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Psychological disturbance among 5- to 8-year-old school children: a study from India

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Abstract This paper presents findings on the prevalence of psychological disturbance among a sample of 5- to 8-year-old Indian school children. The study was cross-sectional with a two-instrument, two-phase design. In the first phase (screening), 48 teachers rated 1535 children (810 boys and 725 girls) drawn from five schools in Bangalore city on the 26-item Children's Behaviour Questionnaire (CBQ). This resulted in 281 children being identified as disturbed, giving a prevalence of 18.3%. In the second phase, 279 of the children identified as disturbed on the CBQ and a matched group of 272 'non-disturbed children' (182 boys and 90 girls) were again rated by teachers, this time using the Child Behaviour Checklist – Teacher Report Form, yielding a corrected prevalence rate of 19.8%. In the same phase, 166 of the disturbed children and a matched group of 169 non-disturbed children were rated by parents using the Child Behaviour Checklist, yielding a corrected prevalence rate of 31.7%. A larger proportion of boys than girls were identified as disturbed by teachers, whereas parents identified a large proportion of disturbed girls. Boys were found to manifest externalizing problems more often, while girls more frequently showed internalizing problems. Learning problems were identified in a substantial number of disturbed boys and girls.

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Introduction

The epidemiological approach has been increasingly utilized in the area of child mental health over the past 25 years. In India, however, until about a decade and a half ago, relatively little was known about the epidemiology of childhood mental disorders. This is perhaps because child psychiatry itself had not received the attention it deserved (Seshadri 1993). It was only in the late 1970s, following the study by Rao (1978) that interest developed in the study of psychological disturbance among children, especially those attending school. The details of these studies are summarized in Table 1.

As can be seen from the Table, the recorded prevalence rates vary markedly, perhaps owing to differences in the age groups, sampling procedures, measuring tools, informants, and the designs employed in these studies. Yet, interestingly enough, all the studies reported a higher overall prevalence of disturbance among boys than among girls. Also, a higher prevalence of conduct/externalizing problems were reported among boys and a higher prevalence of neurotic/internalizing problems were reported among girls (Dalal et al. 1991; John 1980; Parvathavardhini 1983; Rozario et al. 1990; Sarkar et al. 1995).

Although several of the Indian studies employed a two-stage design (Dalal et al. 1991; John 1980; Rao 1978; Rozario et al. 1990; Sarkar et al. 1995), none employed parents as informants. Instead they relied solely on teachers for information regarding the presence or absence of disturbance. In view of a large body of evidence regarding the situational specificity and cross-situational consistency of children's behaviour, as well as the difference in prevalence rates reported by parents and teachers, it is clearly preferable to use both parents and teachers as informants. Evidence from western literature suggests that the nature of problems seen among preschool children varies from that seen among children at later developmental stages

Table 1 School surveys conducted in India (*U* urban, *R* rural, * rate for ADDH)

Investigator	Year	Centre	Age group (years)	Population	U/R	Total (%)
Rao	1978	Bangalore	13–16	428	U	19.6
John	1980	Bangalore	9–12	98	U	14.3
Parvathavardini	1983	Bangalore	5–12	309	R	10.6
Gada	1987	Bombay	5–10	321	U	8.1*
Rozario et al.	1990	Bangalore	12–16	1371	U	6.4
Dalal et al.	1991	Bangalore	12–16	665	U	30.9
Sarkar et al.	1995	Bangalore	8–12	408	U	10.5

(Richman et al. 1982). As data on younger school children are significantly lacking in India, this group formed the focus of our study . Accordingly, an investigation was planned into the prevalence and pattern of psychological disturbance among 5- to 8-year old school children. A two-stage design was employed, using both teachers and parents as informants (Shenoy 1992). The present paper reports the prevalence of psychological disturbance. It also focuses on the distribution by gender of certain specific types of psychological disturbance.

