Antisocial Burnout: An Exploratory Study

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The more flagrant aspects of Antisocial Personality Disorder (APD), particularly criminality, are thought to diminish or "burnout" after age 30. However, empirical evidence of burnout in clinically defined groups is lacking. This study explores burnout in a cohort of forensic psychiatric patients, aged 41 to 67, with clinically diagnosed DSM-III APD (N = 39). Conviction data revealed that criminality did appear to decline from age 27 onward, but not in a straightforward manner. Further, a significant portion of the cohort remained criminally active throughout most of their adult lives. Age did not appear to interact with crime class.

The *Diagnostic and Statistical Manual of Mental Disorders* (DSM-II-R)[1] describes Antisocial Personality Disorder (APD) as follows:

> The essential feature of this disorder is a pattern of irresponsible and antisocial behavior beginning in childhood or early adolescence and continuing into adulthood. . .
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> Lying, stealing, truancy, vandalism, initiating fights, running away from home, and physical cruelty are typical childhood signs. In adulthood the antisocial pattern continues, and may include failure to honor financial obligations, to function as a responsible parent or to plan ahead, and an inability to sustain consistent work behaviour. These people fail to conform to social norms and repeatedly perform antisocial acts that are grounds for arrest, such as destroying property, harassing others, stealing, and having an illegal occupation.
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> . . . *After age 30, the more flagrantly antisocial behaviour may diminish, particularly sexual promiscuity, fighting, and criminality* (italics added) (p. 342).

The prevalence of this disorder has been estimated to range from 5 to 15 percent in the general population and from 20 to 80 percent among criminal populations, depending on the sampling strategy and diagnostic criteria used.[2] DSM-III-R, however, offers a more conservative estimate of prevalence of 3 percent for American males and less than 1 percent for American females. Given the high prevalence of this disorder, particularly among certain populations, and the social distress associated with it, APD could be described as a major psychiatric public health problem. Yet, apart from clinical descriptions, empirical evidence about antisocial personality

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disorder is scanty, with the result that it comprises a "clinical disorder whose course, mechanism, and etiology remain unknown."[3] To add to this, the few therapeutic modalities available are usually aimed at peripheral symptoms and often to alleviate a social need for management;[4] the disorder itself has no known effective treatment. Consequently, clinicians and criminologists alike have tended to believe that antisocially disordered persons, especially those who become recidivist offenders, should simply be incarcerated until they burnout; that is, until the age when criminal behavior seems naturally to decline.[2] Antisocial burnout is the term used throughout this paper to refer to the phenomenon of diminished criminality that is supposed to occur after 30 years of age.

Although enshrined in DSM-III-R and often referred to in the literature, a recent *Medline* review of English articles containing the terms "antisocial," "psychopath," or "sociopath," was unable to uncover empirical evidence for or against the burnout hypothesis among DSM-III or DSM-III-R defined groups. Articles relating to 'criminal careers' were more common, but these referred to offenders, not to clinically diagnosed individuals. In some cases, an attempt has been made to study a clinical group, however, these studies typically use broader diagnostic categories and different dimensional constructs than those described by DSM-III-R. As a result, findings from these studies cannot be applied, directly, to clinical populations.

Hare et al.,[5] for example, investigated the criminal careers of 521 federal and provincial prisoners, 204 of whom were identified as "psychopaths." The authors found some evidence in support of the burnout hypothesis but after the age of 40. The study, however, was conducted on prisoner volunteers and used a variety of diagnostic measures built around psychological constructs culled from Cleckley's understanding of psychopathic personalities.[6] Study subjects were accrued over more than 20 years and the procedures used to assess psychopathy changed over time such that three different methods were used to identify cases. In the 1960s, inmates were ranked along a 3-point scale according to how well their personality and behavior matched Cleckley's criteria. A total of 255 were assessed using this procedure. The next 262 inmates assessed during the 1970s were ranked on a 7-point scale. In the last group, global ratings were made using a 22-item Psychopathy Checklist and a total of 34 inmates were assessed using this procedure. The authors indicate that each procedure is reliable and valid, but the lack of concordance both among these systems, as well as between these and DSM-III is not addressed.

