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Correlates of Early vs. Late Onset Criminality: A Life-Course and Self-Control Theory Analysis

Lizabeth Remrey Department of Sociology University of Wisconsin-La Crosse 1725 State Street La Crosse, Wisconsin 54601 USA

Faculty Advisor: Dr. Nicholas Bakken

Abstract

With over 12 million arrests made in 2011, it is no wonder that determining what factors cause criminal offending is of great interest to researchers, government officials, and the general public alike. For years, researchers have been investigating the onset and frequency of criminal behavior with regards to the age of the offender, with research often indicating that offending begins in early to mid-adolescence and peaks in early adulthood. A far less researched population of offenders are those in the adult-onset category, or those that do not follow the typical age-crime curve. This research examines this under-researched area by evaluating risk factors for early (16 years or younger) and late (17 years or older) onset criminality. The results are reviewed through the lenses of Life-Course and Self-Control theories in order to determine the correlates of early risk factors that predict either early or late criminal onset. Using the Cambridge Study in Delinquent Development (CSDD), logistic regression was used to examine the relationship between the self-control and life-course variables with age of onset of offending. Results indicate that the self-control variables, specifically concentration and lying, were the strongest factors predicting the onset of criminal offending; indicating that Self-Control Theory may provide a more suitable explanation for the onset of criminal offending. Policy implications are discussed.

Keywords: Onset of Criminality, Life-Course Theory, Self-Control Theory

1. Introduction

With over 12 million arrests made in 2011,²⁷ it is no wonder that determining what factors cause criminal offending is of great interest to researchers, government officials, and the general public alike. For years, researchers have been investigating the onset and frequency of criminal involvement with regards to the age of the offender; with research often indicating that the rate of offending peaks around late adolescence (ages 15-18).¹⁴ More recently, researchers have delved into why crime tends to occur in this pattern with the focus being on early- and late-onset adolescent offending. Because of this, it seems that research has ignored another population: adult-onset offenders (those who begin their criminal careers in adulthood). This research will be evaluating risk factors (present at ages 14-15) for early (16 years or younger) and late (17 years or older) onset criminality. By viewing the results through the lenses of life-course theory and self-control theory, a determination is made as to which theory best predicts either early or delayed criminal onset based on risk factors present in childhood.

2. Literature Review

2.1 Previous Research

With rates of offending peaking in adolescence, it follows that the majority of criminology research has been aimed at explaining the early-onset of offending.^{4,10,21} Additional studies have also examined offenders who desist from crime in late adolescence and those who continue offending from childhood into adulthood.^{19,22,26} However, not covered in those studies is the significantly less researched area of adult-onset offending.

Studies examining the onset of criminal offending have taken a few different paths of explanation. Many look at the variables that effect an immediate change in criminality, while others observe the variables that create a type of protective factor against criminality. This protective factor causes the individual to resist from committing crime when the factor is present; thus, later in life, when the factor is either no longer present or the immediacy has worn off, the individual may begin delayed criminal activity. A number of studies have examined this area with the most common protective factors present in childhood leading to adult-onset criminality being the quality, strength, and number of social bonds,^{2,29} as well as family size and socioeconomic status.^{5,9} However, the idea of a protective factor resulting in delayed onset is still quite new, and the majority of research has focused on the factors that cause an immediate change in criminal activity. Adult risk factors that cause criminality to begin shortly thereafter include: social ties to family, work, and community,²⁴ as well as financial management, alcohol abuse, and drug abuse.¹²

Some research studies assert that adult offending doesn't exist without adolescent offending,²³ and it is consequently believed that adult-onset offending does not need to be researched because it either doesn't exist or it is exceptionally rare.⁵ However, other studies have shown that, in fact, a large number, up to 50%, of adult criminals had no previous convictions as juveniles.^{5,20} Given this discontinuity and the general lack of information regarding adult-onset offending, it is important to continue research in this area.