Methods

The study was cross-sectional in nature, the population being the 5- to 8-year-old school children of Bangalore city. The data were collected in the academic year between June 1991 and March 1992. Eleven out of over 500 schools were randomly and sequentially contacted in the above time span. Five schools consented to participate in our study in this time frame. Of the remaining 6 schools, 2 refused permission and 4 deferred permission till the next academic year (beginning June 1992). The reasons for declining to participate included: (1) inability to accommodate the time needed by the investigator for data collection within their own time schedule (all 6 schools) and (2) the perception of the school's authorities that its students did not have any form of psychological disturbance (2 schools). All these 6 schools were privately managed and to a large extent, catered for the upper socio-economic strata of the city. Of the 5 schools included in the study, 3 were jointly managed by governmental and private agencies, and the remainder was managed solely by private agencies. All the schools catered for the lower and middle income groups of the city. Extrapolating from the statistics available from the Department of Education, Bangalore (a cosmopolitan city in southern India), it was estimated that about 89,065 boys and 80,648 girls in the age range of 5–8 years were enrolled in over 500 schools of Bangalore city. Of these, 1535 children were recruited from the 5 participating schools, of which 810 were boys and 725 were girls, who formed 0.91% and 0.9% of the universe respectively.

Hindus, Muslims, Christians and others formed 96.9%, 1.4%, 1.5% and 0.2% of the study population, respectively, indicating slight overrepresentation of Hindus and underrepresentation of Muslims. About 16.0% belonged to the lower income group (less than Rupees 1000 per month), 51.0% belonged to the middle income group (Rupees 1000–1999 per month) and 32.4% to the high income group (more than Rupees 2000 per month). There was an equal distribution of boys and girls at all age levels. About 67.8% of the children attended English-medium schools, while the rest (32.2%) attended Kannada-medium schools (the local language).

Forty-eight teachers participated in the study, all of whom, when screened on the Eysenck Personality Inventory (Eysenck and Eysenck 1964), scored below the cut-off point on the neuroticism scale. Of these, 46 were women, 32 were married, and 36 had a Bachelor's degree in education as their highest qualification. The average age of the teachers was 36.7 ± 9.2 years, and they had an average teaching experience of 9.3 ± 7.9 years and an average number of hours of contact with their class per week of 19.8 ± 4.8 h.

Measures used

The Children's Behaviour Questionnaire

The Children's Behaviour Questionnaire (CBQ), for completion by teachers (Rutter 1967), was used as the screening measure. Proforma B of the CBQ has 26 items covering behavioural and emotional problems in children, to be rated on a three-step response scale: 'certainly applies' (2), 'somewhat applies' (1), and 'does not apply' (0). As recommended by Rutter (1967), a cut-off score of 9 was employed in the present study. In addition, disturbed children were further classified as either 'antisocial' (items 4, 5, 15, 19, 20, 26), 'neurotic' (items 7, 10, 17, 23) or 'mixed' by summating the ratings on the relevant items. The CBQ has been used as a screening tool in several school surveys in India (Parvathavardhini 1983; Rozario et al. 1990; Sarkar et al. 1995). Sekar et al. (1983) reported that about 53% of the clinic children could be correctly classified using the CBQ. Shenoy et al. (1995) reported the inter-rater and test-retest reliability coefficients (0.77–0.84 and 0.72–0.80, respectively) to be highly significant.

The Child Behaviour Checklist – Teacher Report Form (CBCL-TRF)

Only the Behaviour Problem Scale (BPS) of the CBCL-TRF (Achenbach and Edelbrock 1986) was used in this study. The BPS consists of 118 behaviour items to be scored on a three-step response scale, in which 2, 1 and 0 indicate 'very often true', 'sometimes true' and 'not true', respectively. In India, Sarkar et al. (1995) reported that none of the 8- to 12-year-old children identified as 'disturbed' on the CBQ obtained a score above the author's cut-off point on the CBCL-TRF. Similar findings in India were reported by Dalal et al. (1991) and Rozario et al. (1990). Shenoy and Kapur (1995) found that only 60.6% of the cases clinically diagnosed as disturbed according to the ICD-9 obtained a score above the CBCL-TRF cut-off point. In addition, an item analysis revealed that some of the behaviour problems were either non-existent (e.g. obsessions, feeling persecuted etc., or extremely infrequent (confused, suspicious, etc.) among the diagnosed children, especially in the age range of 5–8 years. It was therefore thought appropriate to make the tool more suitable for our population. Accordingly, all behaviour problems reported among less than 10% of the total sample were deleted from further analysis, thereby reducing the number of items in the scale to 59 (see Appendix 1). A principal-components analysis of these items yielded three interpretable, psychologically meaningful factors, namely:

'internalizing' (14 items), 'learning' (8 items) and 'externalizing' (11 items), which together accounted for 41.4% out of the total 66.9% of variance explained. Retaining the remaining items as part of the total scale, a total score on the shortened scale was obtained for the population under study. The mean of the total score for the entire population was used as the cut-off score. Cut-off scores for three subscales were also obtained using a similar method. The sensitivity of the new cut-off scores (93.2%) reflected a marked improvement over the sensitivity rates obtained with Achenbach's cut-off scores (35.5%; $\chi^2 = 473.9$, $df = 1$, $P < 0.001$). However, the difference between the specificity rate with the new cut-off score (97.1%) and that with Achenbach's cut-off score (98.9%) was not significant ($\chi^2 = 2.9$, $df = 1$, NS).

