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Predicting Desistance Using Measures of Onset

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INTRODUCTION

Much has been made recently about the fact that there is a great deal of stability in criminal offending over time (Gottfredson and Hirschi, 1990; Nagin and Paternoster, 1991; Sampson and Laub, 1993). This is not a new observation. Lee Robins (1978: 61) commented that: "...adult antisocial behavior virtually requires childhood antisocial behavior..." In addition to continuity, there is also much change in delinquent careers. Many offenders, even those who are quite active during adolescence, do not persist in offending into adulthood. This is especially true of violent offending, particularly fighting. Hence, the second part of what has come to be known as Robins' paradox: "...yet most antisocial children do not become antisocial adults (1978: 61)."

Why and how is there so much desistance? Are there things that policy makers can do to actively increase the level and timing of desistance? These questions are of critical importance for both theory and public policy. Yet, although there is a well-established research literature on onset, there is little empirical research on desistance.

There are two general, equally plausible (but not mutually exclusive) theoretical explanations for desistance. The first explanation views desistance as a function of onset. Researchers have found they can predict onset by focusing on events and characteristics found in early childhood. Neurological deficits, poor parenting, traumatic incidences, and other factors might disrupt a prosocial development so that a child becomes delinquent during adolescence. But not all such children experience the same amount of negative influences during childhood, and some children who experience negative "risk factors" will also experience positive "protective factors" during the same period. These theories predict that children with fewer noxious stimuli or with greater positive "capital" will onset later and desist earlier than those who experienced more noxious stimuli or who have less positive capital (Moffitt, 1993). Unlike more persistent offenders, desisters have substantial levels of protective factors, most likely because of the less

tenuous social position of their families, which they can draw upon to extricate them from whatever trouble their involvement in deviance produced (Thornberry and Krohn, forthcoming).

An alternative set of theories treat onset and desistance separately. Although events that occur in early childhood may explain onset, desistance is explained by factors that occur *after* onset. Such theories tend to focus on the developmental stages encountered during the life course to explain behavior. For example, during adolescence, youth strive to develop “age appropriate autonomy” from parental control (Conger, 1991: 208). The search for autonomy often weakens bonds to parents and other adults, and tightens bonds to peer groups. In turn, these peer groups sanction deviant behaviors as a way of asserting or demonstrating autonomy from adult authority (Thornberry and Krohn, forthcoming).

While developmental processes can help account for the maintenance of delinquent behavior, they can also help account for desistance. As the developmental challenge of gaining appropriate autonomy is met, transitions that lead to reduced involvement in violence and delinquency begin to emerge. They include re-establishing affiliative bonds with parents, greater autonomy in peer relations, and movement toward adult roles such as marriage, parenthood, and employment. From this perspective desistance is seen as the result of successful developmental changes and not the preordained consequence of early, stable characteristics.

In contrast, persistence in violence and delinquency is explained by failure to successfully meet the developmental challenges of adolescence and to make a smooth transition to adulthood. Precocious and disorderly transitions to adult roles (e.g., teen parenthood) often have deviance-perpetuating consequences, as does the inability to develop the social and human capital necessary for successfully adopting adult roles (e.g., being a school dropout). These problems are, of course, interrelated, and to some extent produced by prior involvement in deviance. For example, recent research has shown that delinquency has negative feedback effects on an individual’s social bonds (Jang and Smith, 1997), increases affiliation with deviant peers, fosters deviant belief systems (Krohn, Lizotte, Thornberry, Smith, and McDowall, 1996) and disrupts orderly and timely transitions to adult roles (Krohn, Lizotte, and Perez 1997; Thornberry, Smith, and Howard

1997). This research makes it clear that transitions out of delinquency are by no means certain. The consequences of involvement in delinquency might ensnare an individual in a career of persistent offending.

This paper seeks to differentiate between the two ideas by using risk factors of onset to predict both onset and desistance from crime. This approach is taken in part from the very small body of research on desistance. This research is briefly reviewed below.

LITERATURE REVIEW

There are only two recent papers using longitudinal (or panel) data that we are aware of that directly compare the ability of early risk factors of the onset of offending to predict desistance from offending as adolescents or adults. One paper makes use of the Cambridge Study in Delinquent Development, and one uses early waves of the Pittsburgh Youth Study. The papers differ primarily in how they define desistance and how and when they measure the correlates of offending.

The first paper, by Farrington and Hawkins (1991), uses the Cambridge Study in Delinquent Development. The part of the study of interest to us attempts to identify predictors of offending onset using the whole sample, as well as to identify predictors of persistence past the age of 21 using the 124 men who were convicted before age 21. (These men were split into two groups, the 65 men who obtained another conviction between age 21 and 32, and the 59 men who did not.) Desistance was therefore defined as no criminal conviction for 11 years after age 21, following a "career" of at least one conviction under the age of 21. Predictors were chosen from 9 theoretical groups of variables, measured either at ages 8, 10, 11, 14 or 18: opportunities for conventional involvement, interaction with conventional others, involvement in conventional behavior, skills for conventional involvement, reinforcements for conventional involvement, bonding to conventional society, opportunities for antisocial involvement, involvement in antisocial behavior, and temperament as a child. The continuous variables were dichotomized by comparing the top quartile with the bottom three quartiles, and 2 x 2 contingency tables were

analyzed to determine if there were any discernible differences between offenders and non-offenders and then again between persisters and desisters.