2.2 The General Theory Of Crime: Self-Control

Traditional criminology attempts to measure delinquency as a stable concept. This stability in one's criminal propensity is the central underlying assumption of self-control theory. Gottfredson and Hirschi postulated that criminality can be attributed to stable differences in one's self-control. Differences in self-control arise from how a child is brought up and nurtured by parents and other adults (e.g. school teachers); and Gottfredson and Hirschi propose that self-control is developed and stable by age 10. Thus, the propensity towards criminality from age 10 and on throughout the entire lifespan is determined by the amount of self-control at age 10. That is not to say that lack of self-control directly leads to crime; however, "high self-control effectively reduces the possibility of crime...at all periods of life".¹⁰

Their theory proposed six elements of self-control individuals exhibit that increase likelihood of criminal activity. These individuals tend to be impulsive, selfish, physical, and risk-seeking, and have a preference for simple tasks and a volatile temper.¹⁰ Gottfredson and Hirschi found that children with low self-control were more likely to engage in acts that mirrored those six elements. Because criminal acts take little to no planning; provide easy, immediate gratification; are often physical acts (as opposed to mental); and are exciting and risky to perform, the traits of those who commit crime directly parallel those of individuals with low self-control. Thus, those with low self-control are more likely to engage in criminal activities.

Being one of the most powerful and often tested theories in criminology, there are many studies that examine Gottfredson and Hirschi's self-control theory. Overall, the measures of self-control most commonly used are derivatives of the six elements of the theory. The components used are impulsivity, simple tasks, risk taking, physical activities, self-centered, and temper.¹ These studies tend to combine the self-control measures into one variable indicating either low or high self-control, and results have predominantly shown self-control to have a significant effect on predicting criminal activity.^{3,11,13,16}

2.3 Age-Graded Theory Of Informal Social Control

The most prominent theory in criminology, and arguably the most comprehensive, is Laub and Sampson's agegraded theory of informal social control. This life-course theory differs from self-control theory largely because it views criminality as a dynamic concept of onset, persistence, and desistence, as opposed to a stable one.¹⁷ Sampson and Laub's theory has three main components: (1) structural context mediated by informal family and school social controls explains delinquency in childhood and adolescence; (2) in turn, there is continuity in antisocial behavior from childhood through adulthood in a variety of life domains; and (3) informal social bonds in adulthood to family and employment explain changes in criminality over the lifespan despite early childhood propensities.²⁵ Although the specifics that affect persistence of and desistence from crime may differ, Laub and Sampson argue that the same general processes can explain both: informal social control, routine activities, and human agency.

As one of the foremost theories in criminology, life-course theory, similar to self-control, also has a large empirical history. These studies take two paths: the continuity of crime over the life-course and changes in crime over the life-course.^{8,19,22,26} However, both types find similar explanations, congruent with Sampson and Laub's theory, that social bonds and their variability are largely what affect criminality. Strong family, peer, and work ties (or such ties that have recently been developed) can all serve as protective factors that discourage individuals from committing crime.^{7,24} Weak ties or ties that have been broken are what lead individuals to criminal activities.²⁹ Similarly, strong ties with people who are delinquent also increase the likelihood of criminality.² The forming or breaking of ties are what Laub and Sampson assert constitute transitions in the life-course that can cause a person to desist from crime or to begin committing crime.

2.4 This Current Study

Using the theoretical framework of life-course and self-control theories of crime, this study seeks to provide a more comprehensive explanation of criminal onset and lessen the gap of information on childhood factors that provide a protective factor against criminality in childhood, but can predict adult onset. The hypotheses being tested are congruent with the two theories being used. In accordance with life-course theory results showing family, peer, and work bonds to be predictive of criminality, salient life-course events such as having a father who is employed, parents with no criminal convictions, and friends who commit few delinquent acts will predict a higher likelihood of delayed or late criminal onset. Aggression, laziness, concentration, lying, and attention seeking will be used as proxies of self-control (partially derived from the six common measures of self-control), and will result in a lower likelihood of delayed criminal onset. Thus, the life events were expected to provide a more protective factor towards adolescent criminality, but that protective factor will "wear off" by adulthood and result in late-onset criminality; and self-control measures were expected to have a more immediate effect on criminality, resulting in early-onset offending.

