Prevalence of Psychiatric Disorders in Children with Speech and Language Disorders

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A representative sample of 5-year-old kindergarten children was assessed for speech and language disorders. Those identified as having a speech/language disorder (N = 142) as well as a matched control group, were then assessed for behavioral or emotional problems by parents, teachers, and by a psychiatrist. Results indicated that the speech/language-impaired group was more likely than the control group to (1) show behavioral disturbance according to teachers and a primary parent (usually the mother); (2) be diagnosed as having some DSM-III Axis I disorder, particularly Attention Deficit Disorder; and (3) suffer from psychosocial stressors. Not only was the speech/language-impaired group at a relatively higher risk for psychiatric disorder; this level of risk was relatively high, ranging from 22.1% (parents) to 48.7% (psychiatric evaluation). Surprisingly, speech/language-impaired girls were consistently at greater risk than were speech/language-impaired boys; the percentage of girls rated in the clinical range varied from 37.0% (teachers) to 44.9% (parents), while the figures for the boys were 23.0% and 25.0%. These results argue strongly for increased support to the health and educational systems dealing with these children, better screening for behavioral and emotional problems among the girls, and further research investigating the factors associated with these disorders.

the most severe cases. Subsequent studies have shown the concordance rates for monozygotic twins to be closer to 40%. Thus, the earlier data led to incorrect theories, in which pregnancy and birth variables and environmental variables were considered to be much less important than they are now believed to be. In a like manner, population studies of speech and language disorders and associated problems are needed so that corrections can be made to clinic-based data and theories or, alternatively, certain of the hypotheses based on clinic studies may be confirmed. This paper reports on the results of a community survey of 5-year-old children in Ottawa, Ontario. A previous paper reported on the prevalence of speech and language disorders (Beitchman et al., 1986). This paper reports on the prevalence of psychiatric disorders among children with speech and language problems.

Method

Sample

Ottawa-Carleton is a predominantly suburban/urban municipal region covering 2,757.04 square kilometers (1,077 square miles) with a population of 546,849. The residents speak English and French. In our sample (Fig. 1), very few families were bilingual, the percentage being approximately 2.0 for both speech/language-impaired and control groups. Most (67.2%) of the families living in private households have at least one child living at home; the average number of children living at home is 1.3. Of the census families (defined as a husband and wife (including common-law) with or without children or a lone parent with at least one never-married child at home) the highest percentage (45%) were in the middle class by total income (20,000–39,999); 28% were in the lower class (less than $20,000); and 27% were in the upper class ($40,000 plus). Of the families in private households, 87.3% had husband and wife, while 12.7% had a lone parent. The population families, then, are mainly English-speaking, middle or upper class, and dual-parent.

Our aim was to establish the prevalence of speech and language disorders in kindergarten children (5 years of age) for the English language school children in the Ottawa-Carleton region. This involved four school boards. A one-in-three stratified random sample with proportionate allocation was used. The sampling frame was organized by locating each school in the boards on a map of the region and the primary sampling unit was the school. For each board, a grid was drawn to contain three schools in each segment (area); then one school was randomly selected from each segment or stratum. This ensured fair representation of all the areas of the region in the sample. This sampling method was employed by Trites et al. (1979) in an epidemiological study of children with behavior problems in the Ottawa-Carleton region; the age, sex, religious and ethnic characteristics of their sample matched the latest census data available for the region.

In order to cover all possibilities, students enrolled in the private schools, nursery and day care centers, and special needs centers with 5-year-olds were surveyed; the number of children excluded from the study would, therefore, be exceedingly small. Because of the limited number and diversity of such schools, sampling was not considered appropriate. When computing the prevalence rates, however, a one-third random sample of all such children was used.

