

Family Structure and Parental Behavior: Identifying the Sources of Adolescent Self-Control

Kelli Phythian

University of Western Ontario

Carl Keane

Catherine Krull

Queen's University

Abstract. *According to Gottfredson and Hirschi and their general theory of crime (1990), self-control – defined as the degree to which individuals are vulnerable to temptation – is a relatively stable, universal trait that accounts for individual differences in criminal, deviant, and reckless behavior. Self-control is said to develop in early childhood, while the family is still the most important socializing agent. Thus, the absence of self-control and subsequent deviant activity are a result of familial factors. Using a large, nation-wide sample of Canadian children, this study examines the effect of parenting on children's self-control while considering the role of such factors as parental composition and household size. Analyses reveal that self-control varies by family structure, whereby children living with two biological parents report higher levels of self-control than children in reconstituted and single parent families. However, this relationship is offset, in part, by parental monitoring. Overall, regardless of family structure, it is evident that a nurturing, accepting family environment is positively associated with self-control.*

Keywords: self-control; adolescence; family structure; parental behavior

Introduction

Gottfredson and Hirschi's assertion that their general theory of crime explains "all crime, at all times and, for that matter, many forms of behavior that are not sanctioned by the state" (1990:117) has proven to be one of the most controversial claims made by criminologists in recent years. According to Gottfredson and Hirschi, self-control, defined as the degree to which individuals are vulnerable to temptation, is a relatively stable, universal trait that accounts for individual-level differences in criminal, deviant, and reckless behavior. Indeed, they use the term synonymously with criminality, or the propensity to commit crime, giving an indication of how large the role of self-control is thought to play in the commission of criminal acts. Later, they soften their assertions about the primacy of self-control; age, gender, and race are also said to be important determinants of criminal activity (Hirschi and Gottfredson, 1995). Nevertheless, self-control is thought to be the primary social characteristic that leads to crime and delinquency. To be sure, Gottfredson and Hirschi express in no uncertain terms, low self-control is "the individual-level cause of crime" (1990:232).

Gottfredson and Hirschi (1990) argue that their theory of crime is general in that it accounts for a multi-

tude of criminal and noncriminal behaviors that transcend cultural boundaries. They define crime as any act of "force or fraud undertaken in the pursuit of self-interest" (1990:15). Crime, then, is not restricted by definition to those activities that violate the laws of a particular society at a particular point in time. The authors contend that, because their definition of crime does not follow cultural, behavioral, or legalistic guidelines, the general theory is valid across time and space. That is, low self-control is the primary cause of all types of crime and deviance, at all times and in all cultures. Furthermore, self-control is said to develop in early childhood, while the family is still the most important socializing agent. The absence of self-control, the authors contend, is therefore a result of familial factors. It is this aspect of the general theory that is the focus of the present investigation. While the contention that low self-control leads to criminal and analogous acts has received much empirical attention, the claim that the family is the source of low self-control has to date been of less interest to criminology researchers. As will be discussed in further detail, research that has sought to test this latter proposition is contradictory and offers only a modest degree of support for the general theory.

Self-Control

Central to the general theory of crime is the assumption that humans have an innate tendency to seek immediate gratification of desires. The sense of urgency to satisfy such desires, however, varies across individuals; that is to say, some individuals are better able to delay gratification than others. According to Gottfredson and Hirschi, those who are especially sensitive to immediate pleasure are more likely to engage in crime than others, despite its apparent long-term negative consequences, because of the “immediate, easy, and short-term pleasure” that crime offers (1990:41). The authors label the trait responsible for the variation in the likelihood of engaging in criminal acts “self-control.” Those high in self-control are better equipped to resist criminal impulses, while those with lower levels of self-control are more likely to succumb to temptation in order to attain the immediate pleasures associated with crime. Criminal behavior, however, does not stem solely from the absence of self-control. An additional, interrelated factor that influences criminal behavior is the degree of opportunity available to the actor. It is the interaction of low self-control with opportunity that leads individuals to commit crime: only those individuals who lack self-control and are presented with opportunities to commit crime will do so. Nevertheless, Gottfredson and Hirschi point out that, because opportunities to engage in criminal activity are generally abundant, crime commission arises first and foremost from the absence of self-control. As such, self-control should be considered prior to situational factors when examining the causes of criminal behavior.

Gottfredson and Hirschi’s general theory suggests that people lacking in self-control tend to (a) be short-sighted, with little interest in long-term pursuits; (b) enjoy exciting, risky, and adventurous activities; (c) have an impulsive, “here and now” orientation; (d) favor physical activities as opposed to cognitive ones; (e) be insensitive or indifferent to the needs of others; and (f) prefer to settle disputes through physical means rather than verbally (1990:89-91). These six dimensions are not separate indicators of self-control, but rather, these traits will tend to be found in the same people (Arneklev et al., 1999; Grasmick et al., 1993; Longshore, 1996; Polakowski, 1994). It is important to note, however, that these traits are not themselves motivators of crime; rather, they inhibit the individual’s ability to foresee the consequences of his or her actions. The long-term negative consequences of participating in crime do not negate its obvious benefits for the impulsive, short sighted, adventurous individual, thereby removing any barriers that may have prevented

the actor from committing crime.

Self-control, Gottfredson and Hirschi contend, develops early in childhood and remains highly stable over the life course. Because humans are inherently selfish with a propensity to seek pleasure and avoid pain, self-control will only develop if there is an effort, whether conscious or not, to teach it. Children must therefore learn self-control, and the burden of its teaching falls primarily on the shoulders of the family. The general theory asserts that three conditions are necessary in order for a child to develop self-control: Parents must monitor the child’s behavior, identify deviant behavior when it occurs, and correct or punish such behavior. Underlying each of these components is parental affection, for a parent who cares for the child will tend to watch the child and correct inappropriate behavior when it occurs (Hirschi, 1995). The stronger the parent-child bond, the more likely this will happen. Conversely, the weaker the bond, the less motivated the parent will be to nurture the child.

Gottfredson and Hirschi’s emphasis on the importance of parenting to the development of self-control among children is consistent with Baumrind’s influential theory of authoritative parenting (1966, 1991, 1996). The crux of Baumrind’s theory is that demanding and responsive parenting is crucial to positive child outcomes. The former refers to supervision, discipline, and a willingness to confront the child who disobeys, while the latter has to do with being supportive, attuned, and agreeable to children’s needs (1991). Baumrind contends that children with demanding and responsive (i.e., authoritative) parents will be more socially competent, and hence have higher self-control, than children whose parents are lacking one or both of these parenting styles.