3. Methods

3.1 Data Collection And Sample

The data used in this study was taken from the Cambridge Study in Delinquent Development (CSDD). This study, conducted in Great Britain, is a longitudinal survey of 411 boys spanning twenty years from 1961-1981. The males who participated were nearly all White/Caucasian and of working-class origin. Data collection included interviewing by male or female psychologists of the male respondents, their family, their peers, and their teachers. Information was also collected on the males' testing scores while they were in school, in addition to information from psychological tests and self-report questionnaires. The goal was always to interview the entire sample and, although that was a nearly impossible task, it was possible to trace and interview a high proportion. There were slight differences in questions asked during interviewing and location of the interview, but at most ages, most of the boys were interviewed between five and eleven months after their birthdays. This study utilizes data from the 14-15 age group, which means that data was collected between ages 14 years and 5 months and 15 years and 11 months.

3.2 Variables

The primary dependent variable for this study is age of first conviction. This variable was coded into a dichotomous variable, with 0 indicating first conviction at age 16 or younger and 1 representing a first conviction at age 17 or older. The descriptive statistics are presented in Table 1.

The independent variables measured against age of first conviction were (1) aggression, (2) laziness, (3) concentration, (4) lies, (5) attention seeking, (6) father's employment, (7) parent convicted, and (8) peer delinquency. The first five variables are measures of the boys' self- control and the last three relate to life events

that associate with life-course theory. Each variable was recoded to be either dichotomous or ordinal. The variables serving as proxies for the impulsivity, simple tasks, self-centered, and temper elements of self-control are measured as follows: (1) Aggression measures the teacher's evaluations of the amount of aggression shown while at school (1 = not aggressive, 2 = somewhat aggressive, and 3 = aggressive); (2) Laziness measures the teacher's evaluation of how hard the boy worked while at school (1 = very hard worker, 2 = average worker, and 3 = poor worker or lazy); (3) Concentration measures the teacher's evaluation of how well the boy concentrates (1 = high concentration, 2 = average concentration, and 3 = low concentration); (4) Lies measures the teacher's evaluation of how often the boy avoids the question or lies (1 = seldom or never avoids, 2 = sometimes avoids, and 3 = frequently avoids); (5) Attention seeking measures the teacher's evaluation of whether the boy acts out in order to get attention (1 = avoids attention, 2 = does not seek it outright, and 3 = shows off or seeks attention). The life-course variables are measured as follows: (6) Father's employment measures the overall job record of the father (1 = erratic or unemployed, 2 = job changes or part-time, and 3 = stable or full-time); (7) Parent convicted measures whether or not either of the subject's parents had ever been convicted of a crime (0 = no parent convictions; 1 = one or more parent convictions); (8) Peer delinquency measures the number of different acts of delinquency self-reported by the boy's friends (1 = nine or less, 2 = ten to fourteen, 3 = fifteen to twenty-one, and 4 = twenty-two or more).

	Mean	SD	Min	Max
Dependent Variable				
Age First Convicted	0.38	0.49	0.00	1.00
Independent Variables				
Aggression	1.99	0.37	1.00	3.00
Father Employment	2.53	0.71	1.00	3.00
Parent Convicted	0.25	0.44	0.00	1.00
Laziness	2.16	0.62	1.00	3.00
Concentration	2.22	0.53	1.00	3.00
Lies	1.51	0.66	1.00	3.00
Attention Seeking	1.99	0.51	1.00	3.00
Peer Delinquency	2.54	1.10	1.00	4.00

Table 1: descriptive statistics

4. Analysis

In order to analyze the variables as they relate to age of first conviction, several statistical analyses were run. Crosstabulations were used to determine whether there was an association between the independent variable of choice and the dependent variable. In addition, bivariate correlations were examined to test whether each variable was significant in predicting the dependent variable, and how strong the correlation was. Finally, logistic regression was conducted on the variables to show how much each independent variable affected the dichotomous dependent variable.