In keeping with the predictions of onset theorists, some factors measured early in the life course seemed to predict onset and desistance equally well. These variables include representatives from all categories except involvement in conventional behavior and reinforcements for conventional involvement. (One reason for this is that most of these measures are measured during adolescence.) The variables that predict both onset and desistance include: opportunities for conventional involvement, low family income at age 8, having a large family at age 10, being in the lowest quartile of SES status at both ages 8 and 10, being separated from parents at age 10, not experiencing leisure time with father at age 11, having low verbal IQ at ages 8 and 10, low school attainment at age 11, and low attachment to school at ages 8 to 10.

Many other factors predict onset, but not desistance. These factors include poor housing at age 8 and 10, troublesome behavior at age 8, church attendance at age 8, low nonverbal IQ at ages 8 to 10, poor concentration, temperament at ages 8 to 10 (measured as nervousness and amount of daring), poor psychomotor skills at ages 8 to 10 and poor child rearing at age 8. It is difficult to see conceptual or theoretical links between these variables. However, it is noteworthy that the characteristics that would seem most correlated with what Gottfredson and Hirschi (1990) have called self-control (troublesome behavior, poor concentration, nervousness and daring, and poor child rearing practices) seem to predict onset, but not desistance.

Other more contemporaneous factors such as delinquent peers at age 14, early sexual behavior before age 15, high rates of delinquency and heavy drinking at age 18, unemployment at 16, and lack of interest in future schooling at age 18 all seem to be correlated with onset, and predictive of persistence. This evidence supports the dynamic theorists who argue that contemporaneous life events in adolescence and beyond affect offending behavior.

This research is suggestive, but not definitive. It is interesting because it measures desistance in a very clear and conservative way (not offending for 11 years in adulthood). It also makes a case for thinking about desistance as a process distinct from the process of onset by

finding that some (but certainly not all) early predictors of onset cannot differentiate between the desisters and persisters.

Loeber, Stouthamer-Loeber, Van Kammen, and Farrington (1991), using the Pittsburgh Youth Study data, actually come to a different conclusion. All of the predictors of onset also predict desistance. Although there are three separate samples in the Pittsburgh Youth Study starting in first, fourth, and seventh grades, we will concentrate in this review on the results from the boys who were in seventh grade (12 to 13 years of age) during the first wave. Since the study began in 1987, only data for the first four waves of the study were available (representing 18 months).

The correlates under study in this paper were very similar to those covered in the Farrington and Hawkins (1991) paper.¹ All of the correlates were measured in either the first or second interviews. They include extensive measures of the child's temperament, school behavior and attitudes, attitudes toward antisocial behavior, peer factors, family factors, and attitudes of the primary caretaker toward child rearing and antisocial behavior. The continuous variables were dichotomized as in the Farrington and Hawkins study.

Variables within each of these conceptual headings were used to distinguish types of offenders. Offenses are non-official (either self-report, teacher report, or parent report) but only offenses likely to come to the attention of the police were included. The key comparisons were between initiators and non-offenders, and between desisters and non-desisters. These labels were determined on the basis of timing and seriousness of offenses. In round numbers, the 70 non-offenders were compared with the 30 initiators who had reported never committing an offense before the first interview but subsequently reported at least one offense during the next 18 months. The 50 desisters, who had offended before the first interview but not afterwards, were compared with the 80 "de-escalators" who offended with decreasing seriousness throughout the

¹ Perhaps this was by design, since Farrington is a co-author on this paper.

period under study. Statistical tests were performed on the 2x2 contingency tables comparing the proportions of each group that had each characteristic.

The researchers found that the non-offenders were less likely than the starters to either have or display high rates of the following variables: physical aggression, oppositional behavior, attention deficit disorder, untrustworthiness, truancy, negative caretaker-child relationship, low caretaker supervision, delinquent peers, low school motivation, negative response to discipline, and African American. Unlike the Farrington and Hawkins study (1991), every single one of these risk factors, with the exception of race, also was distinguishably different for the desisters and de-escalators.² The magnitudes of the differences were similar in each case. Loeber et al. (1991, p. 81) concluded that “[I]nitiation and desistance appear to reflect the positive and negative aspects of a similar process.”

This conclusion is in direct contrast to the conclusions of Farrington and Hawkins (1991: 30) who wrote that: “the value of looking separately at the predictors of different aspects of criminal involvement appears to us to be established by this investigation.” These different results have important implications for policymakers.

Consider the case suggested by the Loeber et al. (1991) results where desisters are just those who have lower levels of certain key risk factors measured early in the life course. In this case, the juvenile justice system can use these factors to differentiate between those children who are likely to quit offending on their own, and those who are likely to persist if left to their own devices.