Nonetheless, a parent who cares for and disciplines his or her child may be insufficient for instilling self-control. Barriers can arise which may hinder the parent’s ability to satisfy the conditions for effective child-rearing. The general theory focuses specifically on two structural factors that have well documented effects on delinquency: family size and family structure (Gottfredson and Hirschi, 1990; Hirschi, 1994; 1995). With respect to the former, Gottfredson and Hirschi argue that that “one of the most consistent findings of delinquency research is that the larger the number of children in the family, the greater the likelihood each of them will be delinquent” (1990:102; see also, Sampson and Laub, 1993). In order to account for such findings, the general theory makes two claims. First, the more children there are in the family, the less time, energy, and financial resources parents will have to devote to each individual child. They will be less able to directly or indirectly supervise each child’s

behavior and subsequently punish deviant behavior when it occurs. Hirschi (1994) later added that family size is itself an indicator of parental self-control. In brief, parents low in self-control will pass this characteristic on to their offspring via their inability or unwillingness to fulfill all of the conditions necessary for adequate socialization.

In terms of family structure and its impact on deviance, Hirschi (1994) contends that it is better to have two parents than one. The single parent must invest a good deal of time and energy into parenting practices that are, at least in part, shared by the two-parent family. The single parent therefore faces special challenges when it comes to child rearing. Without the assistance of a second parent or guardian, and perhaps without social support, the single parent must engage in the same practices as any other to raise the child effectively. The single parent too must supervise children and respond to problematic behavior. The higher rate of delinquency documented among children from single-parent households as compared to intact households (Cookston, 1999; Lipman et al., 1996; Rankin and Kern, 1994) suggests that it may be more difficult for single-parents to meet the requirements necessary to instill self-control within their children (Gottfredson and Hirschi, 1990; Hirschi, 1994).

While two parents in the household, whether biological or step, make monitoring and discipline easier than for single-parents, reconstituted families face a different set of problems. Stepparents may not be as closely bonded to the child as a natural parent (see, for example, White, 1999), thereby reducing the likelihood that the stepparent will be motivated to adequately socialize the child. In their influential work, *Homicide*, Daly and Wilson (1988) hypothesized that children living with non-genetic parents are at a higher risk of being killed by a parent than are children living with biological parents because stepparents are less motivated care for their children. The presence of a stepparent may therefore increase the likelihood that children will be exposed to a hostile or indifferent family environment. Although much research indicates that children from single-parent and reconstituted families participate more frequently in delinquent activities than do children from intact families (Cookston, 1999; Gove and Crutchfield, 1982; Hoffman, 2001; Pierret, 2001; Rankin, 1983; Rankin and Kern, 1994; Wells and Rankin, 1991), Demuth and Brown (2004) recently revealed that family factors such as parental closeness, involvement, supervision, and monitoring attenuate the effects of family structure on delinquency. Their study, however, did not contain any measures of self-control.

Self-Control and Deviant Behavior

It is hardly a surprise that the ambitious claims made by Gottfredson and Hirschi (1990) have made the general theory of crime a target of much theoretical and empirical criticism (Akers, 1991; Entner Wright et al., 1999; Geis, 2000; Greenberg et al., 2002; Marenin and Reisig, 1995; Miller and Burack, 1993). An impressive amount of research has emerged that has tested the core propositions of the theory, the bulk of which has focused on Gottfredson and Hirschi's contention that individuals lacking in self-control will engage in crime and analogous acts at higher rates than those who possess greater levels of self-control. Despite criticisms, findings have generally been supportive of the theory. In their meta-analysis, Pratt and Cullen (2000) summarized the results of 21 empirical studies in order to determine the aggregated effect of self-control on crime. Results of their analysis provided strong empirical support for the general theory, finding that low self-control has a statistically significant mean effect size of .27. The authors concluded that low self-control is "one of the strongest known correlates of crime. . . . [F]uture research that omits self-control from its empirical analysis risks being misspecified" (p. 952).

Researchers have consistently documented a significant negative association between both attitudinal and behavioral measures of self-control and crime among adults and adolescents (Brownfield and Sorenson, 1993; Burton et al., 1999; Evans et al., 1997; LaGrange and Silverman, 1999; Nakhaie et al., 2000; Paternoster and Brame, 1998). More specifically, significant negative relationships have been found to exist between self-control and "imprudent" behaviors, such as smoking, drinking, gambling, and speeding (Arneklev et al., 1993; Burton et al., 1999), drinking and driving (Keane et al., 1993), adolescent drug use (Sorenson and Brownfield, 1995; Wood et al., 1993), accidents (Junger and Tremblay, 1999; Pulkkinen and Hamainen, 1995; Tremblay et al., 1995), class cutting among university students (Gibbs and Giever, 1995), childhood aggression and misconduct (Brannigan et al., 2002), white collar crime (Benson and Moore, 1992), relationship violence (Sellers, 1999), and intentions to deviate (Piquero and Tibbetts, 1996).

Despite considerable research attention, many of the key propositions of the general theory are empirically underdeveloped. Gottfredson and Hirschi's contentions surrounding the stability and dimensionality of self-control, the role opportunity plays in the commission of criminal acts, offender versatility, and the source of self-control have received much less attention. Ambiguity persists concerning the resistance of self-control to change in

later life (Arneklev et al., 1999; Tittle and Grasmick, 1998; Tittle et al., 2003), whether the six elements of self-control form a unidimensional or a multidimensional construct (Grasmick et al., 1993; Longshore et al., 1996; Piquero and Rosay, 1998; Piquero et al., 2000; Vazsonyi et al., 2001, and Wood et al., 1993), the proposed interaction between opportunity and self-control (Burton et al., 1998; LaGrange and Silverman, 1999; Longshore, 1998), and whether those with low levels of self-control will tend to avoid specializing in any particular criminal or analogous behavior (Benson and Moore, 1992; Forde and Kennedy, 1997; Gibbs and Geiver, 1995; Gibbs et al., 1998; Junger et al., 2001; Longshore et al., 1996; Paternoster and Simpson, 1996; Piquero and Tibbetts, 1996; Polakowski, 1994; Pratt and Cullen, 2000; Sorenson and Brownfield, 1995). Furthermore, only a handful of studies have been conducted that examine parenting as the main source of self-control (Cochran et al., 1998; Feldman and Weinberger, 1994; Gibbs et al., 1998; Hay, 2001; Polakowski, 1994).

The significance of parental attachment to self-control, and parental monitoring and discipline to self-control has been noted by some (Cochran et al., 1998; Gibbs et al., 1998; Hay, 2001; Polakowski, 1994). On the other hand, Feldman and Weinberger (1994) found little relationship between parenting practices and adolescent boys' self-restraint. Although these studies make important contributions by focusing attention on parenting practices and self-control, they also have some limitations. Each of the studies had fairly small sample sizes, ranging from 81 to 448 participants, with limited geographic coverage. Further, three of the five studies used nonrandom, convenience samples (Cochran et al., 1998; Gibbs et al., 1998; Hay, 2001), two of which consisted of undergraduate students who should be expected to have fairly high levels of self-control. In four of the five studies, the researchers did not include all of the necessary conditions for effective parenting as stipulated by the general theory. Two did not use measures of parental affection for the child (Gibbs et al., 1998; Polakowski, 1994), and only one (Cochran et al., 1998) included a measure for the recognition of inappropriate behavior. Finally, Feldman and Weinberger's (1994) research was not a direct test of the general theory and therefore did not attempt to operationalize Gottfredson and Hirschi's definitions of self-control and parental effectiveness.