The results from the first phase of analyzing the differences between individuals who were first convicted prior to age 17 and those who were first convicted after age 17 are shown in Table 2. The crosstab examines age of first conviction by employment of father. Boys who were first convicted prior to age 17 were significantly more likely to have a father who was unemployed or had erratic employment. Those who reported a first conviction at age 17 or older were more likely to have a father who had only part-time work or many job changes.

Table 2: crosstabulation of age of first conviction by father employment

	Unemployed	Part-Time	Full-Time	Total
First Convicted 16 and younger	84.0%	48.6%	59.0%	61.0%
First Convicted 17 and older	16.0%	51.4%	41.0%	39.0%
Total N	25	37	61	123
%	100%	100%	100%	100%

 $\chi^2 = 8.031$, df = 2, p = .018

In addition, the bivariate correlations of the independent variable compared to age of first conviction were examined (see Table 3). The table indicates that four variables correlate significantly with age of first conviction. The non-significant variables are aggression, father employment, parent convicted, and laziness. Aggression, parent convicted, and laziness all have negative, weak correlations; and father employment has a positive, weak correlation.

Table 3: bivariate correlations of independent variables with age of first conviction

Age First Convicted $\cdot.103$ $.148$ $(.258)$ $\cdot.086$ $(.103)$ $\cdot.152$ $(.321)$ $\cdot.264^{**}$ $(.003)$ $\cdot.333^{**}$ $(.000)$ $\cdot.223^{*}$ $(.012)$ $\cdot.201^{*}$ $(.020)$ Aggression $.123$ 123 136 129 129 125 125 134 Aggression $.002$ $(.975)$ $.083$ $(.111)$ $.171^{**}$ $(.001)$ $.147^{**}$ $(.004)$ $.224^{**}$ $(.000)$ $.416^{**}$ $(.000)$ $.158^{**}$ $(.000)$ Father Employment 264^{**} $(.975)$ 055 $(.111)$ $.004$ $(.004)$ $(.000)$ $(.000)$ $(.002)$ $(.000)$ Father Employment 264^{**} $(.000)$ 055 $(.302)$ 068 $(.422)$ 027 $(.204)$ 105^{*} $(.618)$ Parent Convicted $.085$ $(.096)$ $.096$ $(.061)$ $.115^{*}$ $(.026)$ $.100$ $(.053)$ $.140^{**}$ $(.005)$ Laziness $.670^{**}$ $.524^{**}$ $.124^{*}$ $.236^{**}$		Aggress	Father Employed	Parent Convicted	Laziness	Concentrate	Lies	Attention Seeking	Peer Delinq
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Age First	103	.148	086	152	264**	333**	223*	201*
123123136129129125125134Aggression $.002$ $.083$ $.171^{**}$ $.147^{**}$ $.224^{**}$ $.416^{**}$ $.158^{**}$ $(.975)$ $(.111)$ $(.001)$ $(.004)$ $(.000)$ $(.000)$ $(.002)$ 344 373 369 370 370 371 372 Father 264^{**} 055 043 068 027 105^{*} Employment $(.000)$ $(.302)$ $(.422)$ $(.204)$ $(.618)$ $(.042)$ 380 350 349 346 347 374 Parent $.085$ $.096$ $.115^{*}$ $.100$ $.140^{**}$ Convicted $(.096)$ $(.061)$ $(.026)$ $(.053)$ $(.005)$ Laziness $.670^{**}$ $.524^{**}$ $.124^{*}$ $.236^{**}$	Convicted	(.258)	(.103)	(.321)	(.085)	(.003)	(.000)	(.012)	(.020)
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$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Aggression		.002	.083	.171**	.147**	.224**	.416**	.158**
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Employment $(.000)$ $(.302)$ $(.422)$ $(.204)$ $(.618)$ $(.042)$ 380350349346347374Parent.085.096.115*.100.140**Convicted $(.096)$ $(.061)$ $(.026)$ $(.053)$ $(.005)$ 380379375376405Laziness.670**.524**.124*.236**	Father			264**	055	043	068	027	105*
380 350 349 346 347 374 Parent.085.096.115*.100.140**Convicted(.096)(.061)(.026)(.053)(.005) 380 379 375 376 405 Laziness.670**.524**.124*.236**	Employment			(.000)	(.302)	(.422)	(.204)	(.618)	(.042)
Parent .085 .096 .115* .100 .140** Convicted (.096) (.061) (.026) (.053) (.005) 380 379 375 376 405 Laziness .670** .524** .124* .236**				380	350	349	346	347	374
Convicted (.096) (.061) (.026) (.053) (.005) 380 379 375 376 405 Laziness .670** .524** .124* .236**	Parent				.085	.096	.115*	.100	.140**
380 379 375 376 405 Laziness .670** .524** .124* .236**	Convicted				(.096)	(.061)	(.026)	(.053)	(.005)
Laziness .670** .524** .124* .236**					380	379	375	376	405
	Laziness					.670**	.524**	.124*	.236**
(.000) (.000) (.017) (.000)						(.000)	(.000)	(.017)	(.000)
376 372 372 379						376	372	372	379
Concentration .527** .188** .264**	Concentration						.527**	.188**	.264**
(.000) (.000) (.000)							(.000)	(.000)	(.000)
373 373 378							373	373	378
Lies .248** .218**	Lies							.248**	.218**
(.000) (.000)								(.000)	(.000)
373 374								373	374
Attention .154**	Attention								.154**
Seeking (.003)	Seeking								(.003)
375	0								375