The Revised Child Behaviour Checklist For Parents (CBCL)

The Behaviour Problem Scale of the CBCL (Achenbach and Edelbrock 1983) was used with parents in the second phase of the study. As with the CBCL-TRF, the CBCL was modified, employing a similar procedure. Thus, only 49 items were retained in the scale for further analysis, after deleting items that were non-existent or infrequently found in the present sample (see Appendix 2). A principal-components method of factor analysis carried out on these 49 items yielded three meaningfully interpretable factors, namely: externalizing (10 items), internalizing (12 items), and learning problems (4 items), which together accounted for up to 43.1% of the total variance (67.0%) explained. Cut-off scores were determined for the three subscales as well as the total scale, which when validated against the CBQ, yeilding very high sensitivity (79.5%) and specificity (81.1%), as against rates for Achenbach's cut-off score of 38.6% and 87.0%, respectively ($\chi^2 = 74.1$, $df = 1$, $P < 0.001$; $\chi^2 = 2.3$, $df = 1$, NS).

Procedure

In the first phase, 1535 children (810 boys and 725 girls) were screened by their class teachers on the CBQ for the presence or absence of psychological disturbance. Of these, 281 children (178 boys and 103 girls) were identified as disturbed, and the remaining 1254 (632 boys and 622 girls) as non-disturbed.

In the second phase, further ratings were obtained by teachers using the CBCL-TRF on 279 of the 281 children identified as disturbed in the first phase. Similar ratings were also obtained for a comparable 272 children (182 boys and 90 girls) from among the non-disturbed group, after group matching them for age, gender and the class in which they studied. As it was suspected that the nature of problems manifested, and their reporting by informants could vary according to age and gender, these were kept constant in the two groups. School class was another variable that was kept constant in order to obtain ratings from the same teacher in both phase for the two groups.

As part of the second phase, attempts were made to obtain parent ratings using the CBCL for all the 279 children identified as disturbed and the matched 272 non-disturbed children. However, this could be managed for only 166 of the disturbed groups (101 boys and 65 girls) and 169 of the non-disturbed group (107 boys and 62 girls).

Results

Prevalence of psychological disturbance

The prevalence of psychological disturbance on screening was found to be 18.3% (Table 2). Results of the second phase indicate that a small proportion of children did get misclassified as either disturbed or non-disturbed (Table 3). Accordingly, the true number of disturbed children was estimated by extrapolating from the figures of "disturbance" relating to the disturbed and control groups. The procedure used was as follows:

Projected number of disturbed children =

$$\frac{\text{No. of scoring over cut-off point on CBCL scales from disturbed group} + \text{No. of scoring over cut-off point on CBCL scales from control group}}{\text{No. of "control" children rated on the CBCL scales}} \times \text{No. of children identified as non-distributed on CBQ}$$

This yielded corrected overall prevalence rates of 19.8% (CBCL-TRF) and 31.7% (CBCL), as shown in Table 3.

The results also show that there was no statistically significant difference between the prevalence rates obtained on the CBQ and those yielded by the CBCL-TRF ($\chi^2 = 0.9$, $df = 1$, NS). However, a statistically significant difference was seen between the prevalence rates reported for the CBQ and those for the CBCL ($\chi^2 = 34.3$, $df = 1$, $P < 0.001$) as well as between the rates for the CBCL-TRF and those for the CBCL ($\chi^2 = 59.2$, $df = 1$, $P < 0.001$).

