

Conduct Problems and Level of Social Competence in Head Start Children: Prevalence, Pervasiveness, and Associated Risk Factors

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The purpose of the current project was to determine the prevalence of conduct problems, low social competence, and associated risk factors in a sample of 4-year-old low-income children ($N = 426$) from 64 Head Start classrooms in the Seattle area. Conduct problems and social competence were assessed based on a combination of teacher reports, parent reports, and independent observations of children interacting with peers in the classroom and with parents at home. We examined the relative contribution of a variety of risk factors, including maternal history and socioeconomic background, current levels of stress and social support, mothers' emotional state, and parenting competence in relation to "pervasive" (i.e., at home and school) and "nonpervasive" conduct problems and low social competence. Findings indicated similar risk factors for conduct problems and for low social competence, with an ordered increase in the number of risk factors from normal to "nonpervasive" to "pervasive" groups. Harshness of parenting style (i.e., slapping, hitting, yelling) significantly distinguished between the three groups for low social competence and conduct problems. Positive affect, praise, and physical warmth from mothers were positively related to social competence but unrelated to conduct problems.

KEY WORDS: Head Start; poverty; social competence; conduct problems; parenting.

Results of epidemiologic studies have indicated that oppositional defiant disorder (ODD) and early-onset conduct disorders (CD) among young children are more common than was once thought (Campbell, 1995; Landy & Peters, 1991; Richman, Stevenson, & Graham, 1982). Studies have reported that 7–25% of preschool children meet the diagnostic criteria for ODD, with the highest rates found in low-income welfare families (Offord, Alder, & Boyle, 1986; Offord, Boyle, & Szatmari, 1987). These findings are troubling because "early onset" conduct problems in the preschool years are fairly stable and are predictive not only of later problems in school but also of

serious health and behavioral problems in adolescence—drug abuse, depression, juvenile delinquency, and school dropout (Campbell, 1991; Campbell, Breaux, Ewing, Szumowski, & Pierce, 1986; Egeland, Kalkoske, Gottesman, & Erickson, 1990; Rabiner, Keane, & Mackinnon, in press; Rose, Rose, & Feldman, 1989; Wadsworth, 1976; White, Moffit, Earls, & Robins, 1990). Campbell's review (1991) of a series of longitudinal studies of hard-to-manage preschoolers reveals a surprising convergence of findings. At least 50% of preschool children with moderate to severe conduct problems continued to show some degree of disturbance at school age, with boys doing more poorly than girls. Of those with continuing behavior problems, 67% met the diagnostic criteria for ADHD, ODD, or CD at age 9. Moreover, Eyberg (1992) pointed out that this percentage may be an underestimate because many of the most dysfunctional families were lost to follow-up.

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Research suggests that certain family risk factors put children at particular risk for developing conduct problems (defined as high rates of aggression, noncompliance, and negative affect) and low social competence (defined as low levels of prosocial behaviors, compliance with peers, and positive affect). The following factors affecting families have been associated with antisocial outcomes in children: low socioeconomic status (SES); high levels of negative life stress; parental history of abusive backgrounds, criminal activity, substance abuse, and psychiatric illness; and high levels of marital discord, depression, parent isolation, and lack of support (Farrington, 1992). Children whose parents are inconsistent in their discipline, physically abusive, highly critical, and hostile or lacking in warmth (Patterson & Capaldi, 1991; Patterson & Stouthamer-Loeber, 1984; Reid, Taplin, & Loeber, 1981) are also at greater risk for conduct and social problems, as are children whose parents are disengaged from their children's school experiences and provide little reinforcement for prosocial behavior (for review, see Webster-Stratton, 1990). Moreover, the risk of a child developing conduct problems and poor social adjustment increases exponentially with each additional risk factor (Coie *et al.*, 1993; Rutter, 1980).

Poverty is probably one of the most powerful risk factors for poor outcome in children because of its related aggregation of risk factors such as unemployment, crowded living conditions, high life stress, low education, high mobility, health problems, and so forth (McLoyd, 1990). Offord *et al.* (1986) found that low income was one of the most significant risk factors for conduct disorder, but that it had its effect on young children, not on adolescents. Moreover, they showed that rates of conduct disorder were significantly higher for children from low-income welfare families than for children from low-income nonwelfare families (Offord *et al.*, 1987). Compared to the literature focused on maladaptive outcomes of poverty on antisocial behavior, less attention has been focused on the processes related to the socialization of social competence in children living in poverty.

In attempting to understand the processes through which economic hardship affects children's early social adjustment, the Head Start population is an ideal population on which to focus, because it represents a population of economically disadvantaged families on welfare with preschool children. Since these children are enrolled in a preschool program, we can readily observe their peer

interactions as well as obtain information from teachers and parents regarding their behavioral adjustment. At present, we know comparatively little about the prevalence of conduct problems and poor social competence in Head Start children, because prior research with this population has been concerned primarily with academic readiness and cognitive development as the child outcomes of interest (Hubbell, 1983; Zigler & Styfco, 1993). Moreover, those Head Start centers which have been concerned with assessment of the children's behavioral and social adjustment have relied on teacher report data—often using nonvalidated measures lacking normative data for this age group, making it impossible to determine what percentage of children's behaviors are outside the normal range. Rarely have assessments included standardized parent reports of child behavior and social problems or observations of parent-child interactions at home. Nor has research used direct observation of Head Start children's social interactions with peers and behavioral misconduct as a means of assessment. Yet the classroom and the home are potentially rich sources of information regarding the behavior and social skills of this population. How pervasive are conduct problems and low social competence in this high risk population? What percentage of preschool children who have behavior problems at home have the same problems at school? This would be important to understand since the literature has suggested that those children who exhibit conduct problems across settings from home to school (pervasive) are at higher risk for continuing on the trajectory towards delinquency and drug abuse than children whose conduct problems are present in only one setting (non-pervasive) (Kazdin, 1985).

In addition to our general lack of awareness regarding the prevalence and pervasiveness of conduct problems and low social competence in this population, little is known about the particular risk factors associated with these problems in this economically disadvantaged population. For example, there are many children enrolled in Head Start who, despite living under conditions of extreme economic adversity, are well behaved and socially and academically competent. Which risk factors distinguish between those economically disadvantaged families whose children show good social and behavioral adjustment from those whose children exhibit early onset conduct problems and low social competence? For children with pervasive problems (vs. nonpervasive) are

the risk factors different or merely greater in number? Reviewers (McLoyd, 1990) noted that there has been little research examining the relations between preschool conduct problems and the risk correlates of poverty, or the relative importance of the multivariate predictors. For example, what are the characteristics of families in this disadvantaged population (or combinations of characteristics) that may protect children from developing conduct problems? Which ones can foster social competence? A final question to be asked is whether the risk factors for conduct problems are identical to those for low social competence or whether they are different? If identical, then conduct problems and social competence are reverse sides of the same coin; if different, the relationship is more complex than is usually assumed.

The purpose of the current project was to determine the prevalence of early onset conduct problems, low social competence, and the associated risk factors in a sample of 426, 4-year-old children from 64 Head Start classrooms in the Seattle area. We also sought to understand the relative combination of risk factors associated with conduct problems and low social competence in this socioeconomically disadvantaged population. Family risk factors associated with poverty such as high negative life stress, low education, isolation, depression, mothers' childhood abuse history, and parenting competence (e.g., Daro, 1988; Gecas, 1979; Hawkins, Catalano, & Miller, 1992; Kazdin & Kolko, 1986; McLoyd, 1990; Ogbu, 1978; Rutter & Giller, 1983; Trickett, Aber, Carlson, & Cicchetti, 1991) were examined in relation to children's behavior and social skills. In addition, we were interested in understanding whether children whose conduct problems and poor social competence were pervasive (i.e., occurred both at home and at school) differed in terms of their risk factors from those children whose conduct problems and social problems were nonpervasive (i.e., occurred in only one setting). We compared these two groups (pervasive and nonpervasive) with a group of socially well-adjusted Head Start children to obtain some understanding of protective factors. In addition to family risk factors we also examined gender (boys vs. girls) and ethnicity (Caucasian vs. minority) factors in relation to pervasiveness of problems. We assessed children's social competence and conduct problems by means of detailed observations of socialization processes including children's interactions with peers and teachers at school, interactions with parents at home, and parent and teacher reports on standardized measures.

METHOD

Participants

Eight Head Start centers (64 classes) were chosen from the Puget Sound Head Start district. These eight centers were chosen to represent a variety of ethnic groups. All of the children, mothers, and teachers were assessed in the fall of 1993 and 1994, approximately 2–3 months after they had enrolled in the Head Start program. Because the majority of families were headed by single mothers, the number of fathers in our sample was small. Therefore, fathers were not included in this analysis.

The population originally signing up for the study consisted of 542 families (approximately 85% of the families enrolled in these Head Start centers). About 10% of the sample could not speak English and were not included in the present study. During baseline assessments, 116 families (21%) withdrew from the study. Data from prior years indicated that this Head Start district normally experienced approximately 20–25% dropout after initial enrollment; thus our overall dropout rate reflects normal attrition. Only 2 families identified the assessment as their reason for dropping out. Other reasons included new jobs, scheduling conflicts, moving to a shelter, housing changes, and family crises (e.g., death, fire, loss of housing).

Our final sample (i.e., those completing baseline assessments) consisted of 426 families. Study children included 224 (53%) boys and 202 (47%) girls, with a mean age of 56.53 months ($SD = 4.26$). Of these, 406 (95%) of the children were living with their biological mother, 4 (1%) lived with foster parents, and 16 (4%) with grandparents or other relatives. Study parents included 426 mothers; of these, 233 (55%) were single. Of the 193 partnered couples, 69 fathers participated in the study at baseline (69 mother-plus-father couples). The mean age of mothers was 29.42 ($SD = 6.30$) years and of fathers was 31.68 ($SD = 7.20$) years. Approximately 37% of the children represented minority groups (17% African American, 6% Hispanic, 4% Asian, 4% Native American, and 6% combination). Average yearly income was approximately \$10,000 with 86% reporting they were receiving financial aid. Study families had an average of 2.49 children in the home ($SD = 1.17$).