If, on the other hand, Farrington and Hawkins (1991) are right that early predictors of onset cannot fully differentiate between persisters and desisters, then the juvenile justice system can not rely on early measures of individual characteristics to differentiate between the desisters

² In each case, fewer desisters scored in the upper quartile of a negative characteristic than the de-escalators, although in most cases more desisters had the negative characteristic than the non-offenders. Other variables were also found to distinguish between desisters and initiators. They included measures of accountability, manipulative behavior, educational achievement, school suspension, attitudes toward problem behavior, caretaker enjoyment of the child, strict discipline in the home, and depression.

and persists. As the Farrington and Hawkins (1991) results make clear, it is possible that the true answer is somewhere in between—that both factors established early in the life course and those that change over time impact whether someone desists from offending or not. Yet the question is important enough to require serious thought about why the two studies lead to very different conclusions.³

In our opinion, there are at least five possible explanations for the different conclusions in the two papers reviewed above. First, the samples come from different time periods in different countries. Second, the Cambridge study uses official data on convictions, while the Pittsburgh study uses self-report information on offending. Third, the Cambridge study follows the youth up to age 32, while the Pittsburgh study only follows the youth to approximately age 14. Hence the Cambridge study is really a study of desistance in adulthood, while the Pittsburgh study is a study of desistance during adolescence.

Fourth, the length of the period of desistance of the Pittsburgh study was fairly modest compared with the Cambridge study (18 months versus 11 years). Hence, it is possible that the desisters have not actually desisted, but are low-rate offenders who are in the middle of a long lull.⁴ The finding that the variables under study can differentiate between high and low-rate offenders is conceptually distinct from distinguishing between persisters and desisters. Finally, the early predictors of onset which failed to predict desistance in the Cambridge data were measured at age 8 or 10, before most of the youths had onset. In other words, the variables were measured before onset for both the initiators and the desisters.* In contrast, the variables in the Pittsburgh study were measured before onset for the initiators, but after desistance had already occurred for

³ Nagin, Farrington, and Moffitt (1995) have developed a semi-parametric maximum likelihood estimation procedure that groups individuals by the rate of offending over time. Applying this technique to the Cambridge data they found four groups—a non-offending group, a desistance group, and two groups of chronic offenders who differ only in degree of offending. In contrast to the results from the Farrington and Hawkins (1991) paper, none of the predictor variables were able to distinguish between people on the desistance trajectory and the other offending groups. While it is outside the scope of this report, future research will implement this strategy on the Rochester data.

⁴ Blumstein et al. (1986) refer to this problem as “false desistance.”

the desisters. Although many of these variables are relatively stable constructs (like temperament), others, like the caretaker variables, can vary with time. As a result, finding that these variables when measured in mid-adolescence after desistance can predict desistance is not the same as finding that these variables when measured before desistance can predict desistance.

The Rochester Youth Development Study, conducted as part of the same program as the Pittsburgh Youth Study, has a similar research design, but since we now have data that extends over a 10 year period, we can apply an approach similar to Farrington and Hawkins (1991). In addition, we will distinguish between violence and more general offending to determine if the processes differ by types of crime.

METHODS

The analysis is conducted with data from the Rochester Youth Development Study (RYDS) a multi-wave panel study of the development of drug use and delinquent behavior among adolescents and young adults. Since 1988, sample members and an adult primarily responsible for their care have been interviewed; data on subjects were also collected from school, police, courts and social service agency records. Interviews were conducted at six-month intervals through the first nine waves of data collection⁵ and, after a two-and-a-half year period during which interviews were not conducted, Waves 10 through 12 data were collected annually. At Wave 1 the adolescents were in the Spring semester of their seventh and eighth grade years, and the average age was 13.5. By Wave 12, subjects were 22 years of age on average.

Sample

The sampling plan of the RYDS was designed to oversample youth at high risk for serious delinquency and drug use since the base rates for these behaviors are relatively low (Elliott, Huizinga, and Menard, 1989; Wolfgang, Thornberry, and Figlio, 1987). To accomplish this while still being able to generalize the findings to a population of urban adolescents, the following strategy was used. The target population was limited to seventh and eighth grade students in the

⁵ Parental interviews were not done in Wave 9 because of funding problems, but were resumed in Waves 10 through 12.

public schools of Rochester, New York, a city that has a diverse population and a relatively high crime rate.

The sample was then stratified on two dimensions. First, males were oversampled (75% versus 25%) because they are more likely than females to be chronic offenders and to engage in serious delinquency (Blumstein, Cohen, Roth, and Visser, 1986). Second, students from high crime areas of the city were oversampled on the premise that subjects residing in high crime areas are at greater risk of offending. To identify high crime areas, each census tract in Rochester was assigned a resident arrest rate reflecting the proportion of the tract's population arrested by the Rochester police in 1986.

Because the true probability of each adolescent being selected is known, the sample can be weighted to represent all seventh and eighth graders in the Rochester Public Schools. The sample is weighted in the analysis to follow.

There were 1,000 seventh and eighth grade adolescents in the base panel. The current analysis is based on 791 adolescents for whom student interviews at Waves 1 through 12 and parent interviews at Wave 2 were completed. Comparing the characteristics of respondents included in this analysis with those of the total sample indicates that attrition did not bias the sample. (See Thornberry, Bjerregaard, and Miles, 1993, for a more complete discussion of the sample and of case attrition.)