Prevalence of specific types of psychological disturbance

Following screening it was noted that "antisocial" problems had the highest prevalence followed by 'neurotic' and 'mixed' type of problems. The CBCL-TRF results reveal a significantly higher prevalence rate (corrected) of externalizing problems than of internalizing problems ($\chi^2 = 24.4$, $df = 1$, $P < 0.01$) and learning problems ($\chi^2 = 10.2$, $df = 1$, $P < 0.01$). The difference between the prevalence rates of internalizing and learning problems was however, not significant ($\chi^2 = 3.5$, $df = 1$, NS). Findings from the CBCL indicate that the highest prevalence rate was for externalizing problems followed by internalizing problems ($\chi^2 = 6.5$, $df = 1$, $P < 0.01$) and learning problems, in that order. The prevalence of learning problems was significantly lower than that of both externalizing problems ($\chi^2 = 73.9$, $df = 1$, $P < 0.001$) and internalizing problems ($\chi^2 = 35.3$, $df = 1$, $P < 0.001$).

Gender differences

Overall, psychological disturbance was significantly more prevalent in boys than in girls on the CBQ ($\chi^2 = 15.4$, $df = 1$, $P < 0.01$; Table 2) as well as on the CBCL-TRF ($\chi^2 = 7.9$, $df = 1$, $P < 0.01$). When rated

Table 2 Prevalence of psychological disturbance in the sample on screening

Sl no.	Group	Psychological disturbance		SE	χ^2 ($df = 1$)	P
		f	%			
1.	Boys ($n = 810$)	178	22.0	3.8	15.4	< 0.01
2.	Girls ($n = 725$)	103	14.2	3.4		
3.	Overall ($n = 1535$)	281	18.3	2.6		

Table 3 Proportion of children scoring over the cut-off scores and the estimated prevalence rates on the Child Behaviour Checklist – Teacher Report Form (CBCL-TRF) and the Child Behaviour Checklist (CBCL) (*D* disturbed, *C* non-disturbed control)

Sl no.	Group	CBCL-TRF			CBCL		
		No.	f	%	No.	f	%
1.	Boys – D	176	166	94.3	101	85	84.2
2.	Boys – C	182	4	2.2	107	14	13.1
3.	Girls – D	103	94	91.3	65	47	72.3
4.	Girls – C	90	4	4.4	62	18	29.0
5.	Total – D	279	260	92.5	166	132	79.5
6.	Total – C	272	8	2.9	169	32	18.9
Projected figures for disturbance							
Boys			182	22.5		232	28.6
Girls			122	16.8		255	35.2
Total			304	19.8		487	31.7

Table 4 Prevalence of antisocial, neurotic and mixed types of psychological disturbance in the sample on screening (CBQ Children's Behaviour Questionnaire)

CBQ subscales	Overall	($n = 1535$)	Boys ($n = 810$)		Girls ($n = 725$)	
	f	%	f	%	f	%
Antisocial	219	14.3	155	19.1	64	8.8
Neurotic	47	3.1	16	2.0	31	4.3
Mixed	15	1.0	7	0.9	8	1.1

on the CBCL, however, psychological disturbance was significantly more prevalent in girls than boys ($\chi^2 = 7.6$, $df = 1$, $P < 0.01$; Table 3).

Antisocial problems were found to be more prevalent among boys than among girls (CBQ $\chi^2 = 23.6$, $df = 1$, $P < 0.01$), as were externalizing problems (CBCL-TRF $\chi^2 = 38.3$, $df = 1$, $P < 0.01$). However, on the CBCL, no gender difference was noted in the prevalence of externalizing problems ($\chi^2 = 0.8$, $df = 1$, NS). There was a higher prevalence among girls of neurotic problems (CBQ $\chi^2 = 20.8$, $df = 1$, $P < 0.01$) and of internalizing problems (CBCL-TRF $\chi^2 = 5.8$, $df = 1$, $P < 0.05$; CBCL $\chi^2 = 81.4$, $df = 1$, $P < 0.001$). The prevalence of learning problems was found to be significantly higher for boys on the CBCL-TRF ($\chi^2 = 4.7$, $df = 1$, $P < 0.001$), with no difference in the rates noted on the CBCL ($\chi^2 = 0.7$, $df = 1$, NS).

