Comprehensive Psychiatry 48 (2007) 529–538

Comprehensive PSYCHIATRY

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DSM-IV conduct disorder criteria as predictors of antisocial personality disorder

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Abstract

Conduct disorder (CD) is a disorder of childhood and adolescence defined by rule-breaking, aggressive, and destructive behaviors. For some individuals, CD signals the beginning of a lifelong persistent pattern of antisocial behavior (antisocial personality disorder [ASPD]), whereas for other people, these behaviors either desist or persist at a subclinical level. It has generally been accepted that about 40% of individuals with CD persist. This study examined the rate of persistence of *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (*DSM-IV*) CD into ASPD and the utility of individual *DSM-IV* CD symptom criteria for predicting this progression. We used the nationally representative sample from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). Approximately 75% of those with CD also met criteria for ASPD. Individual CD criteria differentially predicted severity and persistence of antisocial behavior with victim-oriented, aggressive behaviors generally being more predictive of persistence. Contrary to previous estimates, progression from CD to ASPD was the norm and not the exception in this sample. Relationships between individual *DSM-IV* CD symptom criteria and persistent antisocial outcomes are discussed. These findings may be relevant to the development of *DSM-V*.

1. Introduction

Many antisocial adolescents continue to be antisocial in adulthood, whereas others do not [1]. Currently, we know little about predicting clinical course for those who present with antisocial behavior (ASB) during adolescence. Contributing to this uncertainty, ASB has a heterogeneous etiology [2]. Given that persons with persistent ASB account for a disproportionately large percentage of crimes [3], identifying methods of discerning adolescents with transient versus persistent ASB is of practical importance.

Research on persistent ASB suggests that an earlier age of onset may predict persistence [4], as well as pervasiveness [5]. Other studies disagree, reporting that earlier age of onset has no predictive validity [6], and that antisocial adults both with and without prior conduct disorder (CD) diagnoses have similar levels of demographic and psychopathological risk factors [7,8]. In addition, childhood comorbid hyperactivity and CD may predict poor adult outcomes [9,10]. Finally, higher levels of psychopathic traits in adolescence predict violent recidivism [11]. However, the appropriateness and validity of psychopathy in adolescents is a contentious issue, and its application to adolescents is a relatively new area [12].

Longitudinal research on males from birth to 26 years suggests 2 main groups of deviant youth [13-16]. Life-course–persistent (LCP) individuals have ASB beginning as early as age 3 and continuing into adulthood. An adolescence-limited (AL) group consists of people whose antisocial acts are largely committed during the period of adolescence. Although there are a variety of between-group differences, during adolescence, they are currently indistinguishable [15].

Life-course–persistent individuals are more troublesome for society, committing more violent offenses and exhibiting more drug problems, high-risk behaviors, reliance on social benefits, and psychopathology [16]. There are distinct differences between the transient versus persistent offenders [13]. The LCP group members are more likely to have subtle neuropsychological deficits present early in life and are more likely to display victim-oriented violent offenses [13]. Unlike their LCP peers, AL members are less likely to

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0010-440X/$ – see front matter © 2007 Elsevier Inc. All rights reserved.
doi:10.1016/j.comppsych.2007.04.009

display pervasive ASB and are less prone to violent acts [13,16]. The theory suggests that AL adolescents commit antisocial acts with peers and engage primarily in behaviors that symbolize adult privilege and autonomy from parents [15]. If this theory is correct, then ASBs in adolescence should differentially predict persistence to adult ASB.

1.1. Aims of the study

In the present study, we examine the prevalence of *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (*DSM-IV*), CD criteria and their utility as discriminators between those who endorse symptom criteria but do not qualify for a diagnosis (subclinical [SC]) and those who have a CD diagnosis (clinical). We also examine the use of the individual criteria for predicting those who qualify for a diagnosis of CD, who will continue on to a diagnosis of antisocial personality disorder (ASPD; ie, transient versus persistent ASB). The main objective is to identify ASBs displayed during adolescence, which may indicate severity and persistence into adulthood. Several previous studies of CD have looked at individual diagnostic criteria; however, none of them have done so with goals similar to those of the present study [2,17-20]. To our knowledge, this is the first study to examine the use of individual *DSM-IV* CD symptom criteria in predicting persistence and diagnosis of ASPD in adulthood.