Interviews were conducted in person by RYDS staff. For Waves 1 through 9, adolescents were generally interviewed in private rooms in the school setting. Students who could not be interviewed at school were interviewed at home. Parents were interviewed at their homes. Interviews lasted between one and one-and-a-half hours.

MEASUREMENT

Delinquent Behavior

Two measures of delinquent behavior are included in this analysis. The *general offending* index includes 32 items covering a range of delinquent behaviors from status offenses, vandalism and minor property crimes to serious violent and property crimes. In addition to the general

offending index, we include a *violent offending* index comprised of six items, including attacking someone with a weapon and throwing objects such as rocks or bottles at people.

For each of these indices, we calculate a prevalence measure, indicating whether the subject committed any of the offenses on the particular index. Respondents are then grouped into three categories; non-delinquents are those respondents who did not report committing a delinquent act in Waves 1 through 9; desisters are those respondents who report committing a delinquent act in Waves 1 through 9 but did not commit delinquency after Wave 9; persistent offenders committed at least one delinquent act in Waves 1 through 9 and also report committing delinquency after Wave 9.

Early Risk Factors

We categorize the risk factor variables into five domains: area characteristics, parent-child relations, school factors, peer relationships, and individual characteristics. These groups cover the same domains as those covered by Farrington and Hawkins (1991) and Loeber et al. (1991). We examined the impact of several variables from each of these domains but only report the findings for those that are most strongly related to delinquent behavior. Most of these variables come from parent and youth interviews, but some are drawn from social services records and census data.

The data from the parent and youth interviews is taken from Wave 2, with the exception of the externalizing behavior problems scale, which is taken from the first available wave, predominantly Wave 3 or Wave 4. The aggregate data comes from the 1980 census and is based on the census tract where the subject resided at Wave 1. Information on scale reliabilities is presented where available based on Wave 2 measures and is measured by Cronbach's alpha.⁶ For the purposes of the current analysis, all variables are dichotomized at the median into low and high categories.

⁶ The alpha coefficients for each scale are quite constant over time.

Area Characteristics

We include three factors relating to neighborhood or area characteristics. *Neighborhood disorganization* is a 17-item scale of the parents' perceptions of crime, dilapidation, and disorganization in their community. Respondents are asked on a scale of 1 to 3 to rate whether the issue is not a problem, sort of a problem, or a big problem. Item responses are averaged, and as with other scale construction, the score is the mean of the items, ranging from 1 to 3. The reliability at Wave 2 is .95. *Neighborhood integration* is a 7-item scale including items on the frequency of contact with neighbors, satisfaction with neighborhood and familiarity with neighbors (alpha = .67). *Percentage of female-headed households* is a standard census measure taken from the 1980 Census. It refers to the tract the family of the youth lived in at the start of the study.

Parent-Child Relations

The relationship that parents and children have with one another has been shown to have both immediate and long lasting impacts on delinquent behavior (Loeber and Stouthamer-Loeber, 1986). We include three measures of that relationship. *Attachment to parent* is an 11-item adaptation of the Hudson Scale of Attitudes toward Parents containing questions on the degree of warmth and lack of hostility in the parent-child relationship (Hudson, 1982). Response choices are on a 4-point scale ranging from 1 to 4 with 4 indicating higher attachment. The reliability for the scale is .81. *Parental supervision* is a 4-item scale indicating the extent to which the youth feels that his parents are aware of his whereabouts, friends, and activities. Values on the scale items range from never (1) to often (4) (alpha = .56). *Child abuse* is a dichotomous variable that indicates whether there is a report of substantiated abuse for any child in the youth's family on file with the county department of social services.

School Factors

Educational variables have also been examined as risk factors for delinquent behavior. We examine the effect of three variables within this domain. *Commitment to school* is a 10-item self-report scale with four response choices ranging from strongly agree to strongly disagree assessing

the youth's agreement with questions about the importance of schoolwork. Higher scores indicate higher commitment. The reliability is .87. *Attachment to teacher* is a 5-item scale that indicates how much the youth likes and respects his teachers, with response choices ranging from 1 to 4, and higher scores indicating greater attachment ($\alpha = .63$). *Parent's college expectations for subject* is a 3-item scale measuring the parent's assessment of how likely the student is to attend college. Scores range between 1 and 3.

Peers

Peer relationships are an important source of influence on adolescents' behavior. The measure for *delinquent peers* is based on the subject's report of how many of his or her friends were involved in eight delinquent activities. It is based on a 4-point response scale ranging from "none of them" to "most of them" ($\alpha = .88$). *Unsupervised time with friends* is based on three questions in which the subjects report how often they and their three best friends are unsupervised in the community in situations where criminal activity may occur. A 5-point response choice to each item ranges from "never" to "every day." *Access to drugs* is a 3-item index including items asking respondents how easy is it for them to buy alcohol and get marijuana and other illegal drugs.

