

# Differences in Personality and Patterns of Recidivism Between Early Starters and Other Serious Male Offenders

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In this study, the differences in personality and patterns of recidivism were compared between individuals with an early incidence of offending ("early starters") and their later-starting counterparts ("later starters"). Results indicated that early starters were significantly different from later starters in several personality characteristics, as measured by the California Personality Inventory (CPI) and the Minnesota Multiphasic Personality Inventory (MMPI). Specifically, early starters scored lower on the responsibility and socialization scales of the CPI and higher on the paranoia, schizophrenia, and hypomania scales of the MMPI. Moreover, results indicated that early starters were at a significantly higher risk for recidivism than later starters, both at a 15-month and a 20-year follow-up.

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The destructive consequences produced by a relatively small number of chronic offenders have long been a serious concern for scholars.<sup>1–4</sup> Recently, there has been increased attention paid to the salience of an early onset of delinquency and to the role of individual differences in the development of chronic offending. Prominent in research of this orientation are the developmental taxonomy of Moffitt<sup>5</sup> and the early-starter model of Patterson *et al.*<sup>6,7</sup> These investigators converge on the importance assigned to an early onset of delinquency as a predictor of life-long criminality and assert that early starters are more likely to become persistent offenders than are later starters.

One of the strongest predictors of persistent offending involves an early age at first arrest.<sup>1,8–13</sup> In a comprehensive review, Loeber and LeBlanc<sup>10</sup> showed that a relatively early onset of antisocial behavior predicts a long and seriously antisocial career. For example, age at onset of delinquency was

strongly related to the number of offenses committed in adulthood in two Philadelphia birth cohorts.<sup>14,15</sup> In their analyses of the Gluecks' classic data, Sampson and Laub<sup>16</sup> found that boys who were delinquent during childhood were three to four times more likely than nondelinquent boys to commit crimes during adulthood.

Patterson<sup>17</sup> argued that extremely antisocial boys who were identifiable at an earlier age were more socially disruptive and were at a significantly higher risk for persistent offending as an adult. Indeed, Patterson *et al.*<sup>7</sup> have shown that extremely antisocial boys in fourth grade were significantly more likely to have a first police contact at younger ages and were at greater risk for recidivism. More recently, Patterson *et al.*<sup>12</sup> reported that only 6 of 53 individuals with an early arrest had not been identified as antisocial boys and only 11 of the 51 chronic offenders had not been early starters in their samples.

## Early Starters and Personality Differences

Although there is an increasing recognition of the importance of early starting in persistent criminal offending, relatively little is known about the personalities of early starters. Central to the theories of both Patterson<sup>17</sup> and Moffitt<sup>5</sup> is the role assigned to individual differences in antisocial tendency. Both of these theorists trace the antecedents of an early onset of delinquency to variations in individual character-

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istics. For example, Moffitt asserts that a major reason that early starting predicts a life-course-persistent offending is because of the early starter's deficient self-control as indicated by impulsivity, risk-taking, and difficulties in delaying gratification. Thus, it is likely that early starters and later starters differ in their personalities, an important area of individual differences.

Crime and delinquency have long been related to personality dispositions<sup>18-23</sup> (although this relation has been criticized<sup>24,25</sup>). For example, Caspi *et al.*<sup>20</sup> and Krueger *et al.*<sup>26</sup> linked delinquent behavior to personalities that were high in negative emotionality and low in constraint. The crime-prone personality, according to Caspi *et al.*<sup>20</sup> was marked by poor impulse control and the tendency to experience hostility and other distressing emotions. Similarly, John *et al.*<sup>27</sup> found that delinquent boys had significantly lower scores on the personality factors of agreeableness and conscientiousness when compared with nondelinquent boys.

Collectively, the results from the literature on the connection between personality and crime suggest that there are differences in personality between the people who commit crimes and those who refrain from crime. However, the differences in personalities between early and later starters are not as well understood. One objective of this study was to explore these differences.

### Early Starters and Patterns of Recidivism

Several developmentally oriented theorists<sup>2,5-7,10,17</sup> maintain that early starters are disproportionately more likely to become persistent offenders. For example, Patterson *et al.*<sup>7,11</sup> demonstrated that those adolescents who had their first police contact before age 15 were at a higher risk for chronic offending, both as juveniles and as adults. The significant relation between age at onset and persistent offending has also been reported in data collected in Europe.<sup>28,29</sup>

Despite recognition of the importance of the timing of delinquency in the development of persistent offending, most existing studies have been limited to the years of adolescence. Very few studies have explored the significance of an early onset of delinquency in the continuation of criminal behavior past young adulthood. We are aware of very few studies<sup>16,18</sup> that have linked early antisocial behavior to later adult crime and thus truly examined the life-course significance of an early start to offending.

### Present Study

The present study had two purposes: to examine differences in personality between early and later starters and to contrast their patterns of recidivism by using both a short- and a long-term follow-up. We sought to achieve these goals by using data from a 20-year longitudinal study of 4,146 incarcerated adolescent offenders admitted to the California Youth Authority (CYA). These adolescents were first assessed with a comprehensive personality assessment between 1964 and 1965 during their intake by the CYA. A 20-year arrest record follow-up was obtained in 1984 and 1985.