2. Materials and methods

2.1. Data source

We examined the public data set from Wave 1 of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC; http://niaaa.census.gov/), a nationally representative sample of 43,093 respondents interviewed via face-to-face interviews (for details, see Grant et al [21]). The target of the survey was the civilian noninstitutionalized population aged 18 years and older residing in the United States including the District of Columbia, Alaska, and Hawaii. The research protocol received full ethical review and human subjects approval from the US Census Bureau and US Office of Management and Budget.

Conduct disorder and ASPD diagnoses used in the present study were provided in the public data set and based on retrospectively reported criteria from the National Institute on Alcohol Abuse and Alcoholism (NIAAA) Alcohol Use Disorder and Associated Disabilities Interview Schedule-*DSM-IV* Version (AUDADIS-IV) [22]. Consistent with *DSM-IV* standards, personality disorder diagnoses required that at least one endorsed symptom caused social and/or occupational dysfunction. The antisocial personality module of the AUDADIS-IV has good reliability and validity [23]. As the algorithms used to create diagnoses in the NESARC are not publicly available, we selected AUDADIS items (Appendix 1) to operationalize *DSM-IV*'s CD symptom criteria. We were unable to identify an interview question that corresponded to the CD symptom criterion "Break and Enter" in the AUDADIS-IV interview; therefore, this criterion is not included in our analyses. We used the items shown in Appendix 1 to represent individual criteria, but we used the CD and ASPD diagnoses provided in the public data set so that our research could be compared with other studies of this sample. In the public data set, 1522 subjects are missing responses to some (n = 514) or all (n = 1008) of the CD diagnostic criteria we identified in Appendix 1; we excluded these cases from our analyses.

2.2. Subject grouping

We estimated prevalence of each *DSM-IV* CD criterion in the whole sample (minus the above exclusions). Antisocial personality disorder is only diagnosed in persons who also meet criteria for CD, but not all persons with CD develop ASPD. Thus, we classified respondents who had endorsed at least 1 CD criterion into 3 groups based on their antisocial status. Respondents with no diagnosis of CD or ASPD but who had endorsed at least 1 CD criterion were classified as sub-clinical (SC). Respondents who warranted a diagnosis of CD but not ASPD were classified as CD only (CD); they had "transient" ASB. The remaining respondents were diagnosed with both CD and ASPD (ASPD); they had "persistent" ASB.

2.3. Analyses

The prevalence of each criterion was examined separately in each sex for the entire NESARC sample (minus exclusions). In addition, we calculated the prevalence of each criterion according to antisocial status (SC, CD, ASPD) and age of onset within these groups. Criterion prevalence patterns provide graphical comparisons of prevalence rates in these subgroups. Diagrams were obtained by plotting the relative prevalence of the criterion in each antisocial status group compared to the prevalence in the ASPD group. Three points plotted for each criterion are obtained by:

$$\frac{(\%\text{ of subjects endorsing criterion in a particular antisocial group [ie, SC, CD, ASPD]})}{(\%\text{ of subjects endorsing criterion in the ASPD group})}$$

These plots provide a comparison of criterion patterns that is not complicated by large prevalence differences between criteria. Although some criteria may appear to be extremely useful predictors based on these plots, it is important to note that infrequently endorsed criteria are of limited use because they provide information on very few individuals.

We aimed to identify criteria that significantly predict sub-clinical versus clinical ASB, as well as transient versus persistent ASB. We conducted logistic regressions with the CD symptom criteria as independent variables. Models with a single criterion as a predictor of antisocial status as well as analyses with all CD criteria in a single model were tested. The first approach estimates the informativeness of each individual criterion; the second identifies criteria that are redundant or less useful in the context of the entire set. These analyses provide statistical tests of the criterion pattern plots.