

criminal disposition with about the same strength as the best measures of individuals' environmental circumstances—correlations on the order of .20 to .40. Indeed, the biological tests perform considerably better than some environmental indicators, such as social class. Combining biological and social measures may further improve our understanding about who is at risk of becoming criminal.

A more fascinating outcome of biological research, though, is that it pinpoints a type of biological deficit that is involved in criminal dispositions. The deficit appears to lie in impaired functioning of the frontal cortex. This conclusion is consistent with Damasio's stroke victims, Raine's brain imaging, Barkley's theories of hyperactivity, and skin conductance and heart rate findings. Perhaps the nineteenth-century phrenologists were right in one sense. An enlargement of the prefrontal cortex is one of the most distinctive anatomical differences between *Homo sapiens* and our evolutionary kissing cousin, the chimpanzee. The prefrontal cortex may create our knowledge of mind—that other people are themselves thinking about us—and allow us to adjust our behavior to the needs and concerns of others. The prefrontal cortex is also the physiological basis of the executive functions of planning, of delaying the enticing impulses of the present for better outcomes in the future, and of evaluating many behavioral choices

instead of just one. The phrenologists may be approximately right: What is disrupted in a criminal disposition are those abilities of the mind that make us most distinctively human.

Copyright © 2002. Reprinted by permission of Roxbury Publishing Company.

Discussion Questions

1. List one of the biological factors discussed by Rowe (e.g., serotonin level, heart rate, skin conductance) and describe how it might increase the likelihood of crime.
2. High levels of testosterone are more likely to lead to crime in some types of environments than others. Describe the types of environments where testosterone is most likely to lead to crime.
3. Are there any circumstances where it would be appropriate to use biological factors, such as testosterone levels and resting heart rate, to predict whether people will commit criminals acts in the future? Defend your response.
4. How do PET and MRI scans work and what do they tell us about the brain activity and anatomy of criminals and noncriminals? *

6 Personality and Crime: Are Some People Crime Prone?

*Ashalom Caspi,
Terrie E. Moffitt, Phil A. Silva,
Magda Stouthamer-Loeber,
Robert F. Krueger, and
Pamela S. Schmitz*

Researchers do not argue that biological factors lead directly to crime. Rather, they argue that such factors, in combination with the environment, lead to traits that are conducive to crime. And data suggest that several specific traits are associated with crime, including impulsiveness, a desire for thrills and excitement, irritability, and a low concern for the welfare of others. Psychologists and others argue that many of these traits are associated with one another and often appear together in the same person. Thus, we have what might be called "super-traits." Psychologists have made much progress over the last two decades in identifying those super-traits that make up the human personality, although there is still some debate over whether there are three, four, or five super-traits (see Block, 1995; Caspi, 1998; Lilienfeld, 1999; Watson et al., 1994).

This chapter draws on one of the leading psychological theories of human personality, which argues that there are three super-traits: constraint, negative emotionality, and positive emotionality. The article briefly describes these super-traits—including the specific

traits that compose them—and then examines their relation to crime, using data from two rather different samples in New Zealand and Pittsburgh. Two of the traits, negative emotionality and constraint, are related to crime. Toward the end of their chapter, the authors note that these two traits are related to Gottfredson and Hirschi's concept of self-control (see Chapter 23 in Part VI), but they claim that the concept of self-control is too simple: Crime-proneness is defined by more than a single dimension. You should keep their work in mind when reading the Gottfredson and Hirschi selection. At the end of this chapter, Caspi et al. discuss the origins of negative emotionality and constraint, stating that both super-traits are influenced by biological and environmental factors.

The research described here is important because it suggests that some individuals are crime-prone. That is, some individuals are more likely than others to engage in crime in a given environment. As Caspi et al. state, individuals high in negative emotionality and low in constraint are more likely to interpret events as threatening and to act on their impulses; that is, they are "quick on the draw." Also, as others have argued, such individuals often influence their environment in ways that increase the likelihood of crime; for example, they often provoke others and they select themselves into negative environments, such as delinquent peer groups and bad jobs. Yet, as Caspi et al. state near the start of their selection, many criminologists have dismissed the importance of personality traits. This attitude is starting to change, however, as additional evidence for the importance of such traits mounts (for overviews, see Agnew, 2001; Ellis and Walsh, 2000; Farrington, 1996).