Overall, the literature provides a modest degree of support for the core propositions of the general theory, though the results are not unequivocal. In terms of the impact of parental effectiveness on self-control, the relative shortage of research, the limitations of existing stud-

ies, and the inconsistent results warrant further empirical examination. Following the suggestion of Paternoster and Brame (1998:661-662) that researchers should investigate not only the consequences of low self-control but also its causes, the present study aims to contribute to the current body of research in ways that differ from previous approaches. Using a large, nation-wide sample of Canadian children, we examined the effect of parenting on children's self-control while taking into consideration family size and parental composition. Based on the propositions of the general theory, the following hypotheses were tested:

Hypothesis 1: Factors representing effective parenting practices should have a significant and positive impact on children's self-control, while measures of ineffective parenting should be negatively correlated with self-control. This finding should hold across gender and family structure.

Hypothesis 2: Levels of self-control should vary according to gender and family type. Females and children from intact families should demonstrate the highest degree of self-control. Males and children from single-parent and step-families should have lower levels of self-control.

Hypothesis 3: Factors previously determined to be significantly related to delinquent or deviant behavior, such as family type, family size, and socio-economic status, should have a negligible impact on self-control when controlling for parental effectiveness.

Data and Methods

The data are from the National Longitudinal Survey of Children and Youth (NLSCY), Cycles 1 and 3. Conducted by Statistics Canada, the NLSCY was designed to measure the development and well-being of Canadian children as they grow from infancy through to adulthood with the goal of helping policy makers create effective programs for children at risk. Information was gathered from parents, teachers, and children concerning various social, biological, and economic characteristics. The first cycle was conducted in 1994-1995; since then, four additional waves have been released. Waves one, two and three are currently available for public use; data from waves one and three were included in the present analysis.¹

Data from 13,439 households were collected at wave one from a variety of respondents using different data collection techniques. Basic demographic informa-

tion about each household member was obtained from a knowledgeable household member. Once completed, one child aged 0 to 11 years living in the household was randomly selected and the person most knowledgeable (PMK) about that child was then asked to complete a set of three questionnaires: the Parent Questionnaire, the Child Questionnaire, and the General Questionnaire. Additional children belonging to the same economic family were then chosen at random and the Child Questionnaire was completed by the PMK for each child. In 91.8 percent of the cases, the PMK was the child's mother.

The present study also utilized self-reported data collected at wave three from children aged 10 to 15, which was collected four years after the initial survey. The use of self-reported survey data is consistent with previous research on the general theory (Evans et al., 1997; Grasmick et al., 1993; LaGrange and Silverman, 1999). Further, given the objectives of this study, it was decided that self-reported data would be more informative than data collected from the PMK, particularly for the parenting variables. Take, for instance, the previously discussed relationship between parental supervision and delinquent behavior. Where the parent might state that he or she is not always aware of his or her child's whereabouts, the child might believe that the parent does in fact monitor his or her behavior at all times. As a result, the child may take care not to engage in activities that could result in disapproval or punishment. In this case, using parent-reported data on child supervision would generate very different results than data collected from the child. The child's awareness of parenting and parent-child relations was thus determined to be more relevant to this research, for any behavioral responses associated with particular parenting practices would necessarily rely on how the child perceives or internalizes those practices (Hirschi, 1969; Webb, Bray, Getz, and Adams, 2002). For the sake of consistency, self-reported data were used whenever possible.

Self-reported data at wave three were collected only from respondents aged 10 to 15. In total, 5,539 participants aged 10 to 15 were included in the NLSCY sample. Of this subsample, 2,663 were males (48.1%) and 2,876 were females (51.9%). Elimination of missing cases using listwise deletion resulted in a working sample size for this study of 3,927. In order to derive meaningful estimates, survey weights provided in the public data file were used. Weights were normalized to return the sample to its original size.

Dependent Variable

The dependent variable, self-control, was measured using a 17-point self-report hyperactivity/inattention scale constructed by Statistics Canada using items drawn from the Ontario Child Health Study and the Montreal Longitudinal Survey. In previous research, Brannigan and colleagues (2002) used a parent-report version of the same scale as an indicator of self-control and we agree with the authors that it is a good approximation of the construct as outlined by Gottfredson and Hirschi. Children were asked to respond to a series of eight statements having to do with such behaviors as impulsivity, distractibility, and inattention (Cronbach's $\alpha = .75$). Possible responses included 1 = never or not true, 2 = sometimes or somewhat true, and 3 = often or very true (scale items are presented in Appendix A). For the purposes of the present study, the variable was coded such that the higher the score on the scale, the higher the level of self-control.

Independent Variables

The NLSCY contains several questions that comprise a scale intended to measure children's perceptions of the parent-child relationship and parental supervision. The scale was developed by Lempers et al. (1989) and was previously used in the Western Australia Child Health Survey. Participants were asked to respond to a total of 17 Likert-type statements designed to assess whether the respondents' parents behaved in punitive, nurturing, and/or consistent ways. Possible responses ranged from one (never) to four (very often). A factor analysis conducted by Statistics Canada revealed three factors: parental nurturance, parental rejection (or negligence), and parental monitoring (see Appendix A for scale items). The scales consist of items that correspond to the parenting practices identified by Gottfredson and Hirschi as necessary for the development of self-control and all three were included in the present analysis. The scales can also be seen as reflecting elements of direct and indirect parental control (Demuth and Brown, 2004; Nye, 1958). Parental nurturance was a 29-point scale consisting of five items that measured the amount of affection the parent shows the child, including how often parents smile at and praise the child, and whether the child feels appreciated (Cronbach's $\alpha = .88$). Higher scores indicate higher degrees of nurturance. This scale was included in the present analysis as an indicator of parental affection.

Parents' supervision and recognition of inappropriate behavior were measured using the parental monitoring scale (Cronbach's $\alpha = .57$). Parental monitoring was a 21-point scale that included four questions related to

parents' knowledge about children's whereabouts and activity restriction, as well as one question that tapped into recognition of misbehavior. Higher scores on the parental monitoring scale correspond to greater levels of parental supervision and recognition of misbehavior.

Finally, parental rejection, or negligence, was a 29-point scale containing seven items that gauge parents' disciplinary techniques (Cronbach's $\alpha = .73$). Children were asked questions related to how consistently their parents enforced rules. The higher the score, the more likely parents were to inconsistently discipline the child for incorrect behavior or ignore it altogether. The parental rejection scale was included as a measure for disciplining misbehavior. Higher scores on the scale correspond to higher levels of inconsistent discipline.