As an example of a second type of study, Hoffman and Beck[7] studied burnout among convicted criminals. Two samples of federal prisoners (combined $n = 6,287$) released into the community were followed, for a uniform period of 2 years, for 'favorable' and 'unfavorable' post-release outcomes. When prior criminal history was controlled, recidivism rates were found to decline as age

at release increased, adding support for the burnout hypothesis. However, the extent to which these findings can be applied to specific subgroups within the broader criminal population, such as individuals with clinically diagnosed APD, or mentally disordered offenders, in general, is unknown. As a final example, Robins,[8] conducted a 30-year longitudinal follow-up of 524 child guidance clinic patients. A comparison of the childhood and adult histories of sociopathic personalities and a group of other patients revealed that:

> At the time of follow-up, about age 44, 12% of the sociopathic group had given up their antisocial behaviour, and an additional 27% had reduced it markedly. The remaining 61% were still seriously antisocial.[8]

Unfortunately, Robins' study depended heavily on pre-DSM-II diagnostic practices prevalent in the "defunct" St. Louis Municipal Psychiatric Clinic. In addition, childhood diagnoses were made at the time of follow-up based on information contained in the clinic files. Robins remarks that, "the clinic psychiatric diagnosis was disappointing." In fact, the diagnosis of "psychopathic disorder" was made largely on the basis of psychological tests and the presence of antisocial behaviors (such as juvenile law breaking), rather than on strict nosological principles. Similarly, the follow-up interview used the broader category of "sociopathic personality" as contained in the *Diagnosis and Statistical Manual, Mental Disorders*,[9] that is "a gross, repetitive failure to conform to social norms in many areas of life, in the absence of thought disturbance suggesting psychosis." The extent to which findings were biased by these difficulties can only be speculated. Given that little is known about burnout among clinically defined populations, an exploratory study was undertaken. The aim was to assess whether criminality declined after the age of 30 in a cohort of forensic psychiatric patients with clinically diagnosed DSM-III APD.

Materials and Methods

Study Design A fixed cohort[10] was identified from past admissions to the Forensic Unit and criminal conviction data were gathered so as to span subjects' entire adult criminal careers from age 16 (the legal age cutoff used in Canada at the time) to January 1989. A retrospective design was chosen to avoid the lengthy time lag and other difficulties associated with the prospective follow-up of birth cohorts.[11]

The study cohort was composed of subjects who (1) were admitted to the Forensic Unit, Calgary General Hospital between 1980 and 1989, (2) received a final DSM-III diagnosis of APD, and (3) whose birth dates would make them at least 40 years of age as of January 1989. Forty individuals met these criteria; however, fingerprint data could not be retrieved for one individual. This individual was eliminated from analysis, leaving a final cohort size of 39. At the inception of the study, subjects' ages ranged from 41 to 67 years. Thus, person-years of follow-up differed from person to person with a minimum follow-up period of 25 years (for a study age of

41) and a maximum of 51 years (for a study age of 67).

Because of the retrospective nature of this research, DSM-III final diagnoses could not be independently verified. However, the Forensic Unit specializes in diagnostic assessments for the courts. The standard practice has been to assign a diagnostic label after 30 days of intensive multidisciplinary assessment, including independent psychological and neuropsychological investigation. DSM-III criteria are strictly applied. For these reasons, final diagnoses were considered to provide a valid assessment of antisociality.

Setting The Forensic Unit accepts individuals remanded for a psychiatric legal assessment under Section 537 of the Criminal Code of Canada.[12] This is the only facility empowered to accept psychiatric remands in the southern portion of the Province of Alberta so the study cohort represents the population of offenders meeting the study criteria in Southern Alberta. Since the Forensic Unit accepts individuals from the criminal justice system, results from this study cannot be generalized to all individuals with a DSM-III-R diagnosis of APD.