References

- Agnew, Robert. 2001. *Juvenile Delinquency: Causes and Control*. Los Angeles: Roxbury.
- Block, Jack. 1995. "A Contrarian View of the Five-Factor Approach to Personality Description." *Psychological Bulletin* 117: 187-215.
- Caspi, Ashalom. 1998. "Personality Development Across the Life Course." In Nancy

Eisenberg (ed.), *Handbook of Child Psychology, Volume 3: Social, Emotional, and Personality Development*, pp. 311-318. New York: John Wiley and Sons.

Ellis, Lee and Anthony Walsh. 2000. *Criminology*. Needham Heights, MA: Allyn & Bacon.

Farrington, David. 1996. "The Explanation and Prevention of Youthful Offending." In J. David Hawkins (ed.), *Delinquency and Crime: Current Theories*, pp. 68-148. Cambridge, England: Cambridge University Press.

Litlenfeld, Scott O. 1999. "Anxiety Sensitivity and the Structure of Personality." In Steven Taylor (ed.), *Anxiety Sensitivity*, pp. 149-180. Mahwah, NJ: Lawrence Erlbaum Associates.

Watson, David, Lee Anna Clark, and Allan Harkness. 1994. "Structures of Personality and Their Relevance to Psychopathology." *Journal of Abnormal Psychology* 103: 18-31.

Are some people crime-prone? Is there a criminal personality? Psychologists and criminologists have long been intrigued by the connection between personality and crime. . . .

We have studied personality and crime by using a two-pronged approach. First, we have studied individuals in different developmental contexts. Second, we have used multiple and independent measures of their personality and their criminal involvement. In New Zealand we have studied 18-year-olds from an entire birth cohort; the New Zealand study permits us to make detailed comparisons between males and females. In the United States we have studied an ethnically diverse group of 12- and 13-year-old boys; the American study permits us to make detailed comparisons between blacks and whites. By studying different age cohorts in different nations, boys and girls, blacks and whites, and by collecting in each of our studies multiple and independent measures of behavior, we can ascertain with relative confidence the extent to which personality differences are linked to crime.

Personality and Crime

Personality psychologists have proposed numerous well-articulated theories linking personality to crime and other antisocial outcomes. For example, Eysenck (1977) associates crime with extreme individual values on three personality factors: extroversion, neuroticism, and psychoticism. Zuckerman (1989) regards criminality as the sine qua non of individuals high on a factor he calls P-ImpUSS, which is characterized by impulsivity, aggressiveness, and lack of social responsibility. Cloninger (1987), using his three-factor biosocial model of personality, suggests that persons high in novelty seeking and low in harm avoidance and reward dependence are likely to be today's delinquents and tomorrow's violent, antisocial adults. In addition, a group of psychologists have proposed a link between antisocial behavior and theoretical physiological systems within the brain that are presumed to modulate impulse expression (Gray, 1977). Deficiencies in these neural systems have been suggested as the source for aggression in adults (Fowles, 1980; Gorenstein and Newman, 1980), as well as for conduct problems in children (Quay, 1986).

Many of these theories rely on trait-based personality models. In the past, the existence of traits was viewed as controversial (Mischel, 1968). In the last 20 years, however, researchers have amassed solid evidence documenting the cross-situational consistency (Epstein and O'Brien, 1985) and the longitudinal stability (Caspi and Bem, 1990) of traits, and psychology has witnessed a renaissance of the trait as an essential personality construct (Kenrick and Funder, 1988; Tellegen, 1991). Traits represent consistent characteristics of individuals that are relevant to a wide variety of behavioral domains, including criminality (see Eysenck, 1991).

Advances in personality theory and assessment, however, have had little influence on research conducted by criminologists (Gottfredson and Hirschi, 1990). Reviews of research on personality and crime appearing in mainstream criminology have

identified numerous methodological problems with previous research (e.g., Schuessler and Cressey, 1950; Tennenbaum, 1977; Waldo and Dinitz, 1967), leading most criminologists to dismiss personality as a fruitless area of inquiry. . . .