Procedures

Families were assessed via multiple assessment methods: home interviews with mothers regarding

their family background, emotional status, and level of support; mother and teacher reports of child conduct problems and social competence; and independent observations of children's social interactions at home with parents and in the classroom with peers and teachers.

Home Observations. The interactions between mothers and their children were observed in the home setting. Each dyad was observed for 30 min on one occasion and every effort was made to observe families around the same time of day (not at meal times or evenings). Observations were conducted when all family members were in view of the observer; no telephone calls could be made, and no visitors could be present. Aside from these changes in family routine, parents were told to do what they would normally do at that time.

Classroom Observations (MOOSES). During the fall of the Head Start year, each child was observed on two different days for 30 min in structured and unstructured situations (e.g., playground vs. teacher-directed tasks). The event-based behaviors used were collected continuously during each half-hour session. A computer observation coding system developed by Tapp, Wehby, and Ellis (1993) was used to code the data. Observers went into the classroom and playground with portable laptop computers which were encased in a harness, allowing them to move freely around the area. We revised the coding system for appropriate use with preschoolers and consistently obtained 80% interrater reliability. Reliability was calculated based on agreements divided by agreements plus disagreements.

Measures

Measures for the present study were chosen with the goal of defining conduct problems and social competence by multiple measures reported by multiple agents (teachers, parents, and independent observers). We were interested in both conduct problems and social competence as outcome domains because we believed that an absence of conduct problems did not necessarily mean a child was socially competent. Since in most cases we have used well-established, standardized measures that are commonly referred to in the literature, we describe them only briefly here. However, in the case of observational measures, measures that we adapted, and measures which are less well established, we provide additional reliability and validity information.

Child Social Competence and Conduct Problems at Home

Child Behavior Checklist. The parent form of the CBCL (Achenbach & Edelbrock, 1991) consists of 118 items dealing with behavior problems. For this study, the Externalizing subscale was the primary variable of interest in regard to conduct problems. The children were too young for the Social Competence score to be relevant. The CBCL has established norms; intraclass correlations were .98 for interparent agreement and .84 for test-retest reliability.

Eyberg Child Behavior Inventory. The ECBI (Boggs, Eyberg, & Reynolds, 1990; Robinson, Eyberg, & Ross, 1980) is a 36-item behavioral inventory of child conduct-problem behavior for children 2-16 years. This inventory has been shown to correlate well with independent observations of children's behavior and to differentiate clinic-referred and non-clinic populations. Reliability coefficients for the ECBI scales range from .86 (test-retest) to .98 (internal consistency). The response format gives two scores: a Total Problem score, which is an indicator of the total number of behavior problems; and an Intensity score, which indicates the frequency with which the conduct problems occur. In this study the Total Problem score was used.

Social Competence Scale-Parent. This instrument, the P-COMP, developed by the Conduct Problem Prevention Research Group (K. Biermann, personal communication, 1995), consists of 12 items which assess parents' perceptions of their child's social competence, including prosocial behaviors and emotional regulation. Examples of items include, child is helpful to others, listens to others, shares things with others, works out problems with friends or siblings on own, can calm self down, is good at understanding other's feelings, can give suggestions without being bossy and so forth. A total social competence score is derived from this parent measure. Internal consistency was acceptable ($\alpha = .86$).

Independent Observations at Home—Dyadic Parent-child Interactive Coding System Revised. The DPICS-R (Robinson & Eyberg, 1981) is a widely researched observation measure developed specifically for recording social interactions of children and their parents in the home. Four summary variables (three representing conduct problems) were derived from the child categories to represent conduct problems and social competence: (a) Total Negative Behaviors (sum of whine + cry + physical negative + smart talk + yell + destructive); (b) Noncompliance; (c)

Negative Affect Valence; and (d) Positive Affect and Warmth. For the negative affect valence score, the coders paused every 5 min to rate the child's verbal and nonverbal behaviors on a valence scale ranging from 1 (*exuberant affect*) to 5 (*unrestrained negative affect*). The DPICS-R has been the focus of many psychometric investigations, showing that the behavioral measures are justified on content grounds, and that parent reports of behavior coincide satisfactorily with the DPICS-R scores. In a recent study comparing a referred sample of parents and children with conduct problems with a matched comparison group of parents with behaviorally normal children we showed that the DPICS-R discriminated ($p < .01$) between the two groups on all the child variables (Webster-Stratton & Lindsay Woolley, 1997).

Observers. Our highly trained staff observers ($n = 6$) had extensive experience using the DPICS-R system for approximately 3 years before starting this project. The four newly hired observers had approximately 3 months of training (30–45 hr of practice with videotapes) and established 80% reliability with at least two precoded videotapes before being ready for further training in the home setting with one of our experienced, reliable observers. To become "reliable," the observer must have achieved an interobserver agreement rate of at least 75% with a reliable observer on two consecutive observations. To count as agreement, events must be coded correctly by subject matter and coding categories *and* in the proper sequence. Reliability checks with standardized videotapes were done on a weekly basis and checked during weekly observer meetings as well as for 15% of home observations. Reliability checks for home observations were selected randomly. Intraclass correlations coefficients as a measure of interrater reliability for DPICS child summary scores were .87 for total negative behaviors and noncompliance, .79 for negative affect valence, and .73 for positive affect and warmth. Observers were blind to whether the families were in the experimental or control conditions and were assigned equally to observe families representing both conditions.

Coder Impressions Inventory. The CII was adapted from the Oregon Social Learning Center's Impression Inventory and consists of 72 items pertaining to either the parent, the child, or their interaction. After coding the parent-child interactions on home observations according to DPICS-R, the coders completed the CII inventory recording their impressions of child behavior and parenting style. The CII has two behavior scales for children's con-

duct problems: (a) overall poor conduct (no alpha as it is a single item); and (b) child misbehavior and negative affect (e.g., noncompliance, irritability, sadness, aggression, shouting) ($\alpha = .74$). There was one behavior scale for children's social competence: (c) child positive affect and prosocial behavior (physical and verbal affection, cooperation) ($\alpha = .67$). These alphas were derived from this study. (See below for description of parenting variables.)

Child Social Competence and Conduct Problems at School

Social Competence Scale-Teacher. The T-COMP, a 25-item measure completed by classroom teachers, was developed by the Conduct Problem Prevention Research Group (Bierman, personal communication, 1995). It includes all items on the parent version (described above) concerned with tolerance of frustration, peer relationships, and communication skills/empathy plus additional items pertaining to academic competence. A total social competence score is derived based on the 19 social competence items excluding the academic items. We obtained good internal consistency ($\alpha .98$). Correlation with mother report of social competence was .23 ($p < .002$). This rather low correlation between mothers and teachers is not surprising given that mothers rarely have opportunities to see their children interacting in large group settings.

Teacher Preschool Socio-Affective Profile. The PSP (La Freniere & Stroufe, 1985), a 30-item measure, designed specifically for teachers of preschoolers and normed on Head Start children, is composed of three 10-item scales balanced for positive (competence) and negative (problem) behaviors. It has two factors related to conduct problems and social competence: angry-aggressive and social competence. The interrater reliability of the two factors were uniformly high (.86 and .85, respectively) with good internal consistency ($\alpha .89$ and .95, respectively).

Teacher Report of Conduct Problems. The TRF (Edelbrock & Achenbach, 1984) includes many of the same problem behaviors that parents identify on the CBCL. It omits CBCL items that teachers would not ordinarily be able to identify, and includes additional items identifiable only by teachers. The TRF consists of teachers' ratings of academic performance, four general adaptive characteristics, and 112 behavior problems. In this study we were interested in the behavior problem items constituting the externalizing summary score. Because of the young age

of the children, we did not utilize the academic and social scores. The TRF has been shown to have good validity, and test-retest reliability correlations have ranged from .90 (1 week) to .74 (4 months).

Teacher Observation of Classroom Adaptation-Revised. The TOCA for the classroom (Werthamer-Larsson, Kellam, & Oveson-McGregor, 1990) was revised by the Conduct Problem Prevention group to include teachers' reports of children's conduct problems in terms of authority acceptance (yelling, fighting, lying, breaking rules, aggression) and social contact (being liked, friendly self-reliance). The 16 items of TOCA-R are rated on a 6-point scale ranging from 0 (*never*) to 5 (*almost always*) by the teacher, yielding one school readiness score with good internal consistency (α .92).

Teacher ADHD Checklist. The ADHD checklist (DuPaul, 1990) is a 14-item rating scale, taken from the DSM-III-R, developed to assess the presence of attention deficit hyperactivity disorder. The ADHD checklist yields one factor and has adequate reliability (α s and test-retest .90). It has been shown to discriminate ADHD children from normal children (Barkley, 1996). The score is derived from the number of symptoms rated 2 or higher on a scale ranging from 0 (*not at all*) to 3 (*very much*).

Teacher Aggressive Rating Scale. The AGG (Dodge, Price, Bachorowski, & Newman, 1990) is a 6-item scale developed by Coie and Dodge for teachers to rate proactive and reactive aggression in children. The AGG has good internal consistency (α .93) and has been shown to discriminate children with conduct problems from normal samples (Webster-Stratton & Lindsay Woolley, 1996).

Independent Observations of Child in Classroom. The MOOSES (Tapp *et al.*, 1993) behaviors coded included (a) total negative behaviors (including non-compliance to teacher statement or peer requests, verbal and physical aggression, and disruptive behaviors); (b) noncompliance with teacher; (c) physical and verbal aggression with peers; and (d) total positive behaviors (child compliance to teacher or peer statements, positive initiation to peers). For our social competence variable we computed the ratio of positive behaviors to negative behaviors.

Social Health Profile. This measure is a revised version of TOCA (Werthamer-Larsson *et al.*, 1990) designed to be completed by the school observers after observing the child on two different occasions in the classroom. Consisting of 41 items, it yields 4 subscales: cognitive competence, social contact, authority acceptance, and poor school readiness. We

were interested only in the poor social contact and authority acceptance subscales as measures of social competence. Our analysis for these two subscales indicated acceptable internal consistency (α s .95, .84).