Individual Characteristics

A range of individual experiences and attitudes have been linked to delinquent behavior. *Negative life events* is a dichotomous variable that measures whether any of eight life stresses, such as breaking up with a close friend, being suspended from school, or being ill were experienced by the subject up to the wave in question. *Depression* is a 7-item self-report scale reporting the frequency of depressive symptoms derived from a standardized measure (Radloff, 1977). Responses to various symptoms range from never (1) to often (4). The reliability is .79. *Externalizing behavior* is a 24-item scale derived from parent reports on a short form of the Child Behavior Checklist (CBCL), and includes parent reports of hostility, aggression, and noncompliance with rules (Achenbach and Edelbrock, 1979; Lizotte, Chard-Wierschem, Loeber, and Stern, 1992). There is a 3-point response choice for each item indicating whether the

behavior occurs never, sometimes, or often. The reliability of the short form is .91. The *delinquent beliefs* scale measures how wrong, on a 4-point scale, the subject feels it is to engage in each of eight delinquent acts. Higher scores mean subject feels the activity is more wrong. The reliability for this measure is .84.

RESULTS

We begin by examining early risk factors for involvement in delinquency. In this case we compare non-delinquents, those who did not self-report delinquency during adolescence, with delinquents, those who reported some delinquency during adolescence, during the early adult years, or both. As indicated above, 16 risk factors representing the major domains of neighborhood, family, school, peers, and individual characteristics are included in this analysis.

After identifying which early attributes are significant risk factors for delinquency we next see if these same risk factors are also able to discriminate between desisters and persistent offenders. In this analysis we compare offenders who desisted from delinquency before the early adult years with the persistent offenders who continued their involvement in delinquency. This allows us to address the central question of this paper: can early risk factors which predict the onset of offending also predict desistance from offending?

General Delinquency

Table 1 presents the distribution of the various types of delinquents. Three-quarters of the respondents reported some involvement in delinquency prior to Wave 9. Of those, about one-third (32.1%) desisted prior to the early adult years and two-thirds (67.9%) persisted in their involvement in delinquency.

(TABLE 1 ABOUT HERE)

Table 2 presents bivariate relationships between each of the 16 risk factors and groups of respondents determined by their involvement (or non-involvement) in general delinquency. Not surprisingly given the general literature on risk factors (e.g., Hawkins, Catalano, and Miller, 1992), virtually all of these risk factors are related to delinquency in the expected direction.

Indeed, only two of the risk factors—neighborhood integration and neighborhood disorganization—are not significantly related to delinquency.

(TABLE 2 ABOUT HERE)

For example, of those subjects living in neighborhoods characterized by a lower percentage of female-headed households, 27.7% are non-delinquents and 72.3% are delinquents. In contrast, subjects living in neighborhoods characterized by a greater percentage of female-headed households are less likely to be non-delinquents (21.4%) and are more likely to be offenders (78.6%). This difference is statistically significant ($\chi^2 = 4.1, p < .04$). Similar effects are seen in the other domains. To take one more illustration we can look at reports of child abuse. For subjects with no official reports of child maltreatment in their family, 28% are non-delinquents and 72% are delinquents. But, of the subjects with reports of abuse, fewer were non-delinquents (17.6%) and more were delinquents (82.4%). Overall, adolescents from areas with higher percentages of female-headed households, with weaker parent-child relationships, lower performance in school, more deviant peers, and more problem behaviors or beliefs are more likely to be delinquent and less likely to be non-delinquent.

The central question before us now is: do these same risk factors measured at early adolescence also help us predict which offenders will desist from delinquency near the end of adolescence and which offenders will persist in offending into the early adult years? To begin addressing this question we restrict the analysis to the two groups of subjects classified as delinquents: desisters and persistent offenders.

Overall, there does not appear to be a great deal of overlap between the early predictors of delinquency and of desistance. Indeed, of the 14 significant predictors of delinquency, nine of them are not significantly related to desistance. (These variables are not included in Table 3.) They are: attachment to parent, parental supervision, commitment to school, attachment to teachers, delinquent peers, spending unsupervised time with friends, delinquent beliefs, depressive symptoms, and negative life events. While these attributes measured at early adolescence help

predict whether adolescents become delinquents, they do not help predict whether the delinquents will continue offending in early adulthood.

(TABLE 3 ABOUT HERE)

Five of the risk factors for delinquency are also significantly related to desistance (Table 3). These risk factors are drawn from each of the five domains: neighborhood, parent-child relations, school, peers, and individual characteristics. Adolescent offenders who desist are more likely than persistent offenders to come from less disorganized neighborhoods, not to be maltreated, to have higher parental expectations for them to attend college, to have less access to drugs, and to have lower parental reports of externalizing behavior problems. These relationships are all in the expected direction. These results are similar for girls and boys when the sample is divided.

Violence

The previous analysis focused on general delinquency, an omnibus measure that incorporates a mix of offense types and a mix of serious and minor offenses. While early attributes may not be particularly good predictors of desistance from general delinquency, they may be more effective at predicting desistance from more serious offense types. To examine this possibility we now examine involvement in violence.

(TABLE 4 ABOUT HERE)

Table 4 presents the distribution of the groups for involvement in violence. Sixty percent of the respondents reported some involvement in violence during adolescence. As expected, this prevalence rate is somewhat lower than the prevalence of general delinquency (75%). Of the adolescents who self-reported violence during adolescence, 58.7% desisted prior to early adulthood and 41.3% persisted. This rate of desistance (58.7%) is much higher than that observed for general delinquency, which was only about one-third (32.1%).