Discussion

Prevalence of psychological disturbance

The overall prevalence of psychological disturbance among 5- to 8-year old school children in our population was found to be 18.3% (SE = 2.6) following screening (Table 2). From among the Indian studies, this rate is closest to the 16.4% prevalence rate obtained by Kurup (1982), whose sample consisted of 5- to 12-year-old rural children drawn from the community. Parvathavardhini (1983), using the CBQ as a screening measure, reported a prevalence of 10.6% for 5- to 12-year-old rural school children. Compared with studies from outside the country, the prevalence obtained in this study is similar to that observed by

Table 5 Corrected prevalence rates of externalizing, internalizing and learning problems in the sample on the CBCL-TRF and the CBCL

	Overall ($n = 1535$)				Boys ($n = 810$)				Girls ($n = 725$)			
	Disturbed ($n = 279$)	Control ($n = 272$)	Projected figures		Disturbed ($n = 176$)	Control ($n = 182$)	Projected figures		Disturbed ($n = 103$)	Control ($n = 90$)	Projected figures	
			f	%			*f*	%			*f*	%
CBCL-TRF												
Externalizing	222	11	273	17.8	157	8	187	23.1	65	3	86	11.9
Internalizing	85	20	178	11.6	34	13	79	9.8	51	7	99	13.7
Learning	149 ($n = 166$)	10 ($n = 69$)	209	13.6	104 ($n = 101$	8 ($n = 107$)	150	18.5	45 ($n = 65$)	2 ($n = 62$)	59	8.1
CBCL												
Externalizing	113	33	459	29.9	78	16	233	28.8	35	17	226	31.2
Internalizing	77	32	396	25.8	33	13	135	16.7	44	19	261	36.0
Learning	82	39	263	17.1	52	9	145	17.9	30	7	118	16.3

Minde (1975). He reported a prevalence of 18.1% among 7- to 15-year-old Ugandan school children. Rutter et al. (1975) also reported a prevalence of 19.1% among 10- to 11-year-old London school children. In general, the prevalence rates obtained across studies using the CBQ as a screening measure range from 3% to 32.2% (Kolvin et al. 1977; McGee et al. 1986; Minde 1975; Rutter et al. 1975; Venables et al. 1983; Zimmermann-Tansella et al. 1978).

The corrected prevalence rates in the second phase were found to be 19.8% and 31.7% on the CBCL-TRF and CBCL, respectively. Although the prevalence according to the teacher's reports increased only marginally after correction, the prevalence according to parents' reports registered a marked rise. In general, prevalence rates obtained through parents' reports were higher than those obtained through teachers' reports (Ekblad 1990). Using the CBCL, Achenbach et al. (1990) obtained a disturbance prevalence of 29% on an Australian sample of 6- to 11-year-old children. The rate for 8-year-old Dutch children was 27% (Achenbach et al. 1987b; Verhulst et al. 1989). The parent-reported prevalence rate obtained in our study falls within the range obtained in the above studies.

Our findings also indicate that the teachers and parents differed significantly in their reporting of psychological problems among children. Similar discrepancies in teacher- and parent-reported rates, and the presence of only a moderate degree of agreement between these two informants, have been extensively recorded in the literature (Achenbach et al. 1987a). Several explanations have been offered to account for this finding. It has been suggested that children's behaviour is situation specific (Morita et al. 1990; Rutter et al. 1970), and that teachers tend to focus exclusively on school-related problems (Garrison and Earls 1985) and antisocial/disruptive behaviour (Kolvin et al. 1977; Rutter et al. 1970). Further, children have been found to be better behaved at school than at home owing to strict supervision from teachers (Ekblad 1990). The parents, on the other hand, are more familiar with their children's behaviour across time and situations. The advantage they have over teachers makes it possible for them to provide a more comprehensive picture of their children's problems and competencies (Verhulst and Akkehuis 1989). In view of these observations, the discrepancy between the prevalence rates recorded by teachers and those recorded by parents is understandable.

Types of psychological disturbance

In our study, screening revealed that antisocial problems were the most common disorder in disturbed children, followed by neurotic and mixed disorders. In keeping with this trend, externalizing problems were manifested in a significantly greater proportion of children than were internalizing and learning problems on both parent and teacher reports in the second phase of the study. This preponderance of antisocial/externalizing over neurotic/internalizing problems has also been observed in other Indian studies. Sarkar et al. (1995) found 67.4% of their 'disturbed' sample manifested antisocial problems, while in the study by Sekar et al. (1983), 47% of the disturbed children were classified as 'neurotic'. Two studies from Asia (Japan and China) also support this trend. In the Chinese and Japanese studies, about 89.0% and 83.6% of the disturbed children, respectively, were classified as 'antisocial', resulting in a smaller number of 'neurotics'. This finding prompted the authors to suggest that 'the CBQ is not so good in screening neurotic behaviour in Oriental children' (Ekblad 1990; Matsuura et al. 1989). An exception to these findings is the study of Venables et al. (1983), which found that about 52.0% of disturbed Mauritian children manifested neurotic behaviour.