Design

A one-in three sample of all 5-year-old English speaking kindergarten children from the Ottawa-Carleton region was given the first stage of a three-stage screening procedure, each stage consisting of standardized test batteries. Stage I was a 30-minute speech and language interview conducted by trained screeners. Children falling below the identified cutoff points (Fig. 1) were referred for intensive testing by qualified speech/language pathologists at Stage II. One hundred and forty-two children scoring below the Stage II cutoff points were identified as speech or language disordered (hereinafter called speech/language-impaired) and agreed to participate in Stage III testing. Of these, 39 (27.5%) had speech problems only, 62 (43.7%) language problems only, and 41 (28.9%) speech and language problems. A control sample of 142 children matched for age, sex, and taken from the same classroom or school, was selected and given the same Stage III procedures as the speech/language-impaired group. The parents of each of the Stage III children were interviewed to determine the birth, medical and developmental history of their child. Intelligence and audiological tests were given to the children. Finally, there were three measures of behavioral/psychiatric dysfunction:

1. Conners' Teachers Rating Scale. The teacher of each Stage III child was asked to complete this questionnaire. This is a 39-item behavior-symptom checklist which represents six factors (Trites et al., 1982): conduct problem, hyperactive, anxious-passive, emotional-overindulgent, asocial, and daydreams. This instrument has been used extensively to screen for childhood behavior problems and the availability of local norms makes this instrument especially useful for determining cutoff points for abnormal behavior. Any child scoring at least 2 standard deviations above the norm on any factor (the recommended cutoff point (Trites et al., 1982)) on Conners' questionnaire was defined as showing behavioral disturbance.
Fig. 1. Design of study.

(a) 30-Minute language screening:
Fail = 1 S.D. below mean, any test
Tests: Bankson Language Screening Test (Bankson, 1977); Screening Test for Auditory Comprehension of Language (STACL) (Carrow, 1973); Photo Articulation Test (Pendergast et al., 1969); Dysphonia, Dysrhythmia*

(b) Intensive testing:
Fail = 1 S.D. below mean, any test OR 2 S.D. below mean, any subtest of TOLD
Tests: Test of Language Development (TOLD) (Newcomer and Hammill, 1977); Peabody Picture Vocabulary Test-Revised (PPVT-R) (Dunn and Dunn, 1982); Goldman-Fristoe-Woodcock Auditory Memory Tests (GFW) (Goldman et al., 1976); Dysphonia, Dysrhythmia, Dysarthria*

(c) Background variables:
Tests: Beery-Buktenica Developmental Test of Visual-Motor Coordination (Beery and Buktenica, 1967); Wechsler Preschool and Primary Scale of Intelligence (WPPSI) (Wechsler, 1967); Audiometry; Conners Teachers Rating Scale (CTRS) (Conners, 1969); Child Behavior Checklist (CBCL) (Achenbach and Edelbrock, 1983); Parent Interview; Marital Adjustment Test (Locke and Wallace, 1969); Brief Symptom Inventory (BSI) (Derogatis, 1975); The CES-D Scale (Radloff, 1977); and the Child Psychiatric Diagnostic Interview (Beitchman, 1986).

*Since no standardized tests were available for these problems, the speech/language pathologist involved in the study constructed checklists based on accepted clinical standards. These checklists are available on request from the first author.

2. The Child Behavior Checklist (CBCL). The CBCL consists of scored social competence and behavior problem scales. The checklist includes 118 behavior problems and 20 social competence items to be reported by parents or parent surrogates. Children attaining a sum T score at the 90th percentile (63) or above were defined as clinical by this questionnaire.

3. Psychiatric Evaluation. The children scoring above the cutoff points on the Conners’ Teachers questionnaire or the Achenbach Child Behavior Profile were considered to be at risk for psychiatric problems and a random sample was asked to participate in a semistandardized psychiatric interview, of known reliability, adapted from Beitchman et al. (1985). This information was used to classify the type of disorder using various methods, including the DSM-III. In addition to those children scoring above the cutoff points for behavior disturbance on the Conners’ questionnaire and the CBCL, a random sample of children was chosen from those scoring in the normal range. This was done so that some estimate of the numbers (if any) of false negatives could be obtained. The psychiatrist did not know the child’s language status when making the psychiatric diagnosis; he did, however, consult the CBCL and Conners’ questionnaire after the interview with parent and child and before making the final diagnosis. In other words, the psychiatrist was blind to language status but not to behavioral evaluation by parents and teachers. Using the DSM-III guidelines, the extent and severity of psychosocial stressors was also assessed during the course of the psychiatric interview.