Methodological Problems in Linking Personality to Crime

Although some researchers already are convinced that personality variables are essential to understanding crime (e.g., Eysenck and Gudjonsson, 1989), the criminological reviews cited above suggest that this belief is far from universal. In particular, critics of empirical efforts to link personality to crime have pointed to problems in *measurement of personality, measurement of delinquency, and sampling*. In our research we have attempted to redress each of these problems.

Measurement of Personality

. . . In our studies of personality and crime we have used assessment instruments . . . that measure a comprehensive variety of personality traits; they were designed to blanket the human personality. These instruments allowed us to identify a constellation of personality traits, not merely a single trait, that might be linked to criminal involvement.

Previous studies of personality and delinquency also have been criticized for employing delinquency and personality questionnaires that included virtually identical items (Tennenbaum, 1977). For example, both the MMPI and the CPI include such items as "I have never been in trouble with the law" and "Sometimes when I was young I stole things." Similarities between legally defined offenses and the wording of items on personality inventories may inflate correlations between these two theoretically distinct constructs. In our studies we maintained sensitivity to this issue by evaluating each personality item in terms of its potential semantic overlap with any actual illegal acts.

Measurement of Delinquency

In previous studies of personality and crime, the most commonly used delinquency measure was the subjects conviction record or his presence in a correctional facility. A fundamental problem with official measures, however, is that "hidden criminals," offenders who commit crimes but are not caught, escape empirical attention and may slip into "control" samples (Schuessler and Cressey, 1950). Because only the tip of the deviance iceberg is reflected by official statistics (Hood and Sparks, 1970), many criminologists have turned to less strongly biased measures—specifically, self-reported delinquency questionnaires (Hindelang et al., 1979, 1981; Hirschi et al., 1980).

Yet self-report measures are not faultless. They have been criticized for including trivial items that query about acts which are unlikely to result in official intervention, such as skipping school or defying parental authority (Hindelang et al., 1979; Hirschi et al., 1980). Similarly, infrequent offenders may tend to report trivial events such as sibling fistfights in response to questions about "assault," or taking the family car without permission in response to questions about "auto theft" (Elliott and Huizinga, 1989). In contrast, frequent offenders may tend to underreport their delinquent behavior because the individual acts are so commonplace that they are not salient in the offenders' memories (Hirschi et al., 1980). Because both official records and self-report delinquency questionnaires have unique benefits and shortcomings, the use of the two measures in tandem is the most effective empirical strategy (Hirschi et al., 1980).

In our studies of personality and crime, we have collected multiple and independent measures of delinquent behavior: police records of contact, court records of conviction, self-reports, and reports from independent informants, parents, and teachers. These multiple measures have allowed us to identify robust personality correlates of crime that replicate across different measurement strategies.

Sampling

In previous studies of personality and crime, the most commonly used samples were drawn from incarcerated populations. These samples are not representative of offenders as a whole; they represent only the subset of offenders who actually are caught and subsequently are sent to jail (Hood and Sparks, 1970; Klein, 1987). Moreover, adjudicated offenders may differ systematically from nonadjudicated offenders; offenders who are white, middle class, or female may be overlooked inadvertently (e.g., Taylor and Watt, 1977). In addition, the offenders' personal characteristics may influence official responses to their aberrant behavior; for example, some offenders may have enough poise to talk their way out of an arrest. Finally, incarceration itself may contribute to personality aberrations (Schuessler and Cressey, 1950; Wilson and Herrnstein, 1985). Thus, non-representative sampling has clouded interpretation of observed differences between captive offenders and comparison groups.

In our studies of personality and crime, we have surveyed two different age cohorts whose members' level of involvement in illegal behaviors ranges from complete abstinence to a wide variety of delinquent violations. Therefore, our results are not limited to a selected minority of adolescent offenders who have been caught and convicted of their crimes.

The results of our studies are presented in two parts. Study 1 explores the personality-crime relationship in a birth cohort of 18-year-old males and females living in New Zealand. Study 2 attempts to replicate these findings among 12- and 13-year-olds living in a large American city.

