that since direct supervision has a stake in producing self-control, parental supervision for females is negatively correlated with criminality. Nakhaie et al. found that males were almost twice as likely to engage in property offences, arguing that males are “more likely to reflect traits related to low self-control than females” (2000: 39). Similarly, they attributed the difference to the increase in parental control and adult supervision and, therefore, decrease in opportunity for females to engage in crime. According to Gottfredson and Hirschi, however, “supervision and socialization are not synonymous” (1990: 148). Consequently, while research on gender seems to support the theory, it is somewhat unclear as to its contribution.

While there has been a wealth of research analyzing various elements of Gottfredson and Hirschi’s theory, most of which produced results in support of its main propositions, very few have investigated the

variance in self-control indicators. In identifying what they consider to be the central characteristics of self-control, Gottfredson and Hirschi argue that people with low self-control will tend to be impulsive, physical, risk-seeking, self-centered, as well as have a bad temper and a preference for simple tasks (Piquero, Jennings, & Farrington, 2010). This was the main focus of Arneklev, Grasmick, and Bursik's study which attempted to discern whether the coalescence of such characteristics into a multidimensional indicator of self-control would best measure criminality, or whether particular characteristics would be more important than others in explaining differences in crime. They found that the six distinct dimensions that Gottfredson and Hirschi proposed could indeed be combined to reflect an "invariant criminal predisposition" (1990: 327). Their results, however, also found that, relative to other components, impulsivity was especially important in explaining criminal propensities while preference for physical activities was found to be a rather insignificant component of the self-control measure. Similarly, Nakhaie et al. (2000) found that risk-taking was the best predictor of delinquency while impulsivity was the second best predictor. Critics have interpreted such results, that particular characteristics of self-control vary in their ability to explain crime, as major shortcomings to general theory.

### **Research Question/ Hypothesis**

The Canadian public and mainstream media seem to believe that youth crime, especially violent youth crime, is growing at an exponential rate. Partly due to the sensationalization of the events such as the Columbine and Virginia Tech murders, media representations undoubtedly disseminate the idea that youth violence is out of control. An extensive content analysis of popular Canadian print media's portrayal of youth crime found that over 94% of stories covered over a three-month period involved violence (Tanner, 2010). Canadian statistics show, however, that violent crime accounts for 25% of all youth criminality while "property crime remains the single most important component of known youth crime" (Tanner, 2010: 45), accounting for 40% of all crime for this age group. It should also be noted that property crimes likely go unreported at a much higher rate than violent crimes.

The dependent variable for this analysis is property offences, specifically looking at cases from 4 to 11 years of age. Since property crimes make up the greatest proportion of offences for this age group, this study will offer insight as to the explanatory power of general theory for such crimes.

According to Gottfredson and Hirschi (1990), people with low self-control tend to be: unable to defer gratification (“here and now” orientation); attracted to physical rather than cognitive activities; adventurous and have a preference for engaging in risky activity; insensitive to the needs of others; disinterested in complex tasks; and more likely to respond to conflict in a physical rather than verbal manner. Therefore, those with greater propensities towards deviant behaviour are inclined to be impulsive, risk-seeking, insensitive to others, physically (as opposed to verbally) inclined, have a preference for simple tasks and immediate gratification, and have a low tolerance for frustration (Longshore, 1998). To infer as to the strength of general theory in explaining youth property crime, the primary independent variable for this analysis will be an additive scale measuring low self-control. This scale will be comprised of 6 variables from the first cycle of the NLSCY (1994) that are conceptually analogous to those outlined by Gottfredson and Hirschi.

Several relevant variables such as age, gender, household income, and social support will be included in this analysis as control variables. Although age and gender (Longshore, 1998; Cretacci, 2008; Nakhaie et al., 2000), and to some degree household income (Nakhaie et al., 2000), have been consistently used as controls in previous research, social support is theoretically relevant to the current study in regards to its emotional and social toll on parents, especially mothers, and their ability to be effective in child rearing. Although some previous literature takes ethnicity and opportunity into consideration, this study, partially due to limitations in the dataset, has not controlled for these variables.