Measures The essence of the burnout hypothesis in DSM-III-R (and, previously, DSM-III[13]) is the assertion that the more flagrant aspects of the disorder, specifically criminality, will diminish beginning around 30 years of age.[1] Such a decline in criminality could be interpreted from various perspectives. With respect to incidence (the measure usually associated with a cohort study) the number of individuals diagnosed with APD convicted of criminal acts *for the first time* would be expected to decrease after age 30. By definition, however, all personality disorders embody enduring patterns of behavior, thinking and perceiving that are inflexible, maladaptive, and characteristic of an individual's long-term functioning. These appear in adolescence and become more pronounced during adulthood. Individuals diagnosed with an APD demonstrate significant antisocial behavior during adolescence and the inclusion criteria for a diagnosis of Conduct Disorder encompass a variety of criminal acts such as stealing, destruction of property, breaking and entering, physical assault, sexual assault, and use of weapons. Given that criminal activity is a defining characteristic of Conduct Disorders which, in turn, define APD, an incidence measure is not likely to be helpful for addressing the central research question.

Instead, a measure of period prevalence (by year) was considered to be more germane. Period prevalence was calculated as the percent of individuals with at least one conviction per age group. First, each subject's age at the time of the study (January 1, 1989) was calculated. A frequency distribution of study age revealed the youngest individual to be 41 and the oldest to be 67. For the purposes of this calculation, it was assumed all were still alive. On this basis, the n-size was adjusted to reflect the fact that fewer subjects were available in the older age categories. Thus, until age 41, the n-size remained constant at 39 reflecting the total cohort. After age 41 the

n-size dropped incrementally. The same procedure, with respect to n-sizes, was used to calculate mean number of convictions by age group for each subject. The mean number of convictions per person was calculated by summing the number of convictions recorded during the year period, then dividing by the number of persons in that interval. Because of the decreasing number of subjects in the older age categories, the stability of the data in the tail of the distribution is less certain. Findings have been interpreted keeping this in mind.

To assess different types of crime, criminal code convictions were ranked, in terms of seriousness, according to a modified version of the model developed by Sellin and Wolfgang.[14] This model was considered appropriate because, (1) in keeping with the study goals, it rates the seriousness of offenses according to harm as opposed to another outcome such as cost,[15] (2) it provides a detailed operational description and decision tree for a more reliable classification of offenses, and (3) it has been subject to a large number of replications[16] in diverse populations.[17] Using this model, offenses were grouped into two classes that roughly correspond to the FBI's Uniform Crime Reporting system.[14] Class I offenses are the most serious as they involve either personal harm, property theft, or property damage. All other offenses were grouped into Class II. Figure 1 and Table 1 describe the Classification scheme used and the specific Class I and II offenses encountered in this study.

Data Collection Canada-wide data on each subject's adult criminal careers were obtained with the assistance of the Calgary Police Services. Criminal Code charges and convictions, dates and locations of offenses, and legal dispositions relating to each conviction were collected. Charges and convictions were matched to individuals via fingerprint number so data also provided descriptive information on aliases. In addition, descriptive information was abstracted from the Department of Psychiatry's computerized database. The collection procedure, as well as the methods used to maintain the security and confidentiality of data, were approved by the Conjoint Medical Ethics Committee, University of Calgary.

Data Analysis In keeping with the exploratory nature of this investigation, confirmatory statistical analyses were not undertaken; that is, significance testing was not done. Instead, exploratory data analytic techniques were employed. More specifically, the outcome measures (period prevalence and mean number of convictions) were organized to form a time series according to age of conviction(s). Each series was then smoothed to highlight the underlying trend. As described by Velleman and Hoaglin[18] a compound smoother, 4253H was used. This involved first, a running median of 4, then, 2, 5, and 3, followed by a running weighted average (hanning). The analysis was conducted on Minitab[19] using the following formula for hanning: $z(t) = .25\ y(t-1) + .5\ y(t) + .25\ y(t+1)$. In order to achieve maximum polish, '4253H,twice' was applied. Finally, the

