

## ORIGINAL PAPER

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# Child psychiatric symptoms in primary school

## The second wave 4 years after preschool assessment

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**Abstract** *Objective* Prevalence of behavioural and emotional problems in primary school children was examined 4 years after a baseline survey at preschool age. The scope of symptoms was investigated. Due to anonymity of data only group differences between the two measurements were reported. *Method* A representative sample of 1,481 children in fourth year primary school was assessed with the Child Behaviour Checklist (CBCL). In addition to the CBCL broadband groups of internalizing (INT) and externalizing symptoms (EXT) a third group of combined internalizing and externalizing symptoms (COM) was defined. *Results* The 6 month prevalence of child mental health problems at second wave was 18%—a significant increase on the previous baseline rate of 12.4%. Of those 18% of children with child mental health problems 27.3% had exclusively internalizing, 6.0% externalizing symptoms and 52.4% had combined symptoms of INT and EXT. *Conclusion* The increasing prevalence was associated with an increase of symptoms of the broadband groups INT and COM but not EXT. The results also highlight an age and gender specific vulnerability of boys, both at preschool and primary school.

**Key words** child – epidemiology – mental health – preschool – primary school

### Introduction

Longitudinal research in the field of child psychopathology is relatively rare but there have been some large epidemiological studies in recent years. The Great Smoky Mountains Study in the US [8] provided an important longitudinal perspective on the prevalence of psychiatric disorders from 9 to 16 years with a focus on the cumulative prevalence of 36.7% over the period of 7 years in contrast to a 3 month prevalence of 13.3%, that would be suggested by cross sectional studies. The Dunedin Multidisciplinary Health and Development Study in New Zealand [18] examined the mental health of children and young adults between the ages of 11 and 26 years and provided the evidence that most psychiatric disorders of adults will first appear in childhood and adolescence. The British Child and Mental Health Survey [12] reported a rising rate of psychiatric disorders by age from 7.8% to 12.2%. The survey was based on four age clusters of 5–7, 8–10, 11–12 and 13–15 years but did not include preschool children.

Longitudinal studies on the development of child psychopathology beginning in the preschool years are particularly uncommon [23]. An important exception in this field is the study of Lavigne et al. [20], in which a clinical sample of 344 children aged between 2 and 9 years was investigated for stability of psychopathology. Over a period of almost 4 years the authors found a persistence of symptoms in 50% of the cases.

In a community sample in the Netherlands [19] consisting of 403 children at the age of 5 years the most important predictors of mood and anxiety disorders over a period of 18 months were living in a single-parent family and the occurrence of a stressful life event. Keiley et al. [16] examined externalizing and internalizing problem behaviour in yearly intervals for 8 years in a sample of 405 children between 5 and 12 years of age. There was no effect on internal-

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izing and externalizing behaviour problems by gender. The internalizing score remained unchanged while the externalizing score declined from preschool to school age.

In the Netherlands mental health problems have been examined in a population based sample of 2,076 children between the ages of 4 and 18 years [5]. In childhood no difference between boys and girls was reported on internalizing problems. However, adolescent girls showed more internalizing problems than boys at this age. The scores of externalizing problems were reported to decline by age, with boys showing more problems than girls throughout all ages. This latter result stands in contrast to Keiley et al. [16] and a former study by Campbell [6], whose results showed no gender differences in preschool children. At primary school age more externalizing symptoms were found in boys than in girls, and in adolescence more internalizing symptoms were found in girls than in boys [25, 26].

One possible reason for inconsistencies across studies can be seen in the confounding of internalizing and externalizing symptoms. It is unclear if children with high degrees of externalizing symptoms are vulnerable to symptoms of anxiety or depression [10]. Children with externalizing symptoms may experience emotions such as sadness and fear with relative frequency because they tend to be rejected by their peers. In adolescents it is known, that anger and frustration are positively related to externalizing problem behaviour [7] and also to psychosomatic disorders [17] and depression [4], which are both internalizing types of syndromes.

In summary, the scope of literature about child mental health on the transition from preschool to primary school is unclear: there is evidence for an increasing level of mental health problems while internalizing problems seem to persist and externalizing problems even decline [5, 16]. In preschool age the findings of higher externalizing problems of boys are not consistent. There is a gap of research about preschool children because most longitudinal studies on child mental health problems do not start until the children are at school. The present study focuses on the transition from preschool to primary school. In the present second wave a population based total sample of children was examined at primary school age. In the baseline study 4 years ago the whole 1 year intake to primary school had been included [13].

