

EXTERNALIZING AND INTERNALIZING PSYCHOPATHOLOGY IN CHILDREN WITH ADHD COMBINED TYPE VERSUS ADHD INATTENTION TYPE

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SUMMARY

Background. *ADHD is characterized by inattention, impulsiveness and hyperactivity, but the clinical picture of ADHD seems to be broader than these behaviors. A high rate of overlap between ADHD and psychiatric disorders, other developmental disorders (developmental dyslexia, dyscalculia, language impairments), oppositional defiant disorder and conduct disorder has been found in previous research. The aim of the present study was to compare the amount and intensity of symptoms of psychopathology in ADHD combined type and ADHD inattention type children.*

Material and methods. *The research involved 132 children aged 9-11, with and without ADHD. All the children in the ADHD group met the DSM-IV-TR criteria for that disorder: 64 ADHD combined subtype and 21 ADHD inattentive subtype. The control group consisted of 47 children without impairments. The CBCL and TRF questionnaires were used to obtain information from relatives and teachers (TRF) regarding the children's competencies and behavioral/emotional problems.*

Results. *CBCL and TRF profiles differed only in the intensity of assessed symptoms, not in the pattern of the profile, so parents and teachers perceive the children in a similar way. Significant differences between ADHD combined type and the control group were seen on all scales except Withdrawn (CBCL) and Somatic Complaints (TRF). The ADHD combined group showed higher scores than ADHD inattention type on Anxious/Depressed, Attention Problems, Aggressive Behaviors, Externalizing Scale and Total score. Significant differences between ADHD inattention type and the control group were*

seen in Social Problems, Attentive Problems, Delinquent Behaviors, Aggressive Behaviors, Externalizing Scale and Total score.

Conclusions. *ADHD was found to be more related to externalizing than internalizing psychopathology.*

INTRODUCTION

Attention-Deficit Hyperactivity Disorder (ADHD), characterized by symptoms of inattention, impulsiveness and hyperactivity, is present in various kinds of social environments, and is developmentally inappropriate. ADHD is a multisymptom disorder leading to academic, social and psychological disruption in affected individuals (Whitman, 2000).

A high rate of overlap between ADHD and psychiatric disorders, other developmental disorders (developmental dyslexia, dyscalculia, language impairments), oppositional defiant disorder and conduct disorder, has been found in previous research (Biederman et al., 1996; Faraone et al., 1996; Fletcher et al., 2000; Borkowska, 2006; Colledge, Blair, 2001; Lipowska Buliński, in press)

The diagnosis of ADHA is a clinical process, based on clinical thinking and data, but at the same time it has a formal "face." In the child's behavior it is necessary to find activities described in DSM-IV or ICD-10 as formal criteria for the disorder. The question is whether ADHD children suffer only from symptoms of inattention, impulsivity and hyperactivity. ADHD is considered a clinically heterogeneous disorder, so the clinical picture of ADHD seems to be broader than these behaviors.

Besides making categorical diagnoses, another way to characterize ADHD children is by a dimensional approach. One frequently used example of the dimensional approach is the Child Behavioral Checklist (CBCL, Achenbach, 1991) and the Teacher Report Form (TRF, Achenbach, 1991). The CBCL and the TRF are standardized instruments for reporting the behavioral problems and competencies of children ages 4 -18 as reported by their parents (CBCL) and teachers (TRF).

Several studies have compared the CBCL with psychiatric diagnosis to determine whether or not the checklist can indeed be used to discriminate between disordered and non-disordered children (Dienes et al. 2002; Wołanieczk, 2001). It has been shown that elevated scores on all the CBCL subscales, especially the Attention problems scale, correlate with a diagnosis of ADHD (Biederman et al., 1996; Eiraldi et al., 2000).