Study 1: Personality and Crime Among Males and Females: Evidence From a New Zealand Birth Cohort

Study 1 explores the personality-crime relationship in a longitudinal-epidemiological sample (Krueger et al., in press). Mem-

bers of this sample have been studied since birth. At age 18 they were administered an omnibus self-report personality inventory that assesses individual differences in several focal personality dimensions. In addition to this personality assessment, we gathered information about their delinquency using multiple and independent data sources: self-reports, informant reports, and official records. . . .

Measurement of Personality

As part of the age-18 assessment, 862 subjects completed a modified version (Form NZ) of the Multidimensional Personality Questionnaire (MPQ; Tellegen, 1982). The MPQ is a self-report personality instrument designed to assess a broad range of individual differences in affective and behavioral style. The 177-item version of the MPQ (Form NZ) yields 10 different personality scales (Tellegen, 1982:7-8). . . .

The 10 scales constituting the MPQ can be viewed at the higher-order level as defining three superfactors: Constraint, Negative Emotionality, and Positive Emotionality (Tellegen, 1985; Tellegen and Waller, in press). *Constraint* is a combination of the Traditionalism, Harm Avoidance, and Control scales. Individuals high on this factor tend to endorse conventional social norms, to avoid thrills, and to act in a cautious and restrained manner. *Negative Emotionality* is a combination of the Aggression, Alienation, and Stress Reaction scales. Individuals high on this dimension have a low general threshold for the experience of negative emotions such as fear, anxiety, and anger, and tend to break down under stress (Tellegen et al., 1988). *Positive Emotionality* is a combination of the Achievement, Social Potency, Well-Being, and Social Closeness scales. Individuals high on Positive Emotionality have a lower threshold for the experience of positive emotions and for positive engagement with their social and work environments, and tend to view life as essentially a pleasurable experience (Tellegen et al., 1988). . . .

Results

Higher-Order Personality Factors and Delinquency

To summarize the personality correlates of delinquent behavior across the three independent data sources, we examined correlations between the MPQ's three higher-order factors and each measure of delinquent activity. . . .

Among both males and females, Constraint and Negative Emotionality emerged as robust correlates of delinquent behavior across the three different data sources. *Positive Emotionality* was not associated significantly with any measure of delinquent behavior. . . . [M]ale and female delinquents

exhibited convergent personality profiles characterized by impulsivity, danger seeking, a rejection of traditional values, aggressive attitudes, feelings of alienation, and an adversarial interpersonal attitude. . . .

Criminologists would be persuaded more fully by evidence linking personality traits to crime if personality traits could be shown to relate to serious criminal behavior. To address this issue, we examined the higher-order personality scores of three groups of persons: (1) persons who self-reported having committed multiple (two or more) index offenses in the past year, (2) persons who were identified through court conviction records as repeat offenders, and (3) persons who had been convicted for a violent offense. We restricted this examination to

Table 6.1
MPQ Scale Descriptions and Internal Consistency Coefficients

MPQ Scale	Alpha	Description of a High Scorer
<i>Constraint</i>		
Traditionalism	.63	Desires a conservative social environment; endorses high moral standards.
Harm Avoidance	.71	Avoids excitement and danger; prefers safe activities even if they are tedious.
Control	.79	Is reflective, cautious, careful, rational, planful.
<i>Negative Emotionality</i>		
Aggression	.78	Hurts others for own advantage; will frighten and cause discomfort for others.
Alienation	.76	Feels mistreated, victimized, betrayed, and the target of false rumors.
Stress Reaction	.80	Is nervous, vulnerable, sensitive, prone to worry.
<i>Positive Emotionality</i>		
Achievement	.69	Works hard; enjoys demanding projects and working long hours.
Social Potency	.76	Is forceful and decisive; fond of influencing others; fond of leadership roles.
Well-Being	.67	Has a happy, cheerful disposition; feels good about self and sees a bright future.
Social Closeness	.75	Is sociable; likes people and turns to others for comfort.

males because relatively few females were involved in serious criminal acts, as defined above. . . .

Persons involved in serious criminal behavior scored significantly lower on MPQ Constraint and significantly higher on Negative Emotionality. . . .

In sum, the results from our analyses of the personality correlates of serious crime are very similar to the results from our analyses of the personality correlates of other antisocial activities. Apparently the same personality traits are implicated in antisocial acts of varying severity.