Aims of the study was to explore the prevalence rate of behavioural and emotional problems at fourth year primary school, the comparison of prevalence rates between preschool and fourth year primary school, and the investigation of gender specific prevalence rates. In addition to the well established broadband scales of exclusively internalizing and externalizing symptoms the combination of those symptoms was also examined.

## Method

### ■ Sample and procedure

The data of the present study were derived from a 4 year follow-up assessment in a northern German university town with a population of 260,000. The total fourth year primary school population in the town included 2,524 children. Each family of a fourth year child was given a set of questionnaires together with a covering letter. The questionnaires were completed by the parents and returned to the schools in sealed envelopes, which were collected by class teachers and forwarded to us. The participation in the study was voluntary and anonymous. Due to a 68.3% response rate and the exclusion of missing data the fourth year primary school sample consists of  $n = 1,481$  children.

The present study was the second wave of two repeated assessments, 4 years after a baseline study at preschool age had been completed. The size of the baseline sample had been  $n = 1,887$  children. For further details of the baseline study see elsewhere [13]. National privacy laws prohibited the allocation of personal identity codes and prevented the matching of a child's individual measurements at preschool and primary school stage. At each wave of data collection all children of the same year of school intake were included in the assessments. The fluctuation in the period of 4 years at primary school was rated at 10–15% (Local school authority, personal communication). The overlap of the present school sample with the baseline sample was estimated by a statistical random model under consideration of the valid data at each wave and a fluctuation of 15%, indicating that between 949 and 1,259 children (64–85%) of the present sample are the same at both assessment waves.

In the fourth year primary school sample were 733 boys (49.5%) and 748 girls (51.5%). The age of the children was in a range of 8.8–11.9 years and a mean of 10.0 years (SD 0.48). From the total of 1,481 children 1,217 children (82.2%) lived with both parents, 244 (16.5) lived in a one parent family, 237 (16.0%) with a single mother, and 7 (0.5%) with a single father. Fourteen children (0.9%) lived with other relatives or in residential care. With regard to the housing situation there was no difference to the baseline study 4 years previously (95% confidence interval, CI). For demographic features of the present sample, the preschool sample, and the total population in town see Table 1.

### ■ Measures

The parents were asked to complete the German version of the CBCL 4–18 [1, 3]. The CBCL contains a list of 120 problem items. The parents ticked the 0 if the item was “Not True” for their child, 1 if the item was “Somewhat or Sometimes True”, and 2 if it was “Very True or Often True”. By summing the scores of 1 and 2, the degree of child mental health problems for eight syndrome scales, two broadband groups of syndromes, and a total score was computed.

The standardization in *T*-values was done on the basis of the German norms [9]. The prevalence of behaviour and emotional problems was computed only in reference to the clinical range of the CBCL scales [1]. The cut-off point was at  $T = 64$  in the total score (92. percentile) and at  $T = 71$  (98. percentile) in the syndrome scales.

For those children who met the criteria of mental health problems, three subtypes of problem behaviour were defined. Children who had a *T*-score of 64 and more on one broadband scale—internalizing (INT) or externalizing (EXT) syndromes—and a *T*-score of less than 60 on the other broadband scale were considered to belong either to the INT or to the EXT syndrome group. The definitions of INT and EXT were precise implementations of the CBCL manual [1]. In addition to the CBCL manual a third grouping of co-morbidity (COM) was defined and applied to the sample. If children had a *T*-score of 60 and more on both broadband scales, they were considered to be in the COM group.

**Table 1** Demographic features of the samples at preschool age (PS) and fourth year primary school (S), and data of the reference population