Some studies have attempted to distinguish between types of ADHD. Graetz et al. (2001) tested relations between CBCL scale scores and DSM-IV diagnoses of inattentive, hyperactive-impulsive, and combined ADHD subtypes in a nationally representative sample of 3,597 Australian children aged 6- to 17-years. Children who qualified for any of the three ADHD subtypes scored significantly higher on most CBCL problem scales than did control

children. In addition, several CBCL scales significantly discriminated between the three ADHD subtypes as follows:

- On the CBCL Externalizing scale, children with ADHD-combined type scored significantly higher than children with hyperactive-impulsive type, who, in turn, scored significantly higher than children with inattentive type.
- Although children with combined type also tended to score high on other problem scales, children with inattentive diagnoses scored significantly higher than children with hyperactive-impulsive type on the Social Problems and Attention Problems syndromes.

This indicates that, although the symptoms defining the ADHD inattentive subtype are less disruptive than those defining the ADHD hyperactive-impulsive type, the inattentive symptoms are accompanied by more problems in social relations and by more problems from the CBCL Attention Problems syndrome (Brown i Pachalska 2003).

Differences on CBCL scores between the inattentive and combined types of ADHD among Puerto Rican children were tested in a study by Bauermeister et al. (2005). Several CBCL syndrome scores discriminated significantly among the groups: Aggressive Behavior and Delinquent Behavior scores were significantly higher for combined type children than for either inattention or control children; however, the CBCL Withdrawn scores were significantly higher for both inattention and combined type children than for control children. Biederman et al. (2001) tested the stability of CBCL scores obtained over a 4-year interval for boys diagnosed as having ADHD. The boys unequivocally met DSM-III-R criteria for ADHD and participated in a thorough longitudinal study that yielded findings reported in numerous publications. The authors performed many analyses of relations between the boys' initial CBCL scores and their scores 4 years later. Based on high levels of consistency between CBCL scores, the researchers found good evidence for the stability of both the clinical and competence scales of the CBCL, as well as for its composite Internalizing, Externalizing, and Total Problems scales over a 4-year period. These results support the informativeness of the CBCL as a useful measure of longitudinal course in clinical samples of youth with ADHD.

In Oosterlaan and Sergeant's study (1996), CBCL and TRF were used in a selection procedure, and the authors analysed scores only in some scales: attention problems, aggressive behavior, delinquent behavior and anxious/depressed. There were some interesting results. They found higher scores in the attention problem CBCL scale in the ADHD group in comparison to disruptive children, but not in the TRF scale. Anxious children had more attention problems than controls. In aggressive behaviors the disruptive group received higher scores than ADHD in CBCL, but not in TRF. These groups were the same in delinquent behavior rates. On the anxious/depressed scale, the anxious group received the highest scores in comparison with ADHD, disruptive, and control groups, which did not differentiate

between them in CBCL, but ADHD had a higher score than disruptive and control in TRF. This means that the way the children's problems are perceived is different in the parents and teachers groups.

Several studies have shown that behavioral checklists and DSM interviews measure overlapping constructs. For example, correlations between attention problem scores and the number of DSM symptoms of ADHD are moderate to high (Derks et al., 2006). Checklist scores discriminate between children with and without ADHD. Steinhausen et al. (1997) studied a population sample of 6- to 17-year-old children and adolescents and compared the mean CBCL – AP scores of 272 control children and 35 ADHD children. Children with ADHD scored higher on parental attention problems than controls.

In a study by Roessner et al. (2007a,b), the authors concluded that ADHD was found to be strongly related to externalizing as well as internalizing psychopathology.

The aim of our study was to compare the amount and intensity of symptoms of psychopathology in ADHD combined type and ADHD inattention type children.

MATERIAL AND METHODS

Two questionnaires were used:

- CBCL (Achenbach, 1991a);
- TRF (Achenbach, 1991b).