(TABLE 5 ABOUT HERE)

In Table 5 we present the bivariate relationships between each of these early risk factors and self-reported violent delinquency. The results very closely replicate those presented earlier

for general delinquency. Fourteen of the 16 risk factors are significantly related to violence. Again, the only two that are not are neighborhood disorganization and integration. The others are related to violence in the expected direction suggesting that variables from multiple domains—area, family, school, peers, and individual characteristics—all create risk for becoming involved in violence during adolescence.

(TABLE 6 ABOUT HERE)

When we move to the issue of either desistance or persistence in violence (Table 6), the results again replicate those observed earlier for general delinquency. Most of the risk factors for involvement in violence are not significantly related to remaining involved in violence during the early adult years.

In fact, only five variables significantly discriminate between desisters and persistent offenders. Three of them overlap with variables found to be related to the persistence of general delinquency (see Table 3). They are: report of child abuse, access to drugs, and parental reports of externalizing behavior. Two are unique to violence. They are neighborhood integration and delinquent beliefs.

DISCUSSION

Most adolescents engage in delinquency at some point during their teenage years. Many of these adolescents will eventually discontinue or at least significantly reduce their involvement in delinquency. A significant minority of individuals, however, will persist in their antisocial behavior and such behavior will often be of a more serious and violent nature. The question of why some adolescents continue to commit criminal acts into adulthood and why others desist from so doing is one of the most important questions that needs to be addressed.

In this study, we examined the issue of whether early predictors of the involvement in delinquency can also account for later desistance from such behavior. Loeber et al. (1991) using self-report data found that all of the variables that predicted onset could also predict desistance. Their study, however, only examined desistance through the mid-adolescent years. Farrington and Hawkins (1991) operationalized desistance in terms of official conviction and examined the

effect of early predictors of onset and later risk factors on desistance up to the age of 32. They found that some, but not all, of the predictors of onset also predicted desistance.

The Loeber et al. (1991) and Farrington and Hawkins (1991) studies use different sources of data and the length of follow-up after onset differs significantly. Not surprisingly, the two studies arrive at somewhat different conclusions. The current study is similar to Loeber et al.'s in that it used self-report data but, like the Farrington and Hawkins study, it extends the at-risk time period into the early adult years.

Of the sixteen early risk factors examined in this study, fourteen are significantly related to both general delinquency and violent delinquency. However, when desistance from delinquency is examined, only five of the fourteen risk factors significantly predict desistance from these behaviors in the early adult years. In spite of using self-report data instead of official convictions, these results more closely conform to Farrington and Hawkins' (1991) rather than those reported by Loeber et al. (1991). By examining whether respondents persist in offending—as defined either in terms of official records or self-report—into their adult years, a better measure of desistance is obtained than that used in the Loeber et al. study. The limited time frame used by Loeber et al. is inadequate for measuring desistance because it is quite possible that adolescents may have a lull in their delinquent behavior and then renew their involvement in delinquency later in adolescence.

The five risk factors that predicted general delinquency are slightly different than those that predicted violent behavior and, therefore, this discussion will concentrate on the three factors that predicted both types of behavior. The three factors that predict the persistence of both general delinquency and violence are child abuse, access to drugs, and parental reports of externalizing behavior. These variables represent either serious problems in the respondents' social environment or indications of early antisocial conduct. Child abuse has been found to have traumatic effects on the lives of victims. It is not surprising that child abuse is one of the few variables that can predict long term involvement in both general and violent delinquency. Having easy access to drugs in early adolescence reflects not only the type of friends one has but also the

type of neighborhood and school in which adolescents interact. Involvement in the drug world, particularly the selling of drugs, increases the probability of carrying a weapon (Lizotte, Krohn, Howell, Tobin, and Howard, under review) and therefore, is likely to increase violence. If respondents have easy access to drugs it probably means that the area in which they live or the friendship network in which they interact is a dangerous one. Finally, the one individual factor that was found to predict persistence of both general delinquency and violence is parental reports of externalizing behavior. This measure taps aggressive behavior as well as non-compliance with rules. The finding that it predicts persistence of crime into the early adulthood years may suggest that behavior patterns established early in childhood are stable and are manifested in overt acts of aggressive delinquent behavior.

The interpretation of these three factors must be tempered by the recognition that of the fourteen relationships examined for each type of delinquency only these three are significant. Thus, only six of twenty-eight comparisons are significant.

Before these or other risk factors can be used by the juvenile justice system to differentiate between those children who are likely to persist in their illegal behavior from those who are likely to desist or to suggest risk factors that need to be dealt with by those agencies, more research examining desistance into the adult years is required. The results from the current study, however, suggest that at best, few of the risk factors that predict involvement in delinquent behavior also predict desistance in early adulthood.