	PS	S	Population <sup>a</sup>
Housing situation	<i>n</i> = 1,887	<i>n</i> = 1,481	
Child lives with both parents	82.9%	82.5% [±1.9]	81%
Child lives with single mother	15.8%	16.1% [±1.9]	16%
Child lives with single father	0.8%	0.5% [±0.4]	3%
Other relatives/residential care	0.5%	0.9% [±0.5]	n/a
Number of children in the family	<i>n</i> = 1,887	<i>n</i> = 1,481	
One child	18.5%	14.6% [±1.8]	16.8%
Two	49.8%	48.3% [±2.5]	49.5%
Three	21.9%	24.8% [±2.2]	24.3%
Four and more	9.8%	12.2% [±1.7]	9.4%
Education level mother	<i>n</i> = 1,628	<i>n</i> = 1,074	
No graduation/other	0.7%	0.9% [±0.6]	other: 3.3%
Basic secondary school	20.7%	19.3% [±2.4]	19.3%
Six-form high school	30.1%	31.8% [±2.8]	26.8%
High school	48.5%	48.0% [±3.0]	51.6%
Education level father	<i>n</i> = 1,412	<i>n</i> = 1,006	
No graduation/other	0.7%	0.7 [±0.5]	other: 2.8%
Basic secondary school	24.8%	24.0 [±2.6]	20.4%
Six-form high school	19.2%	19.9 [±2.5]	16.2%
High school	55.3%	55.5 [±3.1]	60.7%
Vocational situation mother	<i>n</i> = 1,793	<i>n</i> = 1,442	
Full time employment	8.9%	10.5% [±1.6]	18.8%
Part time employment	40.2%	55.5% [±2.6]	38.9%
Unemployed	0.8%	1.2% [±0.6]	n/a
Primary homemaker	46.7%	30.9% [±2.4]	n/a
Other	3.4%	1.9% [±0.7]	(42.2%)
Vocational situation father	<i>n</i> = 1,617	<i>n</i> = 1,314	
Full time employment	88.6%	90.8% [±1.6]	83.0%
Part time employment	3.4%	4.3% [±1.1]	3.7%
Unemployed	3.6%	2.2% [±0.8]	n/a
Primary homemaker	2.1%	1.1% [±0.6]	n/a
Other	2.3%	1.5% [±0.9]	(13.3%)

Note: [± x.y] Δ of 95%-confidence interval

<sup>a</sup>Homes with at least one child under the age of 18 years (Local authorities, personal communication)

Due to the need for comparability with the baseline study at preschool age [13] four of the 120 items had to be dropped from the CBCL (items 73 and 96 on sexual problems, item 101 “truancy”, and item 105 “alcohol, drugs”). These items were considered not applicable at preschool and primary school age. This proceeding was in accordance to other studies of children at the age of 6 and 10 years [10, 15]. An item analysis revealed negligible frequencies in the four items of 0.00% in the items 73 and 105, 0.03% in item 96, and 0.01% in item 101 for children up to the age of 11 years [1].

## Results

### ■ Prevalence

In the present study 267 (18.0%) children met the criterion of the clinical range of mental health problems. Significantly more children had mental health problems at fourth year primary school than in the preschool study, where prevalence had been 12.4%:  $\chi^2(1, n = 3,368) = 20.75, p < .001$  (Table 2). The increase of prevalence was highly significant in boys (14.2–22.2%;  $\chi^2(1, n = 1,708) = 18.8, p < .001$ ) but not in girls (10.5–13.9%;  $\chi^2(1, n = 1660) = 4.4, p = .04$ ). The risk ratio (RR) of child mental health problems for boys versus girls was 1.60.

### ■ Internalizing and externalizing symptoms

From 267 children with child mental health problems at fourth year primary school, 73 (27.3%) children showed exclusively internalizing symptoms (INT) and 16 (6.0%) externalizing symptoms (EXT). Most of the children with mental health problems, 140 (52.4%) showed a combination of internalizing and externalizing symptoms (COM). The symptoms of 38 (14.2%) children were not related to any of the broadband groups. In Table 3 the distribution of the symptom groups is broken down by gender and significant differences between boys and girls are shown:  $\chi^2(3, n = 267) = 13.82, p = .003$ . Post hoc comparisons revealed significantly more EXT symptoms in boys ( $\chi^2(1, n = 267) = 7.65, p = .006$  and significantly more COM symptoms in girls ( $\chi^2(1, n = 267) = 8.31, p = .004$ ).

Between preschool and primary school the frequencies of the three symptom groups did not differ significantly:  $\chi^2(3, n = 501) = 3.93; p = .27$ . But at fourth year primary school there was a tendency for more INT symptoms in boys and more COM symptoms in girls compared to the baseline at preschool age (Table 3).