The CBCL/6-18 and TRF obtain reports from parents, other close relatives, and/or guardians (CBCL) and teachers (TRF) regarding children's competencies and behavioral/emotional problems. Parents and teachers provide information for 20 competence items covering their child's activities, social relations, and school performance. The CBCL/6-18 and TRF have items that describe specific behavioral and emotional problems, plus two open-ended items for reporting additional problems. The informant rates the child for how true each item is now or within the past 6 months using the following scale: 0 = not true (as far as you know); 1 = somewhat or sometimes true; 2 = very true or often true. The CBCL/6-18 and TRF scoring profile provides raw scores, T scores, and percentiles for three competence scales (Activities, Social, and School), Total Competence, eight cross-informant syndromes, and Internalizing, Externalizing, and Total Problems. The cross-informant syndromes scored from the CBCL/6-18 and TRF are:

- Aggressive Behavior;
- Anxious/Depressed;
- Attention Problems;
- Delinquent Behavior;
- Social Problems;
- Somatic Complaints;
- Thought Problems;
- Withdrawn.

132 children with and without ADHD were examined. All the children in the ADHD group met the DSM-IVTR criteria for that disorder. Each child who met those criteria was further classified according to ADHD subtypes. The symptoms were assessed using:

- a clinical interview with the child's parents;
- the ADHD Rating Scale (DuPaul et al., 1998);
- the Iowa-Conners (IOWA) Questionnaire for parents and teachers (DuPaul et al., 1998)

Children with the ADHD combined subtype formed the first experimental group (combined ADHD; n = 64; 59 boys and 5 girls), while the second group

Table 1. Descriptive characteristics of the sample

Variable	combined ADHD n = 64		inattentive ADHD n = 21		control n = 47		Pairwise comparison
	M	SD	M	SD	M	SD	
Age (in months)	136.14	10.86	141.33	12.17	138.51	9.66	combined ADHD = inattentive ADHD = control
Full IQ	110.35	12.65	108.31	13.92	112.78	11.33	Combined ADHD = inattentive ADHD = control
ADHD Rating Scale – Total Score	41.03	6.68	27.40	7.41	11.76	5.81	combined ADHD > inattentive ADHD > control
ADHD Rating Scale S –Attention	21.85	3.83	19.46	3.39	7.16	4.18	combined ADHD > inattentive ADHD > control
ADHD Rating Scale S - hyperactivity-impulsivity	19.20	4.10	9.66	3.63	4.60	2.27	combined ADHD > inattentive ADHD > control
ADHD Rating Scale N –Attention	8.03	1.34	7.20	1.26	1.40	1.97	combined ADHD > inattentive ADHD > control
ADHD Rating Scale N - hyperactivity-impulsivity	7.09	1.43	2.73	1.57	0.64	1.03	combined ADHD > inattentive ADHD > control
IOWA Conners for Teachers	16.22	5.23	12.66	5.57	7.12	5.94	combined ADHD = inattentive ADHD > control
IOWA Conners for Parents	19.24	4.10	14.00	4.79	8.32	5.03	combined ADHD > inattentive ADHD > control

FULL IQ in WISC-R

S - Attention – scores on the ADHD Rating Scale inattention sub-scale

S- hyperactivity-impulsivity – scores on the ADHD Rating Scale hyperactivity-impulsivity sub-scale

N -Attention – the number of recognized diagnostic categories on the inattention scale (i.e. observed often and very often in child's behavior) on the ADHD Rating Scale

N - hyperactivity-impulsivity - the number of recognized diagnostic categories on the hyperactivity-impulsivity scale (i.e. observed often and very often in the child's behavior) on the ADHD Rating Scale

= „no significant difference”

< and > „significant difference ($p < 0,05$)”

*** - significant at $p < 0,001$

was made up of children with the ADHD inattentive subtype (inattentive ADHD; n = 21; 17 boys and 4 girls). The control group consisted of children without impairments (control; n = 47, including 40 boys and 7 girls). All participants were 9-11 years old. The sample characteristics are shown in Table 1. Group differences were tested with the U Mann-Whitney test.

RESULTS

The results obtained from the CBCL and TRF questionnaires in problems scales, as well as in the Externalizing and Internalizing scales, were analyzed in our study. Figures 1 and 2 show average scores per item on every problem scale and on the Externalizing and Internalizing scales, as Total Score (sum of scores in every item from the particular scale divided by the number of items). This is an indicator of symptom intensity on the particular scale. The higher the value, the more intensive the symptoms on the scale.