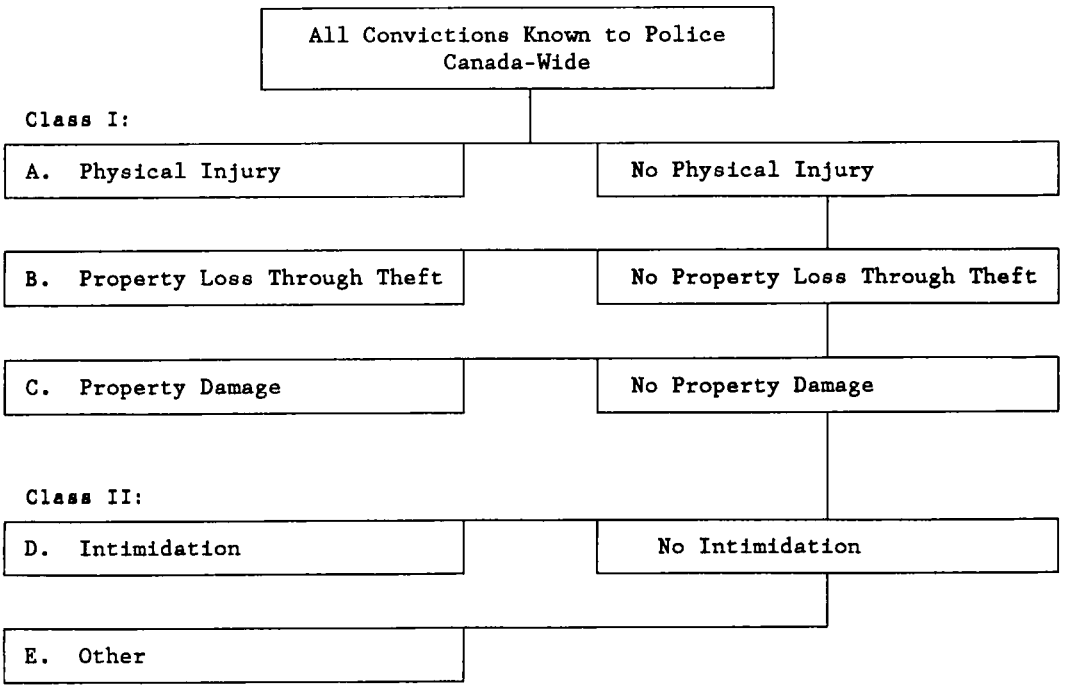

Figure 1. Model for the classification of criminality. Adapted from Sellin and Wolfgang.[14]

twice smoothed data were plotted against age.

Findings

This paper describes period prevalence and average frequency of convictions over time for Canada-wide adult convictions (as opposed to charges). In addition, to assess whether patterns of offending differ over time for different categories of crime, data are presented by Class I and Class II offenses which reflect more and less serious convictions, respectively.

Description of the Cohort The cohort was comprised of 38 males and 1 female, most of whom (n = 25) were admitted for the purposes of a pretrial assessment of fitness to stand trial. Given the small cohort size, the descriptive nature of the study, and the fact that there was only one female, subsequent analyses were not stratified by gender. Seven individuals were admitted for parole assessments, four for presentence assessments and the remainder for treatment. The median length of stay was 21 days. At the time of admission, 13 subjects had never been married, 13 were married or common-law and the remainder were separated or divorced. Almost half (n = 18) reported a previous inpatient psychiatric admission, whereas only six reported previous contact with an outpatient psychiatric clinic. The majority (n = 28) reported a history of alcohol abuse and 16 reported a history of other substance abuse.

Police data revealed that the majority of subjects (n = 25) had used one or

Table 1
Classification of Convictions

Class I Offenses
A. Physical Force
- Assaults
- Sexual assaults
- Wounding with intent
- Murder
- Manslaughter
- Attempted murder
- Attempted suicide
- Robbery with violence
- Kidnapping
- Unlawful confinement
- Gross indecency

B. Property Loss through Theft
- Breaking and entering with theft
- Breaking and entering to commit theft
- Armed robbery
- Theft of automobile
- Uttering forged documents
- False pretenses
- Frauds

C. Property Damage
- Mischief to private property
- Causing a disturbance
- Willful damage

Class II Offenses
D. Intimidation
- Uttering threats
- Pointing a firearm
- Threatening phone calls
- Extortion
- Use of firearm to commit
- Attempted breaking and entering
- False pretenses
- Attempted theft