We predicted that there would be significant differences between early and later starters on two widely used measures of personality: the California Personality Inventory (CPI) and the Minnesota Multiphasic Personality Inventory (MMPI). We predicted that early starters would score lower on the CPI scales designed to measure normative orientation and values than would later starters. The significant body of research and theory that suggests that criminality is related to an individual's values, conventionality, and self-control informs this prediction. This includes the work that relates criminality to diminished self-control,<sup>30</sup> inadequate socialization,<sup>22</sup> and insufficient social bonding.<sup>31</sup>

We also predicted that early starters would score lower on the CPI scales that measured self-perceptions of cognitive and intellectual functioning, because early starters should perceive themselves as less intellectually capable than their later-starting peers. This prediction is informed by a body of research and theory that links actual cognitive abilities to crime.<sup>5,32,33</sup> Indeed, some of our own work on this sample indicates a link between crime and cognitive ability.<sup>34</sup> We made no other specific predictions for the other CPI scales, and these analyses should be viewed as strictly exploratory.

On the MMPI, we predicted that early starters would score higher on the scale that measures psychopathic deviance than would later starters. This scale was designed to measure psychopathic responses that have been implicated in crime and delinquency.<sup>35,36</sup> Moreover, we generally expected early starters to score higher on many of the MMPI scales, because they might be more likely to have elevated levels of personality disturbance than later starters. We did not make specific predictions for

these other scales, and these analyses should also be regarded as exploratory.

In terms of differences in patterns of recidivism between early and later starters, we predicted that early starters would be more likely to reoffend and thus to be rearrested sooner than their later-starting counterparts. This hypothesis is in line with the previously reviewed literature linking early starting and persistent offending. In the present study, we tested these predictions with both a short-term (15-month) and a long-term (20-year) follow-up of offenders. Finally, given the general assumption that early starters have a more serious criminal career, we predicted that early starters would be arrested more frequently than later starters over the course of our study.

## Methods

### Sample and Procedures

The data used in this investigation were part of a larger study designed to examine the criminal career patterns of violent offenders.<sup>37</sup> The authors received approval (Protocol ID: 993734) from the University of California, Davis, Institutional Review Board to conduct secondary analysis on the existing data. Data were collected on a total sample of 4,146 adolescent male offenders who were committed to the Reception Guidance Center at the Duel Vocational Institution (DVI) in Tracy, California, between January 1964 and December 1965. The DVI was a facility operated by the CYA and was designed to provide treatment, education, and training to the oldest CYA wards during that time. Of these 4,146 youths, 1,078 (26%) were African-American, 2,214 (53.4%) were white, 773 were Hispanic (18.6%), and 81 (2%) were of other ethnic backgrounds. The average age ( $\pm$ SD) of the youthful offenders at reception by the DVI was  $18.98 \pm 0.98$  years (range: 16–24). Many of these youthful offenders were first arrested several years before their reception at the DVI (average age at first arrest,  $16.92 \pm 2.00$  years; range: 9.00–23.80).

Of these 4,146 youthful offenders, 2,790 (approximately 67% of the sample) had complete CPI scores and were classifiable as early or later starters. Of the 4,146 youthful offenders, 2,681 (approximately 65%) had complete MMPI scores and were classifiable as early or later starters. The CPI and MMPI were administered to the inmates during their first week at the DVI. Missing data were primarily due to

the minimum English proficiency standards required for taking the pencil-and-paper personality measures.

Two follow-ups of these young offenders were conducted: a short-term follow-up conducted 15 months after their release from the DVI ( $n = 4,164$ ) and a long-term follow-up conducted in 1984 and 1985 when California arrest records were available for 3,652 of the original sample of offenders. These arrest histories were based on records supplied by the CYA and the California Bureau of Criminal Identification and Investigation. The records for the remaining 494 individuals were missing, because of the purging of records<sup>38</sup> or the sealing of records in the cases of death. For these individuals the existing CYA records of crime and delinquency from 1964 and 1965 were used.

### Personality Measures

#### *California Psychological Inventory*

The CPI<sup>39,40</sup> is one of the most widely used personality assessment instruments and has been used extensively in studies of crime and delinquency.<sup>41</sup> It is designed to measure “folk concepts” or the everyday ideas and dimensions that people use to understand their own personalities and the personalities of others.<sup>39</sup> The 20 folk scales of the CPI are summarized in Table 1. The separate folk scales are clustered in Table 1 according to the broader dimensions that they measure: measures of poise, self-assurance, and interpersonal proclivities; measures of normative orientation and values; measures of cognitive and intellectual functioning; and measures of role and personal style. The CPI protocols were scored by a professional testing service, and raw CPI scores are reported for all analyses.