Two questions regarding family structure and number of children in the household were also included in the analysis. For family structure, the PMK was asked to indicate with whom the child lives. To examine the impact of family structure on self-control, answers were recoded to create three categories: intact, reconstituted, and single-parent. Previous research supports this approach. The findings of Rankin (1983) and Wells and Rankin (1986) indicate that the "broken versus intact" dichotomy traditionally used in criminology research is not a sufficient operational definition of family structure. Simply put, too much information was lost when family composition was reduced to only two categories. Based on empirical tests of delinquency rates, the authors recommended a four-category classification of family structure: intact, single-parent, stepparent, and neither parent present. In order to better capture the effect of family structure on self-control, then, the simple "broken versus intact" dichotomy was rejected in favor of a measure that is more representative of the kinds of families that children experience today.

Intact families were those families in which both biological or both adoptive parents were present. Single-parent families were those in which one guardian was present in the household, either biological or non-biological. And reconstituted families consisted of those households in which two guardians were present, at least one of whom was a step, adoptive, or foster parent. Of the children aged 10 to 15 included in the analysis, 66 percent belonged to intact families, 27 percent lived with single parents, and seven percent resided in reconstituted family households. To examine the general theory's claims about family composition, the relationship between parental effectiveness and self-control was examined for each type of family.

Family size was measured using a question in the

dataset that asked about the number of children aged 0 to 17 in the household. For confidentiality reasons, the total number of children aged 0 to 17 in the household was capped at four in the NLSCY. Due to the small number of response categories, number of children in the household was treated as a categorical variable and dummies were created. One child was treated as the reference category.

In addition to measures of parental effectiveness, family structure, and family size, three control variables were included in the present study: gender, household income, and education of the PMK. For gender, males were coded as 0 and females were coded 1. Previous tests of the general theory have often included gender as a control variable (see, for example, Keane et al., 1993 and LaGrange and Silverman, 1999). The relationship between parental effectiveness and self-control was examined while controlling for gender, and, for exploratory purposes, interaction effects of gender with the parental effectiveness variables were also tested.

Turning to household income, prior research has shown that children of low SES families display higher levels of deviant and delinquent conduct than children of high SES families (Gove and Crutchfield, 1982; Rosen, 1985). It is therefore reasonable to conclude, based on the general theory, that SES influences parental effectiveness, which in turn impacts the development of self-control. Given the income disparity between single- and two-parent families, it was important to control for SES to eliminate the possibility that any difference in self-control found to exist between children reared in intact, single, and reconstituted families may instead be due to differences in SES. For the first cycle of the NLSCY, a measure of SES was derived for each household in the sample from five sources: level of education of the PMK and of his or her spouse partner (if applicable), PMK's occupational prestige and of the PMK's spouse or partner (if applicable), and household income. The SES score was calculated by taking the unweighted average of the five standardized variables. The result was a standardized measure of SES that ranges from -2.00 to +1.750, with larger values representing higher SES scores.

Education of the PMK was included as an indicator of parental self-control. According to Gottfredson and Hirschi (1990:96), the presence of low self-control is not conducive to the attainment of individual long-term pursuits. Low self-control impedes, among other things, educational achievement. It therefore follows that education is itself an indicator of self-control. Recall that the general theory suggests that parents lacking in self-control are less likely to instill self-control within their children. Including education of the PMK as a control

variable allowed for self-control of the PMK to be controlled. PMK's education was measured using a variable that asked about the highest level of education attained. Four categories were constructed: less than high school, high school, some post-secondary, and college or university degree. High school was treated as the reference category.

It is important to note that, for confidentiality reasons, it was necessary for Statistics Canada to suppress certain information for male PMKs with no spouse or partner in the household. One of the variables suppressed are relevant to the present analysis: PMK's education. Consequently, the single-parent category of the family structure variable is comprised only of those households headed by females.

Results

Table 1 presents the descriptive statistics for our variables. Results indicate that two-thirds of all children

in the working sample came from intact families. Just over one-quarter are from single parent families and the remaining seven percent are from reconstituted family households. Forty percent of all children in our sample come from households with two children and another 38 percent are the only child. Fifteen percent have an additional two children living in the same household and only seven percent of households in our sample contained four or more children. With respect to the parenting variables, respondents reported overall high levels of nurturance and monitoring and low levels of rejection. Further, the average level of self-control was reasonably high, at 11.66 on a 17 point scale.

Tables 2a and 2b present the parenting and self-control scores broken down by family type and gender. Looking first at variation by family type, it can be seen that the mean scores on self-control for intact families is 11.70, for reconstituted families it is 11.72, and for single parent families it is 11.55. Analysis of variance (not shown) indicates that these differences are statistically significant ($p < .05$). Thus, children from two parent families report significantly higher levels of self-control than children from single parent families. With respect to the parenting variables, levels of nurturance and rejection do not differ significantly by family type; however, this is not the case for parental monitoring. On average, children from reconstituted families report higher levels of monitoring (14.83) than children living in intact (14.68) and single-parent (14.65) households. This difference is highly significant ($p < .001$).

Turning to gender, males have a mean self-control score of 11.48, while females report higher mean levels of self-control, at 11.82; the difference is statistically significant ($p < .001$). There is also some variation in parenting scores by gender. Males, on average, report significantly lower nurturance scores ($p < .05$) and higher monitoring scores ($p < .001$) than females. The difference in rejection scores is not statistically significant.

Ordinary least squares (OLS) regression was used to analyze the effects of family type and parenting styles on self-control. The models were estimated in four steps: First, the effects of gender, number of children, SES, and PMK's education on self-control were tested. In the second model, the parent status dummy variables were added. For the third model, parenting variables were included in order to test whether the parent structure effect disappears when parenting process is included, as predicted by the general theory (hypothesis 3). Finally, interaction effects were added in the fourth model to test for differences in the effects of gender and parenting style by family type. Results are presented in Table 3.