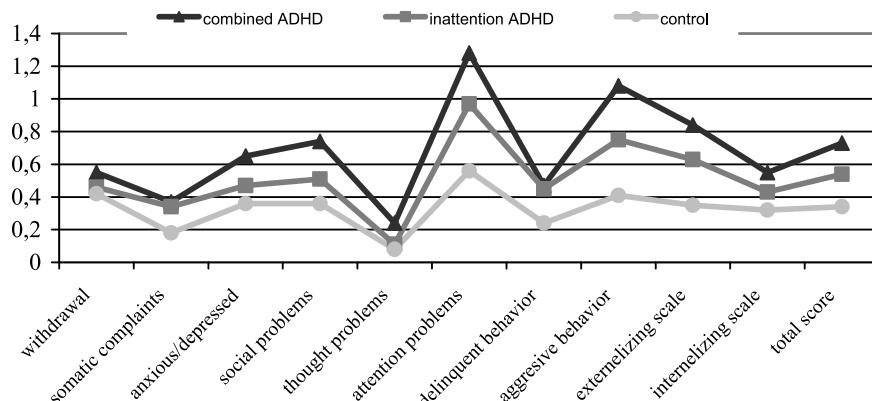


Fig. 1. CBCL results in the three study groups

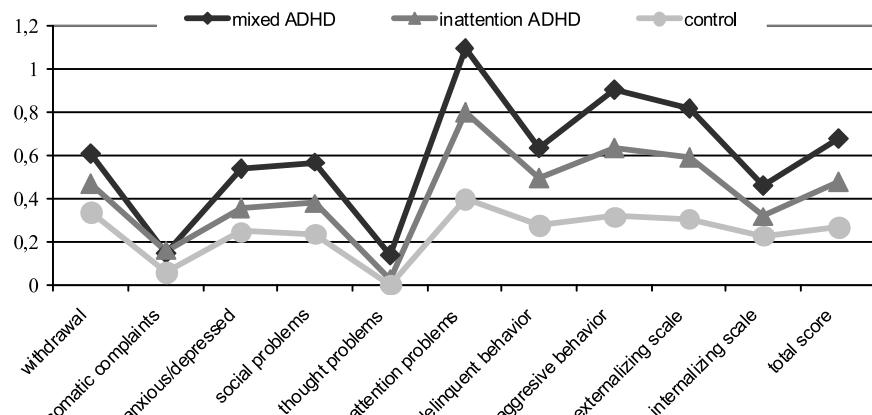


Fig. 2. TRF results in the three study groups

As can be seen in Fig. 1, the highest scores were obtained on the Attention Problems scale in all three groups. Comparing the three groups, combined ADHD received the highest score on that scale ($M = 1.28$). These results are one standard deviation above the average total score indicator ($M = 0.73$; $SD = 0.22$).

The combined ADHD group achieved results a little lower, but still the value of one standard deviation above the average Total Score indicator on the Aggressive Behavior scale ($M = 1.08$). On the "Externalizing Behaviors" scale, which includes Aggressive Behavior and Delinquent Behavior, the ADHD combined group obtained a relatively low index in Delinquent Behaviors scale ($M = 0.47$) (in comparison to average total scale indicator $M = 0.73$). Symptoms of Social Problems are present at an average level ($M = 0.74$). Relatively low score were observed in scales measuring Internalizing Behaviors ($M = 0.55$) which include Withdrawn ($M = 0.55$), Somatic Complaints ($M = 0.37$) and Anxious/Depressed ($M = 0.65$).

The shape of the CBCL profile in the inattentive type of ADHD children is similar to the ADHD combined group. Figure 1 shows the differences only in symptom intensiveness on scales not in relations between scales, which would affect profile's shape. The Thought Problems scale (not included either in internalizing or externalizing factors) is observed very rarely in these children's behaviors. The control group's results are seen on the lowest line on Figure 1.