#### *Minnesota Multiphasic Personality Inventory*

The MMPI<sup>42</sup> was originally designed to identify personality disturbances among psychiatric patients. It has since been used to measure the personalities and emotional adjustment of a wide range of individuals.<sup>42</sup> The MMPI yields scores on 10 clinical scales that measure disturbed personalities in a variety of areas that are described in Table 2. The MMPI protocols were scored by a professional testing service, and T scores are reported for all analyses.

### **Classification of Early and Later Starters**

We first divided our sample into early and later starters based on their ages at first arrest. We classi-

**Table 1** Description of CPI Folk Scales

Folk Scale	Description of High Scorers	Description of Low Scorers
Measures of poise, self-assurance, and interpersonal proclivities		
Cs: capacity for status	Ambitious; desires success	Dislikes competition
Do: dominance	Confident; assertive	Cautious; quiet
Em: empathy	Understands feelings of others	Distrustful of others' feelings
In: independence	Self-sufficient; self-motivated	Seeks assistance of others
Sa: self-acceptance	High self-regard	Low self-regard
Sy: sociability	Outgoing; extraverted	Shy; introverted
Sp: social presence	Self-assured in social settings	Reserved in social settings
Measures of normative orientation and values		
Cm: communality	Fits in; is a "team player"	Nonconforming
Gi: good impression	Tries to please others	Unconcerned with others' impressions
Re: responsibility	Responsible; reliable; dutiful	Careless; self-centered
Sc: self-control	Controls emotions; self-disciplined	Lacks control over emotions; impulsive
So: socialization	Follows rules and norms	Prono to break rules and norms
To: tolerance	Accepting; fair; nonjudgmental	Hostile to others; distrustful
Wb: well-being	Feels healthy; cheerful	Feels unhealthy; complains
Measures of cognitive and intellectual functioning		
AC: achievement via conformance	Driven to succeed; prefers clearly defined settings; organized	Difficulties with strict rules; lacks perseverance
Ai: achievement via independence	Driven to succeed; prefers less rigid settings; intelligent	Difficulties in ambiguous settings; lacks interest in intellectual pursuits
Ie: intellectual efficiency	Intelligent; focused; insightful	Lacks motivation and/or aptitude for intellectual pursuits
Measures of role and personal style		
Fx: flexibility	Likes change; bored by routine	Prefers steady situations; conservative
Fe: masculinity/femininity	Sensitive; high-strung	Decisive; unsentimental
Py: psychological mindedness	Perceptive; insightful	Practical; focuses on people's actions and not motives

All descriptions are modified from Ref. 40 (pp 12 and 13 therein).

fied those offenders who were first arrested before age 15 into the early-starters group because age 15 has been discussed as an important line of demarcation for early starters.<sup>7,11</sup> All other offenders were classified as later starters. Under this system we classified 599 individuals (approximately 14.45% of the sample) as early starters and the other 3,547 individuals (approximately 85.55% of the sample) as later starters.

**Results**

**What Are the Personality Differences Between Early and Later Starters?**

We conducted a series of *t* tests comparing early and later starters on the 20 folk scales of the CPI and the 10 clinical scales of the MMPI. The results of these analyses, along with the effect sizes for the differences, are reported in Table 3. Overall, we conducted 30 separate *t* tests, and concerns could be raised about an increased probability of Type I errors. To address this concern, we performed a Bonferroni correction by dividing the  $\alpha$  level of .05 by 30 (the

**Table 2** Description of MMPI Clinical Scales

Scale	Description
Hypochondriasis (Hs)	Measures the degree of worries and concerns about bodily functions
Depression (D)	Measures the degree of clinically relevant depression symptoms
Hysteria (Hy)	Measures the degree of physical symptoms that are used to avoid conflicts and responsibilities
Psychopathic deviant (Pd)	Measures the degree of psychopathic personality disorder
Masculinity/femininity (Mf)	Measures the degree of nongender stereotyped behavior for males
Paranoia (Pa)	Measures the degree of delusional beliefs concerning personal grandeur, persecution, and psychological pressure
Psychastenia (Pt)	Measures the degree of obsessive thoughts and compulsive behavior
Schizophrenia (Sc)	Measures the degree of bizarre thoughts and behavior
Hypomania (Ma)	Measures the degree of emotional excitement, hyperactivity, and manic behavior
Social introversion (Si)	Measures the degree of introversion in thoughts, social interactions, and emotional expression

All descriptions are modified from Ref. 43.