**Table 2** Frequencies of child mental health problems at preschool age (PS) and fourth year primary school (S)

	PS (n = 1,887)	S (n = 1,481)	Difference PS – S
Total	234	267	$\chi^2 = 20.7^{***}$
	12.4%	18.0%	RR = 1.45
Boys	138	163	$\chi^2 = 18.8^{***}$
	14.2%	22.2%	RR = 1.56
Girls	96	104	$\chi^2 = 4.4^*$
	10.5%	13.9%	RR = 1.32
Difference boys–girls	$\chi^2 = 5.7^*$	$\chi^2 = 17.4^{***}$	RR = 1.60

Note:  $\chi^2(1, n)$

\* $p < .05$

\*\*\* $p < .001$

RR = Relative risk

**Table 3** CBCL-Broadband Groups: symptoms of boys and girls with mental health problems at preschool age (PS) and fourth year primary school (S)

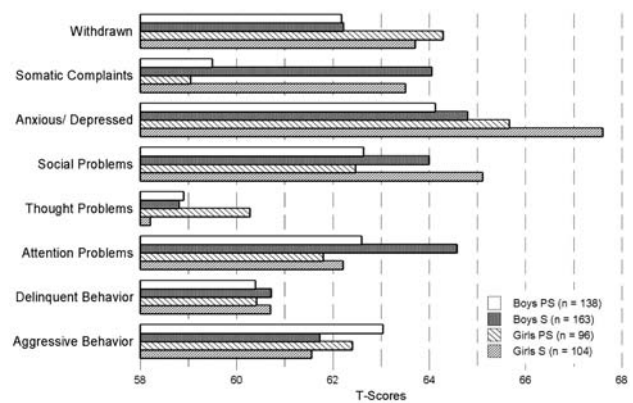
		Total	INT	EXT	COM	Else
PS	Boys	<i>n</i> 138	30	18	69	21
		% 100%	21.7%	13.0%	50.0%	15.2%
	Girls	<i>n</i> 96	26	6	47	17
	% 100%	27.1%	6.3%	49.0%	17.7%	
Total	<i>n</i> 234	56	24	116	38	
	% 100%	23.9%	10.3%	49.6%	16.2%	
S	Boys	<i>n</i> 163	46	15	74	28
		% 100%	28.2%	9.2%	45.4%	17.2%
	Girls	<i>n</i> 104	27	1	66	10
	% 100%	26.0%	1.0%	63.5%	9.6%	
Total	<i>n</i> 267	73	16	140	38	
	% 100%	27.3%	6.0%	52.4%	14.2%	

Note: INT = Internalizing symptoms; EXT = Externalizing symptoms; COM = Combination of internalizing and externalizing symptoms; Else = Other than INT, EXT or COM

## Syndrome scales

The mean *T*-scores of the eight syndrome scales are shown in Fig. 1. The scores of the scale *Anxious/Depressed* were the highest of all CBCL syndrome scales both at baseline and at follow-up. The multivariate analysis of the eight syndrome scales was statistically significant in the main effects of time,  $F(8, 490) = 7.15$ ,  $p < .001$  and gender  $F(8, 490) = 2.95$ ,  $p = .003$ . Post hoc tests revealed significant differences between boys and girls on the scales *Anxious/Depressed* (boys: 64.8, girls: 67.6;  $U(n_1 = 163, n_2 = 104) = 2.58$ ,  $p = .01$ ,  $d = 0.4$ ) and *Attention Problems* (boys: 64.6, girls: 62.2;  $U(n_1 = 163, n_2 = 104) = 3.18$ ,  $p = .001$ ,  $d = 0.3$ ) with effect sizes between small and medium.

The comparison between baseline measurement (T1) and the present second wave (T2) indicated a significant increase on the scale *Somatic Complaints* from T1 = 59.3 to T2 = 63.8. ( $U(234, 267) = 5.66$ ,  $p < .001$ ,  $d = 0.5$ ). This increase was significant for boys and girls and the effect size was medium. On the scale *Social Problems* a significant increase of the mean was found in girls only (T1: 62.5, T2: 65.1;  $U(96,$

**Fig. 1** Profile of the CBCL syndrome scales: mean *T*-scores of boys and girls with mental health problems at preschool age (PS) and fourth year primary school (S)

104) = 1.93,  $p = .05$ ,  $d = 0.3$ ). The scale *Attention Problems* showed a significant increase of the mean in boys only (T1: 62.6, T2: 64.6;  $U(138, 163) = 2.01$ ,  $p = .04$ ,  $d = 0.2$ ). The decrease of the mean from preschool to primary school on the scale *Aggressive Behaviour* was not statistically significant (T1: 62.8, T2: 61.7;  $U(234, 267) = 1.36$ ,  $p = .18$ ). Also no significant differences were found on the remaining scales *Withdrawn* (T1: 63.0, T2: 62.8;  $U(234, 267) = 0.21$ ,  $p = .84$ ), *Thought Problems* (T1: 59.5, T2: 58.6;  $U(234, 267) = 0.92$ ,  $p = .36$ ) and *Delinquent Behaviour* (T1: 60.4, T2: 60.7;  $U(234, 267) = 0.73$ ,  $p = .47$ ).