Table 1. Descriptive Statistics for Variables in the Analysis

	Mean/ proportion
Gender	
Male	0.48
Female	0.52
Number of children in the household	
1 child	0.38
2 children	0.41
3 children	0.15
4 or more children	0.07
PMK's education	
High school	0.27
Less than high school	0.18
Some postsecondary	0.30
Secondary degree/diploma	0.24
Socio-economic status	0.35
Family Type	
Intact parent family	0.66
Stepparent family	0.07
Single parent family	0.27
Parental nurturance	21.13
Parental rejection	9.37
Parental monitoring	14.68
Self-control	11.66

Table 2a. Comparison of Means for Parenting and Self-Control Variables by Family Type

	Intact families		Reconstituted families		Single-parent families	
	Mean	Std. deviation	Mean	Std. deviation	Mean	Std. deviation
Parental nurturance score	21.03	5.63	20.99	5.90	21.43	5.27
Parental rejection score	9.44	4.81	9.46	5.02	9.17	4.46
Parental monitoring score ***	14.68	3.36	14.83	3.47	14.65	3.28
Self-control score *	11.70	3.18	11.72	3.00	11.55	3.17

***p < .001 **p < .050 *p < .100

Table 2b. Comparison of Means for Parenting and Self-Control Variables by Gender

	Males		Females	
	Mean	Std. deviation	Mean	Std. deviation
Parental nurturance score *	11.48	3.22	11.82	3.10
Parental rejection score	20.95	5.57	21.30	5.55
Parental monitoring score ***	9.44	4.83	9.31	4.65
Self-control score ***	14.41	3.45	14.93	3.23

***p < .001 **p < .050 *p < .100

Model 1 presents the OLS regression coefficients for self-control on the demographic variables. Consistent with previous research, results indicate that females report significantly higher levels of self-control than males ($p < .01$). In addition, children whose PMK has a post-secondary degree or diploma report significantly higher levels of self-control than children whose PMK has not completed college or university ($p < .05$). However, number of children in the household and socioeconomic status do not appear to impact self-reported self-control among children aged 10 to 15. Together, the variables in Model 1 explain five percent of the variation in self-control.

Model 2 adds the family type dummies to the regression equation. Results indicate that children in single parent households report significantly lower levels of self-control than children from intact families ($p < .001$). There appears to be no significant difference in self-control between children from intact families and children from reconstituted families when controlling for sociodemographic characteristics. The effect of gender remains statistically significant ($p < .01$); however, the association between PMK's education and self-control is no longer significant when controlling for family type, suggesting that the education effect in Model 1 is due to differences in education levels of single-parents relative to intact parent families. The addition of family type increased the amount of variance explained to ten percent.

The third Model introduces the three parenting variables, two of which are statistically significant and in the expected direction. Higher levels of parental nurturance predict higher self-control among children aged 10 to 15 ($p < .001$), while higher parental rejection predicts lower self-control ($p < .001$). Interestingly, parental monitoring does not have a statistically significant effect on the dependent variable. Gender remained significant ($p < .01$); however its effect was somewhat weaker after intruding the parenting variables. As such, it can be concluded that parenting style (i.e., nurturance and rejection) partly explains the difference in self-control between males and females. Collectively, the variables in Model 3 account for 11.5 percent of the variance in self-control.

Six interaction effects were tested for Model 4. Interaction terms for gender and each of the parenting variables were included in the model (not shown), none of which were statistically significant. Thus, the effects of parental nurturance, rejection, and monitoring on self-control do not appear to vary depending on the gender of the respondent. Interaction terms for family type and the three parenting variables were also tested. Results indicated that the effects of parental nurturance and parental rejection do not vary significantly across family types (results not shown).

The interaction of parental monitoring and family type is statistically significant (see Model 4). The interaction coefficients represent the differences in the slope

of parental monitoring for children in single parent and reconstituted families relative to those in intact families. Results indicate that the association between parental monitoring and self-control is not statistically significant for children from intact families; however, among children from reconstituted and single parent households, the associations are positive and significant ($p < .001$ and $p < .05$, respectively). Thus, higher monitoring is associated with higher self-control among children from reconstituted and single-parent families but not for those from intact families. Moreover, the slope for children from reconstituted families is stronger [$b = 0.131$ (i.e., $-0.029 + 0.131$)] than for those from single parent families [$b = 0.78$ (i.e., $-0.029 + 0.078$)], meaning that higher levels

of monitoring have a stronger impact on self-control for children living in reconstituted households.

In addition to the significant interaction, Model 4 reveals a second interesting finding. After introducing the interaction terms, the difference in self-control between intact and reconstituted families becomes large and significant ($p < .01$). Further, the magnitude of difference in the dependent variable between intact and single-parent families nearly triples ($p < .001$). When controlling for all other variables in the model, children from reconstituted families score, on average, 2.2 points lower on the self-control scale, and children from single-parent families score 1.69 point lower than children from intact families. It appears, then, that the stronger effect of monitoring

Table 3. OLS Regression Coefficients of Self-Control on Demographic, Parent Status, and Parenting Variables

	Model 1		Model 2		Model 3		Model 4	
	Estimate	Std. error	Estimate	Std. error	Estimate	Std. error	Estimate	Std. error
Constant	12.129		12.189		11.412		11.593	
Gender								
Male	(ref)		(ref)		(ref)		(ref)	
Female	0.311 **	0.100	0.301 **	0.100	0.255 **	0.095	0.252** **	0.095
Number of children in the household								
1 child	(ref)		(ref)		(ref)		(ref)	
2 children	-0.099	0.114	-0.071	0.114	-0.045	0.108	-0.075	0.108
3 children	-0.023	0.154	-0.010	0.153	-0.018	0.145	-0.029	0.145
4 or more children	0.086	0.216	0.146	0.216	0.272	0.205	0.265	0.205
PMK's education								
High school	(ref)		(ref)		(ref)		(ref)	
Less than high school	-0.085	0.161	-0.110	0.161	-0.026	0.152	-0.024	0.152
Some postsecondary	0.176	0.150	0.124	0.151	0.107	0.142	0.118	0.143
Secondary degree/diploma	0.336 *	0.165	0.301 *	0.165	0.200	0.157	0.210	0.156
Socioeconomic status	0.029	0.093	-0.141	0.101	-0.154	0.096	-0.141	0.096
Family type								
Intact parent family			(ref)		(ref)		(ref)	
Stepparent family			0.134	0.192	0.128	0.182	-2.235 **	0.765
Single parent family			-0.549 ***	0.130	-0.567 ***	0.123	-1.694 ***	0.495
Parental nurturance					0.095 ***	0.010	0.094 ***	0.010
Parental rejection					-0.145 ***	0.011	-0.146 ***	0.011
Parental monitoring					0.005	0.016	-0.029	0.019
Stepparent* parental monitoring							0.160 ***	0.050
Single-parent* parental monitoring							0.078 *	0.033
	N = 3,927		N = 3,927		N = 3,927		N = 3,927	
	R2 = .005		R2 = .010		R2 = .115		R2 = .118	

*** $p < .001$ ** $p < .010$ * $p < .050$

for children belonging to single-parent and reconstituted families offsets differences in self-control across family types.

Discussion and Conclusions

In sum, regression analyses reveal that adolescents who see one or both of their parents as rejecting, or more specifically, being inconsistent in applying discipline, nagging about little things, being physically abusive or using the threat of physical abuse, or, in general, negligent in their parenting responsibilities, tend to score lower on the self-control index than those who describe their parents as more consistent in their disciplinary practices. On the other hand, adolescents who perceive their parent(s) as being proud of them, and responding to them in a caring manner, are more likely to score higher on self-control than their counterparts. The effect of parental monitoring is more complex, given its interaction with family type. Among children from intact families, parental monitoring is not associated with self-control, while the association is positive for those in reconstituted and single parent households. Further to this, the positive association between parental monitoring and self-control is stronger for children in reconstituted households than for children in single parent families when controlling for various sociodemographic characteristics.