## Early Starters

**Table 3** Differences in Personality Scores Between Early and Later Starters

	Later Starters		Early Starters		<i>d</i>	<i>t</i>
	Mean	SD	Mean	SD		
California Psychological Inventory (CPI)						
Normative orientation and values						
Socialization	22.80	5.47	21.17	5.03	0.30	5.66*
Self-control	18.38	6.45	17.51	6.72	0.13	
Responsibility	18.91	5.50	17.66	5.35	0.23	4.29*
Tolerance	14.74	5.10	14.13	5.11	0.12	
Communality	34.25	3.12	33.76	3.25	0.16	
Good impression	17.88	6.35	16.90	6.30	0.15	
Well-being	27.46	6.14	26.51	6.17	0.15	
Poise, self-assurance, and interpersonal proclivities						
Dominance	16.36	6.16	16.59	6.06	0.04	
Empathy	17.38	4.21	17.15	4.15	0.06	
Independence	13.71	4.21	14.02	4.02	0.07	
Self-acceptance	15.26	4.08	15.68	3.93	0.10	
Social presence	23.39	4.68	23.42	4.41	0.01	
Sociability	18.93	4.89	18.85	4.86	0.02	
Capacity for status	13.35	4.22	13.27	4.13	0.02	
Role and personal style						
Femininity/masculinity	13.11	3.12	13.38	3.38	0.09	
Flexibility	12.35	3.40	12.55	3.50	0.06	
Psychological mindedness	12.01	3.55	11.94	3.48	0.02	
Cognitive and intellectual functioning						
Intellectual efficiency	25.10	5.81	24.36	5.74	0.13	
Achievement via independence	16.65	4.76	16.33	4.79	0.07	
Achievement via conformance	21.48	5.94	20.63	6.04	0.14	
Minnesota Multiphasic Personality Inventory (MMPI)						
Hypochondriasis	53.17	10.38	53.89	11.32	0.07	
Depression	60.54	11.71	61.23	12.26	0.06	
Hysteria	55.81	8.88	56.28	8.78	0.05	
Psychopathic deviance	73.80	10.56	75.16	11.26	0.13	
Masculinity/femininity	54.70	9.66	55.81	9.62	0.12	
Paranoia	59.07	11.49	61.33	12.54	0.19	3.63*
Psychasthenia	61.24	12.71	62.80	13.28	0.12	
Schizophrenia	64.79	13.00	67.42	13.82	0.20	3.66*
Hypomania	64.08	11.58	66.53	12.26	0.21	3.94*
Social introversion	53.38	9.98	53.26	9.95	0.01	

Absolute values for effect sizes and *t* values are presented.

\* Significant using a Bonferroni correction for multiple comparisons.

total number of comparisons). The resulting critical probability was rounded to .002. Using this relatively conservative criterion, 5 of the 30 personality differences were judged statistically significant: the socialization and responsibility scales of the CPI and the paranoia, schizophrenia, and hypomania scales of the MMPI.

On the CPI, there were significant differences between early and later starters on two of the seven scales designed to measure normative orientation and values. This was consistent with our general prediction. Thus, it appears that early starters are less socially responsible and more prone to rule breaking

than later starters. It is useful to note that the observed effect sizes for these differences were relatively modest ( $d = 0.23$  for the responsibility scale and  $d = 0.30$  for the socialization scale). This result should not be surprising, because smaller effect sizes are typical in research concerning multiply influenced behavior such as criminal involvement.<sup>44</sup> Contrary to our prediction, however, we found no evidence of statistically significant differences on the CPI scales designed to measure cognitive and intellectual functioning.

There were statistically significant differences on 3 of the 10 MMPI scales. Compared with later starters,

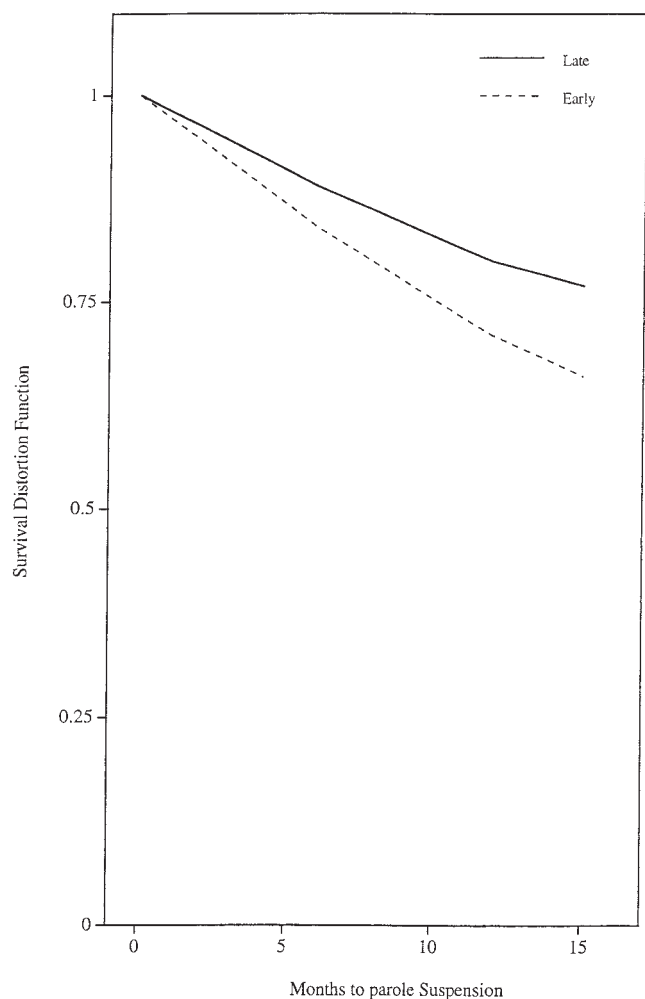


Figure 1. Short-term survival analysis.

it appears that early starters were more paranoid, more prone to bizarre thoughts and feelings, and more excitable and emotional. This result confirms our general prediction that early starters have more disturbed personalities than later starters. Similar to these results, the effect sizes were relatively small ( $d$  range: 0.19–0.21). Contrary to our prediction, we found no evidence of a statistically significant difference between the two groups on the psychopathic deviance scale.