Evidence from several western studies also points towards a higher proportion of antisocial as against neurotic problems among their populations (Rutter et al. 1975; McGee et al. 1984). Most researchers agree that pure internalizing problems are especially difficult

to identify in young children and are therefore reported and studied sparingly. It appears that, being readily observable, behaviour that is disruptive and of "nuisance value" gets reported more frequently than does neurotic behaviour (Ekblad 1990).

In the present study, learning problems were found to be present among a large proportion of children (Table 5). Learning problems have been found to manifest in the form of poor school work, poor concentration, clumsiness, learning difficulty, not carrying out tasks, messy work, failure to finish things, poor motivation and underachievement. As yet, however, it is not clear whether the category of learning problems as seen in our study is separate entity relating to core disabilities in the learning sphere, or whether it is the behavioural manifestation of difficulty in learning, partly induced by the educational system. That such a large proportion of children manifested these problems is a cause for concern among teachers, parents and professionals alike. It is essential that future studies be undertaken to validate the concept of learning problems and investigate their association with internalizing and externalizing problems and other psychosocial correlates.

Gender differences in prevalence rates

In keeping with the general trend of findings reported in the literature, we found a higher prevalence of psychological disturbance among boys than girls on the teacher report measures with a boy:girl ratio of 1.6:1 on the CBQ and of 1.3:1 on the CBCL-TRF (Tables 2, 3). However, when parent reports were analysed, a reversal in this trend was noted, with a higher prevalence being reported among girls than boys (boy:girl ratio 1:1.5 on the CBCL). Thus, a larger proportion of boys were found to show disturbances according to teachers, while the parents found a larger proportion of girls to manifest problems.

In general, a majority of the studies from both India and other countries point towards a preponderance of boys over girls in overall rates of disturbance. Rutter (1967), Rutter et al. (1975) and Zimmermann-Tansella et al. (1978) found a boy:girl ratio of 2:1. Wang et al. (1989) and Matsuura et al. (1989) reported a ratio of 4.9:1. Stevenson et al. (1985) also reported that a greater proportion of boys showed deviant behaviour at 8 years of age. Exceptions to the above findings do exist, as seen in the studies by Rozario et al. (1990) and Sarkar et al. (1995), where a greater proportion of girls than boys were found to be disturbed. McGee et al. (1984), in their study on New Zealand children, found an almost equal proportion of boys and girls to be disturbed.

One other concern was to determine whether the boys and girls differed from each other in the nature of the problems they manifested. From the CBQ findings, it is to be noted that boys manifested 'antisocial problems more often than girls did (1.4:1), and girls manifested 'neurotic' problems more often than boys did (1:3.4). There was, however, no difference in the prevalence of 'mixed' disorders between boys and girls. The data from the CBCL-TRF also reveal similar findings, showing a preponderance of boys with externalizing and learning problems, while girls predominantly manifested internalizing problems. Findings from the CBCL further confirm the evidence that internalizing problems are predominantly seen among girls. However, externalizing and learning problems were present to an equal extent in both the genders. It is therefore evident that, with the exception of neurotic/internalizing problems, no clear pattern emerged in the gender distribution of types of psychological disturbance.

The findings from the CBQ and CBCL-TRF are congruent with the general findings reported in the literature with reference to gender differences in the problems of children. Several workers the world over have reported a preponderance of males over females regarding antisocial problems and the reverse with reference to neurotic problems. Wang et al. (1989) reported the boy:girl ratio for antisocial behaviour to be 8.8:1, and for neurotic disorders to be 1:1.5. In general, the above findings have also been supported by the work of Minde (1975), Rutter et al. (1970) and Stevenson et al. (1985). A few studies that depart from this general trend have also been published, e.g. the Ontario Child Health Study (Offord et al. 1987).

Of significance is the finding that gender differences were absent regarding the prevalence of externalizing and learning problems when the parents' report (CBCL) was considered. Several possibilities could be considered to explain this: (1) girls' behaviour is more inconsistent across situations than that of boys; (2) girls are better behaved and less boisterous than boys, at school; (3) girls exhibit more externalizing problems at home in the absence of strict supervision and control than at school; (4) a reporting bias operates on the part of the teacher, parent or both. Since these explanations are all speculative, they need to be further examined.