References

- Achenbach, T.M. and C.S. Edelbrock. (1979). The child behavior profile: II. Boys aged 12-16 and girls aged 6-11 and 12-16. *Journal of Consulting and Clinical Psychology* 47:223-233.
- Blumstein, A., J. Cohen, J. Roth, and C. Visher (1986). *Criminal Careers and "Career Criminals"*. Washington, DC: National Academy Press.
- Conger, J.J. (1991). *Adolescence and Youth* (Fourth edition). New York: HarperCollins Publishers, Inc.
- Elliott, D.S., D.H. Huizinga, and S. Menard (1989). *Multiple Problem Youth: Delinquency, Substance Use, and Mental Health Problems*. New York: Springer-Verlag.
- Farrington, D.P. and J.D. Hawkins (1991). Predicting participation, early onset and later persistence in officially recorded offending. *Criminal Behavior and Mental Health* 1:1-33.
- Gottfredson, M. R. and T. Hirschi (1990). *A General Theory of Crime*. Stanford, CA: Stanford University Press.
- Hawkins, J.D., R.F. Catalano, and J.Y. Miller (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin* 112:64-105.
- Hudson, W. (1982). *The Clinical Measurement Package: A Field Manual*. Homewood, IL: Dorsey Press.
- Jang, S.J. and C.A. Smith (1997). A test of reciprocal causal relationships among parental supervision, affective ties, and delinquency. *Journal of Research in Crime and Delinquency* 34:307-336.
- Krohn, M.D., A.J. Lizotte, T.P. Thornberry, C.A. Smith, and D. McDowall (1996). Reciprocal causal relationships among drug use, peers, and beliefs: A five-wave panel model. *Journal of Drug Issues* 26:405-428.
- Krohn, M.D., A.J. Lizotte, and C.M. Perez (1997). The interrelationship between substance use and precocious transitions to adult statuses. *Journal of Health and Social Behavior* 38:87-103.
- Lizotte, A.J., D.J. Chard-Wierschem, R. Loeber, and S.B. Stern. (1992). A shortened behavior checklist for delinquency studies. *Journal of Quantitative Criminology* 8:233-245.
- Lizotte, A.J., M.D. Krohn, J.C. Howell, K. Tobin, and G.J. Howard (Under review). Changing factors influencing gun carrying among young urban males. *Criminology*.
- Loeber, R. and M. Stouthamer-Loeber (1986). Family factors as correlates and predictors of juvenile conduct problems and delinquency. Pp. 29-149 in N. Morris and M. Tonry (eds.), *Criminal Justice: An Annual Review of Research, Vol. 7*. Chicago: University of Chicago Press.

- Loeber, R., M. Stouthamer-Loeber, W. Van Kammen, and D. Farrington (1991). Initiation, escalation and desistance in juvenile offending and their correlates. *The Journal of Criminal Law and Criminology* 82:36-82.
- Moffitt, T.E. (1993). "Life-course-persistent" and "adolescence-limited" antisocial behavior: A developmental taxonomy. *Psychological Review* 100:674-701.
- Nagin, D.S., D.P. Farrington, and T.E. Moffitt (1995). Life-course trajectories of different types of offenders. *Criminology* 33:111-139.
- Nagin, D. and R. Paternoster (1991). On the relationship of past and future participation in delinquency. *Criminology* 29:163-190.
- Radloff, L.S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measures* 1:385-401.
- Robins, L.N. (1978). Sturdy childhood predictors of adult antisocial behavior: Replications from longitudinal studies. *Psychological Medicine* 8:611-622.
- Sampson, R.J. and J. Laub (1993). *Crime in the Making: Pathways and Turning Points Through Life*. Cambridge, MA: Harvard University Press.
- Thornberry, T.P. and M.D. Krohn (Forthcoming). The development of delinquency: An interactional perspective. In S.O. White (ed.), *Handbook of Law and Social Science: Youth and Justice*. New York: Plenum.
- Thornberry, T.P., C.A. Smith, and G.J. Howard (1997). Risk factors for teenage fatherhood. *Journal of Marriage and the Family* 59:505-522.
- Thornberry, T.P., B. Bjerregaard, and W.C. Miles. (1993). The consequences of respondent attrition in panel studies: A simulation based on the Rochester Youth Development Study. *Journal of Quantitative Criminology* 9:127-158.
- Wolfgang, M.E., T.P. Thornberry, and R.M. Figlio (1987). *From Boy to Man, From Delinquency to Crime*. Chicago: University of Chicago Press.

Table 1. Distribution of Delinquents

	<u>n</u>	<u>%</u>
Non-Delinquents	197	25.1
Delinquents	588	74.9
Total	785	100.0
Desisters	189	32.1
Persistent Delinquents	399	67.9
Total	588	100.0

Table 2. Early Risk Factors for Involvement in General Delinquency

		<u>Non-Delinquent</u> %	<u>Delinquent</u> %	<u>P-value</u>
<u>Area Characteristics</u>				
Neighborhood Disorganization				
	Low	23.0	77.0	.32
	High	26.1	73.9	
Neighborhood Integration				
	Low	22.5	77.5	.27
	High	26.0	74.0	
Percent Female-Headed Households				
	Low	27.7	72.3	.04
	High	21.4	78.6	
<u>Parent-Child Relations</u>				
Report of Child Abuse				
	No	28.0	72.0	.003
	Yes	17.6	82.4	
Attachment to Parent (Subject Report)				
	Low	17.8	82.2	.001
	High	35.1	64.9	
Parental Supervision				
	Low	19.4	80.6	.001
	High	36.1	63.9	
<u>School</u>				
Parent's College Expectations for Subject				
	Low	19.7	80.3	.01
	High	27.9	72.1	
Commitment to School				
	Low	19.0	81.0	.001
	High	31.6	68.4	
Attachment to Teacher				
	Low	18.3	81.7	.001
	High	32.5	67.5	