### Do Early Starters Have a Different Pattern of Recidivism Than Later Starters?

Figure 1 presents survival curves for the early and later starters based on the 15-month follow-up. The horizontal axis represents the number of months after release. The vertical axis represents percentage of the subjects who had had their paroles from the DVI suspended (presumably because they committed a

criminal act). As shown in Figure 1, by the end of six months after release, approximately 16 percent of the early starters had their paroles suspended compared with less than 11 percent of the later starters. By the end of 12 months since release, approximately 29 percent of the early starters had their paroles suspended compared with 20 percent of the later starters. By the end of 15 months, approximately 34 percent of early starters had their paroles suspended compared with 23 percent of the later starters. The chi-square statistic for the Wilcoxon test was 37.63 ( $df = 1, p < .05$ ), suggesting that recidivism rates of early starters were significantly higher than those of their later-starting counterparts. The estimation of the Cox regression model indicated that the hazard ratio was 1.40 ( $p < .05$ ), meaning that early starters had their paroles suspended 40 percent sooner than later starters.

Figure 2 presents survival curves for early and later starters based on a total of 53,538 arrests of individuals in the study sample from the 20-year follow-up. Time to failure was calculated by subtracting an individual's date of first arrest after release from a correctional facility from the date of last release. The results showed that the average time to get rearrested for early starters was 17.24 ( $SD = .31$ ) months. This was in sharp contrast to the average time of 28.45 ( $SD = .37$ ) months for the later starters. In other words, it took the average early starter less than one year, six months after release to be rearrested, whereas it took more than two years, four months for the average later starter to be rearrested. This difference was represented by a hazard ratio of 1.09. That is, in the same time frame after release, nine percent more early starters would be rearrested compared with their later-starting counterparts. The chi-square statistic from the Wilcoxon test was 68.27 ( $df = 1, p < .05$ ), suggesting that early starters were rearrested significantly more quickly than later starters. More technical details of the survival analyses are available from the first author.

As a final contrast between early and later starters, we compared the two groups on their total frequencies of arrest over the 20-year duration of our study. Early starters had an average of approximately 19 arrests (mean,  $19.18 \pm 10.31$  [SD]) whereas later starters had an average of approximately 12 arrests (mean,  $12.16 \pm 10.07$ ). This difference was statistically significant at  $p < .05$  ( $t = 15.83$ ) and indicates that early starters were arrested more often than later

## Early Starters

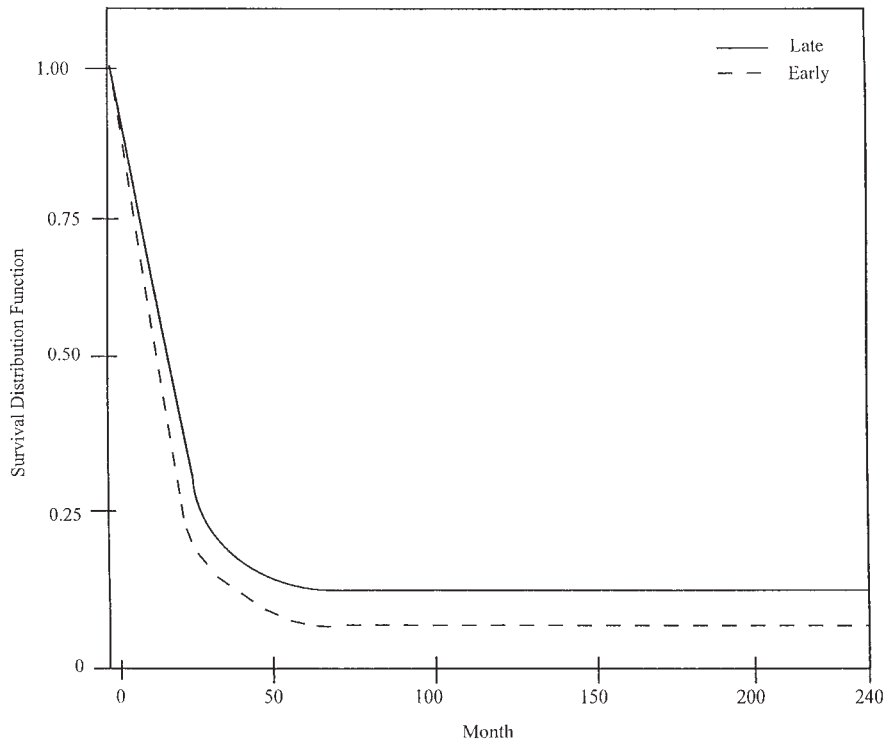


Figure 2. Long-term survival analysis.

starters. Moreover, the mean difference of 7.02 arrests translated into an effect size of .69, which is often interpreted as a medium-to-large effect.