Subjects
In both speech/language-impaired and control groups there were 90 boys and 52 girls. The average age on December 31, 1982, was 5 years 6 months 4 days for the speech/language-impaired group and 5 years 5 months 24 days for the control group. Information collected during this study indicated that in spite of our efforts to match for social class by taking speech/language-impaired and controls from the same school class, the speech/language-impaired group was more likely to come from lower social class families than the control group. This suggests that social class is associated with language impairment and controlling for social class would result in a nonrandom control group.

Eighty-five children came for an interview with a psychiatrist. Of the 85, 45 were speech/language-impaired, 40 were controls. Within the speech/language-
impaired group, 30 children were rated clinical by the Teacher's Rating Scale or the primary parent's checklist (CBCL) or both; 15 of the children were within normal limits on these scales. Within the control group, 25 children were in the abnormal range of the parent's or teacher's scales; 15 were in the normal range. It should be noted that though the speech/language-impaired group represents a broad spectrum of problems and severity, our results indicate that the prevalence rates recorded here are very similar for mild and severe cases. Differences according to type of disorder will be discussed in another paper.

### Results

As Table 1 shows, a significantly higher percentage of the speech/language-impaired group (34.3%) than of the control group (22.5%) showed some behavioral abnormality according to their teachers. Interestingly, the speech/language-impaired and control groups differed significantly only on the anxious-passive factor—10.4% of the speech/language-impaired compared to only 3.6% of the controls had high scores on this factor. Differences were not significant on the other factors, although there was a trend ($p = 0.08$) on the asocial factor.

There were also differences between the boys and girls. There was, for example, a significant difference between speech/language-impaired and control boys on the conduct factor (13.6% versus 3.4% scoring above the norm); this factor did not discriminate between speech/language-impaired and control girls. On the other hand, several other factors did discriminate between speech/language-impaired and control girls, but not between speech/language-impaired and control boys: anxious-passive, daydreams, and (a trend) asocial.

### Achenbach CBCL (Parents)

As Table 2 shows, using a criterion of CBCL sum $T$ score $\geq 63$ (Achenbach, 1983), primary caretakers (usually the mother) reported more behavior problems with speech/language-impaired children than with controls. When one examines the results for boys and girls separately, these differences become even more striking: there is a significant difference in sum $T$ values between speech/language-impaired and control girls but not boys.

### Parents and Teachers

Criteria for abnormal ratings by parents (sum $T \geq 63$) and teachers (deviant factor score; i.e., mean $+ 2$ S.D.) were combined to produce a subgroup of children predicted to be at risk for psychiatric disorder. Table 3 shows the percentages of the speech/language-impaired and control groups to meet these criteria: i.e., 54.8% of the speech/language-impaired children were rated as "clinical" according to parents and/or teachers, whereas 37.2% of the control group were rated as clinical, a difference significant at $p = 0.00$.

When one looks at the children who met both criteria, i.e., who were considered to have problems according to parents and teachers, one can see that differences, although not significant, were in the expected direction: the speech/language-impaired, especially the girls, were more likely than the controls to be rated clinical by both parents and teachers (Table 4). What is of particular interest is the relatively small percentage seen as clinical by both sources: for example, only 15.6% of the speech/language-impaired girls were clinical according to both parents and teachers, whereas 66.7% were clinical according to parent or teacher.