Risk Factor Measures

Parental Risk Factors

Interview Regarding Background Factors. During a home interview information was obtained regarding the mother's background risk factors including a family history of abuse, criminal activities, drug abuse, and psychiatric problems. These questions were asked rather directly, such as, "have you every had a history of," and were usually answered in a yes or no format. We also assessed for other demographic/background risk factors, including low education (less than high school), minority, single or unpartnered, younger than 19 years of age when first child was born, and history of homelessness.

Maternal History. A childhood parenting experiences measure was adapted from a 161-item questionnaire called Assessing Environments III (Berger, Knutson, Mehm, & Perkins, 1988). The measure was originally designed to assess childhood experiences of physical punishment and environmental characteristics indicative of an abusive family. It has 15 scales, 3 of which were used in this study. The *Severe Physical Punishment* scale (6 items) asks respondents about experiences being kicked, punched, choked, severely beaten, hit with objects, tied up, and any actions requiring medical attention. The *Harsh/Strict Discipline* scale (21 items) asks respondents about experiences of being spanked, called bad names, feeling mistreated, hit with parents' hands, punished harshly, injured by discipline (no medical attention sought), and feeling mistreated, disciplined unreasonably, and unsupported by parents. The third scale, *Negative Family Atmosphere* (14 items), asks respondents about parental arguments, marital problems and divorces, disagreements regarding child rearing, mothers' depression, fathers' problems with police, and discipline inconsistency. Internal consistency for these scores was good (α s .76, .92, and .86). In studies by (Berger *et al.*, 1988), the three scales demonstrated test-retest reliabilities of .84 to .85. We also added a fourth score, *Sexual Abuse as a Child*, which was a single item rated on a 4-point scale. For analysis, these four maternal history variables were dichotomized into low versus high risk where "high"

was indicated by scores of 1 or more items under Severe Physical Punishment, 13 or more items (> 60% of items) under Harsh/Strict Discipline, 9 or more items under Negative Family Atmosphere, and any item under Sexual Abuse as a Child.

Family Stress and Support

Life Experience Survey. The LES (Sarason, Johnson, & Siegel, 1978) is a 57-item measure that asks respondents to rate their positive and negative life experiences over the previous year. It has been found to have adequate test-retest reliability (6 week, .56-.88). For the purposes of this study, we used the total number of negative life events.

Support Scale (SUPPORT). This 20-item questionnaire developed by (Procidano & Heller, 1983) assesses parents' perceptions of support from family and friends. These scales measure the quality of emotional support received. The mothers were asked to respond "yes," "no," or "don't know" to 20 statements referring to their family and to 20 similar statements referring to their friends. It has been shown to be internally consistent and to measure valid constructs separate from each other. It is correlated inversely with symptoms of distress, psychopathology, and low social competence. Alphas for the family scale and friends scale were .96 and .92, respectively, indicating good internal validity.

Mother Emotional State

Feelings Questionnaire. The CES-D Depression Scale (Radloff, 1977) consists of 20 items and has been shown to provide a reliable and valid index of self-reported depressive symptoms (our $\alpha = .90$).

Brief Anger-Aggression Questionnaire. The BAAQ (Maiuro, Vitaliano, & Cohn, 1987) is a brief six-item measure developed for assessment of anger levels. Four studies with 401 men have indicated respectable internal consistency ($\alpha = .82$), test-retest reliability ($r = .84$), construct validity and criterion validity (.89) (our $\alpha = .75$).

Parenting Competencies

Parenting measures assessed specific parenting skills (e.g., number of critical statements) as well as parenting style (supportive) and discipline style, by

means of parent reports as well as independent observations at home. We also assessed parent involvement in their children's education.

Parent Interview Regarding Discipline Style and Techniques. This interview, adapted from the Oregon Social Learning Center's (OSLC) prevention project, was revised by our project for use with parents of preschoolers. It contains two different sections. The first section, *Discipline Style and Techniques*, comprises parent-rating scales and open-ended questions which are coded for specific discipline techniques and comprise three summary scores: (a) harsh discipline style (7 items on a 3-point scale, including slapping, hitting, yelling, whipping, prolonged confinement); (b) consistency (16 items on a 4-point rating scale, including consistency in follow through, predictability of parent responses, level of parental discouragement, confidence in parenting); (c) appropriateness of limit setting techniques (13 types including nonviolent approaches such as ignore, time-out, warning of consequences, distraction, redirection); and (d) mothers' report of child abuse or involvement with Child Protective Services in the past or present. For the third score parents were asked how they would respond to the following child misbehaviors: arguments, hitting another child, hitting parents, arguing with peers, lying, and stealing. The parents' responses were recorded verbatim and then scored according to the Parent Daily Discipline Interview Coding System (DDI). The DDI coding system (Webster-Stratton & Spitzer, 1991) consists of 38 items grouped into three categories: (a) appropriate limit-setting techniques (13 items defined as nonviolent approaches such as ignore, time-out, warning of consequences, withdrawal of privileges, distraction, redirection, monitoring, separating children, grandma's rule); (b) physical negative discipline techniques (10 items defined as slapping, hitting, kicking, shaking, spanking, pushing, soap in mouth, and dragging); and (c) verbal negative discipline techniques (15 items defined as yelling, shouting, fighting, threatening physical punishment, rejecting, humiliating, and criticizing). Interrater reliabilities were obtained for 20% of the home observations, with two raters scoring the parents' responses. Intraclass correlation coefficients for the summary scores were .93 for physical negative techniques, .94 for verbal negative techniques, and .97 for appropriate limit setting techniques. The second section of the parenting interview was concerned with *Positive Parent Involvement in School* and consisted of one summary score (INVOLVE—M) comprising four items reflecting the mother's involvement in school activities,

including helping in the classroom, attending parent meetings, participating in social events at school, and talking with the teacher. Internal consistency for parenting variables was moderate to good, ranging from .53 (positive involvement in school) to .62 (harsh) to .83 (consistent discipline). We did not expect particularly high alphas because in some cases the variables had very few items and because our constructs were based on our definitions of consistency, harsh style, or involvement.

Parent-Teacher Involvement Questionnaire (INVOLVE-T). This 32-item scale, derived from the OSLC interview, was revised for our use to evaluate teachers' perceptions of parents' involvement in their children's education and frequency of contact with teachers and school. There were 8 items rated on a 5-point scale such as "parent encourages positive attitude," "parent has same goals for child as school," and "parent feels education is important." Internal consistency was good (α .93).

Dyadic Parent-Child Interactive Coding System Revised. The DPICS-R (Robinson & Eyberg, 1981) is described above. We utilized three separate summary variables from the parent behavior categories: (a) Total Positive Affect, Praise, and Physical Positive; (b) Total Criticisms; and (c) Total Negative Affect Valence. For the negative affect valence, coders paused every 5 min to rate the parent's verbal and nonverbal behaviors on a scale ranging from 1 (*exuberant affect*) to 5 (*unrestrained negative affect*). A high score is negative. Intraclass correlations coefficients as a measure of interrater reliability for DPICS mother summary scores were .70 for positive affect, praise and physical positive, .77 for total critical statements, and .91 for negative affect valence.

Coder Impression Inventory. The CII, described above for the child behavior scales, has a parent inventory that assesses three dimensions of parenting style: (a) *nurturing/supportive*, consisting of 13 items including acceptance, appreciation and respect, positive encouragement, patience, verbal and physical affection; (b) *harsh/critical*, consisting of 11 items including lack of acceptance, condemnation and disregard, criticisms, sarcasm, neglect and lack of acknowledgment of child's abilities; and (c) *discipline competence*, 13 items including the parent's ability to gain compliance through a variety of discipline techniques, clear limit-setting, realistic expectations, consistent followthrough, and general confidence. Independent observers rate parents on a Likert scale ranging from *no basis* and *did not occur* to *multiple examples*. Our analysis indicated that each scale dem-

onstrated acceptable interitem reliability, with a Cronbach's alpha of .91, .88, and .84 for the three scales. Interobserver reliabilities ranged from .75-.96.

RESULTS

First we examined the prevalence of conduct problems and low social competence as reported by parents and teachers and as observed at home and in classrooms by independent raters. To determine if there were gender or ethnicity effects we conducted ANOVAs with two factors: gender (boys vs. girls) and ethnicity (Caucasian vs. minority). Next we describe this group of children by categorizing them into normal, borderline, and clinical ranges. To do this we utilized published normative data and established cutoff points for the parent and teacher reports. For the independent observational data (where there are no established normative data) we compared (ANOVA) the Head Start population of 4-year-olds with a matched clinic sample of children of the same age who had been diagnosed with Oppositional Defiant Disorder or Conduct Disorder on the DPICS-R.

Child Conduct Problems and Social Competence at Home

Based on mother reports on the Eyberg Child Behavior Inventory (ECBI), 41% of the children had conduct problems above the cutoff point for normal; 23% were in the clinical range (Robinson *et al.*, 1980). The mean number of total problems according to the ECBI was 9.52 ($SD = 7.43$) and the intensity score was 112.30 ($SD = 29.38$). (See Table I for percentage of subjects in normal, borderline, and clinical ranges and Table II for means and standard deviations.)

The child behavior problem on the ECBI identified most often as a problem by mothers (49%) was refusing to obey unless threatened with punishment. This was followed by other oppositional behaviors such as whining, interrupting, getting angry when does not get own way, screaming, acting defiant, sass-ing, tantruming, and refusing to go to bed or do chores. Over one third of the mothers were concerned about arguments, dawdling, verbal and physical fights with siblings, and refusing to eat. Behavior problems that were identified less often included wetting the bed (11%), poor table manners (15%), short attention span or distraction (15%), and restlessness (23%) (Table III).