### Discussion

The first purpose of the present study was to examine personality differences between early and later starters. Indeed, our investigation is among the first to provide evidence of personality differences between these two groups. Moreover, we obtained these results using relatively stringent criteria. Based on our findings, it appears that the exploration of personality differences between early and later starters is a fruitful avenue of inquiry.

In our analyses of data taken from the CPI, we found that there were significant differences between early and later starters on two of the scales designed to measure normative orientation and values (the CPI scales of Re and So, Table 1). This finding is consistent with the theoretical traditions within criminology that posit that weak social bonding, irresponsibility, and the rejection of a set of values concerning prosocial behavior are important correlates of criminal behavior.<sup>6,22,30,31</sup> Our findings extend this body of literature by suggesting that early starters score

significantly lower than later starters in these aspects of personality.

We did not find conclusive evidence for a difference between early and later starters on the CPI scales designed to measure perceptions of cognitive and intellectual functioning. This was somewhat surprising, because previous research has implicated cognitive abilities in crime and delinquency.<sup>5,32,33</sup> Although the differences were in the expected direction for the Ie and Ac scales (Table 1), they failed to reach statistical significance after the Bonferroni correction. One possibility is that the differences between the two groups in their perceptions of intellectual functioning are not as pronounced as their differences in actual cognitive abilities. Thus, actual measures of intellectual abilities are probably better than measures of perceptions of those abilities in assessing the role of cognitive abilities in crime. However, future research should clarify this finding.

In terms of personality differences on the MMPI, a measure of abnormal personality, we found that early starters had higher scores on 3 of the 10 scales. It appears that early starters are more paranoid, have more bizarre thoughts and feelings, and are more emotional than later starters. These findings are con-

sistent with the notion that early starters are more prone to psychological disturbances. Furthermore, the general finding of higher scores for early starters on the scale designed to measure hypomania is consistent with previous research indicating that criminal populations score higher on that dimension.<sup>45</sup>

The second purpose of our study was to contrast the patterns of recidivism of early and later starters by using both a short- and a long-term follow-up of offenders. Consistent with the theoretical suggestion put forth by Moffitt<sup>5</sup> and Patterson,<sup>6,7,17</sup> early starters were at a significantly higher risk for recidivism than those whose first arrest occurred after the age of 15. This difference in risk for reoffending was evident in both the short-term (i.e., the 15-month) and long-term (i.e., the 20-year) follow-ups. We also found that early starters were arrested more frequently over the course of our study than later starters. The current study is among the first that we are aware of that has reported on the 20-year records of recidivism for early and later starters and thus contributes to the growing literature on the importance of the distinction between early and later starters.

It is worth considering the practical significance of the finding that early starters are quicker to reoffend and have more arrests over the course of their lives than later starters. Recall that early starters had an average of approximately 19 arrests over the course of this study. If these arrests represent crimes that involve victims and/or financial losses, then it can be argued that early starters are a major cost to society in both human and financial terms. Viewed in this light, prevention and treatment of early-start offending is a pressing need that could provide major benefits to society.

### **Some Theoretical Considerations**

Based on our results, the salient question becomes what makes someone an early starter. Although the answer to this question is undoubtedly complicated, Moffitt<sup>5</sup> and Patterson and associates<sup>6,7,17</sup> have provided two of the most elaborate accounts of the plausible criminogenic factors leading to an early start to criminal behavior. Moffitt<sup>5</sup> distinguishes between adolescence-limited and life-course-persistent antisocial behavior. Youths exhibiting adolescence-limited behavior become antisocial during adolescence, in part, by mimicking the behavior of their deviant peers. The delinquent career of these individuals, however, tends to be of short duration because of the

lack of personal predisposition for committing crimes. In contrast, individual exhibiting life-course-persistent antisocial behavior are early starters who continue their destructive ways across adulthood because of a personal predisposition toward antisocial behavior.

At the core of her account of life-course-persistent offending is a concept that Moffitt<sup>5</sup> terms neuropsychological deficit. According to Moffitt, life-course-persistent offenders have neuropsychological impairments that lead to deficient self-control. This lack of self-control or antisocial tendency in turn disrupts normal parenting practices and makes these individuals more susceptible to criminogenic social environments. Thus, one reason why an early onset of offending continues through adolescence to adulthood is that early starters have neurologically based tendencies to engage in antisocial behavior that have been reinforced and elaborated by criminogenic environments. A series of investigations conducted by Moffitt and colleagues has supported these predictions. Moffitt has argued that tests of cognitive ability are a good index of neuropsychological deficits, and an earlier study published from the current data<sup>34</sup> demonstrated that, at least in European- and Hispanic-American males, life-course-persistent offenders score lower on measures of cognitive ability than adolescence-limited offenders.

