A Factor Structure of Child Home Observation Data

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Both normal and antisocial children were extensively observed in their natural home environments. A factor analysis of the baseline data was conducted that differed from the typical factor study in two respects. Equal numbers of deviant and nondeviant behaviors were included in the analysis, and the unit of analysis was the rate-per-minute occurrence of actual child behavior. The factor structure was interpretable, and scaling of the dimensions—I, Verbal Emotionality, II, Physical Dependency, III, Social Involvement, IV, Hostile: Controlling, and V, Hostile: Impulsive—separated groups of normal, socially aggressive, hyperactive-aggressive, and stealing children. Reported differences between aggressive and stealing children on rates of total aversive behavior were found to be due to differences in the verbal behaviors loading on the first factor.

Factor-analytic techniques have been widely employed in child clinical psychology during the last 10 to 15 years to define diagnostic categories. The impetus for this approach was provided by increasing dissatisfaction

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with child classification schemes that were often modifications of adult diagnostic categories and of questionable validity even for use with adults (Zubin, 1967; Costello, 1970). With factor-analytic, or empirical, approaches to classification, actual behaviors of children generate the descriptive categories. Although the theoretical orientation of the researcher does influence the selection of items chosen for analysis, these approaches contrasted sharply with traditional psychiatric nomenclatures where the labels often reflected a priori theoretical structures. Typically, parents, teachers, or mental health workers completed behavior rating scales or symptom checklists and the results were subjected to multivariate statistical analysis. The goal of these analyses was identification of dimensions or clusters of behaviors that covary. These clusters were then named, scaled, and validated with new samples of problem children. Numerous factor-analytic studies of child behavior have been completed and extensive reviews are available (Achenbach & Edelbrock, 1978; Quay, 1979). It is encouraging to note that many dimensions have proven to be robust and reoccur across a wide range of instruments, raters, and samples. Discriminative validity and clinical utility have also been demonstrated (cf. Achenbach, 1978; Edelbrock & Achenbach, 1980), but discussion of the scales and their validity is beyond the scope of this paper.

Factor analysis has not been used to organize home observation data even though practitioners such as the behavior therapists have always stressed observation and quantification of client behavior (O'Leary & Wilson, 1975). Factor analysis functions by reducing large and complex sets of intercorrelated variables to a smaller number of conceptually simplified dimensions. Most home observation schemes have been fairly modest and have not needed this simplifying power of the procedure. An exception is the Family Interaction Coding System (FICS) developed at Oregon Social Learning Center (OSLC) (Reid, 1978). The FICS contains 28 categories of social behavior and requires professional observers to rapidly code social interactions. In contrast to most factor-analytic studies discussed in the reviews cited above, which examined discrete responses to a limited number of rating-scale categories, the unit of analysis provided by the FICS is mean rate-per-minute of actually observed behavior. Although a discrete time-sampling procedure, FICS data approaches "continuous measurement" in the sense that the binomial becomes continuous as the number of trials increases. The purpose of the present study was to determine the factor structure of the FICS and to describe the population of antisocial children that has been studied over the years at OSLC.