A Study of Disruptive Behavior Disorders in Puerto Rican Youth: I. Background, Design, and Survey Methods

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ABSTRACT

Objective: This is the first of two related articles on a study carried out between 2000 and 2003 designed to assess the prevalence, associated comorbidities, and correlates of disruptive behavior disorders in two populations of Puerto Rican children: one in the Standard Metropolitan Areas of San Juan and Caguas in Puerto Rico, and the other in the south Bronx in New York City. **Method:** This article provides the study's background, design, and methodology. Probability samples of children ages 5 to 13 years were drawn at the two sites ($n = 2,491$). Subjects and their primary caretakers were interviewed using the Diagnostic Interview Schedule for Children-IV and a wide array of risk factor measures. The samples were weighted to correct for differences in the probability of selection resulting from sample design and to adjust for differences from the 2000 U.S. Census in the age/gender distribution. **Results:** The samples are representative of the populations of Puerto Rican children in the south Bronx and in the Standard Metropolitan Areas in Puerto Rico. Of the 2,940 children identified as eligible for the study, 2,491 participated for an overall compliance rate of 85%. **Conclusions:** The study results, to be described in an accompanying report, are generalizable to the two target populations. *J. Am. Acad. Child Adolesc. Psychiatry,* 2006;45(9):1032–1041. **Key Words:** epidemiology, disruptive behavior disorders, cross-cultural, comorbidity.

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Antisocial behaviors have been the focus of extensive research efforts during the past 5 decades. Serious antisocial behaviors constitute the presenting complaints for a large proportion of referrals to clinical services (Kazdin et al., 1990; Robins, 1981) and therefore involve substantial costs to society. These behaviors trouble those who are victims of aggressive or delinquent acts, even more than the individuals with the behaviors. Early-onset conduct disorder (CD) is stable over time, and its prognosis is poor (Loeber, 1982, 1991). Its persistence into adulthood as adult antisocial personality is between 30% and 40% (Robins, 1978; Zoccolillo et al., 1992), but its occurrence in childhood and adolescence foreshadows other serious problems in adult life, including criminality, substance abuse, other psychiatric conditions, poor marital adjustment, and impaired social and occupational functioning (Kazdin, 1995; Robins, 1966, 1978; Wolfgang et al., 1972). The community prevalence

of CD has been noted to range from 1.8% (Esser et al., 1990) to 8.7% (Kashani et al., 1987), but the specific behaviors that make up CDs are common and occur in large numbers of children (Feldman et al., 1983; Moffit, 1993a). Despite periodic fluctuations in incidence, particularly the significant decrease in crime rates observed during the 1990s, the overall trend during the past 50 years has been for delinquency and crime rates to increase over time (Evans and Cooper, 2002; Kurian, 1994).

An extensive body of work reporting on the correlates of antisocial behaviors, CDs, and juvenile delinquency has accumulated. Excellent and detailed reviews of this research can be found in Rutter and Giller (1983), Loeber and Stouthamer-Loeber (1987), Sampson and Laub (1993), Kazdin (1995), and Lahey et al. (1999) and in the recent overviews by Loeber et al. (2000) and Burke et al. (2002).

Factors linked to disruptive behaviors generally include the child's own vulnerabilities and deficits (Werner and Smith, 1982) and familial and environmental factors. Child characteristics such as difficult temperament, verbal deficits, and other neuropsychological or cognitive deficits are implicated (Moffit, 1993b). Familial factors such as dysfunctional or inadequate parenting are significant, including lack of stimulation; large family size; lack of emotional support; parental psychopathology; overly harsh child management; unreasonable parental expectations; poor limit-setting; parental marital discord; and inconsistent, erratic, or inappropriate discipline (Jouriles et al., 1988; Kendziora and O'Leary, 1993; Patterson et al., 1989; Pettit et al., 1993). Genetic factors have also been implicated in studies of severe antisocial behavior and criminality (Bohman et al., 1982; Cloninger et al., 1982; Rhee and Waldman, 2002). Nevertheless, when both genetic and psychosocial factors are considered in regression analyses, the contribution of other personal, familial, and environmental risk factors is of considerably greater import than the genetic influence. Associated environmental factors include inadequate health care (Tarnowski and Rohrbeck, 1993), low socioeconomic status (Loeber et al., 2000), and deteriorated neighborhoods (Sampson, 2003; Sampson et al., 1997).

Recent epidemiological studies indicate that rates of disruptive behavior disorders and antisocial behavior are low among children and adolescents in Puerto Rico: 1.5% in 4- to 16-year-olds using *DSM-III* criteria (Bird et al., 1988) and 2.0% in a separate study using *DSM-IV* criteria (Canino et al., 2004). Studies carried out outside of Puerto Rico report higher prevalence rates that lie in the 6% to 8% range (Angold et al., 2002; Bauermeister et al., 1994; Loeber et al., 2000). Methodological differences between studies, particularly the ages sampled and the nosology and measures used, preclude strict comparisons of study results.

Other epidemiologic research carried out in Puerto Rico substantiates these findings. Nevares et al. (1990) included official police statistics that reported much lower rates of juvenile delinquency in Puerto Rico than in two longitudinal cohort studies in Philadelphia (Tracy et al., 1990; Wolfgang et al., 1972), whose methods the study in Puerto Rico replicated. Although the general trend during the past 50 years has been for delinquency rates to increase over time, both in Puerto Rico and the United States, the Puerto Rican cohort, born in 1970, showed lower rates of arrests before age 18 (11% for males) than 1945 and 1958 birth cohorts in Philadelphia (35% and 33% for males, respectively). The authors consider that the lower rates of antisocial behavior and CD reported among children and adolescents in Puerto Rico constitute a true finding rather than the result of methodological artifacts.

The prevalence findings among youth in Puerto Rico run counter to reports of crime rates on the island. The official statistics for 2000 (Department of Health, Commonwealth of Puerto Rico, 2000; Federal Bureau of Investigation, 2000) show that San Juan had the second highest homicide rate of any large city in the United States. Some serious crimes, such as robberies, are also higher in Puerto Rico, whereas others occur at about the same frequency or only slightly lower. The overall pattern suggests that there may be a later age at onset of antisocial behaviors in Puerto Rican youth and probable familial, cultural, and environmental factors that protect children and adolescents in that context.

These companion articles provide the cross-sectional results from the initial wave of a longitudinal study designed to address some of these issues, primarily whether there are differences in rates of disruptive behavior disorders and antisocial tendencies in two populations of Puerto Rican children: those who reside in Puerto Rico and those who reside in the south Bronx in New York City. The latter is a community where many families of Puerto Rican background have