Patterson *et al.*<sup>6,7</sup> offers a more strictly social learning account of the development of antisocial behavior. Similar to Moffitt's<sup>5</sup> theory, however, is the notion of two major paths to delinquent behavior: one for early starters and the other for later starters. The more serious antisocial problems of early starters are more likely a result of disrupted parenting, whereas the problems of later starters are more likely a consequence of negative peer influences. According to the early-starter model of Patterson *et al.*,<sup>6,7</sup> disrupted parenting practices, chiefly inconsistent discipline and lack of monitoring, are significant predictors of the age of onset of delinquency. A lack of family management skills on the part of parents provides a direct training ground for the development of antisocial tendencies, such as a lack of self-control, irresponsibility, social disruption, and deviance. This antisocial trait, then, generalizes to other settings, such as school and peer relations.<sup>11</sup> In contrast, later starters do not have this strongly reinforced antisocial trait and thus exhibit more transitory delinquency. Given that both Moffitt and Patterson implicate the



family in the development of early starting, future work should be oriented toward the further examination and amelioration of those factors in family environments that promote an early initiation into delinquency and crime.

### Research Limitations

A few caveats should be noted when considering the findings we have reported. The first is that we measured personality with only two instruments, the CPI and the MMPI. Although these instruments are widely used and measure a broad and diverse set of both normal and abnormal personality dimensions, they are not the only measures of personality. Future work should compare early and later starters on other personality measurements, most notably instruments designed to tap the Big Five (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience).<sup>27</sup> We wish to stress that many of the specific findings in this study should be viewed in light of the exploratory nature of the data analysis and require replication before firm conclusions are drawn concerning the personalities of early starters. Moreover, the effect sizes we obtained were not large. There is clearly more to early starting than just personality differences. It is also possible that there are larger personality differences between criminals and noncriminals than between different types of criminals.

Another caveat is that our arrest record follow-ups only included arrests that occurred in California. It is possible that this method overlooks some out-of-state arrests. It is not unreasonable, however, to assume that most of the individuals in this sample stayed in California for lengthy periods because of their limited resources and the large size of the state. In fact, because of financial and logistical constraints, few studies predicting criminal tendencies use arrest records outside of a single state. In this respect, this study is comparable with most other studies of crime and delinquency.

A final caveat centers on our classification of early and later starters. Although we are confident that there is sufficient research and theory to justify the distinction between early and later starters, we are less certain about the exact age cutoffs for the two groups. Future research and theory that clearly delineates the cutoff point for early starting is needed. However, we should note that modifying our cutoff

point by one year did not dramatically alter the results.

In sum, our results underscore the importance of the distinction between early- and later-starting offenders. We found evidence that early and later starters differ in several personality dimensions and differ in their future criminal careers. Based on these findings, future research should continue to explore the antecedents and consequences of early starting. Moreover, we recommend that intervention and treatment efforts be directed specifically to early starters, because this group may pose the greatest threat of harm to society.

### References

1. Blumstein A, Cohen J, Roth J, *et al*: *Criminal Careers and Career "Criminals."* Washington, DC: National Academy Press, 1986
2. Farrington DP: The development of offending and antisocial behavior from childhood: key findings from the Cambridge study in delinquent development. *The Twelfth Jack Izard Memorial Lecture. J Child Psychol Psychiatry* 360:929–64, 1995
3. Farrington DP, Ohlin LE, Wilson JQ: *Understanding and Controlling Crime.* New York: Springer-Verlag, 1986
4. Shannon LW: *Assessing the Relationship of Adult Criminal Careers to Juvenile Careers.* Iowa City, IA: Iowa Urban Community Research Center, 1981
5. Moffitt TE: Adolescence-limited and life-course-persistent antisocial behavior: a developmental taxonomy. *Psychol Rev* 100: 674–701, 1993
6. Patterson GR, DeBaryshe BD, Ramsey E: A developmental perspective on antisocial behavior. *Am Psychol* 44:329–35, 1989
7. Patterson GR, Capaldi D, Bank L: An early starter model for predicting delinquency, in *The Development and Treatment of Childhood Aggression.* Edited by Pepler DJ, Rubin KH. Hillsdale, NJ: Erlbaum, 1991, pp 139–68
8. Dunford FW, Elliott DS: Identifying career offenders using self-reported data. *J Res Crime Delinquency* 21:57–86, 1984
9. Farrington DP, Loeber R, Elliott DS, *et al*: Advancing knowledge about the onset of delinquency and crime, in *Advances in Clinical and Child Psychology* (vol 13). Edited by Lahey BB, Kazdin AE. New York: Plenum Press, 1990, pp 283–342
10. Loeber R, Le Blanc M: Toward a developmental criminology. *Crim Just* 12:375–473, 1990
11. Patterson GR, Crosby L, Vuchinich S: Predicting risk for early police arrest. *J Quant Criminol* 8:335–55, 1992
12. Patterson GR, Forgatch MS, Yoerger KL, *et al*: Variables that initiate and maintain an early-onset trajectory for juvenile offending. *Dev Psychopathol* 10:531–47, 1998
13. White JL, Moffitt TE, Earls F, *et al*: How early we can tell?—predictors of childhood conduct disorder and adolescent delinquency. *Criminology* 28:507–33, 1990
14. Wolfgang ME, Figlio R, Sellin T: *Delinquency in a Birth Cohort.* Chicago: University of Chicago Press, 1972
15. Tracy PE, Wolfgang ME, Figlio RM: *Delinquency Careers in Two Birth Cohorts.* New York: Plenum Press, 1990
16. Sampson RJ, Laub JH: *Crime in the Making.* Cambridge, MA: Harvard University Press, 1993
17. Patterson GR: Coercion as a basis for early age of onset for arrest, in *Coercion and Punishment in Long-Term Perspectives.* Edited by McCord JM. Cambridge, UK: Cambridge University Press, 1995, pp 81–105