Specifically, this paper will evaluate the importance of self-control in explaining property crimes in children and youth aged 4 to 11. The bulk of the research testing Gottfredson and Hirschi’s theory generally supports the claim that the tendency to engage in crime is, at least to some degree, due to variations in self-control. Additionally, the literature suggests that particular dimensions of self-control, particularly impulsivity, vary in their importance in explaining criminal propensities, questioning the necessity for a multidimensional measure of self-control. Therefore, it is predicted that there will be a positive association between low self-control and property crimes when controlling for age, gender, household income, and social support. It is also predicted that, when regressed separately, particular self-control dimensions will be notably more important than others in explaining property crime, while others may fail to attain significance. In regards to the control variables, it is predicted that household income,

social support, and age will be inversely associated with property crime. That is, as age, social support, and household income increase, the likelihood of a child exhibiting behaviours associated with property crimes will decrease. Lastly, it is predicted that males, as opposed to females, will be more likely to engage in property crimes.

### **Data and Methods**

This analysis uses the first cycle of the National Longitudinal Survey of Children and Youth (NLSCY) which was administered in the fall of 1994 by Statistics Canada on behalf of Human Resources Development Canada. The primary objective of the survey was to determine the prevalence of and monitor the biological, social, and economic risk factors facing Canadian children and to use this information to develop policies, programs, and strategies to facilitate safe and healthy lives for Canada's young population. A total of 22,831 children and youth aged newborn to 11 years, those who resided in the sample of 13,439 Canadian households, participated in the survey. While the majority of the survey was completed by the person most knowledgeable (PMK) of the child, which was most often the mother, particular sections were designed to be completed by the child as well as his or her teacher and principal (Statistics Canada, 1997). The NLSCY was used in this analysis because it provides quality data for a large, representative, and, therefore, generalizable sample of Canada's young population, important characteristics that have been missing from previous research.

The dependent variable for this analysis was property offences score for children aged 4 to 11 years. Property offences score is an additive scale created using 6 items from the survey concerning child behaviour associated with property crimes. The survey questions included those asking the PMK how often they would say that their child: "destroys his or her own things"; "steals at home"; "destroys things belonging to his/her family, or other children"; "tells lies or cheats"; "vandalizes"; and, "steals outside the home?" Response options were altered such that scores ranged from 0 to 12, with high scores indicating the prevalence of behaviours associated with property offences (Statistics Canada, 1997).

Although Phythian, Keane, and Krull (2008) used a self-reported hyperactivity/ inattentive scale to measure self-control, I believe that such a measure fails to capture the essence of self-control as identified by Gottfredson and Hirschi. Therefore, an additive scale indicating low self-control was devised for this analysis and used as the primary independent variable. This scale was made up of 6 items from the NLSCY

inquiring as to the frequency of behaviours analogous to those outlined in Gottfredson and Hirschi's general theory of crime as indicative of self-control. The items, asked of the PMK, included those inquiring as to how often the child: "can't sit still, is restless/hyperactive" (restless); "is impulsive, acts without thinking" (impulsive); "[has] difficulty awaiting turn in games/groups" (impatient); "reacts with anger and fighting" (reacts with anger); physically attacks people" (physical); and, "kicks, bites, hits other children" (violent). Response options were recoded as never (0), sometimes (1), and often (2), comprising a scale that ranged from 0 to 12 with higher scores indicating low self-control. In the third model of this analysis, the 6 distinct items making up this self-control scale were regressed separately with the relevant control variables. Each item was recoded into a dichotomous variable; that is, the "sometimes" and "often" responses were grouped together to represent the presence of each trait while the "never" response remained to represent their absence.

Each of the four control variables used in this analysis are also questions asked of the PMK of the child. Gender of child is a nominal variable, with females as the reference category for ease of interpretation. Age of child was limited to those aged 0 (0-11 months) to 11 years; while household income scores were collapsed into ordinal categories ranging from 1 (less than \$10,000) to 9 (\$80,000 or more). Social support score, ranging from 0 to 18, is an additive scale devised from 6 items from the survey. Items included in the scale were those concerning the PMK's availability of and access to family or friends that they can count on for advice, comfort, safety, and feelings of inclusion in times of emergency and emotional strife.

