Do Childhood Mental Disorders Cause Adult Crime?

he past ten years have witnessed a surge of research on adolescent offenders with mental disorders (1). The research shows that youths with delinquencies often have mental disorders, and youths with mental disorders are at greater risk of delinquencies. This "overlap" of the two populations is a good deal less than a majority when examined as a proportion of all delinquent youths or of all youths with mental disorders. Yet it is substantial, especially among the subset of delinquent youths in juvenile justice secure facilities, where about one-half to two-thirds meet criteria for one or more mental disorders (2).

These findings have focused attention on the implications of public child protective and mental health services for criminal conduct (3). Is the national crisis in child community mental health services contributing to delinquency and causing the juvenile justice system to become the dumping ground for youths who are inadequately served? Can we reduce delinquency by providing better resources for responding to youths with mental disorders?

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Little research, though, has examined whether offending in adulthood is related to mental dis-

orders in childhood and adolescence. Some prospective studies have examined the paths of specific childhood disorders toward adult offending—especially hyperactivity, conduct, and substance use disorders. But a study in this issue of the *Journal* offers a first look, from a broader epidemiological perspective, at the relation between mental disorders in general during childhood and adolescence and crime in adulthood.

Copeland and colleagues, at Duke University's Center for Developmental Epidemiology, began with a large, community-based sample of youths based on their well-known Great Smoky Mountains Study, a longitudinal effort examining child psychiatric disorder and service use in 11 counties in North Carolina. The sample has smaller proportions of African American and Hispanic youths than many other communities in the United States, and the policy implications of the results must be weighed accordingly.

Youths were interviewed and tested at three points in time. The study began with three cohorts—children ages 9 and 10, children age 11, and children age 13—and these cohorts were reassessed every year through age 16 (with an exception during one project year). Screening procedures identified youths who might have mental health problems, and a standardized instrument was used that generated diagnoses. All subgroups were tracked to identify arrests between ages 16 and 21, as was a random sample of youths whose screening never identified them as likely to have mental disorders. When appropriate, the authors used weighting procedures in their analyses to generate estimates for the population represented by the study sample.

About one-third of youths met criteria for one or more mental disorders at one or more of the three childhood assessment points. About one-third of the total sample (weighted to represent the population from which it was drawn) was arrested in young adulthood (ages 16–21). But within the arrested sample, about one-half of males and slightly less than one-half of females met criteria for mental disorders at assessment points before age 17. These proportions were significantly greater than those for youths who were not arrested as adults, even with statistical controls for history of delinquency

in adolescence. Removing conduct disorder from the list of psychiatric disorders had little effect, probably because most youths with conduct disorder meet criteria for other psychiatric disorders as well.

The study results are reliable and important, but we must avoid misinterpreting them. They do *not* mean that one-half of arrested adults had mental disorders at the time of their arrest or had chronic or severe mental disorders in adolescence, or that most youths who had mental disorders in adolescence were arrested as young adults—indeed, most were not. And they do not mean that arrests of young adults would be reduced by one-half if those youths had not had mental disorders as children (because other factors that often co-occur with a history of childhood mental disorder could contribute to their adult arrests). But the results mean what they say: a large proportion of arrested young adults had a mental disorder at some point in their adolescence that might have played a role in their pathway to adult offending.

For the purposes of mental health policy, we would want to know the extent to which mental disorder in adolescence increases the risk of adult offending. Knowing that one-half of arrested adults in this sample had a mental disorder between ages 9 and 16 does not tell us that, because many youths in this study who had childhood mental disorders were never arrested as adults. Epidemiologists have a method that takes the latter "negative" cases into account. "Population attributable risk" estimates the prevalence rate of a "disease" (in this study, arrest in young adulthood) based on prior "exposure" to a possible cause (here, mental disorder before age 17). In this study, the population attributable risk estimate indicated that if adolescents never had mental disorders, the rate of being arrested in young adulthood would be reduced by about 15%–20%.

Here again, we must avoid misinterpreting. This does not mean that arrests of young adults could be reduced by 15%–20%. It means that youths with mental disorders at some point between ages 9 and 16 are at that much greater risk of offending as young adults than if they had not had those disorders. The results are most directly applicable to policies that seek protective interventions prior to adolescence in order to *prevent* exposure to mental disorders. What they say about treatment for adolescents who have mental disorders is ambiguous, however, because youths who receive treatment have already been "exposed" to a mental disorder, and successful treatment does not necessarily neutralize the residual effects on psychological development during exposure to the disorder. There is good evidence that certain types of community-based interventions for adolescent offenders with mental disorders can reduce the risk of delinquency during the remainder of adolescence (4, 5). We can speculate that successful treatment during adolescence would reduce the risk of adult arrests as well, but the extent of that potential effect cannot be determined in this study.

The second set of results offered by Copeland and colleagues, pertaining to specific disorders, is particularly important for policy and clinical practice. Adolescents' emotional disorders (depression and anxiety disorders) were only marginally related to later adult crimes in comparison with their disruptive behavior disorders and substance use disorders. But adolescent emotional disorders comorbid with substance use disorders represented by far the greatest risk of future adult offending. Finally, those effects are most strongly demonstrated among youths whose adult arrests include more serious and violent offenses. While we must be concerned about the general relation of mental disorders and crime, these results suggest that prevention or psychiatric management of substance use among youths with emotional mental disorders has special significance when seeking to form policies that will have the greatest potential impact.

Copeland and colleagues conclude their report by reminding us that mental disorders offer only one possible path to later criminality, and it does not appear to be the most frequently followed path. Nevertheless, it is the one psychiatry can best influence, and this exceptionally well-designed study is a key contribution to our understanding of the long-range significance of adolescent disorders for adult criminal behavior.

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