Reflecting on the general theory, this paper supports the relevance of effective parenting on children's level of self-control. Our first hypothesis – that factors representing effective parenting practices should have a significant and positive impact on children's self-control, while measures of ineffective parenting should be negatively correlated with self-control – was confirmed. However, one would expect parental monitoring to have a significant impact on self-control for children from intact families. Further, if parental affection precedes supervision, then the relationship between nurturance and self-control should be mediated by monitoring. Yet nurturance is a consistent predictor of self-control, regardless of the gender and family type of the respondent and despite controlling for parental monitoring.

Our second hypothesis – that levels of self-control should vary according to family type, with children from intact families demonstrating the highest degree of self-control, and children from single-parent and step-families having lower levels of self-control – was confirmed. ANOVA results indicated small but statistically significant differences in self-control that intensified after controlling for the family type/monitoring interactions in the fourth OLS regression model. Mean self-control

scores for children in reconstituted and intact families are similar, but slightly lower for those from single-parent families. However, these differences would undoubtedly be larger if parental monitoring did not have a differential impact on self-control across family types. After taking into account the interaction effect, self-control was highest among children from intact families, followed by those from single-parent families. Children from reconstituted families scored lowest on the self-control scale. Differences were both significant and substantial.

Our third hypothesis was that factors such as gender, family size, and socioeconomic status should have a negligible impact on self-control when controlling for parental effectiveness. However, contrary to this hypothesis, and the general theory, the effect of gender persisted after controlling for parental effectiveness. Moreover, number of children in the household, PMK's education, and socioeconomic status do not significantly impact self-control. Further, given what we believe are robust measures of parental monitoring, nurturing, and rejection, it is telling that the R-squared value is unimpressive at best. Thus, contrary to Gottfredson and Hirschi's assertion that the "major 'cause' of low self-control... appears to be ineffective child rearing," our findings suggest that child rearing practices alone are insufficient to explain low self-control (1990:97). Future research examining the predictors of low self-control must therefore take into account other factors in addition to parental behavior, such as peer influence, strain, and adverse neighbourhood conditions (see for example, Pratt et al., 2004; Rutter, et al. 1999a; 1999b).

Turning to the limitations of this study, we were fortunate to have a large, national sample; nevertheless, we also faced issues common to secondary data analysis. For example, with respect to measurement, it would have been ideal if our dependent variable had a broader range of indicators of self-control. However, as Tittle and his colleagues point out, there is currently no universally accepted measure of self-control. Thus, it is necessary that the contentions of the general theory be tested using various measurement instruments (2003:431). Also, when using cross-sectional data, causal inferences always pose a problem. For instance, in the present study, there may be reciprocal causation. That is, parental behavior influences child behaviour, which subsequently affects parental behavior, and so on. A child with low self-control may therefore experience inconsistent parenting as parents struggle to find a way to handle the child.

Despite the limitations noted above, we believe this exploratory study makes a contribution to the research on the general theory of crime and, more specifically, to the

sources of self-control. Although much of the variance in self-control remains unexplained, the family dynamics of intact households seem to have a positive affect. What is most important in this analysis, we believe, is the recognition that parental supervision has the potential to counteract the risks associated with growing up in reconstituted and single-parent households and, regardless of family structure, a nurturing, non-rejecting family environment is positively associated with children's self-control.

Endnotes

1. The parental nurturance, rejection, monitoring, and self-control variables (discussed below) are available for public use only at wave 3, while many of the demographic variables are available only at wave 1.

References

- Akers, Ronald L. 1991. "Self-Control as a General Theory of Crime." *Journal of Quantitative Criminology* 7(2):201-211.
- Anneklev, Bruce J., Harold G. Grasmick, and Robert J. Bursik, Jr. 1999. "Evaluating the Dimensionality and Invariance of 'Low Self-Control'." *Journal of Quantitative Criminology* 15(3):307-331.
- Anneklev, Bruce J., Harold G. Grasmick, Charles R. Tittle, and Robert J. Bursik, Jr. 1993. "Low Self-Control and Imprudent Behavior." *Journal of Quantitative Criminology* 9(3):225-247.
- Baumrind, Diana. 1966. "Effects of Authoritative parental Control on Child Behavior." *Child Development* 37:887-907.
- . 1991. "The Influence of Parenting Style on Adolescent Competence and Substance Use." *Journal of Early Adolescence* 11(1):56-95.
- . 1996. "Parenting: The Discipline Controversy Revisited." *Family Relations* 45:405-414.
- Benson, Michael L. and Elizabeth Moore. 1992. "Are White-Collar and Common Offenders the Same? An Empirical and Theoretical Critique of a Recently Proposed General Theory of Crime." *Journal of Research in Crime and Delinquency* 29(3):251-272.
- Brannigan, Augustine, William Gemmell, David J. Pevalin, and Terrance J. Wade. 2002. "Self-Control and Social Control in Childhood Misconduct and Aggression: The Role of Family Structure, Hyperactivity, and Hostile Parenting." *Canadian Journal of Criminology* 44(2):119-142.
- Brownfield, David and Ann Marie Sorenson. 1992. "Self-Control and Juvenile Delinquency: Theoretical Issues and an Empirical Assessment of Selected Elements of a General Theory of Crime." *Deviant Behavior* 14:243-264.
- Burton, Velmer S., Jr., Francis T. Cullen, T. David Evans, Leanne Fiftal Alarid, R. Gregory Dunaway. 1998. "Gender, Self-Control, and Crime." *Journal of Research in Crime and Delinquency* 35(2):123-147.
- Burton, Velmer S., Jr., T. David Evans, Francis T. Cullen, Kathleen M. Olivares, and R. Gregory Dunaway. 1999. "Age, Self-Control, and Adults' Offending Behaviors: A Research Note Assessing a General Theory of Crime." *Journal of Criminal Justice* 27(1):45-54.
- Cochran, John K., Peter B. Wood, Christine S. Sellers, Wendy Wilkerson, and Mitchell B. Chamlin. 1998. "Academic Dishonesty and Low Self-Control: An Empirical Test of a General Theory of Crime." *Deviant Behavior* 19:227-255.
- Cookston, Jeffrey T. 1999. "Parental Supervision and Family Structure: Effects on Adolescent Problem Behaviors." *Journal of Divorce and Remarriage* 32(1-2):107-122.
- Demuth, Stephen and Susan L. Brown. 2004. "Family Structure, Family Processes, and Adolescent Delinquency: The Significance of Parental Absence Versus Parental Gender." *Journal of Research in Crime and Delinquency* 41(1):58-81.
- Entner Wright, Bradley R., Avshalom Caspi, Terrie E. Moffit, and Phil A. Silva. 1998. "Low Self-Control, Social Bonds, and Crime: Social Causation, Social Selection, or Both?" *Criminology* 37(3):479-514.
- Evans, T. David, Francis T. Cullen, Velmer S. Burton, Jr., R. Gregory Dunaway, and Michael L.