(Table 2--continued)

		<u>Non-Delinquent</u> %	<u>Delinquent</u> %	<u>P-value</u>
<u>Peers</u>				
Delinquent Peers	Low	37.0	63.0	.001
	High	10.1	89.9	
Unsupervised Time with Friends	Low	31.7	68.3	.001
	High	19.3	80.7	
Access to Drugs	Low	36.4	63.6	.001
	High	15.1	84.9	
<u>Individual Characteristics</u>				
Externalizing Behaviors	Low	30.3	69.7	.001
	High	18.7	81.3	
Delinquent Beliefs	Low	42.6	57.4	.001
	High	16.9	83.1	
Depressive Symptoms	Low	33.1	66.9	.001
	High	19.7	80.3	
Negative Life Events	Low	35.1	64.9	.001
	High	10.3	89.7	

Table 3. Early Risk Factors for Persistence in General Delinquency

		<u>Desisters</u> %	<u>Persistent Offenders</u> %	χ^2	<u>P-value</u>
<u>Area Characteristics</u>					
Neighborhood Disorganization					
	Low	36.3	63.7	5.7	.02
	High	26.9	73.1		
<u>Parent-Child Relations</u>					
Report of Child Abuse					
	No	35.7	64.3	7.7	.01
	Yes	24.1	75.9		
<u>School</u>					
Parent's College Expectations for Subject					
	Low	27.9	72.1	4.5	.03
	High	36.5	63.5		
<u>Peers</u>					
Access to Drugs					
	Low	41.8	58.2	14.2	.001
	High	26.5	73.5		
<u>Individual Characteristics</u>					
Externalizing Behaviors					
	Low	40.8	59.2	23.7	.001
	High	21.9	78.1		

Table 4. Distribution of Violent Offenders

	<u>n</u>	<u>%</u>
Non-Violent	317	40.1
Violent	474	59.9
Total	791	100.0
Desisters	278	58.7
Persistent Violent	196	41.3
Total	474	100.0

Table 5. Early Risk Factors for Involvement in Violent Delinquency

		<u>Non-Delinquent</u> %	<u>Delinquent</u> %	<u>P-value</u>
<u>Area Characteristics</u>				
Neighborhood Disorganization				
	Low	41.2	58.8	.29
	High	37.4	62.6	
Neighborhood Integration				
	Low	40.6	59.4	.87
	High	40.0	60.0	
Percent Female-Headed Households				
	Low	43.0	57.0	.04
	High	35.8	64.2	
<u>Parent-Child Relations</u>				
Report of Child Abuse				
	No	44.9	55.1	.001
	Yes	27.4	72.6	
Attachment to Parent (Subject Report)				
	Low	31.0	69.0	.001
	High	52.7	47.3	
Parental Supervision				
	Low	34.8	65.2	.001
	High	50.9	49.1	
<u>School</u>				
Parent's College Expectations for Subject				
	Low	32.6	67.4	.001
	High	45.7	54.3	
Commitment to School				
	Low	36.1	63.9	.01
	High	45.2	54.8	
Attachment to Teacher				
	Low	31.4	68.6	.001
	High	49.7	50.3	

(Table 5--continued)

		<u>Non-Delinquent</u> %	<u>Delinquent</u> %	<u>P-value</u>
<u>Peers</u>				
Delinquent Peers	Low	54.6	45.4	.001
	High	20.0	80.0	
Unsupervised Time with Friends	Low	50.2	49.8	.001
	High	30.9	69.1	
Access to Drugs	Low	53.9	46.1	.001
	High	28.5	71.5	
<u>Individual Characteristics</u>				
Externalizing Behaviors	Low	48.0	52.0	.001
	High	29.9	70.1	
Delinquent Beliefs	Low	59.6	40.4	.001
	High	31.1	68.9	
Depressive Symptoms	Low	47.4	52.6	.001
	High	35.5	64.5	
Negative Life Events	Low	52.4	47.6	.001
	High	21.8	78.2	

Table 6. Early Risk Factors for Persistence in Violent Delinquency

		<u>Desisters</u> %	<u>Persistent Offenders</u> %	χ^2	<u>P-value</u>
<u>Area Characteristics</u>					
Neighborhood Integration					
	Low	53.7	46.3	5.4	.02
	High	64.8	35.2		
<u>Parent-Child Relations</u>					
Report of Child Abuse					
	No	65.2	34.8	16.3	.001
	Yes	45.9	54.1		
<u>Peers</u>					
Access to Drugs					
	Low	67.6	32.4	6.3	.01
	High	55.5	44.5		
<u>Individual Characteristics</u>					
Externalizing Behaviors					
	Low	68.7	31.3	17.9	.001
	High	49.4	50.6		
Delinquent Beliefs					
	Low	69.7	30.3	5.6	.02
	High	56.8	43.2		