Table 1. Percentage of Children in Normal, Borderline, and Clinical Range for Conduct Problems and Poor Social Competence at Home and at School

	Normal range	Borderline range	Clinical range
Conduct problems			
Mother reports			
Externalizing (CBCL) ^a	70.0	8.1	21.9
Total problems (ECBI) ^a	59.1	18.3	22.6
Home observations (DPICS-R)			
Total negative behaviors ^b	67.6	22.3	10.1
Noncompliance ^c	64.7	28.5	6.7
Negative affect valence ^d	84.9	—	15.1
Teacher reports			
Externalizing (TRF) ^e	84.7	7.3	8.0
Angry/aggressive (PSP) ^f	80.1	—	19.9
ADHD symptoms ^g	91.5	—	8.5
Aggressive attributions (AGG) ^h	89.3	8.3	2.4
Classroom observations (MOOSES)			
Physical aggression with peers	76.9	11.8	11.3
Verbal aggression with peers	72.3	12.4	15.3
Noncompliance with teacher	84.4	8.3	7.3
Total negative with teacher & peers	51.6	17.7	30.6
Social competence			
Mother reports			
Social competence (P-COMP) ⁱ	75.7	13.7	10.6
Home observations (DPICS-R)			
Ratio compliance/noncompliance ^j	82.9	—	17.1
Teacher reports			
Social competence (PSP) ^k	92.5	—	15.3
Anxious/withdrawal (PSP) ^l	85.7	—	14.3
Social competence (T-COMP) ^k	88.9	9.7	1.5
Poor school readiness (TOCA-R) ^l	86.7	6.3	7.0
Classroom observations			
Poor social contact (SHP)	74.7	—	25.3

^aCBCL—Published cutoff scores >63 clinical; borderline >60–63; ECBI—above 15 clinical and above 10 borderline.

^bTotal negative—clinical >1 per minute; borderline >1 every 2–3 minutes.

^cNoncompliance—clinical >1 every 3 minutes; borderline >1 every 10 minutes.

^dClinical = more negative than neutral/positive.

^ePSP above 85th percentile. Clinical ≥85th percentile for gender.

^fEight or more symptoms.

^gBorderline = 13–16; clinical >16.

^hFast Track Normative Data <17 clinical; borderline 17–20.

ⁱCompliant less than 1/3 time.

^jClinical ≥15th percentile for gender.

^kBorderline = 13–22; clinical ≤13.

^lBorderline = 29–34; clinical ≥34.

Based on mother reports on the CBCL, 30% of the children were above the cutoff *T* scores for externalizing problems; 22% were in the clinical range (i.e., a *T* score above 63, or the 90th percentile).

On the social competence measure completed by mothers (P-COMP), 24% of the children were below the normal range, indicating these mothers perceived their children as having few prosocial behaviors. Normative data for this measure were based on

the Fast Track normative sample of kindergarten children, where a score of less than 21 was in the clinical or borderline range for social competence (Biermann, personal communication, 1995).

Home observations of child behavior confirmed the mother report data. Children exhibited noncompliant, oppositional and aggressive behaviors at a mean rate of 12.71 (*SD* = 12.93) per 30 min (i.e., one negative behavior every 2 to 3 min); 33% of

Table II. Mother Reports and Independent Observations of Child Social Competence and Conduct Problems at Home ($N = 426$)

Variable	<i>M</i>	<i>SD</i>
Conduct problems		
Child externalizing behaviors (CBCL) ^a	55.04	9.90
Child total behavior problems (ECBI) ^a	9.52	7.43
Child intensity of behavior problems (ECBI) ^a	112.30	29.38
Total child negative behavior ^b	9.46	11.03
Child noncompliance ^b	3.24	3.53
Negative affect valence ^{a,c}	2.77	0.42
Misbehavior/negative affect (CII) ^b	1.45	0.43
Overall poor conduct (CII) ^b	3.28	1.30
Social competence		
Child social competence (P-COMP) ^a	25.72	7.45
Positive affect and warmth ^b	14.28	14.37
Prosocial behavior (CII) ^b	2.26	0.48

^aMother reports.^bHome observations.^cValence-high score is unrestrained negative affect.Table III. Percent of Parents Reporting Each ECBI Behavior as "Currently a Problem" at Baseline and Mean Intensity Rating ($N = 426$)

Variable	Intensity	
	% Yes	<i>M</i>
Refuses to obey until threatened with punishment	48.7	3.67
Whines	45.0	3.90
Interrupts	43.7	4.20
Gets angry when doesn't get own way	40.9	4.10
Yells or screams	39.9	3.69
Verbally fights with siblings	39.7	3.49
Acts defiant when told to do something	39.1	3.46
Refuses to go to bed on time	38.4	3.84
Physically fights with siblings	36.6	2.91
Sasses adults	35.4	3.03
Refuses to do chores when asked	41.3	3.44
Easily distracted	14.8	3.44
Short attention span	14.0	3.16
Poor table manners	15.0	2.68
Wets bed	10.9	1.98
Difficulty concentrating	10.7	2.63
Steals	7.6	1.37

children were in the moderate to high range for child negative behaviors (i.e., more than one every 3 min) and 35% were in the moderate to high range for noncompliance (i.e., more than 1 every 10 min). In terms of behaviors related to social competence, 15% of children were observed to have a high negative affect valence and 17% had a ratio of compliance to noncompliance of less than .67. These cutoff points were based on ranges of our clinic population of over 600 children (ages 3 to 5 years) diagnosed with ODD/CD.

For the variables in Table II, we conducted ANOVAs with two factors: gender and ethnicity. Results indicated significant main effects for ethnicity. There were no main effects for gender, nor were there any significant gender by ethnicity interactions. Main effects for ethnicity indicated that minority mothers reported significantly fewer behavior problems than Caucasian mothers according to the CBCL, $F(1, 393) = 8.30, p < .01$, the ECBI intensity score, $F(1, 390) = 5.45, p < .05$; and the ECBI problem score, $F(1, 390) = 10.60, p < .01$. Minority mothers also reported significantly higher levels of social competence in their children on the P-COMP compared with Caucasian mothers, $F(1, 391) = 10.11, p < .01$. Independent home observations of child conduct problems and social competence revealed no ethnicity differences.

Child Conduct Problems and Social Competence at School

Results from teacher reports of externalizing problems on the TRF indicated that 15% of the children were above the normal cutoff *T* scores for externalizing problems; 8% were in the clinical range (i.e., a *T* score above 63, or the 90th percentile). According to teacher reports on the PSP, 20% of the children were in the high range on the angry-aggressive subscale of the PSP (according to LaFrenier and Dumas norms with 4-year Head Start children; LaFreniere & Stroufe, 1985); 8.5% exceeded the DSM-III-R cutoff for a diagnosis of ADHD; and 11% were in the moderate to high range for proactive and reactive aggression on the AGG measure. (See Table IV for means and standard deviations of teacher reports and classroom observations and Table I for percentages of children in normal, borderline and clinical ranges.)

Independent classroom observations of conduct problems corroborated teacher reports: 11% of the children were in the high range for physically aggressive behaviors with peers (i.e., 3 or more physically aggressive outbursts in 60 min); 7% of children were in the high range for noncompliant behaviors in response to teacher requests (i.e., 3 or more in 60 min); and 31% of the children were in the high range for negative behaviors (i.e., 6 or more disruptive behavior, physically aggressive, verbally aggressive, non-compliance to teacher, negative response to teacher or peer every 60 min).

Table IV. Teacher Reports and Independent Observations of Social Competence and Conduct Problems in the Classroom

Variable	<i>M</i>	<i>SD</i>
Conduct problems		
Externalizing (TRF) ^a	48.97	9.48
Angry/aggressive (PSP) ^a	2.05	1.14
Number of symptoms (ADHD) ^{a,b}	1.82	3.31
Aggressive behaviors (AGG) ^{a,c}	4.44	5.24
Noncompliance with teacher ^d	0.74	1.59
Physical aggression with peers ^d	0.97	1.81
Verbal aggression with peers ^d	1.12	1.69
Total negative (with teacher and peers) ^d	4.69	4.80
Social competence		
Social competence (T-COMP) ^a	46.78	17.82
Social competence (PSP) ^a	4.03	1.06
Poor school readiness (TOCA-R) ^{a,c}	14.73	11.65
Total positive (with teacher and peers) ^d	56.03	19.57
Poor authority acceptance (SHP) ^f	0.24	0.34
Poor social contact (SHP) ^f	1.68	1.24

^aTeacher reports.^bAttention Deficit Hyperactivity Disorder.^cProactive and Reactive Aggression.^dMOOSES computer observation system by independent raters; frequency in 60 min.^eTeacher observation of classroom adjustment—a high score is poor.^fSocial Health Profile—a high score is poor.

Results from teachers' reports of social competence indicated that 15% of children were in the clinical range on the PSP social competence subscale. On the other two teacher measures of social competence and school readiness, the T-COMP and TOCA-R, 11 and 13% of the children were in the borderline to clinical range for social competence, respectively.

Classroom observations of social competence found children exhibiting high rates of positive interactions with peers and teachers at a mean rate of 56.03 (*SD* = 19.57) in 60 min and low rates of negative interactions with peers and teachers at a mean rate of 4.69 (*SD* = 4.80) in 60 min. The overall mean ratio of positive interactions to total interactions (*M* = 0.93, *SD* = 0.06) indicated that an average of 93% of all interactions were positive: 20% of the children showed relatively low ratios of positive interactions with less than 89% of their interactions being positive. According to classroom observations of social competence on the Social Health subscales, 25% of the children had poor social contact with peers.

For the variables in Table IV, we also conducted ANOVA with two factors, gender and ethnicity. Results indicated significant main effects for gender. There were no significant main effects for ethnicity,

nor were there any gender by ethnicity interactions. Main effects for gender indicated that teachers reported boys to have more problems with anger (PSP), $F(1, 317) = 18.19, p < .001$; more hyperactive symptoms (ADHD), $F(1, 407) = 19.85, p < .001$; more negative attributions (AGG), $F(1, 407) = 12.06, p < .01$; less social competence (T-COMP and PSP), $F(1, 409) = 34.19, p < .001$, and $F(1, 317) = 16.42, p < .001$; lower school readiness (TOCA-R), $F(1, 409) = 33.63, p < .001$, compared with their reports of girls. Independent observations indicated that boys were significantly more noncompliant with teachers (MOOSES), $F(1, 368) = 6.56, p < .05$, and had more difficulties with authority acceptance (SHP), $F(1, 374) = 5.44, p < .05$, compared with observations of girls.