E. Other
- Refusing a breath sample
- Failure to remain at an accident
- Narcotics control violations
- Indecent acts
- Impaired driving
- Obstructing a police officer
- Unlawfully in a dwelling house
- Begging
- Vagrancy
- Criminal negligence
- By-law violations
- Trespassing
- Living on avails of prostitution
- Take part in a riot
- Failure to comply with a court order
- Dangerous use of a firearm
- Possession of stolen property
- Possession of firearms
- Possession of housebreaking instruments
- Possession of instruments for committing forgery

more aliases over the course of their criminal careers and had been geographically mobile. Convictions were registered in a variety of cities, ranging from 1 to 31 with a median of four, and over several provinces (range of 1 to 7, median = 2.5). The number of career convictions recorded ranged from 2 to 180 with a median of 20 and a sum of 1,069. In addition to convictions, numerous charges were laid throughout subjects' careers that did not result in a conviction. "Career charges" ranged from 1 to 35 with a middle value of 8 and a sum of 220. About 14 percent of all convictions and 17 percent of all charges involved assault (including sexual assault). Total aggregate sentence (not actual time served) for these crimes ranged from 1 month to 199 years with a median of 17 years and a sum of 909 years. In addition, aggregate probation totalled 111 years with a median of 48 months and a range of 12 to 147 months. Finally, aggregate fines assessed against this cohort ranged from $25 to $2680 with a median of $563 and a sum of $29681.

Summary of Criminal Careers- Figures 2 and 3 plot the smoothed period prevalence and average convictions, respectively, spanning the ages 16 to 59. Although not linear, the overall pattern is one of decline from age 27 on. Both figures reveal a trimodal configuration with the first peak occurring from the ages 24 to 27, the second from 26 to 42 and the third from 50 to 53. The second peak lasted for six years, whereas the early and late peak lasted for only three. The major difference between the patterns revealed in these two plots is

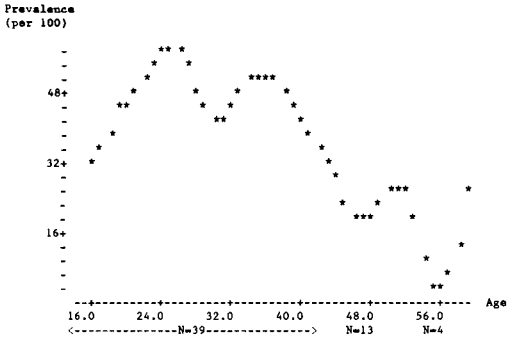

Figure 2. Smoothed period prevalence of convictions by age. Until age 41 n = 39, then incrementally decreases thereafter. Prevalence is defined as the percent of persons having at least one conviction during any given year.

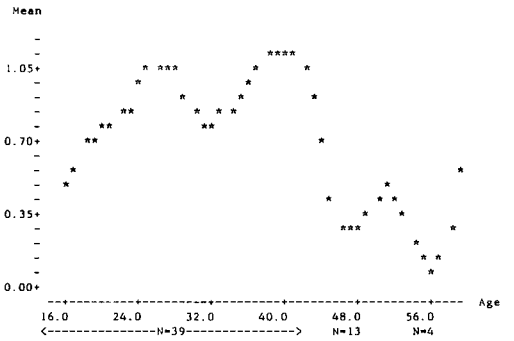

Figure 3. Smoothed mean of convictions by age. Until age 41 n = 39, then incrementally decreases thereafter. Mean convictions is defined as the sum of convictions during any given year divided by the number of persons in the cohort for that year.

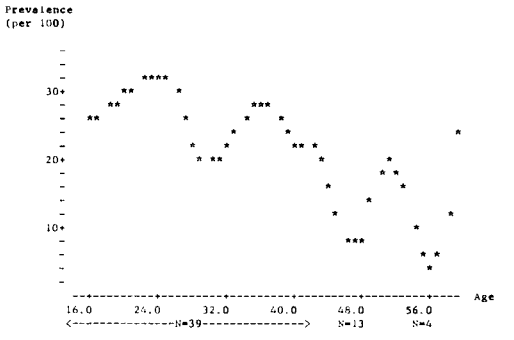

Figure 4. Smoothed period prevalence of Class I convictions by age. Until age 41 n = 39, then incrementally decreases thereafter. Prevalence is defined as the percent of persons having at least one conviction during any given year. Class I convictions include physical injury, property loss through theft, and property damage.

