Community-Based Multiple-Gate Screening of Children at Risk for Conduct Disorder

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The present study employed a multiple-gate screening procedure to identify children at risk for the development of conduct disorder. Measures of cross-setting disruptive behavior and parent discipline practices were administered in sequential fashion to screen a population of 7,231 children attending suburban elementary schools. Convergent validity of the respective gating measures was confirmed by significant correlations with adjustment constructs. Analyses of covariance performed between positive screens, negative screens, and low-risk comparison children on adjustment constructs at each gate supported the discriminative validity of the gating procedure. Hierarchical regression analyses demonstrated that the gating measures were predictive of diagnostic ratings of attention deficit hyperactivity disorder and oppositional defiant disorder that were obtained 18 months following the screening. A stepwise logistic regression analysis indicated that the best predictors of high-risk group membership were variables related to family process, including poor family communication and involvement, poor maternal coping skills, and an external parent locus of control.

An important issue in Conduct Disorder (CD) prevention research is defining the methods by which subjects in the population are selected for intervention trials. Several difficulties exist with the design of community-based interventions that target "at-risk" populations. These include determining the factors that constitute risk, using cost-effective assessment procedures to measure these risk...
factors, and overcoming the practical, ethical, and data analytical problems associated with false positive prediction error in subject selection.

The difficulties involved in identifying participants for prevention programs have prompted innovative approaches to risk screening. For example, Loeber, Dishion, and Patterson (1984) designed an elegant multiple-gate screening procedure to improve the detection of children at risk for delinquency. The procedure involved a stepwise series of assessments in which the least costly assessment was administered first to the larger population. More expensive assessments were subsequently administered to only those who screened positive at earlier gates. Each successive assessment was designed to narrow down the population so as to reduce prediction error to an acceptable level and to minimize the cost of large-scale screening.

The present study is based on data that were gathered as part of the Minnesota Competence Enhancement Project. The project is a longitudinal study designed to assess the efficacy of a school-based early detection and multicomponent intervention program for suburban children at risk for the development of CD and related problem outcomes. Large scale interventions for disruptive children in suburban populations are not common, yet violence, substance abuse and school dropout among adolescents are rapidly growing problems as they continue to be in urban communities (Dryfoos, 1990). The pressing need to study these problems and the anticipated high geographical stability of a suburban population were thought to be positive sample attributes that would allow accurate assessment of the effectiveness of the intervention over time.

Conduct disorder has been reported to affect approximately 1.5% to 5.5% of children in the general population (Costello, 1989), with rates approaching 10 percent in urban communities (Offord et al., 1987). Because the population studied was suburban and of predominantly middle socioeconomic status (SES), the base rate of this outcome was expected to be lower than rates reported in surveys of urban, socially disorganized communities. Low base rate presented the problem of increased false positive predictor error. False prediction can result in the ineffective use of resources, personal and community bias regarding stigma, and iatrogenic effects of the intervention itself (Muehrer & Koretz, 1992). To this end, a multiple-gate screening device, adapted from that of Loeber et al. (1984), was used to select moderate- and high-risk children for participation in an experimental intervention trial. The device first screened for a premorbid risk factor, evidence of cross-setting disruptive behavior, and then screened for a mediator variable suspected of "catalyzing" the pathological effects of such disruptive behavior, namely, unskilled parent discipline practices. In the present study we present data to demonstrate cross-sectional relations between our screening criteria and concurrent levels of psychological adjustment, emerging psychopathology, and selected family process variables in a middle-SES suburban community.