Risk Factors

Maternal History and Background

During the interviews with mothers we asked about particular background risk factors. Twenty-one percent of the mothers had their first child when they were a teenager; 16% had lived in a shelter at some time with their children; 30% of mothers (and 45% of fathers/partners) had a history of substance abuse and/or criminal activity; 14% of mothers had a history of psychiatric illness. In addition, 24% of mothers had less than a high school education; 26% were of a minority ethnic group; and 55% were single or unpartnered.

Approximately 29% of the mothers had experienced childhood histories of harsh/strict discipline in the severe range on the Parent History Environments III interview (Berger *et al.*, 1988) (i.e., endorsing more than 60% of the items), 31% were in the severe range for Negative Family Atmosphere, and 25% for severe physical abuse (i.e., abuse requiring medical attention). Twenty-six percent reported they had been sexually abused as a child.

Stress and Support

On the LES, the average number of stressful life events over the past year (i.e., events which were perceived negatively by mothers) was 4.00 (*SD* = 3.51). When asked about emotional or social support, 29% of mothers reported minimal to no support from

Table V. Family Stress and Support and Mother Emotional State

Variable	<i>M</i>	<i>SD</i>
Mother emotional state		
Depressed mood (CES-D)	16.56	11.02
Anger (BAAQ)	7.32	3.90
Family stress and support		
Family support	13.59	5.65
Friends support	15.35	4.56
Negative life events (LES)	4.00	3.51

family and 16% minimal to no support from friends. (See Table V for means and standard deviations.)

Mother Emotional State

Of the mothers 42% reported moderate depression symptoms, scoring 17 or more on the CES-D; and 27% were above the normal cutoff point for anger on the BAAQ measure (Table V).

Parenting Competencies

Independent observations indicated that mothers exhibited a mean rate of 20.19 criticisms (*SD* = 17.71) per 30 min; 62% of mothers were in the moderate to high range for this variable (i.e., more than one criticism every 3 min). On a separate CII, coders rated 35% of mothers in the moderate to high range for harsh/critical style (i.e., lack of engagement, sarcasm, lack of acceptance, neglect). Mothers' own reports corroborated the independent coder findings: 53% of mothers reported they "sometimes" or "frequently" used harsh discipline practices (slapping, hitting, screaming, hitting, prolonged confinement) and 38% reported they "sometimes" or "frequently" were inconsistent in their discipline (Table VI).

Pervasive and Nonpervasive Conduct Problems

We were interested in knowing the proportion of children whose conduct problems were pervasive (i.e., clinically significant at home and school) versus the proportion whose conduct problems were nonpervasive (i.e., clinically significant at home or school, but not both). Children were categorized as having conduct problems at home if their behavior fell outside the normal range based on either mother

Table VI. Mother Reports and Independent Observations of Parenting Competence and Discipline Style

Variable	<i>M</i> or %	<i>SD</i>
Mother reports of discipline (LIFT)		
Harsh discipline style	1.23	0.39
Inconsistent style	1.34	0.60
Appropriate limit setting techniques ^a	4.13	1.98
Mother report of positive reinforcement (LIFT)	3.53	0.72
Child abuse/CPS involvement	19.7%	
Coder impression of discipline (CII)		
Nurturing/Supportive	2.44	0.48
Harsh/Critical	1.46	0.49
Discipline competence	2.22	0.43
Mother observations (DPICS) ^b		
Positive affect, praise, physical positive	22.39	16.31
Total critical statements	20.19	17.71
Negative affect valence ^c	2.85	0.44
Involvement in school		
Positive involvement (INVOLVE-M)	3.10	1.03
Parent involvement in child's education (INVOLVE-T)	2.51	0.92

^aAppropriate discipline defined as nonviolent approaches (e.g., warning of consequences, Time-Out).

^bNumber in 30 minute observation.

^cValence = a high score (5) represents unrestrained negative affect and low score is positive and exuberant.

reports (CBCL Externalizing *T* score > 59) or independent observations in the home (DPICS deviant plus noncompliant behaviors > 14 in 30 min). Children were categorized as having conduct problems at school if their behavior fell outside the normal range based on either teacher reports (TRF Externalizing *T* score > 59) or independent observations at school (MOOSE total negative behaviors > 5 in 60 min). Using these criteria, 48% of the children were classified as having conduct problems at home and 35% as having conduct problems at school. The final classification indicated that 19% had pervasive conduct problems and 45% had nonpervasive problems; 36% had normal conduct at home and school.

Risk Factors Related to Pervasiveness of Child Conduct Problems

We next sought to determine the differences among the three groups of children (normal, nonpervasive, and pervasive conduct problems) on the parental risk factors. Four categories of parental risk factors were used: maternal history and background, family stress and support, mother emotional state, and parenting competence. For analysis of differ-

ences among the three groups on the three parental risk categories with continuous variables (family stress and support, mother emotional state, and parenting competence), we conducted an overall multivariate analysis of variance (MANOVA) for each parental risk category. When the multivariate F for the category was significant ($\alpha = .05$), we conducted univariate ANOVAs for the parental risk factors within the category, followed by the Newman-Keuls range test for pairwise comparisons among the three conduct problem groups. For analysis of differences among the three groups on the family history and background risk category, which comprises dichotomous variables, ANOVA was used to test overall differences among the three conduct problem groups on the number of history and background factors. When this F was significant, we conducted 2×3 -group chi-square analyses for each of the parental risk factors within the category, followed by 2×2 -group chi-square analyses for pairwise comparisons among the three conduct problem groups.

Differences among the three groups of children—normal, nonpervasive, and pervasive conduct

problems—are presented in Tables VII and VIII and are summarized below.

Maternal History and Background

The following background risk factors were examined for their association with child conduct problems: (a) mother's childhood history of severe physical punishment, harsh/strict discipline, negative family atmosphere, and sexual abuse; and (b) mother's demographic/background factors including substance abuse and/or criminal activities, psychiatric illness, homelessness, teenage parenthood, less than high school education, and single parent status. The number of history/background risk factors was also computed.

The overall ANOVA to test differences among the three conduct problem groups (normal, nonpervasive, and pervasive) on the number of maternal history and background risk factors was significant, $F(2, 416) = 7.41, p < .001$. Chi-square tests for the individual risk factors revealed significant differences on three of the history/background factors (see Table

Table VII. Family History and Background Factors, Stress and Support, and Mother's Emotional State by Pervasiveness of Conduct Problems

Mother variables	Normal (N)		Nonpervasive (NP)		Pervasive (P)		Univariate tests ^a	Significant group differences
	M or %	SD	M or %	SD	M or %	SD		
Family history and background								
Past family history								
Severe physical punishment	19.2%		28.2%		30.7%			
Harsh/strict discipline	26.0%		28.7%		37.3%			
Negative family atmosphere	25.3%		32.8%		34.7%		14.47 ^d	P,NP>N
Sexually abused	14.9%		30.6%		34.7%			
Mother's background							12.30 ^c	P,NP>N
Substance abuse/criminal history	19.2%		33.7%		39.0%			
Psychiatric illness	12.4%		12.9%		18.4%			
Ever lived in shelter	14.5%		17.2%		12.5%			
< 19 years at firstborn	19.9%		25.7%		16.0%			
Low education	23.0%		24.2%		24.7%		10.42 ^c	P>NP,N
Single/unpartnered	47.1%		54.3%		69.1%		7.41 ^d	P,NP>N
Number history/background risk factors	2.14	1.65	2.72	1.85	3.01	1.89		
Family stress and support								
Negative life events (NLES)	3.44	3.37	4.25	3.61	4.46	3.49		
Support from family	14.02	5.46	13.76	5.60	12.36	6.12		
Support from friends	15.64	4.12	15.11	5.03	15.34	4.28		
Mother emotional state								
Depression (CES-D)	14.27	9.78	17.78	11.47	18.82	11.45	5.34 ^c	P,NP>N
Anger (BAAQ)	6.64	3.50	7.77	4.00	7.51	4.19	3.37 ^b	NP>N

^aChi square for dichotomous variables and ANOVA for continuous variables.

^b $p < .05$.

^c $p < .01$.

^d $p < .001$.

Table VIII. Parenting Competencies by Pervasiveness of Conduct Problems

Mother variables	Normal (N)		Nonpervasive (NP)		Pervasive (P)		Univariate tests ^a	Significant group differences
	M or %	SD	M or %	SD	M or %	SD		
Home observation (DPICS-R)								
Critical statements	13.91	12.48	21.56	17.30	28.80	22.04	21.36 ^c	P>NP>N
Negative affect valence ^b	2.72	0.36	2.89	0.44	3.01	0.49	13.81 ^c	P>NP>N
Positive affect, praise, physical positive	24.09	16.50	22.22	16.13	20.02	16.37		
Coder impressions of discipline style (CII)								
Nurturing/supportive	2.57	0.39	2.42	0.49	2.28	0.52	11.32 ^c	N>NP>P
Harsh/critical discipline	1.25	0.29	1.47	0.50	1.82	0.56	41.62 ^c	P>NP>N
Discipline competence	2.33	0.35	2.20	0.43	2.06	0.49	11.52 ^c	N>NP>P
Mother report of discipline (LIFT)								
Harsh discipline	1.16	0.38	1.25	0.38	1.35	0.39	6.42 ^d	P, NP>N
Inconsistent discipline	1.20	0.54	1.37	0.60	1.55	0.63	9.29 ^c	P>NP>N
Appropriate limit setting	3.86	1.92	4.37	2.08	4.01	1.80		
CPS involvement	13.5%		21.4%		26.3%		6.04 ^c	P>N
Involvement in school								
Positive involvement in school (INVOLVE-M)	3.18	1.01	3.09	1.06	2.96	1.03		
Involvement in education (INVOLVE-T)	2.49	0.82	2.49	0.98	2.58	0.94		

^aANOVA.^bHigh = negative.^c $p < .05$.^d $p < .01$.^e $p < .001$.