The results have revealed robust personality correlates of delinquency. Among both males and females, three personality scales were correlated with all three independent sources of delinquency data (self-reports, informant reports, and official reports): Delinquency was associated negatively with the MPQ scales' Traditionalism and Control, and positively with Aggression. These results suggest that young men and women who engaged in delinquency preferred rebelliousness to conventionality, behaved impulsively rather than cautiously, and were likely to take advantage of others.

Two additional personality scales showed consistent patterns. Among males, all three data sources correlated with the MPQ scale Alienation, and two data sources correlated with the MPQ scale Stress Reaction; among females, two data sources correlated with both Alienation and Stress Reaction. These results suggest that young men and women who engaged in delinquency were also likely to feel betrayed and used by their friends and to become easily upset and irritable. At the higher-order factor level, greater delinquent participation was associated with a unique trait configuration: greater negative emotionality and less constraint.

These findings were not compromised by problems inherent in measuring delinquency; the personality correlates were robust across different methods of measuring delinquency. Moreover, the interpretation of these data was not compromised by predic-

ity items and the delinquency measures. These findings, however, were observed in a single sample. We now turn to a replication of these findings in a different context.

Study 2: Personality and Crime Among Blacks and Whites: Evidence From an American Metropolis

Study 1 reported on mostly white adolescents who live in a mid-sized city with little social decay in comparison with America's largest cities. It is possible that the racial or ecological composition of this sample may have distorted the relation between personality and crime. For example, it may be that relations between personality characteristics and crime may be attenuated among inner-city youths who experience many contextual pressures to engage in illegal behavior. Will negative emotionality and control predict delinquent behavior in individuals from different environments and during different developmental stages?

We address these generalizability issues in Study 2 by exploring the personality-crime relationship in a separate sample of American inner-city youths age 12 and 13. At that age, caregivers provided extensive personality descriptions of the youths. In addition, we gathered information about the youths' delinquency using multiple and independent data sources: self-reports, teachers' reports, and parents' reports.

Method

Measurement of Personality

Because the MPQ is not appropriate for younger adolescents, we used a different personality assessment instrument to describe the personalities of the boys in Pittsburgh. Specifically, the caregivers completed the "Common-Language" version of the California Child Q-sort (CCQ), a language-simplified personality assessment

100 statements written on individual cards that describe a wide range of personality attributes (e.g., "He plans ahead; he thinks before he does something," "He is determined in what he does; he does not give up easily," "He tries to see what and how much he can get away with"). The caregiver's task was to sort these item cards into a forced nine-category distribution along a continuum ranging from "most like this boy" to "most unlike this boy. . . ."

Results

To assess the relation between personality characteristics and delinquency, we computed correlations between the CCQ measures of Constraint, Negative Emotionality, and Positive Emotionality with measures of delinquency drawn from the three independent data sources: self-reports, teachers' reports, and parents' reports. . . .

Across all three data sources, Constraint and Negative Emotionality emerged as robust correlates of delinquency among both black and white adolescents. The positive correlations with Negative Emotionality suggested that delinquent adolescents were prone to respond to frustrating events with strong negative emotions, to feel stressed or harassed, and to approach interpersonal relationships with an adversarial attitude. The negative correlations with Constraint suggested that delinquent adolescents were likely to be impulsive, danger-seeking, and rejecting of conventional values. Positive emotionality was not associated robustly with delinquent behavior. . . .

Discussion

Our studies have revealed that individual differences in personality are correlated consistently with delinquency. Although we performed many analyses, the significant correlations were not scattered randomly across variables; rather, the same pattern of personality correlations was repeated consistently. We observed that the personality

across gender, and across race. We also obtained these correlations when we measured delinquent involvement with self-reports, teachers' reports, parents' reports, informants' reports, and official records, and when we measured serious crime and less serious delinquency. Finally, we obtained these correlations when we measured personality both with self-reports and with parents' reports. The personality correlates of delinquency were robust: Greater delinquent participation was associated with greater negative emotionality and less constraint.

Gottfredson and Hirschi (1990) have suggested that individual differences in "self-control" predispose some people to criminal behavior; this single stable individual difference is said to define a propensity or proneness to crime. Our findings support this theory somewhat, but they also suggest that it is simplistic psychologically. Crime-proneness is defined not by a single tendency (such as self-control or impulsivity) but by multiple psychological components. Across different samples and different methods, our studies of personality and crime suggest that crime-proneness is defined both by high negative emotionality and by low constraint.