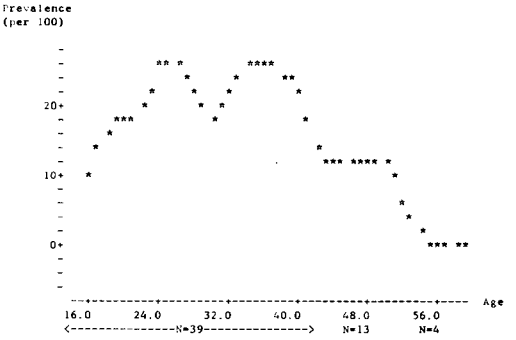

Figure 5. Smoothed period prevalence of Class II convictions by age. Until age 41 n = 39, then incrementally decreases thereafter. Prevalence is defined as the percent of persons having at least one conviction during any given year. Class II convictions exclude convictions involving personal injury, property loss through theft, or property damage.

that the second peak for mean number of convictions extended for a longer number of years than that for period prevalence. Although some decline in period prevalence is noted over time, between the ages of 16 and 48, at least one third of the cohort committed an offense in any given year.

Figures 4 to 7 divide period prevalence and mean convictions by Class I and Class II convictions, according to the model previously described. At the earliest ages, the prevalence of Class I convictions is higher than that for Class II, however, both reach a similar peak from 22 to 26 and decline thereafter. Class I convictions are trimodal, while Class II are missing the third peak. Also, Class II convictions have their second peak earlier, ages 32 to 36, whereas for Class I, this occurs at 36 to 38 years of age. The mean number of convictions across Class I and Class II offenses show a similar overall pattern to the one just described. Class II has only two peaks

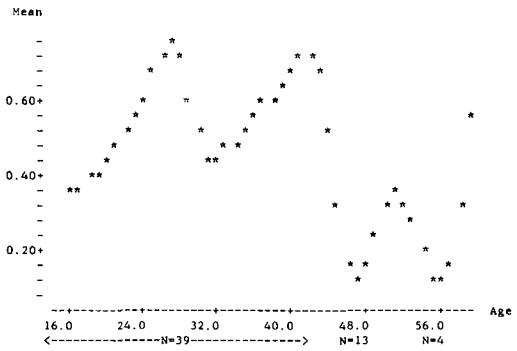

Figure 6. Smoothed mean of Class I convictions by age. Until age 41 n = 39, then incrementally decreases thereafter. Mean convictions is defined as the sum of convictions during any given year divided by the number of persons in the cohort for that year. Class I convictions include physical injury, property loss through theft, and property damage.

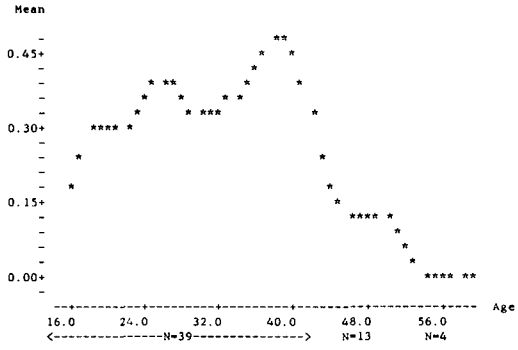

Figure 7. Smoothed mean of Class II convictions by age. Until age 41 n = 39, then incrementally decreases thereafter. Mean convictions is defined as the sum of convictions during any given year divided by the number of persons in the cohort for that year. Class II convictions exclude physical injury, property loss through theft, and property damage.

with the second peak being shifted toward an earlier age as compared to Class I.

Discussion

This study has a number of strengths and limitations that bear on the conclusions that can be reached. Strengths include a regional population of forensic subjects who were DSM-III-diagnosed. A Canada-wide follow-up for criminal convictions based on fingerprint number avoided gaps in criminal convictions that would have resulted from this population's geographic mobility and use of aliases.