VII). Mothers of children with pervasive and nonpervasive conduct problems were significantly more likely to have been sexually abused in childhood and have a higher rate of substance abuse/criminal activity compared to mothers of children with normal conduct. There was also a higher percentage of single mothers for children with pervasive conduct problems than in the other two groups.

Stress and Support

Two risk factors were looked at in regard to their association with child conduct problems: (a) mothers' perceived degree of support from friends and family perceived by the mother; (b) number of total negative life events over the past year (e.g., unemployment, death, divorce, moves, etc.) reported by mothers.

The overall MANOVA to test differences among the three groups of children (normal, nonpervasive, and pervasive) on the family stress and support variables was nonsignificant, $F(6, 692) = 1.67$.

Mothers' Emotional State

The two factors that were examined in regard to their association with child conduct problems were (a) mother depression and (b) mother anger.

The overall MANOVA to test differences among the three risk groups of children was significant $F(4, 778) = 3.23, p < .05$. ANOVA tests revealed significant main effects for both the depression and anger risk factors (see Table VII). According to Newman-Keuls range tests ($p < .05$) pairwise differences showed mothers of children with pervasive conduct problems and those with nonpervasive problems reported significantly more depression than mothers of children with normal conduct and mothers of children with nonpervasive problems reported more anger than mothers of children with normal conduct.

Parenting Competencies

The following risk factors were examined in regard to their association with child conduct problems: (a) mother parenting behaviors (DPICS-R)—criticisms, negative affect valence, and positive affect/praise; (b) harsh/critical versus nurturing discipline styles and discipline competence as observed (CII); (c) inconsistent or harsh discipline versus appropriate limit setting techniques, as determined based on parent report (LIFT); (d) involvement with Child Protective Services (CPS); and (e) parent involvement with school as reported by parents and

parent involvement in child's education as reported by teachers (INVOLVE-M and T). (See Table VIII.)

The overall MANOVA examining differences among the three groups of children on parenting competencies was significant $F(24, 724) = 4.41, p < .001$. ANOVA and chi-square analyses indicated significant main effects for eight of the parenting variables: harsh discipline (reported) and inconsistent discipline (reported), CPS involvement, observed mother critical statements, negative maternal affect, harsh maternal discipline style, nurturing and supportive parenting style, and discipline competence. Newman-Keuls range tests ($p < .05$) showed ordered differences among the pervasive, nonpervasive, and normal groups for six of the factors, with each risk group of children revealing harsher and less supportive discipline which was less consistent, less competent, and more critical and negative in affect. The pervasive conduct problem group had a significantly greater percentage of mothers involved in CPS as compared with normal conduct children. The only variables that did not show significant differences among the three groups of children were for involvement in school and observed positive affect.

In addition to examining parental risk factors related to the pervasiveness of child conduct problems, we were also interested to examine the effects of two child risk factors: gender (girls vs. boys) and ethnicity (Caucasian vs. minority). Chi-square analyses showed that the percentage of children with pervasive conduct problems was not significantly different for girls (22%) compared to boys (17%), nor for Caucasian children (20%) compared to minority children (17%).

Risk Factors Related to Pervasiveness of Low Child Social Competence

The analysis procedures for examining relationships between parental risk factors and social competence problems at home and school were the same as those described above for conduct problems. Four measures of social competence problems were used: mother reports of social competence (P-COMP), home observation of child positive affect (DPICS-R negative affect valence with scores reversed so that a high score denoted positive affect), teacher reports of social competence (T-COMP), and classroom observations of behaviors with teachers and peers (MOOSES).

The procedures for examining differences among the three groups (normal, nonpervasive, and pervasive social competence problems) on the parental risk factors were the same as those described above for conduct problems. Children were categorized having social competence problems at home if their behavior fell outside the normal range based on either mother reports (P-COMP, social competence < 21) or independent observations in the home (DPICS, negative affect valence > 3). Children were categorized as having social competence problems at school if their behavior fell outside the normal range based on either teacher reports (T-COMP, social competence < 23) or independent observations at school (MOOSES, ratio positive behaviors $< .89$). Using these criteria, 32% of the children were classified as having social competence problems at home and 25% as having social competence problems at school. The final classification indicated that 12% had pervasive social competence problems, 34% had nonpervasive social competence problems, and 54% had normal social competence both at home and school.

Differences among children with normal, nonpervasive, and pervasive social competence problems on variables in the four family risk categories are presented in Tables IX and X.

Maternal History and Background

The overall ANOVA to test differences among the three social competence groups (normal, nonpervasive, and pervasive) on the number of maternal history and background risk factors was significant, $F(2, 416) = 5.23, p < .01$. Chi-square analyses for the individual risk factors revealed significant differences on four of the history/background factors (see Table IX). As was found for conduct problems, mothers of children with nonpervasive social competence problems were significantly more likely to have been sexually abused in childhood, to have had a history of severe physical punishment, and to have a higher rate of substance abuse/criminal activity than mothers of children in the normal category. Although the trend was in the predicted direction, the difference between pervasive and normal groups was nonsignificant on all family background variables except mother psychiatric illness. A significantly greater percentage of mothers of children in the pervasive category had a history of psychiatric illness than did mothers of children in the normal category.

Table IX. Family History and Background Factors, Stress and Support, and Mother's Emotional State by Pervasiveness of Social Competence Problems

Mother variables	Normal (N)		Nonpervasive (NP)		Pervasive (P)		Univariate tests ^a	Significant group differences
	M or %	SD	M or %	SD	M or %	SD		
Family history and background								
Past family history								
Severe physical punishment	20.6%		32.8%		25.6%		6.53 ^b	NP>N
Harsh/strict discipline	25.2%		35.8%		30.2%			
Negative family atmosphere	27.5%		35.8%		27.9%			
Sexually abused	19.5%		34.1%		27.9%		9.39 ^c	NP>N
Mother's background								
Substance abuse/criminal history	23.3%		39.4%		27.9%		10.58 ^c	NP>N
Psychiatric illness	10.7%		14.8%		25.6%		6.82 ^b	P>N
Ever lived in shelter	17.6%		12.5%		12.2%			
< 19 years at firstborn	22.7%		21.2%		18.7%			
Low education	21.8%		26.2%		26.5%			
Single/unpartnered	53.0%		53.8%		63.3%			
Number history/background risk factors	2.31	1.73	2.93	1.86	2.67	1.92	5.23 ^c	NP>N
Family stress and support								
Negative life events (NLES)	3.72	3.39	4.59	3.75	3.55	3.24		
Support from family	13.88	5.59	13.17	5.70	13.59	5.93		
Support from friends	15.26	4.53	15.60	4.36	15.03	5.40		
Mother emotional state								
Depression (CES-D)	15.48	10.67	18.23	11.26	16.86	11.43		
Anger (BAAQ)	7.03	3.74	7.94	3.90	6.78	4.35		

^aChi square for dichotomous variables and ANOVA for continuous variables.^b*p* < .05.^c*p* < .01.

Table X. Parenting Competencies by Pervasiveness of Social Competence Problems

Mother variables	Normal (N)		Nonpervasive (NP)		Pervasive (P)		Univariate tests ^a	Significant group differences
	M or %	SD	M or %	SD	M or %	SD		
Home observation (DPICS-R)								
Critical statements	16.29	14.08	22.89	19.55	30.73	21.13	16.87 ^d	P>NP>N
Negative affect valence ^b	2.74	0.36	2.94	0.48	3.10	0.44	19.30 ^d	P>NP>N
Positive affect, praise, physical positive	24.70	17.06	20.81	15.77	16.90	12.36	5.73 ^c	N>NP,P
Coder impressions of discipline style								
Nurturing/supportive	2.55	0.40	2.35	0.53	2.23	0.50	14.80 ^d	N>NP,P
Harsh/critical discipline	1.31	0.36	1.56	0.57	1.81	0.56	28.01 ^d	P>NP>N
Discipline competence	2.30	0.38	2.15	0.47	2.04	0.41	11.29 ^d	N>NP,P
Mother report of discipline (LIFT)								
Harsh discipline	1.16	0.37	1.33	0.38	1.35	0.41	10.97 ^d	P,NP>N
Inconsistent discipline	1.24	0.54	1.51	0.65	1.38	0.59	9.52 ^d	NP>N
Appropriate limit setting	4.00	1.95	4.26	2.02	4.23	2.03		
CPS involvement	17.0%		22.1%		22.7%			
Involvement in school								
Positive involvement in school (INVOLVE-M)	3.20	1.01	2.98	1.04	2.95	1.10		
Involvement in education (INVOLVE-T)	2.52	0.88	2.51	0.93	2.42	1.05		

^aANOVA.^bHigh = negative.^c*p* < .01.^d*p* < .001.

Stress and Support

The overall MANOVA to test differences among the three groups of children on these stress and support variables was not significant, $F(6, 692) = 1.00$.

Mother Emotional State Risk Factors

The overall MANOVA to test differences among the three groups on depression and anger variables was not significant, $F(4, 778) = 2.06$.

Parenting Competencies Risk Factors

The overall MANOVA to test differences among the three groups of children in terms of their mothers' parenting competencies was significant, $F(24, 724) = 3.81, p < .001$. ANOVA tests indicated significant group differences for eight parenting variables: harsh discipline (as reported), inconsistent discipline (as reported), observed mother criticisms, and negative affect, positive affect, nurturing/supportive parenting style, harsh/critical discipline and parenting competence. According to Newman-Keuls' tests ($p < .05$) pairwise differences between the three groups emerged for criticisms, negative affect and harsh discipline, with "pervasive" greater than "nonpervasive," which was greater than "normal." The mothers of children categorized as socially normal were significantly higher in positive affect, praise, nurturing/supportive behavior, and discipline competence than the other two nonpervasive and pervasive groups. There were no differences among groups on CPS involvement or parent involvement in school.