## Discussion

Four years after the preschool study [13] the prevalence of child mental health problems was re-examined at fourth year primary school and the prevalence had increased significantly from 12.4% to 18.0%. These results of the second wave at school age correspond with findings of earlier studies [8, 11, 16, 25]. Gender specific evaluation showed a significantly higher prevalence of child psychiatric symptoms in boys than in girls. The risk of child mental health problems for boys was 1.6 times higher than for girls. Already in the baseline study at preschool age there was a higher level of child mental health problems in boys than in girls. This difference persisted and increased at fourth year primary school.

In contrast to earlier studies [2, 14], the increase of symptoms at school age was primarily due to an increase of internalizing symptoms and the increase was only significant in boys, but not in girls. Of those children with a psychiatric disturbance at school age the rate of internalizing symptoms was more than the fourfold of externalizing symptoms (27.3% vs. 6.0%). The high rate of internalizing child psychiatric symptoms especially in boys is unexpected and re-



quires further longitudinal and prospective studies of early child mental health.

The additional category of comorbid symptomatology (COM) has proven to be very helpful. A combined symptomatology of internalizing and externalizing symptoms was present in 52.4% of the disturbed children. Especially externalizing symptoms were often combined with internalizing symptoms but were rarely present on their own. A high correlation of externalizing and internalizing symptoms has been already highlighted by Eisenberg et al. [10].

On the level of single syndrome scales the differences between boys and girls at fourth year primary school, the significantly higher scores for girls on *Anxious /Depressed* and for boys on *Attention Problems*, were in line with previous findings [5, 8, 11, 22]. Also the significant increase between preschool and primary school on the scale *Somatic Complaints* in boys and girls [24], and on the scale *Social Problems* in girls only were in line with previous findings [5]. Contrary to previous findings [16, 21], the higher number of psychiatrically disturbed boys was primarily related to a significantly increased prevalence of internalizing symptoms and attention deficits, with at the same time unchanged prevalence of externalizing symptoms.

The present sample at fourth year primary school proved to be representative of the study population. The strict anonymity of the subjects did not allow a one-to-one matching with the baseline data. Both assessments had to be treated as two cross-sectional samples from the same population. The overlap between the subjects of the present sample and the baseline study was 64–85%.

Given the large number of subjects, the symptom checklist approach offers useful information about children at preschool and primary school. For international comparison of the results the late school entry in Germany, generally at the age of 6 years, needs to be taken into account.

A teacher perspective could add valuable information about problem behaviour at school, which might possibly result in reports of more externalizing problems. Due to the principle of identical data collection at both points of assessments and the anonymity of the subjects, it was only possible to obtain the parental report. Despite this limitation the core findings of the present study remain unaffected, which show a high number of persistent internalizing symptoms at fourth year primary school, occurring solely or in combination with externalizing symptoms.

The results point to the need for early child psychiatric research on child mental health beginning in infancy and preschool age. Especially the high prevalence of internalizing symptoms in boys demands more sensitivity towards internalizing child psychiatric symptoms not only in girls but also in boys. The gender- and age-specific vulnerability for

internalizing psychopathology in boys requires the attention of all child mental health workers and demands appropriate mental health diagnostic and treatment facilities already at preschool and at primary school age.