The significant variables, all of which have negative correlations, are concentration, lies, attention seeking, and peer delinquency. There is a negative, weak correlation between age of first conviction and concentration. Boys with low concentration are less likely to have their first conviction after age 17 than those with high concentration. There is a negative, moderate correlation between lies and age of first conviction. Boys who lie more are less likely to be first convicted older than 17 than boys who rarely lie. There is a negative, weak correlation between age of first conviction and attention seeking. The more a boy seeks attention, the less likely he will have his first conviction at age 17 or older, as opposed to a boy who doesn't seek attention. The last significant variable is peer delinquency. With a negative, weak correlation, boys whose friends have committed more acts of delinquency are less likely to be first convicted after age 17 than those whose friends committed less or no acts of delinquency.

The results from the bivariate logistic regression analysis are presented in Table 4. The results for Cox and Snell R^2 and Nagelkerke R^2 indicate that between 23.5% and 31.8% of the variance in the logged odds of age of first conviction can be explained by these independent variables.

For the independent variables that increase the odds of age of first conviction being after age 17 (aggressive, father employment, laziness), the analyses are as follows: The odds of having a first conviction after age 17 are higher for aggressive boys than for non-aggressive boys and higher for boys whose father has stable employment that for boys whose father doesn't have stable employment. However, these variables are not significant. The odds of having a first conviction after age 17 are 195.2% higher for boys who are more lazy than for those who are less lazy. This relationship is significant at the more moderate .10 level.