In addition to examining parental and family risk factors related to the pervasiveness of child social competence problems, we were also interested in examining the effects of two child risk factors: gender (boys vs. girls) and ethnicity (Caucasian vs. minority). Chi-square analyses showed that the percentage of children with pervasive social competence problems was not significantly different for girls (10%) compared to boys (13%), nor for Caucasian children (11%) compared to minority children (12%).

Relationship Between Social Competence and Conduct Problems

To assess the extent of association between social competence and conduct problems, we created a 2×2 table where the categories for social competence and conduct problems were dichotomized into

normal versus nonpervasive/pervasive (i.e., normal at home and school vs. problems at school and/or home). For the majority of children (71%), there was a correspondence between social competence and conduct problems: 40.3% were in the "normal" category for both, and 31.0% were in the "nonpervasive/pervasive" category for both. For approximately 29% of the children, there was a discrepancy between their level of social competence and their level of conduct problems; 23.5% had conduct problems (at home and/or school) but showed a normal level of social competence (at home and/or school) while 5.2% showed low social competence (at home and/or school) but were in the normal category for conduct (at home and school). We used the phi coefficient as one measure of association between social competence and conduct problems. The phi coefficient was .47, $\chi^2(1) = 93.73, p < .001$, indicating approximately 22% shared variance between social competence and conduct problems.

We used the odds ratio as another measure of association, which may be a more appropriate measure in 2×2 tables in cross-sectional studies (Fleiss, 1981). Of the children with conduct problems, 63.2% showed low levels of social competence and 36.8% had normal social competence. In this sample, the odds that a child with conduct problems had low social competence were 1.7. Of the children with low social competence, 88.5% had concurrent conduct problems and 11.5% had normal conduct. In this sample, the odds that a child with low social competence had concurrent conduct problems were 7.7. Although we cannot infer cause and effect, the difference between these two odds ratios makes it appear most likely that social competence problems are antecedent to conduct problems.

DISCUSSION

This study yields important descriptive information regarding the prevalence of conduct problems and low social competence in Head Start children in the Seattle area, and helps define risk factors influencing the development of early-onset conduct problems and low social competence. Results suggest that base rates of aggressive and disruptive behaviors (as reported by mothers and teachers and as observed at home and school) are notably higher for this low-income population than for the general population of preschoolers as previously reported in epidemiological studies of aggressive behavior (Campbell, 1990;

Crowther, Bond, & Rolf, 1981; Earls, 1980). Base rates of behavior problems in preschoolers have ranged from 7 to 14% in general community samples (Achenbach & Edelbrock, 1991; Earls, 1980; Rose *et al.*, 1989). Yet whether one looks at mothers' reports of conduct problems on standardized measures or independent observations of discrete child aggressive and oppositional behaviors in the home, approximately 23–33% of the children in this population have rates of aggressive behaviors in the clinical range. The actual rate varies with different measures. Teachers' reports of conduct problems at school yield somewhat lower rates: 15–20% of children fall in the clinical range. However, independent observations of classroom behavior found that approximately 30% of children had high rates of aggressive and noncompliant behaviors with peers and teachers, suggesting that teachers may be underestimating the problem.

A similar picture emerges from assessment of children's social competence. Based on mother reports, 24% of the children in this population are below the normal range for social competence. In home observations, 15% of the children had low positive affect during their interactions with mothers. At school, teachers report 15% of children in the below-normal range for social competence; independent observations found low ratios of positive to negative interactions with peers for 20% of the children. These data appear to corroborate the findings of epidemiologic researchers that children on welfare have significantly higher rates of conduct problems and social skills difficulties than children from more advantaged populations (Farrington, 1991; Goldberg, Roghmann, McInerney, & Burke, 1984).

Turning now to the family-related risk factors in this population, beginning with maternal history, family support, and mothers' emotional state, again 25–42% emerges as a significant figure. Approximately 30% of mothers reported a history of harsh and critical parenting during their childhoods, 26% having experienced sexual or physical abuse as children, and 29% reported a lack of support from family or friends. About 42% of mothers had depressive symptoms in the moderate to severe range, and 27% reported anger levels in the moderate to severe range. These data confirm other studies indicating that poor women with child-rearing responsibilities are at high risk for depression (Conger *et al.*, 1992; Hall, Williams, & Greenberg, 1985).

In regard to parenting risk factors, mothers' self-reports in interviews as well as independent observations at home revealed that 35–53% of the mothers

were in the "frequent" range for harsh and inconsistent discipline and 62% were in the "high" range for critical behaviors with their children. These findings confirm the research of others who have documented that as a family's socioeconomic situation worsens, parents exhibit less nurturant behavior, more inconsistent discipline toward their children and more reliance on physical punishment and coercion to gain obedience (Conger *et al.*, 1992).

Risk Factor Analyses

These data concerning the prevalence of conduct problems, low social competence, and associated risk factors in this Seattle sample give validity to the assumption that children in Head Start are at higher risk for conduct problems and social difficulties. This implication of the data holds true regardless of the setting (home or school), the assessment tool (i.e., teacher report, parent report, or independent observation), or the outcome measure (conduct problems or low social competence).

When comparing the conduct problem groups on four categories of risk factors, only stress and support did not differentiate significantly between groups. A greater percentage of mothers with children in the pervasive and nonpervasive conduct problem groups reported histories of sexual abuse, substance abuse, criminal history, and depressive symptoms, as compared to mothers whose children were categorized as normal. The differences were more striking for parenting risk factors than for maternal background, stress level or emotional state, with mothers in the pervasive category showing significantly more critical statements, negative affect, harsh discipline, and inconsistent discipline on home observations than mothers of the children with nonpervasive conduct problems. There was an ordered decrease in harshness of parenting style from the pervasive to nonpervasive to normal groups. Conversely, mothers of children in the normal group were significantly more nurturing/supportive and competent in their parenting than mothers of children in the nonpervasive group; and the mothers of children in the nonpervasive group were more nurturing and competent than mothers of children in the pervasive group. These findings suggest that parenting competence, nurturant behavior and low negativism (at least on the part of mothers) may operate as protective factors against the development of conduct problems in this high risk population. These data confirm the findings of

numerous investigators (including those conducting research with diverse cultural groups) which indicates that a harsh, punitive parenting style (Eron, Huesmann, & Zelli, 1991; Farrington, 1992; McCord, 1977) as well as lack of parental warmth and involvement (Olweus, 1980) may be two risk factors for aggressive behavior in children.

Next we looked at the differences between the social competence groups on the risk factors. As with the conduct problem groups, risk factors associated with maternal history and background and parenting competencies significantly differentiated between groups. However, the risk factors associated with mother emotional state, which were significant for conduct problem groups, did not significantly differentiate between the social competence groups. The only factors distinguishing between the social competence groups that were not defining factors for the conduct problem groups were (a) a maternal history of psychiatric illness (this was significantly more common in the pervasive group than the normal group); (b) maternal positive affect, praise, and physical warmth (lower in the nonpervasive and pervasive groups than the normal group); and (c) history of severe physical punishment (significantly higher for the nonpervasive group than the normal group). As we found for conduct problems, the parenting risk factors (harsh and critical discipline) differentiated between groups, with the levels increasing from normal to nonpervasive to pervasive groups. Stress, support, and maternal emotional state did not significantly differentiate between the social competence groups.

Several findings are worth highlighting in regard to risk for conduct problems and low social competence. First, for both conduct problems and low social competence, a mother's history of sexual abuse, substance abuse, or criminal activity are significant risk factors. A mother's history of psychiatric illness emerged as an important risk factor for low social competence, but not for conduct problems. Maternal depression and anger were risk factors for conduct problems, but not for low social competence. Contrary to what is often assumed, a family's stress level (including financial stresses) and lack of social support did not emerge as important risk factors for either conduct problems or social competence. These data suggest a rather complex interplay between the specific type of parental psychopathology and its impact on children's social development, and may seem to raise more questions than they provide answers. For example, what can

explain the fact that stress and lack of support did not emerge as important risk factors in this population? Prior research has shown that families who are stressed, isolated, and unsupported have higher rates of aggressive parenting and children with conduct problems (Garbarino, 1976; Patterson, Reid, & Dishion, 1992; Wahler, 1980). We hypothesize that the presence of social support and low levels of stress would be related to supportive parenting behavior and to social competence in children. We can offer no compelling explanation for these findings. It is possible that our measures of social support and levels of stress were not sensitive measures for this population. Perhaps when dealing with a sample all of whom are economically stressed, this variable ceases to be significant in itself; rather, it may be its interaction with some other variables (i.e., parental behavior) that determines the child's eventual developmental outcome. For example others have suggested that poverty and financial stress have indirect effects and are mediated by maternal coping resources (McLoyd, 1990). Other stresses may be reduced for this sample due to the child care and other resources they receive by virtue of their participation. And perhaps support is not an important variable for this sample because families enrolled in Head Start experience a high level of support from family service workers and teachers.

On the other hand, when we looked at parenting competence as a risk factor, the picture was clearer. Parenting competence significantly distinguished between our three groups of subjects: As the degree of parenting competence decreased, the risk of conduct problems and/or low social competence increased. The only inconsistency in our findings regarding parenting competence as a risk factor was that positive affect, praise, and physical warmth from mothers were positively related to social competence but unrelated to conduct problems. These findings highlight the importance of positive parenting behavior as a protective factor in social adjustment and corroborate the results of other studies that have found harsh discipline and incompetent parenting to be associated with conduct problems, delinquency, and antisocial behavior (Loeber, Green, Lahey, & Stouthamer-Loeber, 1989; McCord, 1991). These findings also suggest that parents' (or mothers') positive affect, praise, and physical warmth toward their children may be critical to the development of children's social competence.