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Appendix 1

The Child Behaviour Checklist – Teacher Report Form: Items considered for analysis in the present study (*M* miscellaneous, *L* learning, *I* internalization, *E* externalization)

Sl no.	Sl no. in original scale	Item
1.	1	Acts too young (M)
2.	3	Argues a lot (M)
3.	4	Fails to finish things (L)
4.	7	Bragging, boasting (M)
5.	8	Cannot concentrate (M)
6.	10	Restless (M)

(Continued)

Sl no.	Sl no. in original scale	Item
7.	14	Cries a lot (I)
8.	15	Fidgets (M)
9.	16	Cruelty/bullying (M)
10.	17	Day dreams (I)
11.	19	Demands attention (M)
12.	20	Destroys own things (M)
13.	21	Destroys others' things (M)
14.	22	Cannot follow directions (M)
15.	23	Disobedient (M)
16.	24	Disturbs other pupils (M)
17.	36	Accident prone (M)
18.	37	Fights (E)
19.	41	Impulsive (E)
20.	42	Likes to be alone (I)
21.	43	Lying, cheating (M)
22.	45	Nervous (I)
23.	47	Overconforms (I)
24.	49	Has difficulty learning (L)
25.	50	Too fearful or anxious (I)
26.	52	Feels guilty (I)
27.	53	Talks out of turn (E)
28.	57	Physically attacks people (M)
29.	58	Picks nose (M)
30.	60	Unmotivated (L)
31.	61	Poor school work (L)
32.	62	Clumsy (L)
33.	63	Prefers older children (M)
34.	67	Disrupts class discipline (M)
35.	68	Screams (M)
36.	71	Self conscious (I)
37.	72	Messy work (L)
38.	74	Showing off (M)
39.	75	Shy, timid (I)
40.	76	Explosive behaviour (E)
41.	77	Easily frustrated (E)
42.	78	Inattentive (M)
43.	81	Hurt when criticized (I)
44.	86	Stubborn (E)
45.	87	Moody (E)
46.	88	Sulks (E)
47.	92	Underachieving (L)
48.	93	Talks too much (M)
49.	94	Teases others (M)
50.	95	Temper tantrums (E)
51.	97	Threatens people (E)
52.	100	Doesn't carry out tasks (L)
53.	102	Underactive (M)
54.	103	Sad (I)
55.	104	Unusually loud (E)
56.	108	Fears mistakes (I)
57.	109	Whining (M)
58.	111	Withdrawn (I)
59.	112	Worrying (I)

Appendix 2

The Child Behaviour Checklist – for parents: items used for analysis in the present study

Sl no.	Sl no. in original scale	Item
1	1	Acts too young (M)
2	3	Argues a lot (M)
3	7	Brags/boasts (I)[a]
4	8	Can't concentrate (L)
5	10	Restless (M)
6	14	Cries a lot (I)
7	15	Cruel to animals (M)
8	16	Cruel to others (M)
9	17	Day dreams (I)
10	19	Demands attention (E)
11	20	Destroys own things (M)
12	21	Destroys others' things (M)
13	22	Disobeys at home (M)
14	23	Disobeys at school (M)
15	24	Doesn't eat well (M)
16	29	Fears animals (I)
17	36	Accident prone (M)
18	37	Fights (E)
19	41	Impulsive (E)
20	42	Likes to be alone (M)
21	43	Lying, cheating (M)
22	45	Nervous (I)
23	47	Nightmares (M)
24	50	Anxious (I)
25	57	Physically attacks people (M)
26	58	Picks nose (M)
27	61	Poor school work (L)
28	62	Clumsy (L)
29	63	Prefers older children (M)
30	65	Refuses to talk (I)
31	68	Screams (E)
32	71	Self conscious (I)
33	74	Shows off (E)
34	75	Shy, timid (I)
35	86	Stubborn (M)
36	87	Moody (M)
37	88	Sulks (M)
38	93	Talks too much (E)
39	94	Teases others (E)
40	95	Temper tantrums (E)
41	97	Threatens people (E)
42	102	Slow moving/underactive (L)
43	103	Sad (I)
44	104	Unusually loud (E)
45	108	Wets bed (M)
46	109	Whining (M)
47	111	Withdrawn (I)
48	112	Worrying (I)

[a] Scored in the reverse direction