The results thus far show that using the parent and

### Table 1

<table>
<thead>
<tr>
<th></th>
<th>Any Factor</th>
<th>Hyperactive</th>
<th>Conduct</th>
<th>Emotional Overindulgent</th>
<th>Anxious-Passive</th>
<th>Asocial</th>
<th>Daydream</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boys</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech/language-impaired (N = 88)</td>
<td>33.0</td>
<td>14.8</td>
<td>13.6</td>
<td>12.5</td>
<td>9.1</td>
<td>6.8</td>
<td>14.8</td>
</tr>
<tr>
<td>Control (N = 88)</td>
<td>22.7</td>
<td>8.0</td>
<td>3.4</td>
<td>8.0</td>
<td>4.5</td>
<td>4.5</td>
<td>13.6</td>
</tr>
<tr>
<td>$p$</td>
<td>0.13</td>
<td>0.15</td>
<td>0.02</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td><strong>Girls</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech/language-impaired (N = 46)</td>
<td>37.0</td>
<td>17.4</td>
<td>15.2</td>
<td>17.4</td>
<td>13.0</td>
<td>15.2</td>
<td>17.4</td>
</tr>
<tr>
<td>Control (N = 50)</td>
<td>22.0</td>
<td>12.0</td>
<td>16.0</td>
<td>8.0</td>
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<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>$p$</td>
<td>0.11</td>
<td>NS</td>
<td>NS</td>
<td>0.16</td>
<td>0.04</td>
<td>0.06</td>
<td>0.03</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech/language-impaired (N = 134)</td>
<td>34.3</td>
<td>15.7</td>
<td>14.2</td>
<td>14.2</td>
<td>10.4</td>
<td>9.7</td>
<td>15.7</td>
</tr>
<tr>
<td>Control (N = 138)</td>
<td>22.5</td>
<td>9.4</td>
<td>8.0</td>
<td>8.0</td>
<td>3.6</td>
<td>4.3</td>
<td>10.1</td>
</tr>
<tr>
<td>$p$</td>
<td>0.03</td>
<td>0.12</td>
<td>0.10</td>
<td>0.10</td>
<td>0.03</td>
<td>0.08</td>
<td>0.17</td>
</tr>
</tbody>
</table>

* Trites et al. (1982) factors and local norms for Conners Teachers Questionnaire were used in this table.
teacher questionnaires singly and in combination gives an estimate ranging from 12.3% among speech/language-impaired and 8.1% among controls, to a high of 54.8% among speech/language-impaired and 37.2% among controls. With the range this wide it was necessary to provide some additional direct assessment of the child to more accurately determine the correct prevalence rate. To suggest that a child be considered abnormal only if he or she shows deviance both at home and at school is too severe a standard. In some instances the parents may deny problems obviously present. In other instances problems may become manifest only in relation to peers, or to academic tasks. To suggest that a child be considered abnormal if he or she is deviant by either the parent or teacher questionnaire is too loose a criteria since the exact number of false positives is unknown and is likely to be compounded when both parent and teacher questionnaires are used in this way. Consequently a random sample of speech/language-impaired and controls was selected for psychiatric interviews.

**Psychiatric Report**

**DSM III Axis I: Clinical Syndromes**

The psychiatric diagnoses on Axis I of the DSM-III are given in Table 5. Estimates were made of the percentages of the population to have any Axis I disorder. These estimates were based primarily on the number of children rated abnormal by parents or teachers, in combination with the percentage given an Axis I diagnosis after psychiatric interview. For example, in the speech/language-impaired group, 135 children had sufficient information from parents and teachers; 74 of these children were rated in the clinical range by those sources (Table 3). Of these 74 children, 30 were randomly selected for interview by the psychiatrist; 83.3% were given an Axis I diagnosis. One would expect, therefore, 0.833 × 74 (=61.64) of the total group to have some psychiatric disorder. Similarly, of the 61 children rated in the normal range by parents and teachers, 15 were interviewed; 6.7% were given an Axis I diagnosis. Therefore, 0.067 × 61 (=4.09) of the total group would be expected to have some disorder. If one then adds the two estimates (61.64 + 4.09 = 65.73) and divides by the total speech/language-impaired group (N = 135), one arrives at an overall estimate of psychiatric disorder of 48.7% for this group, as opposed to only 11.9% for the controls. This high prevalence of psychiatric disorder in the speech/language-impaired is similar to Baker and Cantwell's (1983) finding. Further, the estimate is higher for the girls (61%, s.e. = 7.04%) than for the boys (42.2%, s.e. = 5.3%).

The categories reported are those used by Baker and Cantwell for the sake of comparison. The speech/language-impaired group seems to be at highest risk for Attention Deficit Disorder (30.4%), as was the case for the Baker and Cantwell sample, although in the latter clinic sample, the percentage was much lower (16%) than the population estimates reported here.