Table 4: Logistic	Regression	Models for A	Age of First	Conviction
0	0		0	

	В	SE	Odds
Aggression	0.855	0.612	2.351
Father Employment	0.369	0.302	1.447
Parent Convicted	-0.533	0.474	0.575
Laziness	1.083*	0.597	2.952
Concentration	1.105**	0.557	0.331
Lies	1.006**	0.422	0.366
Attention Seeking	-0.855*	0.469	0.425
Peer Delinquency	-0.412*	0.231	0.662
Constant	2.112	1.683	8.268
$Cox \& Snell R^2$		0.235	
Nagelkerke R ²		0.318	

* $p \le .10$, ** $p \le .05$

For the independent variables that decrease the odds of age of first conviction being after age 17 (parent convicted, concentration, lies, attention seeking, peer delinquency), the analyses are as follows: The odds of having a first conviction after age 17 are lower for boys who have at least one parent who had been convicted than for those boys whose parents have never been convicted, yet this is not significant. The odds of having a first conviction after age 17 are 66.9% lower for boys who have trouble concentrating than for those who don't, and this is

significant at the .05 level. The odds of having a first conviction after age 17 are 63.4% lower for boys who lie more than for those who don't. This too is significant at the .05 level. The odds of having a first conviction after age 17 are 57.5% lower for boys who seek more attention than for boys who don't seek attention. This is significant at the more moderate .10 level. The odds of having a first conviction after age 17 are 33.8% lower for boys who have peers who commit delinquent acts than for those whose peers don't commit delinquent acts. This is also significant at the .10 level.

5. Discussion

This study aimed to create a more comprehensive understanding of age of criminal onset, specifically early risk factors that predict late-onset offending, with regards to two of the most popular criminological theories: life-course and self-control. In general, research on crime tends to associate with just one theory and base its findings off of that. However, because no theory perfectly explains crime, by comparing multiple theories, perhaps the many intricacies of criminal onset, career, and desistance can become more lucid.

Overall, this research found that more of the self-control measurement variables significantly predicted age of onset than did the life event variables. Three of the five self-control variables (concentration, lies, and attention seeking) significantly predicted an onset of criminal activity prior to age 17. In fact, for these three variables, the odds of first conviction being after age 17 were 66.9%, 63.4%, and 57.5% lower for individuals who had trouble concentrating, who lied more often, and sought undue attention, respectively. This fits with the hypothesis that lower self-control will result in earlier criminal activity and supports previous research that also found concentration, lying, and attention seeking to be predictors of early-onset criminality.^{6,15}

Interestingly, aggression and laziness predicted higher odds of beginning criminal activity *after* age 17. For aggressiveness, this goes against previous research that has shown aggression to be a main factor of low self-control, which increases an individual's propensity for criminal activity. Farrington and Loeber and Hay both found that early aggression was a fairly stable trait that resulted in continued aggression across the lifespan. In addition to being stable, aggression was more likely to result in early-onset delinquency and more violent criminal acts later in life.^{6,9,18,29} This discrepancy could be the result of differing sample sizes, sample populations, or statistical analyses between studies. Additionally, this study defined late-onset criminality as age 17 and later, where other studies may have placed the distinction between early- and late-onset at a different age. Further research may better explain the reason for this discrepancy and discover the true effect aggression has on criminality.

The laziness measure, similar to aggression, predicted higher odds of late-onset criminality. However, it might seem that children who are lazy would have low self-control and therefore would be more likely to participate in criminal activity *earlier* in life because it provides quick and easy gratification. In reality, studies have consistently shown laziness to be a predictor of late-onset criminality.^{28,30} In this study, boys who were lazy had 195.2% higher odds of late criminal onset, which fits with the idea of protective factors in childhood delaying criminal onset. A child who is more lazy would be more likely to rely on their parents throughout their childhood and adolescence (that is, if their parents have the capacity to support them) and would possibly even be too lazy to commit crime (no matter how easy and quick it may be). Once that individual is grown and out on their own, they have lost the support of their parents and, because they are lazy, they have to find a way to support themselves in the easiest and quickest ways possible, which is where criminal activity would come into play. Therefore, laziness could provide a protective factor against criminal activity in childhood, when parents are there to fall back on, but leave the boy "poorly equipped to cope competently with adult life pressures and difficulties".²⁹ In this way, laziness represents a self-control variable that is reliant on a life event variable: laziness as a measure of low self-control, and the loss of parental assistance acts as a life event that then allows for the self-control factor to come to the surface and result in criminal activity.