How Might Negative Emotionality and Constraint Lead to Crime?

Negative emotionality is a tendency to experience aversive affective states such as anger, anxiety, and irritability (Watson and Clark, 1984). It is likely that individuals with chronically high levels of such negative emotions perceive interpersonal events differently than other people. They may be predisposed to construe events in a biased way, perceiving threat in the acts of others and menace in the vicissitudes of everyday life.

This situation may be aggravated when negative emotionality is accompanied by weak constraint—that is, great difficulty in modulating impulses. In low-constraint individuals, negative emotions may be translated more readily into action. Such volatile

likely among individuals who are high in negative emotionality and low in constraint.

What Are the Origins of Negative Emotionality and Constraint?

Our findings may be placed into a developmental context by considering theories about the environmental and biological origins of negative emotionality and constraint.

The family environment has a pervasive influence on children's lives and personality development, particularly on the development of antisocial behavior (e.g., Patterson, 1982). Harsh, inconsistent disciplinary practices and a chaotic home environment have been shown to predict later aggression (Loeber and Stouthamer-Loeber, 1986). Living under the constant threat of emotional or physical harm makes negative affect more than simply a perceptual bias for these youths; negative affect is rooted in the realities of their everyday lives. Constraint also may be affected by family dynamics. For example, parental conflict has been found to predict children's scores on constraint at age 18 (Vaughn et al., 1988). Thus, a personality configuration involving high levels of negative affect and low levels of constraint may develop when children grow and learn in a discordant family environment where parent-child interactions are harsh or inconsistent.

Negative affectivity and constraint also are considered to have specific neurobiological underpinnings. Recent research has pointed to a possible connection between the rate at which the brain expends its neurotransmitter substances and dimensions of personality (Cloninger, 1987). For example, abnormally low levels of a metabolite by-product from the neurotransmitter called serotonin have been found in the cerebrospinal fluid of prison inmates whose offense history is habitually violent and impulsive (Linnoila et al., 1983; Virkkunen et al., 1987). This finding has led theorists to outline the neural mechanisms by which low serotonin levels in the brain could simulta-

negative affectivity (Depue and Spoont, 1986; Spoont, 1992).

Theories linking personality traits to the primary neurotransmitters also may have important implications for research on the link between crime and genetics. Some adoption and twin studies have demonstrated a significant heritability for criminal behavior (see DiLalla and Gottesman, 1989; Mednick et al., 1986; Plomin et al., 1990), but these findings remain controversial in criminology (Walters and White, 1989). If future behavior genetic studies should document significant heritability for criminal behavior, how should we interpret this finding? Clearly, behavior itself cannot be inherited. Low serotonin levels, however, may be a heritable diathesis for a personality style involving high levels of negative affect and low levels of constraint, which generates in turn a vulnerability to criminal behavior. Indeed, negative affect and constraint themselves appear to be highly heritable; a study of twins reared together versus twins reared apart (Tellegen et al., 1988) found that more than 50% of the observed variance in both Negative Emotionality and Constraint (assessed by the MPQ) could be attributed to genetic factors. . . .

Excerpted from "Personality and Crime: Are Some People Crime Prone? Replications of the Personality-Crime Relationship Across Countries, Genders, Races, and Methods," by Avshalom Caspi, Terrie E. Moffitt, Phil A. Silva, Magda Stouthamer-Loeber, Robert F. Krueger, and Pamela S. Schmutte, *Criminology* 32(2), May 1994. Reprinted by permission of the American Society of Criminology.

Discussion Questions

1. Caspi et al. state that many criminologists have been critical of previous research linking personality traits to crime, citing certain methodological problems with such research. What are these problems? How do Caspi et al. overcome them?

ality traits are more common among prison inmates than among people in the general population. Does this mean that such traits *cause* crime? If not, why not?

3. Describe the super-traits of negative emotionality and constraint. List two questions you might ask respondents in

4. Why did Caspi et al. explore the relationship between personality traits and crime using two samples?

5. Describe all the ways that negative emotionality and low constraint might increase the likelihood of crime. *