Given the interval/ratio dependent variable, ordinary least squares (OLS) regression was used to test the hypotheses. This method will allow inferences to be made regarding the relationship between low self-control, as well as its 6 independent dimensions, and property offences score while controlling for age, gender, household income, and social support. Sample weights were included in each regression model.

## **Results**

In this study, three regression models were analyzed to examine the relationship between self-control and property crime. Model 1 represents low self-control regressed on property offences score to infer as to the strength of the relationship before controlling for relevant variables. Model 2 includes low



self-control, gender, age, household income, and social support score regressed on property offences score to examine the association between self-control and property crimes while keeping relevant control variables constant. Model 3 represents each individual dimension of low-self control (physical, violent, reacts with anger, impatient, impulsive, and restless) and the relevant control variables regressed on property offences score to infer as to the relative strength of each dimension in explaining property crime.

The regression results of model 1 indicate that the association between self-control and property offences is statistically significant at the .01 level. An  $R^2$  value of .296 indicates that 29.6% of the total variance in property offences score can be explained by this single variable. Table 1 shows a standardized coefficient of .544 which indicates a very strong relationship between the two variables. This value indicates that for every 1 standard deviation change in low self-control we can expect a .544 standard deviation increase in property offences score. According to the unstandardized coefficients, a .297 increase on property offences score is predicted for every unit increase in low self-control. The constant ( $y$ -intercept) indicates that the estimated property offence score for those with a low self-control score of zero (indicating high self-control) is .000. That is, it can be predicted that those with high levels of self-control are rather unlikely to display behaviours associated with property crimes.

Model 2 represents low self-control, gender, age, household income, and social support regressed on property offences score. Results show that each variable, except for age, remained statistically significant at the .01 level when regressed simultaneously against property offences. This is inconsistent with my prediction about age to the extent there is no statistically significant relationship between this variable and property offence score in this model. In regards to the overall fit of the model, an  $R^2$  value of .302 was obtained meaning that 30.2% of the variance in property offences score can be explained by the simultaneous effect of all the variables included in model 2. This modest increase in explained variance from model 1 points to the strength and importance of self-control in explaining the dependent variable. Accordingly, the standardized coefficients in Table 1 illustrate that low self-control (.531) remains as having a very strong positive association with property offences score when controlling for the other variables. The results also indicate that low self-control remains as having the greatest importance as compared to gender (.039), household income (-.060), and social support (-.029) in explaining variations in

**Table 1. Property Offences Score (Aged 4 to 11 Years) Regressed on Selected Independent Variables, 1994 National Longitudinal Study of Children and Youth**

Independent Variables	Unstandardized Coefficients					
	Model 1		Model 2		Model 3	
	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
Low Self-Control (LSC)	.297**	.004	.290**	.004		
Gender			.096**	.019	.128**	.020
Age			-.006	.004	-.015**	.004
Household Income			-.039**	.005	-.044**	.005
Social Support Score			-.012**	.003	-.017**	.003
Physical					.515**	.032
Violent					.684**	.032
Reacts with Anger					.203**	.022
Impatient					.178**	.021
Impulsive					.435**	.021
Restless					.197**	.021
Constant	.000		.452		.723	
Independent Variables	Standardized Coefficients					
	Model 1	Model 2	Model 3			
	Coefficient	Coefficient	Coefficient			
Low Self-Control (LSC)	.544**	.531**				
Gender		.039**	.052**			
Age		-.012	-.028**			
Household Income		-.060**	-.068**			
Social Support Score		-.029**	-.041**			
Physical			.154**			
Violent			.202**			
Reacts With Anger			.079**			
Impatient			.073**			
Impulsive			.177**			
Restless			.080**			
R <sup>2</sup>	.296	.302	.271 (1)			
N	13888	11633	11690			

\*P-value<=.05 \*\*P-value<=.01

Results Weighted

(1) The explained variance in this regression is due to the loss of variance associated with dichotomizing each of the six items involved in the initial self-control scale

the dependent variable. As predicted, Table 1 indicates that the estimated property offences score for males is .096 higher than females (reference category). Further, for every unit increase in household income, results indicate an estimated .039 unit decrease in property offences score; a result that is consistent with my predictions. The only result that failed to meet my prediction in this Model was that there was no statistically significant relationship found between age and property offences.