Using a more general classification in which subtypes of emotional disorders are grouped together, one finds a fairly high risk of emotional disturbance (12.8% of the speech/language-impaired group compared to only 1.5% of the control group). When the conduct disorder subtypes are grouped together, there is no difference between speech/language-impaired and control groups (5.5% versus 6%).
TABLE 5

DSM-III Axis I: Clinical Syndromes (after Baker and Cantwell, 1983)

<table>
<thead>
<tr>
<th>Syndrome</th>
<th>Estimated Percent in Reference Population (Standard Error in Brackets)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baker and Cantwell (1983)* Whole Sample: Speech or Language-Impaired (N = 180)</td>
</tr>
<tr>
<td>Any disorder</td>
<td>53</td>
</tr>
<tr>
<td>Attention Deficit</td>
<td>16</td>
</tr>
<tr>
<td>Oppositional Disorder</td>
<td>6</td>
</tr>
<tr>
<td>Avoidant Disorder</td>
<td>3</td>
</tr>
<tr>
<td>Adjustment Disorder</td>
<td>3</td>
</tr>
<tr>
<td>Conduct Disorder</td>
<td>3</td>
</tr>
<tr>
<td>Separation Anxiety Disorder</td>
<td>2</td>
</tr>
<tr>
<td>DSM-III Reclassifieda</td>
<td></td>
</tr>
<tr>
<td>Emotional Disturbance</td>
<td></td>
</tr>
<tr>
<td>Conduct Disorder</td>
<td></td>
</tr>
</tbody>
</table>

*a Only those syndromes corresponding to those in the present study are reported here; the remaining children in the Baker and Cantwell study had diagnoses such as parent-child problem, infantile autism and schizoid disorder.

a From original DSM-III diagnoses, not from Baker and Cantwell categories.

DSM-III Axis IV: Severity of Psychosocial Stressors

More of the speech/language-impaired group than controls experienced psychosocial stressors. Twenty-nine percent of the speech/language-impaired group had moderate to extreme stressors, compared to 6.0% of the control group.

Discussion

The results of this study confirm the high rate of psychiatric disorder among speech/language-impaired 5-year-old children. It is striking that the prevalence reported in this survey was very similar to that reported in the Cantwell et al. (1979) study. The similarity is all the more striking in that the Cantwell report was based on a speech and hearing clinic and the children ranged in age from 3 to 16. One might assume that more children at a speech and hearing clinic would be disturbed than children screened in a population survey; however, this was not the case. It may also be that children continuing to have speech and language problems would be more likely to show psychiatric problems when older. The rate of psychiatric disorder among the 5-year-old children in the Cantwell et al. study would provide the best comparison between the two studies.

The differences in diagnoses rendered in the two studies is also of interest. This study reported 30.4% of the speech/language-impaired children to have attention deficit disorder (ADD) compared to only 16% in the Cantwell study. Three immediate reasons come to mind to account for these differences. First, the differences may be real and reflect real differences in these populations: the clinic sample was geared to children with speech and language problems, while those with "treatable" behavior disorders may have been referred elsewhere. Second, it is also possible that the rates of ADD are different in this Canadian city compared with the California sample and that the speech and hearing clinic had representative numbers of ADD children. Third, diagnostic methods and styles may have been different.

On the other hand, oppositional disorder was much less common in this Canadian sample than in Cantwell's sample. Again this may reflect diagnostic styles and preferences, it may reflect real differences, and it may also reflect age differences. Among 5-year-olds oppositional behavior is more normal, whereas among older children this behavior is more readily identified as abnormal. Similar reasoning may account for the differences between the studies in the rates of diagnoses of conduct disorders.

It is also worthwhile comparing the diagnoses among the speech/language-impaired and the control children. The first point to be made is that sole reliance on the parent and/or teacher rating scales resulted in prevalence estimates among the controls that were more than double the rates obtained through psychiatric interviews. These rates ranged from 22.1% (using the CBCL) to 37.2% using the CBCL and/or the Conners' Teachers questionnaire. These results are surprising particularly since the Conners scores were based on local norms obtained in a previous survey. The reasons for the high rates found in the present survey using Conners' Teachers questionnaire
need to be clarified. The high rates of disorder using the CBCL may be explained on the basis of different norms: that is, the tolerance for deviance may be lower among this Ottawa sample compared with the norming sample used by Achenbach. It is, of course, possible that these high rates reflect real differences between these two samples.