## References

1. Achenbach TM (1991) Manual for the child behavior checklist/4–18 and 1991 profile. University of Vermont Department of Psychiatry, Burlington, VT
2. Achenbach TM, Howell CT, McConaughy SH, Stanger C (1995) Six-year predictors of problems in a national sample of children and youth, II: signs of disturbance. *J Am Acad Child Adolesc Psychiatry* 34:488–498
3. Arbeitsgruppe Deutsche Child Behavior Checklist (1998) German Version of the Child Behavior Checklist, Arbeitsgruppe Kinder- Jugend- und Familiendiagnostik, Cologne
4. Blumberg SH, Izard C (1985) Affective and cognitive characteristics of depression in 10- and 11-year-old children. *J Pers Soc Psychol* 49:194–202
5. Bongers I, Koot H, Van Der Ende J, Verhulst FC (2003) The normative development of child and adolescent problem behavior. *J Abnorm Psychol* 112:179–192
6. Campbell SB (1995) Behavior problems in preschool children: a review of recent research. *J Child Psychol Psychiatry* 36:113–149
7. Colder CR, Stice E (1998) A longitudinal study of the interactive effect of impulsivity and anger on adolescent problem behaviour. *J Youth Adolesc* 27:255–274
8. Costello EJ, Mustillo S, Erkanli A, Keeler G, Angold A (2003) Prevalence and development of psychiatric disorders in childhood and adolescence. *Arch Gen Psychiatry* 60:837–844
9. Doepfner M, Plueck J, Berner W, et al. (1997) Psychische Auffälligkeiten von Kindern und Jugendlichen in Deutschland - Ergebnisse einer repräsentativen Studie: Methodik, Alters-, Geschlechts- und Beurteilereffekte. *Z Kinder Jugendpsychiatr* 25:218–233
10. Eisenberg N, Cumberland A, Spinrad TL, et al. (2001) The relations of regulation and emotionality to children's externalizing and internalizing problem behavior. *Child Dev* 72:1112–1134
11. Fombonne E (1994) The Chartres Study, I: prevalence of psychiatric disorders among French school-aged children. *Br J Psychiatry* 164:69–79
12. Ford T, Goodman R, Meltzer H (2003) The British child and adolescent mental health survey 1999: the prevalence of DSM-IV disorders. *J Am Acad Child Adolesc Psychiatry* 42:1203–1211
13. Furniss T, Beyer T, Guggenmos J (2006) Prevalence of behavioural and emotional problems among six-years-old preschool children: baseline results of a prospective longitudinal study. *Soc Psychiatry Psychiatr Epidemiol* 41:394–399
14. Garland AF, Hough RI, McCabe KM, Yeh M, Wood PA, Aarons GA (2001) Prevalence of psychiatric disorders in youths across five sectors of care. *J Am Acad Child Adolesc Psychiatry* 40:409–418
15. Haffner J, Esther C, Münch H, et al. (2002) Verhaltensauffälligkeiten im Einschulungsalter aus elterlicher Perspektive: Ergebnisse zu Prävalenz und Risikofaktoren in einer epidemiologischen Studie. *Praxis Kinderpsychol Kinderpsych* 51:675–696
16. Keiley MK, Bates JE, Dodge KA, Pettit GS (2000) Cross-domain growth analysis: externalizing and internalizing behaviors during 8 years of childhood. *J Abnorm Child Psychol* 28:61–179
17. Keltner D, Moffitt TE, Stouthamer-Loeber M (1995) Facial expression of emotion and psychopathology in adolescent boys. *J Abnorm Psychol* 104:644–652

18. Kim-Cohen J, Caspi A, Moffitt TE, Harrington HI, Milne BJ, Poulton R (2003) Prior juvenile diagnoses in adults with mental disorder: developmental follow-back of a prospective-longitudinal cohort. *Arch Gen Psychiatry* 60:709–717
19. Kroes M, Kalff AC, Steyaert J, et al. (2002) A longitudinal community study: do psychosocial risk factors and child behavior checklist scores at 5 years of age predict psychiatric diagnoses at a later age? *J Am Acad Child Adolesc Psychiatry* 41:955–963
20. Lavigne JV, Arend RP, Rosenbaum DP, Binns HJM, Christoffel KKM, Gibbons RDP (1998) Psychiatric disorders with onset in the preschool years: I. Stability of diagnoses. *J Am Acad Child Adolesc Psychiatry* 37:1246–1254
21. Lavigne JV, Gibbons RD, Christoffel KK, et al. (1996) Prevalence rates and correlates of psychiatric disorders among preschool children. *J Am Acad Child Adolesc Psychiatry* 35:204–214
22. Puura K, Almqvist F, Tamminen T, et al. (1998) Psychiatric disturbances among prepubertal children in Southern Finland. *Soc Psychiatry Psychiatr Epidemiol* 33:310–318
23. Roberts RE, Attkisson CC, Rosenblatt A (1998) Prevalence of psychopathology among children and adolescents. *Am J Psychiatry* 155:715–725
24. Verhulst FC, Van der Ende J (1992) Six-year developmental course of internalizing and externalizing problem behaviors. *J Am Acad Adolesc Psychiatry* 31:941–950
25. Verhulst FC, Van der Ende J (1997) Factors associated with child mental health service use in the community. *J Am Acad Adolesc Psychiatry* 36:901–909
26. Zahn-Waxler C, Klimes-Dougan B, Slattery MJ (2000) Internalizing problems of childhood and adolescence: prospects, pitfalls, and progress in understanding the development of anxiety and depression. *Dev Psychopathol* 12:443–466