Model 3 represents the six separate dimensions of low self-control regressed with relevant controls. Although the results of this model show a slight decrease in the explained variance (.271), this change is relatively negligible and undoubtedly occurred through the recoding of the low self-control items. Nevertheless, the regression results indicate that each dimension remained statistically significant at the .01 level, a result that is inconsistent with what was predicted. However, the standardized coefficients indicate that the “physical” (.154), “violent” (.202), and “impulsive” (.177) traits, each indicating moderate relationships, are distinctively more important in explaining the dependent variable than “reacts with anger” (.079), “impatient” (.073), and “restless” (.080) traits. Despite the fact that each variable maintained statistical significance, these results are consistent with my prediction to the extent that particular dimensions proved to be more important in explaining the property offences score than others. It should be noted, however, that the observed differences are not as prominent as those found in previous literature (Arneklev et al., 1999; Nakhaie et al., 2000).

### **Discussion and Conclusions**

Gottfredson and Hirschi’s general theory of crime proposes that the primary individual-level predictor of crime is self-control. These regression results indicate that there is a strong positive association between low self-control and the prevalence of behaviours associated with property offences in Canadian children. Not only did low self-control show to be a strong predictor when regressed independently on property offences score, but the association remained robust when gender, age, household income, and social support were introduced as statistical controls. These results are consistent with previous literature (Cretacci, 2008; Longshore, 1998) in the sense that those who engage in behaviours indicative of property crime tend to show lower levels of self-control.

In regards to age failing to attain statistical significance, I would argue that this may be partially due to the non-linear nature of the distribution of property offences score on the age variable. That is, children aged roughly 4 to 8 likely exhibit considerably less behaviours indicative of property crime than the older segment of the sample, effecting the linearity of the relationship and, thus, rendering the regression results insignificant. Overall, this analysis suggests that Canadian children from ages 4 to 11 with greater self-control should be less likely to engage in behaviours associated property offences.

The results from this analysis add to the previous literature in three important ways. First, this analysis used a large representative sample of Canadian children and youth, something that is missing from the vast majority of prior research. This adds to the external validity of the study and allows the results to be generalized to the target population. Secondly, as encouraged by Arneklev et al. (1999), this study used an original measure of self-control; an additive scale that was specifically developed to correspond to the self-control traits as described by Gottfredson and Hirschi. Although other researchers have been satisfied with using a pre-developed hyperactivity/ inattentive scale (Phyhian, Keane, & Krull, 2008), this researcher was interested in developing a scale that better represented a universal measure of self-control that was not merely catered to property crimes, but that could be representative of all crimes. Lastly, previous researchers that have found explanatory variability in the separate self-control dimensions have utilized their results to contest general theory (Arneklev et al. 1999; Nakhaie et al. 2000). The six dimensions used in this study, however, do not vary in their ability to explain variations in property offences to the extent that has been found in previous studies. I would argue that the results from the present study support rather than contest general theory in the sense that the 6 distinct dimensions as discussed by Gottfredson and Hirschi do seem to coalesce into a multidimensional trait that can predict the presence of behaviours related to property crimes.

Despite the important contributions mentioned above, this analysis has its limitations. The data used for this study was cross-sectional as opposed to longitudinal, the golden standard in terms of quantitative research. Accordingly, while the results nevertheless lend support for general theory, they are not definitive to the extent that they merely represent a snapshot of the sample. Neither the source nor the development of the relationship between self-control and behaviours associated with property crimes can be inferred upon in the current analysis. In this sense, the results are descriptive, as opposed to explanatory, and, therefore, cannot offer any insights into cause and effect. There also seems to be no definitive operationalized measure of self-control. This is evident in the immense variation in both the measures used and the results obtained across studies examining general theory. Therefore, further research should focus on developing a conceptualization of self-control that is both theoretically and empirically relevant to Gottfredson and Hirschi's general theory of crime.

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