- Benson. 1997. "The Social Consequences of Self-Control: Testing the General Theory of Crime." *Criminology* 35(3):475-505.
- Feldman, S. Shirley and Daniel A. Weinberger. 1994. "Self-restraint as a Mediator of Family Influences on Boys' Delinquent Behavior: A Longitudinal Study." *Child Development* 65:195-211.
- Forde, David R. and Leslie W. Kennedy. 1997. "Risky Lifestyles, Routine Activities, and the General Theory of Crime." *Justice Quarterly* 14(2):265-294.
- Geis, Gilbert. 1998. "On the Absence of Self-Control as the Basis for a General Theory of Crime: A Critique." *Theoretical Criminology* 4(1):35-53.
- Gibbs, John J. and Dennis Giever. 1994. "Self-Control and its Manifestations Among University Students: An Empirical Test of Gottfredson and Hirschi's General Theory." *Justice Quarterly* 12(2):231-255.
- Gibbs, John J., Dennis Giever, and Jamie S. Martin. 1998. "Parental Management and Self-Control: An Empirical Test of Gottfredson and Hirschi's General Theory." *Journal of Research in Crime and Delinquency* 35(1):40-70.
- Giles-Sims, Jean. 1997. "Current Knowledge About Child Abuse in Stepfamilies." *Marriage and Family Review* 26(3-4):215-230.
- Gottfredson, Michael R. and Travis Hirschi. 1990. *A General Theory of Crime*. Stanford, Calif.: Stanford University Press.
- Gove, Walter R. and Robert D. Crutchfield. 1982. *The Family and Delinquency*. Sociological Quarterly 23:301-319.
- Grasmick, Harold G., Charles R. Tittle, Robert J. Bursik, Jr., and Bruce J. Arneklev. 1993. "Testing the Core Empirical Implications of Gottfredson and Hirschi's General Theory of Crime." *Journal of Research in Crime and Delinquency* 30(1):5-29.
- Greenberg, David F., Robin Tamarelli, and Margaret S. Kelley. 2002. "The Generality of the Self-Control Theory of Crime." In Elin Waring and David Weisburd (eds.), *Crime and Social Organization*. New Brunswick, N.J.: Transaction.
- Hay, Carter. 2001. "Parenting, Self-Control, and Delinquency: A Test of Self-Control Theory." *Criminology* 39(3):707-736.
- Hirschi, Travis. 1969. *Causes of Delinquency*. Berkeley: University of California Press
- . 1994. "Family." In Travis Hirschi and Michael R. Gottfredson (eds.), *The Generality of Deviance*. New Brunswick, N.J.: Transaction.
- . 1995. "The Family." In James Q. Wilson and Joan Petersilia (eds.), *Crime*. San Francisco: Institute for Contemporary Studies Press.
- Hirschi, Travis and Michael R. Gottfredson. 1993. "Commentary: Testing the General Theory of Crime." *Journal of Research in Crime and Delinquency* 30(1):47-54.
- . 1995. "Control Theory and the Life-Course Perspective." *Studies on Crime and Crime Prevention* 4:131-142.
- Hoffman, John P. 2001. "The Community Context of Family Structure and Adolescent Drug Use." *Journal of Marriage and the Family* 64(2):314-330.
- Junger, Marianne and Richard E. Tremblay. 1999. "Self-Control, Accidents, and Crime." *Criminal Justice and Behavior* 26(4):485-501.
- Junger, Marianne, Robert West, and Reinier Timman. 1998. "Crime and Risky Behavior in Traffic: An Example of Cross-Situational Consistency." *Journal of Research in Crime and Delinquency* 38(4):439-459.
- Keane, Carl, Paul S. Maxim, and James J. Teevan. 1993. "Drinking and Driving, Self-Control, and Gender: Testing a General Theory of Crime." *Journal of Research in Crime and Delinquency* 30(1):30-46.
- LaGrange, Teresa C. and Robert A. Silverman. 1999. "Low Self-Control and Opportunity: Testing the General Theory of Crime as an Explanation for Gender Differences in Delinquency." *Criminology* 37(1):41-72.
- Lempers, Jacques D., Dania Clark-Lempers, and Ronald L. Simons. 1989. "Economic Hardship, Distress, and Parenting in Adolescence." *Child Development* 60:25-39.

- Lipman, Ellen L., David R. Offord, and Martin D. Dooley. 1994. "What Do We Know About Children From Single-Mother Families?" *Questions and Answers from the National Longitudinal Survey of Children and Youth*. Ottawa: Statistics Canada.
- Longshore, Douglas. 1998. "Self-Control and Criminal Opportunity: A Prospective Test of the General Theory of Crime." *Social Problems* 45(1):102-113.
- Longshore, Douglas, Susan Turner, and Judith A. Stein. 1994. "Self-Control in a Criminal Sample: An Example of Construct Validity." *Criminology* 34(2):209-228.
- Marenin, Otwin and Michael D. Reising. 1995. "'A General Theory of Crime' and Patterns of Crime in Nigeria: An Exploration of Methodological Assumptions." *Journal of Criminal Justice* 23(6):501-518.
- Miller, Susan L. and Cynthia Burack. 1993. "A Critique of Gottfredson and Hirschi's General Theory of Crime: Selective (In)Attention to Gender and Power Positions." *Women and Criminal Justice* 4(2):115-134.
- Nakhaie, M. Reza, Robert A. Silverman, and Teresa C. LaGrange. 2000. "Self-Control and Social Control: An Examination of Gender, Ethnicity, Class, and Delinquency." *Canadian Journal of Sociology* 25(1):35-59.
- Nye, F. Ivan. 1958. *Family Relationships and Delinquent Behavior*. New York: John Wiley and Sons.
- Paternoster, Raymond and Robert Brame. 1998. "The Structural Similarity of Processes Generating Criminal and Analogous Behaviors." *Criminology* 36(3):633-669.
- Pierret, Charles R. 2001. "The Effect of Family Structure on Youth Outcomes in the NLSY97." In Robert T. Michael (ed.), *Social Awakening: Adolescent Behavior as Adulthood Approaches*. New York: Russell Sage.
- Piquero, Alex R. and Stephen Tibbetts. 1996. "Specifying the Direct and Indirect Effects of Low Self-Control and Situational Factors in Offenders' Decision Making: Toward a More Complete Model of Rational Offending." *Justice Quarterly* 13(3):481-510.
- Piquero, Alex R. and Andre B. Rosay. 1994. "The Reliability and Validity of Grasmick et al.'s Self-Control Scale: A Comment on Longshore et al." *Criminology* 36(1):157-173.
- Piquero, Alex R., Randall MacIntosh, and Matthew Hickman. 2000. "Does Self-Control Affect Survey Response? Applying Exploratory, Confirmatory, and Item Response Theory Analysis to Grasmick et al.'s Self-Control Scale." *Criminology* 38(3):89-929.
- Polakowski, Michael. 1994. "Linking Self- and Social-Control With Deviance: Illuminating the Structure Underlying a General Theory of Crime and its Relation to Deviant Activity." *Journal of Quantitative Criminology* 10(1):41-78.
- Pratt, Travis C. and Francis T. Cullen. 2000. "The Empirical Status of Gottfredson and Hirschi's General Theory of Crime: A Meta-Analysis." *Criminology* 38(3):931-964.
- Pratt, Travis C., Michael G. Turner, and Alex E. Piquero. 2004. "Parental Socialization and Community Context: A Longitudinal Analysis of the Structural Sources of Low Self-Control." *Journal of Research in Crime and Delinquency* 41(3):219-243.
- Pulkkinen, Lea and Minna Hamalainen. 1994. "Low Self-Control as a Precursor to Crime and Accidents in a Finnish Longitudinal Study." *Criminal Behavior and Mental Health* 5:424-438.
- Rankin, Joseph H. 1983. "The Family Context of Delinquency." *Social Problems* 30(4):466-479.
- Rankin, Joseph H. and Roger M. Kern. 1994. "Parental Attachments and Delinquency." *Criminology* 32(4):495-515.
- Rosen, Lawrence. 1985. "Family and Delinquency: Structure or Function?" *Criminology* 23(3):553-573.
- Rutter, M., J. Silberg, T. O'Connor, and E. Simonoff. 1999a. "Genetics and Child Psychiatry: I. Advances in Quantitative and Molecular Genetics." *Journal of Child Psychology and Psychiatry and Allied Disciplines* 40: 3-18.
- Rutter, M., J. Silberg, T. O'Connor, and E. Simonoff. 1999b. "Genetics and Child Psychiatry: II. Empirical Research Findings." *Journal of Child Psychology and Psychiatry and Allied Disciplines* 40: 3-18.