18. Robins LN: *Deviant Children Grow Up: A Sociological and Psychiatric Study of Sociopathic Personality*. Baltimore: Williams & Wilkins, 1966
19. Cleckley HM: *The Mask of Sanity: An Attempt to Reinterpret the So-Called Psychopathic Personality*. St. Louis, MO: The C. V. Mosby Company, 1941
20. Caspi A, Moffitt TE, Silva PA, *et al*: Are some people crime prone?—replications of the personality-crime relationship across countries, genders, races, and methods. *Criminology* 32:163–95, 1994
21. Eysenck HJ: *Crime and Personality*. London: Routledge & Kegan Paul, 1977
22. Gough HG, Peterson DR: The identification and measurement of predispositional factors in crime and delinquency. *J Consult Psychol* 16:207–12, 1952
23. Raine A: *The Psychopathology of Crime: Criminal Behavior as a Clinical Disorder*. San Diego, CA: Academic Press, 1993
24. Schuessler KF, Cressey DF: Personality characteristics of criminals. *Am J Sociol* 55:476–84, 1950
25. Tennenbaum DJ: Personality and criminality: a summary and implications of the literature. *J Crim Just* 5:225–35, 1977
26. Krueger RF, Schmutte PS, Caspi A, *et al*: Personality traits are linked to crime among men and women: evidence from a birth cohort. *J Abnorm Psychol* 103:328–38, 1994
27. John OP, Caspi A, Robins RW, *et al*: The “little five”: exploring the nomological network of the five-factor model of personality in adolescent boys. *Child Dev* 65:160–78, 1994
28. Farrington DP: Criminal career research in the United Kingdom. *Br J Criminol* 32:526–36, 1992
29. Stattin H, Magnusson D: Stability and change in criminal behavior up to age 30. *Br J Criminol* 31:327–46, 1991
30. Gottfredson MR, Hirschi T: *A General Theory of Crime*. Stanford, CA: Stanford University Press, 1990
31. Hirschi T: *Causes of Delinquency*. Berkeley, CA: University of California Press, 1969
32. Hirschi T, Hindelang MJ: Intelligence and delinquency: a revisionist review. *Am Sociol Rev* 42:571–87, 1977
33. White JL, Moffitt TE, Silva P: A prospective replication of the protective effects of IQ in subjects at high risk for juvenile delinquency. *J Consult Clin Psychol* 57:719–24, 1989
34. Donnellan MB, Ge X, Wenk E: Cognitive abilities in adolescent-limited and life-course-persistent criminal offenders. *J Abnorm Psychol* 109:396–402, 2000
35. Lynam DR: Early identification of chronic offenders: who is the fledgling psychopath? *Psychol Bull* 120:209–34, 1996
36. Lynam DR: Pursuing the psychopath: capturing the fledgling psychopath in a nomological net. *J Abnorm Psychol* 106:425–38, 1997
37. Wenk E: *Criminal Careers: Criminal Violence and Substance Abuse*. Final Report. Washington, DC: United States Department of Justice: National Institute of Justice, 1990
38. Gottfredson SD, Gottfredson DM: Behavioral prediction and the problem of incapacitation. *Criminology* 32:441–74, 1994
39. Gough H: *The California Psychological Inventory Administrator’s Guide*. Palo Alto, CA: Consulting Psychologists Press, 1987
40. Gough H, Bradley P: *The California Psychological Inventory Manual* (ed 3). Palo Alto, CA: Consulting Psychologists Press, 1996
41. Laufer WS, Skoog DK, Day JM: Personality and criminality: a review of the California psychological inventory. *J Clin Psychol* 38:562–73, 1982
42. Hathaway SR, McKinley JC: *Minnesota Multiphasic Personality Inventory*. Minneapolis, MN: University of Minnesota Press, 1943
43. Dahlstrom WG, Welsh GS, Dahlstrom LE: *An MMPI Handbook*. Minneapolis, MN: University of Minnesota Press, 1972
44. Ahadi S, Diener E: Multiple determinants and effect size. *J Pers Soc Psychol* 56:398–406, 1989
45. Graham JR: *MMPI-2: Assessing Personality and Psychopathology* (ed 2). New York: Oxford University Press, 1993