The mobility noted in this study cohort and the use of aliases have important implications for epidemiological studies involving a prospective or retrospective follow-up of subjects. While record linkage techniques based on fingerprint and the ability to use a Canada-wide computer network may avoid information loss due to an inability to follow subjects, it also means that estimates of criminality must be restricted to convictions and charges that were officially recorded. It is generally agreed that officially recorded crime data drastically underestimate the amount of crime committed.[14] This issue, however, is endemic to this type of research.

Limitations more specific to this study include the following.

1. The study's main focus on forensic psychiatric patients means that the findings should not be generalized to other psychiatric or nonpsychiatric populations.

2. The relatively small cohort size precluded statistical statements of a confirmatory nature. It also precluded more detailed statistical assessment of the potential modifying role of variables such as alcohol abuse. This should be the object of future research.

3. Some subjects recorded their last offence before the age of 40 and, in the absence of mortality data, it was necessary to assume that they remained alive and at risk throughout the full study

period. This assumption is problematic since research has reported a higher standardized mortality ratio among individuals suffering from APD.[8,20,21]

4. Finally, because of the decreasing denominator, the trend becomes increasingly unstable, particularly after age 50. Consequently, the importance of the third peak observed in Figures 1, 3, and 4 and Table I is uncertain.

Given the above caveats, criminality did appear to decline over time, but not in a straightforward manner as implied by DSM-III-R. The high number of convictions accounted for by this small group is noteworthy as is the fact that one third of the cohort remained criminally active throughout most of their adult lives. The similarity of patterns noted across the more serious and less serious offense categories also suggested that age did not interact with type of criminality.

The diagnosis of Antisocial Personality Disorder is riddled with many imponderables. Although better understood at the onset,[8] its natural history remains a puzzle. It is accepted, for example, that the disorder is already present before the age of 15 but that precursors could be found much earlier.[1,22] Important questions about what happens to these individuals as they advance through adulthood still remain.The Gluecks[23] noticed a full remission by the age of 31, but noted that one-quarter to one-third of their sample became alcoholic. Only 2 percent of Robins'[8] subjects were symptom-free at 30-year followup, when they were in their late 30s and early 40s. One-fifth were still experiencing problems at the age of 45. Valliant and Perry[24] describe APD as running an unremitting course with the height of antisocial behavior occurring in adolescence. As a rule of thumb, they suggest that 2 percent per year remit after the age of 21, however hypochondriacal preoccupations or depression may develop. Additional difficulties such as alcoholism, anxiety symptoms, drug addiction, and suicide attempts have also been reported.[25,26]

More importantly, the relationship between the disorder and criminality has not been clearly elucidated. Although a diagnosis of APD should not be based solely on a history of criminality, the preponderance of criminality-related diagnostic items for APD, as per criteria in DSM-III-R, makes this diagnosis virtually synonymous with a criminal history. Ten out of twelve criteria of set B and six out of ten of set C in DSM-III-R, pertain to instances of criminal behavior and of obvious (unlawful and punishable) violations of the rights of others. It is not clear, therefore, whether the disorder leads to criminality, or criminality is the anchor without which the disorder cannot be diagnosed.

In this study, a general decline in criminality, as measured by criminal convictions, was noted. In addition, a significant portion of the cohort failed to remit with age. These findings cast some doubt upon burnout as a general predisposition in the natural history of the disorder and point to the existence of subtypes. As such, clinical judgements about antisocial burnout, particularly when used for legal purposes, should be

made cautiously until a better understanding about why certain subtypes fail to conform to the burnout hypothesis is reached.

Future research into the natural history of APD should incorporate a more extensive follow-up period which should include mortality data. Although it is not clear whether individuals with APD are at significantly higher risk for natural death, standardized mortality ratios for unnatural death among this group have ranged from 4.55[20] to 14.71,[21] revealing significant increased risk of premature death. Secondly small cohorts make it difficult to assess the role played by potential confounders, such as alcoholism or substance abuse or to control for periods of institutionalization. Larger cohorts would facilitate the assessment of the relationships of these and other background factors to antisocial burnout.

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