When the rates of disorder among the girls are considered, it is worth noting that according to the CBCL 44.9% of these speech/language-impaired girls were judged to be abnormal; this compares with only 25% among the boys. In absolute numbers, these rates are equivalent. These high rates among the girls are also found when the Conners is used as the screen. On every factor, a higher proportion of the speech/language-impaired girls than boys are scored in the abnormal range. The higher rate of disorder among the speech/language-impaired girls compared to boys also holds when the Conners and/or the CBCL is used. These rates of disorder among girls are surprisingly high and have not previously been reported in the literature. In addition, the higher rate of disorder among girls compared to boys is striking. It is conceivable that girls have a higher threshold than do boys for language impairment, hence showing the more severe effects of that impairment—including being more susceptible to psychiatric problems. It would be appropriate to assess both the type and severity of language problem among the boys and girls of this sample to see whether any evidence can be found bearing on this point.

One surprising finding was that there were few significant differences in the rates of psychiatric disorder between the speech/language-impaired and control boys when assessed by the CBCL, Conners or the combination of the two. Only on the Conners conduct factor was a significant difference found (13.6% versus 3.4%, \( p = 0.02 \)). On the hyperactive factor the rates were 14.8% versus 8% (\( p = 0.15 \)). The remaining comparisons, though statistically nonsignificant, showed more speech/language-impaired than control boys scoring in the deviant range. This should be sharply contrasted with the girls, for whom more comparisons between speech/language-impaired and controls were found to be significant. It should be noted that the differences emerged on the nonconduct type factors, e.g., anxious-passive and daydream. Since validity for these factors has not been established, the reader should interpret these results with caution.

When the rates of disorder by diagnostic grouping are compared between the speech/language-impaired and controls, the major differences are found in the high rates of attention deficit disorder in the speech/language-impaired compared to the controls. The rates of conduct disorders appear essentially the same between the speech/language-impaired and controls but the rates of emotional disorders show a several-fold increase. It would be of interest to determine whether sex effects, as well the specific type of language problem shown according to diagnostic group, are reflected in this data.

Though differences in the rates of psychiatric disorder between the speech/language-impaired and the controls were found with the parent and teacher rating scales, the most significant differences were found by means of the psychiatric interview. The psychiatric interview had the advantage of access to parent and teacher information prior to making a diagnosis, whereas the parents and teachers essentially rated the child blind. Also, qualitative distinctions of the child's symptoms and behavior could be made by the psychiatrist thereby differentiating clinically important from unimportant issues. The interviews of this study were also videotaped so that data on the reliability of psychiatric diagnosis specific to this study could be obtained and comparisons with diagnoses rendered by other clinics could be checked. Considering the importance of this subject, this would be worthy of further investigation.

It should also be noted that 62.5% of the speech/language-impaired children compared to 28.1% of the controls had some evidence of psychosocial stress. These stresses included a recent move, parental separation, and/or placement in a foster home. It is not possible to assess the role psychosocial stress played in the high rates of disorder among these children. There does appear to be evidence (Rutter, 1977), that multiple stresses function in a cumulative or potentiating way. This would imply that some children with speech/language-impairment may not have shown disturbance had they been free of the additional burden of a distressing environment. How many of these children there are, and the exact increase in risk specifically associated with speech/language impairment and with psychosocial stressors remains to be established.

These results have many implications. First, there is now good evidence that almost 50% of kindergarten children with speech/language impairment show evidence of diagnosable psychiatric disorder. Second—and surprisingly—among speech/language-impaired children there appear to be as many girls as there are boys with psychiatric disorders. Third, the increase in psychiatric disorders among the speech/language-impaired appears to fall into two main areas—attention deficit disorders and emotional (neurotic) disorders. Fourth, psychosocial factors may play a role in this increased prevalence but the precise role is yet to be
determined. Finally, with rates of disorder this high, it is incumbent upon the health and educational system to deploy resources to identify these children and to offer programs of support and intervention for the children and their families. There must be some recognition given to the school system for the increased burden it must carry in offering support to these children.

Future reports will examine in more detail some of the factors associated with the psychiatric disorders these children show. In this way, it may be possible to more precisely define the form of intervention and possibly to suggest strategies of prevention.

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