In terms of the life-course variables measured in this study (parent convictions, peer delinquency, and father employment), all three seemed to follow the protective factor hypothesis. Children with parents who had been convicted and whose friends had committed more delinquent acts were less likely to have a delayed criminal onset. These findings are consistent with many past studies that focus on relationships over the life-course (during childhood, adolescence, and adulthood) and the impact those relationships have on criminality.^{2,7} It follows that children with no parent convictions and with less delinquent friends would be more likely to have a delayed criminal onset, which indicates that these variables can act as protective factors against criminality. For father employment, boys with employed fathers were employed were more likely to have a delayed criminal onset. This acts as a protective factor for two reasons: (1) a child who grows up in a family that has enough money is less likely to resort to criminal activities; and (2) if there was a change in the father's employment later on in adolescence, that could have acted as a life event that would cause the boy to then start offending. This study found that father employment and age of onset have a significant relationship and an overwhelming majority (84%) of boys whose fathers were unemployed was first convicted prior to age 17. From that, this variable would be expected to have a large effect on age of onset. However, after controlling for the other variables using logistic regression, that significance disappeared. Thus, the true relationship between father employment and age of onset was not a significant one, and other variables were better predictors.

5.1 Limitations And Conclusions

As with any theoretical study, these findings are not without shortcomings. The largest limitations draw from the data used for analysis. The Cambridge Study in Delinquent Development was collected between 1961 and 1981, which leaves much room for debate on how relevant the data can be over 50 years later. In addition, the data was limited to white males. Although the majority of offenders are males and thus it could be argued that studying males will provide more effective policy implications, it is also true that all categories (all races and genders) of offenders need to be studied in order to learn even more about criminality differences across these groups and to better predict criminality on a larger, more representative scale.

Additionally, this research is limited in application because of time order issues. In attempting to predict onset of criminal activity, it is important to know in what order events occurred (e.g. did the boy first show aggression and then have his first conviction or vice versa?). However, because the collected data did not have specific time stamps, it restricted the depth of the research and forced examination of only early risk factors to, as opposed to early and late risk factors.

Most importantly, this study's findings are limited because of the measure of age of onset. The Cambridge Study in Delinquent Development recorded official conviction data (age of first conviction). Thus, what is known is age of first criminal conviction, and age of first delinquent act is unknown. The boys could very well have committed delinquent acts prior to their first conviction. Therefore, it is important to take findings in light of the fact that this research utilizes official criminal records and not self-reported delinquency.

However, these findings are still relevant because they highlight the need for a criminological theory that encompasses parts of both life-course theory and self-control theory. A combined theory may prove best in explaining criminality through individual characteristics (self-control variables) as well as social bonds (life-course variables). Because, as can be seen in the discussion of the laziness measure, individual characteristics and social bonds can overlap, no single theory is equipped to explain the dynamic interaction between the two. In addition, it is important to note that the rarely examined hypothesis about protective factors against criminality seems to have some grounding and, therefore, should be researched further.

Further research will also help policy implications. By building a more comprehensive criminological theory, risk factors of criminal onset can be predicted more accurately; thus leading to the creation of better programs aimed at detecting those early risk factors right away and additional programs for dealing with or resolving those risk factors in order to prevent criminality. Specifically, programs that identify children who have low concentration, lie often, and seek attention and then work to correct those factors will help to prevent early-onset criminality; and programs that overall aid children and adolescents in the transition from being dependent on their parents to being successful on their own will prevent the shock of the "real world" and hopefully prevent late-onset criminality. Consequently, further research on a more representative sample (and a sample that resolves time order issues) will be beneficial not only in criminological theory, but also in policy implications.

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