Relationship Between Social Competence and Conduct Problems

One interesting finding from this study concerns the theoretical relationship between low social competence and conduct problems. It is often assumed that these are closely related issues, perhaps even different terms for the same phenomenon. Yet we found approximately 22% shared variance between social competence categories and categories of conduct problems, suggesting that they are not opposite sides of the same coin. We also found that the odds of having problems in both areas were higher for children with low social competence than for children with conduct problems, suggesting that social competence problems may be antecedent to conduct problems. While social competence does not guarantee normal conduct, the odds are high that a child with low social competence will have concurrent conduct problems. Furthermore, our data regarding risk factors suggest that parenting competence and positive behavior (observed positive affect, praise, and physical positive behaviors) are more relevant to social competence, while maternal emotional state (depressed mood and anger) is more relevant to conduct problems. We hypothesize from these data a possible unfolding chain of events that may progress as follows: Low mother positive affect and warmth at home leads to a mother's failure to reinforce appropriate social skills in her child and results in low social competence. The child's low social competence, in turn, contributes to his reliance on more aggressive and impulsive ways of solving problems with his peers which contributes not only to social difficulties at school but also to his mother's escalating anger, depression and sense of failure as a parent.

Implications

A consistent finding among epidemiological researchers is the relation between low SES, early-onset conduct problems, and low social competence (Farrington, 1991). Less is known about the specific processes by which socioeconomic disadvantage contributes to child conduct problems. By studying this population, we were able to determine more specific aspects of SES which may contribute to particular children developing social problems and aggressive behavior.

What have we learned about the process through which low SES leads to conduct problems

and low social competence? These data suggest that, of all the risk variables we examined, the parenting variables—discipline strategies, affect, and degree of warmth—are the most potent mediators of the effects of poverty in regard to child socioemotional outcomes. Parenting is even more important than stressful life events and lack of social support. We postulate that because parents are the primary socialization agents for young children, they have the ability to buffer, through effective and positive parenting, the effects of poverty and the accompanying stresses. We have seen that in this economically disadvantaged population, at least two thirds of the mothers who were experiencing considerable stress and negative life events had children whose social functioning was in the normal range; as parents these women were competent in their discipline, noncritical, nurturing, and low in negative affect. But in approximately one third of the families, the children exhibited social and aggressive behaviors which placed them at considerable risk for ongoing problems. This is the group of mothers with histories of sexual abuse, physical abuse, drug abuse, criminal activity, or psychiatric illness. We hypothesize that this type of history leaves a parent more vulnerable to the stresses of poverty, a vulnerability that becomes expressed in disrupted parenting behavior. This disruption involves hostile exchanges with children, inconsistent discipline and a negative reinforcement mechanism which contributes to the development of child conduct problems and poor social competence. The process of how harsh discipline promotes child aggressive behavior through coercive cycles has been well documented by Patterson's theoretical model (Patterson *et al.*, 1992) and others. These findings join a growing body of evidence suggesting that the effects of SES on children's behavior are mediated by parenting skills (Conger *et al.*, 1992; Patterson, DeBaryshe, & Ramsey, 1989).

Limitations of Study and Need for Future Research

Numerous caveats must be emphasized regarding this study due to its correlational nature. It could certainly be argued that a child's conduct problems or low social competence affect parenting behavior and subsequently parents' psychological status. Certainly prior research attests to the effects of child behavior on parental behavior and the reciprocal effects in parent-child interactions (Bell, 1979;

Patterson *et al.*, 1992). The results in this study do not enable us to draw conclusions regarding the reciprocal effects of child conduct and parenting and the relationship of both factors to poverty. Future research needs to utilize causal modeling statistical strategies in order to define family and parenting processes that mediate the effects of economic hardship on children's developmental outcomes. For example, we could test hypotheses such as poverty leading to maternal depression and anger, which leads to negative parenting, which in turn leads to conduct problems and low social competence in children. This study is only a beginning step in defining the factors involved in those processes.

A second limitation of the study has to do with selected locale of the sample studied. We do not know if these prevalence data drawn from the Seattle area Head Start centers generalize to other Head Start centers elsewhere in the country. To understand how representative these data are of the Head Start population as a whole, it would be necessary to examine a large national sample from different geographic locations and different ethnic groups. Nor can we conclude that the population enrolled in Head Start is representative of other families living in poverty or families on welfare who have not sought out Head Start. For example, it could be argued that Head Start attracts the most motivated among poor families. The risk factors for a non-Head Start population living on welfare may be quite different. Future research should provide a matched group of families of preschoolers living on welfare who are not enrolled in Head Start. However, it should be noted that in this district, only 50% of families who apply for Head Start are offered a placement in Head Start because of budget restraints and a limited number of classrooms. Those selected for Head Start are judged to be most at risk in terms of number of children and level of poverty.

A third limitation of our study has to do with our analysis of the data by ethnic group. Since the minority families in this study were a diverse group (6 different Asian groups, Hispanic, African American, Native American, and various combinations), we did not have a large enough sample of any one minority group to conduct analyses by specific groups. A large prevalence study that expands the minority population would permit analysis of differences in children's conduct problems and social competence by minority group. Although we are uncomfortable in combining minority groups into a single category for analysis, we think the findings are worth present-

ing in terms of their possible implications for future research. Our results indicate that minority mothers underreport behavior problems and overreport social competence in their children as compared to Caucasian mothers' reports on these variables. However, these mother report differences in child behaviors were not corroborated by independent and detailed observations of the children's social behaviors either at home or at school. In fact, there were no ethnicity differences found for any observational variables or for any teacher-report measures. We hypothesize that these minority mothers may be more reluctant to admit or acknowledge child behavior problems to "outsiders" and researchers because of their values regarding family privacy or, on the other hand, because they may have different attitudes and values regarding aggressive and social behaviors. Nonetheless, it is important that future researchers as well as those clinicians screening for at risk children appreciate these differences in mother-report measures and include either observational measures or reports by teachers along with parent reports as part of their assessment package.

A fourth limitation of the study has to do with our failure to examine father variables. Although we did collect father data whenever available, we did not have a large enough sample within each of the three child groups to conduct meaningful analyses. We are continuing to collect father data in a newly funded Head Start study and hope eventually to have enough data from fathers to be able to assess both father and mother risk factors and their impact singly and in combination on children's conduct problems and social competence.

One important contribution of this study is that we assessed children's conduct problems and social competence across settings using report and observational data at an early age. However, it is important now to continue to follow these families frequently over the primary school years in order to determine whether the same factors predict later development or maintenance of conduct problems and low social competence and whether the degree of pervasiveness of a child's problems is more predictive of ongoing problems.

Potential Implications for Head Start—Strengthen Protective Factors

Nonetheless, despite these limitations we believe these data describing the mothers' backgrounds, the

parenting processes, and the high rate of conduct problems and low social competence in the children are an important beginning step to help us understand how to best assist Head Start families. These data argue for the importance of offering prevention and family-centered parenting programs to these high-risk families: teaching effective nonviolent, positive parenting skills in order to prevent the escalation of conduct problems and to strengthen preschoolers' social competence. Currently we are evaluating the effectiveness of our clinic-based parent training program as a community-based prevention intervention for Head Start parents. The results are highly promising (Webster-Stratton, 1998, *in press*) and suggest that by offering training to parents of young preschool children we may be able to reduce conduct problems and prevent the trajectory leading to antisocial behavior and delinquency in adolescence.

The finding that almost half of the mothers had depressive symptoms and such a high percentage of parents had experienced physical and sexual abuse as children also deserves comment. The mental health needs of Head Start mothers may easily be overlooked given their multiple needs for services such as housing, child care, job training, and education. However, screening for depressive symptoms, past history of sexual and physical abuse, psychiatric illness, and drug abuse may help to identify subgroups of mothers and their children at greatest risk for long term negative outcomes. These parents need help not only with strengthening parenting skills but also with general interpersonal relationship skills, depression management and coping skills. For example, by treating depression or some other psychiatric illness we may also be able to increase maternal responsiveness to children and involvement in schools and enhance their relationships with others (Conrad & Hammen, 1993).

Finally these data argue for the importance of Head Start teachers being well prepared to work with parents to directly train children in problem solving and social skills in the classroom and to give consistent encouragement regardless of children's perceived troublesomeness. Unfortunately, data indicate that just as these disadvantaged families are at high risk for child conduct problems and low social competence, they are also less likely to receive mental health services and parenting programs than are advantaged families (McLoyd, 1990). With more Americans falling into poverty (Strawn, 1992) more attention needs to be drawn toward strategies for promoting and supporting optimal parenting behav-

ior and promoting parents' mental health in this population.

Since the beginning of Head Start, it has maintained a commitment to mental health as an integral part of its goals for children. Translating this vision into practice, however, has been problematic throughout Head Start history (Cohen, Solnit, & Wohlford, 1979). There are at least three possible reasons for this difficulty. First, mental health services have been defined narrowly as therapy for parents and children, typically involving referrals to individual outpatient treatment, day treatment, or placement in residential settings. Second, there has been reluctance for teachers to label more troubled children as having behavioral problems for fear of stigmatizing the children and their families. Third, Head Start research has highlighted the importance of its preschool program for directly strengthening children's academic success but comparatively less research attention has been paid to evaluating its potential indirect impact in terms of strengthening parenting processes and parents' mental health as another means to promoting children's social competence. Because of these three reasons, children with emotional and behavioral problems in Head Start are underidentified and parents are not usually trained to be involved in the treatment process for their own children. Parent training that is currently offered is usually one-shot workshops rather than comprehensive ongoing programs providing ongoing support and training. Nor are teachers and family service workers usually involved in the treatment planning for children with conduct problems or trained in validated curriculum designed to be used in the classroom not only to reduce conduct problems but to promote social skills, problem solving, and anger management. In fact, Head Start program Information Reports from 1994-1995 suggested that only two thirds of 1% of Head Start children are identified as having behavioral disorders that justified treatment of any sort. As seen in this study, we estimate that a much larger percentage of children and their parents could benefit from intervention that is integrated into all aspects of the Head Start program.

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