- Sampson, Robert J. and John H. Laub. 1993. *Crime in the Making: Pathways and Turning Points Through Life*. Cambridge, MA: Harvard University Press.
- Sellers, Christine S. 1994. "Self-Control and Intimate Violence: An Examination of the Scope and Specification of the General Theory of Crime." *Criminology* 37(2):375-404.
- Sorenson, Ann Marie and David Brownfield. 1995. "Adolescent Drug Use and a General Theory of Crime: An Analysis of a Theoretical Integration." *Canadian Journal of Sociology* 37(1):19-37.
- Tittle, Charles R. and Harold G. Grasmick. 1998. "Criminal Behavior and Age: A Test of Three Provocative Hypotheses." *Journal of Criminal Law and Criminology* 88(3):309-342.
- Tittle, Charles R., David A. Ward and Harold G. Grasmick. 2003. "Gender, Age, and Crime/Deviance: A Challenge to Self-Control Theory." *Journal of Research in Crime and Delinquency* 40(4):426-453.
- Tremblay, Richard E., Bernard Boulerice, Louise Arseneault, and Marianne Junger. 1995. "Does Low Self-Control During Childhood Explain the Association Between Delinquency and Accidents in Early Adolescence?" *Criminal Behavior and Mental Health* 5:439-451.
- Vazsonyi, Alexander T., Lloyd E. Pickering, Marianne Junger, and Dick Hessing. 2001. "An Empirical Test of a General Theory of Crime: A Four-Nation Comparative Study of Self-Control and the Prediction of Deviance." *Journal of Research in Crime and Delinquency* 38(2):91-131.
- Webb, John A., James H. Bray, J. Greg Getz, and Gerald Adams. 1998. "Gender, Perceived Parental Monitoring, and Behavioral Adjustment: Influences on Adolescent Drug Use." *American Journal of Orthopsychiatry* 72(3):392-400.
- Wells, L. Edward and Joseph H. Rankin. 1986. "The Broken Homes Model of Delinquency: Analytic Issues." *Journal of Research in Crime and Delinquency* 23(1):68-93.
- . 1991. "Families and Delinquency: A Meta-Analysis of the Impact of Broken Homes." *Social Problems* 38(1):71-93.
- White, Lynn. 1998. "Contagion in Family Affection: Mothers, Fathers, and Young Adult Children." *Journal of Marriage and the Family* 61(2):284-294.
- Wood, Peter B., Betty Pfefferbaum, and Bruce J. Arneklev. 1993. "Risk-Taking and Self-Control: Social Psychological Correlates of Delinquency." *Journal of Crime and Justice* 16(1):111-130.

About the authors:

Kelli Phythian is a Ph.D. candidate in the Department of Sociology at the University of Western Ontario in London, Ontario, Canada. She received her M.A. in sociology from Queen's University in Kingston, Ontario, Canada. Her research interests are in the areas of demography and sociology of the family.

Carl Keane is an Associate Professor in the Department of Sociology at Queen's University in Kingston, Ontario, Canada. His research interests include testing theories of crime and criminality, theories of organizational deviance, and applied sociology.

Catherine Krull is an Associate Professor in the Department of Sociology at Queen's University in Kingston, Ontario, Canada. Her research interests are in the areas of social demography, sociology of the family, gender and development studies.

Contact information:

Kelli Phythian: Department of Sociology, University of Western Ontario, Canada, N6A 5B8; klphythi@uwo.ca.

Carol Keane: Department of Sociology, Queen's University, Kingston, Ontario, Canada K7L 3N6; Keane@queensu.ca.

Catherine Krull: Department of Sociology, Queen's University, Kingston, Ontario, Canada K7L 3N6; ck11@queensu.ca.

Appendix A. Scale Items

Parental Nurturance

My parents smile at me
My parents praise me
My parents make sure I know I'm appreciated
My parents speak of good things I do
My parents seem proud of the things I do

Parental Rejection/Negligence

My parents forget a rule they have made
My parents let me go out any evening
My parents nag me about little things
My parents keep a rule when it suits them
My parents threaten to punish more than they do
My parents enforce rules depending on their mood
My parents hit me or threaten to do so

Parental Monitoring

My parents want to know what I'm doing
My parents tell me what time to be home
My parents tell me what TV I can watch
My parents make sure I do my homework
My parents find out about my misbehavior

Self-Control

I can't sit still, am restless, or hyperactive
I am distractible, I have trouble sticking to any activity
I fidget
I can't concentrate, can't pay attention for long
I am impulsive, act without thinking
I have difficulty awaiting my turn in games or groups
I cannot settle anything for more than a few moments
I am inattentive

Source: National Longitudinal Survey of Children and Youth (1997)