When comparing CBCL and TRF profiles, we can see that generally they differentiate only in the intensity of the assessed symptoms, not in the pattern of the profile. The TRF profile's shape is similar to the CBCL's. The highest point is on the Attention Problems scale in all three groups (combined ADHD $M = 1.1$, inattention ADHD $M = 0.8$, control $M = 0.4$). There are somewhat

Table 2. A correlational analysis of parents' and teachers' assessment of the ADHD children's behavior using CBCL and TRF

CBCL and TRF scales	R	P
Withdrawn	0.48	0.000
Somatic complaints	0.49	0.000
Anxious/ Depressed	0.55	0.000
Social problems	0.55	0.000
Thought problems	0.35	0.000
Attention problems	0.62	0.000
Delinquent behaviors	0.60	0.000
Aggressive behaviors	0.71	0.000
Externalizing factor	0.69	0.000
Internalizing factor	0.65	0.000
Total score	0.66	0.000

lower scores on the Aggressive Behaviors scale (combined ADHD M = 0.9, inattention ADHD M = 0.6, control M = 0.3) and than on the Delinquent Behaviors scale (combined ADHD M = 0.64, inattention ADHD M = 0.5, control M = 0.3). The average Total Score on the TRF in the ADHD combined group was M = 0.7; in the inattention group, M = 0.5; in the control group, M = 0.3.

The agreement regarding the behavioral characteristics of these children made by their parents and teachers produce the R values seen in Table 2.

A correlational analysis was used to observe the relationship between the CBCL scores and TRF scores in the ADHD group (inattentional and combined groups together). This revealed significant correlations between the parents' and teachers' assessment in all scales (see Table 1).

Table 3. Significant differences between the three study groups in all CBCL and TRF scales

	ADHD combined type/ ADHD inattention type		ADHD combined type/ Control group		ADHD inattention type/ Control group	
	Z	P	z	p	z	P
CBCL-Withdrawn	0.864	n.s.	1.930	n.s.	1.501	n.s.
CBCL-Somatic Complaints	0.979	n.s.	2.725	0.006	0.904	n.s.
CBCL-Anxious/Depressed	1.989	0.047	3.316	0.000	1.760	n.s.
CBCL-Social Problems	1.851	n.s.	3.628	0.000	2.525	0.011
CBCL-Thought Problems	1.667	n.s.	2.243	0.024	0.837	n.s.
CBCL-Attention Problems	2.494	0.012	5.729	0.000	3.391	0.000
CBCL-Delinquent Behaviors	-0.130	n.s.	3.185	0.001	2.756	0.005
CBCL-Aggressive Behaviors	2.448	0.014	5.678	0.000	2.901	0.003
CBCL-Externalizing Scale	2.057	0.039	5.332	0.000	2.872	0.004
CBCL-Internalizing Scale	1.706	n.s.	3.350	0.000	1.558	n.s.
CBCL-Total Score	2.608	0.009	5.338	0.000	3.204	0.001
TRF- Withdrawn	1.158	n.s.	3.100	0.001	0.620	n.s.
TRF- Somatic Complaints	0.533	n.s.	1.894	n.s.	0.764	n.s.
TRF- Anxious/Depressed	2.173	0.029	4.330	0.000	0.793	n.s.
TRF- Social Problems	2.150	0.031	4.671	0.000	1.371	n.s.
TRF- Thought Problems	1.594	n.s.	2.754	0.005	0.043	n.s.
TRF- Attention Problems	2.827	0.004	5.704	0.000	3.420	0.000
TRF- Delinquent Behaviors	1.707	n.s.	4.358	0.000	2.540	0.011
TRF- Aggressive Behaviors	2.414	0.015	5.173	0.000	2.696	0.006
TRF- Externalizing Scale	2.353	0.018	5.090	0.000	2.670	0.007
TRF- Internalizing Scale	2.038	0.041	4.129	0.000	1.258	n.s.
TRF- Total Score	3.038	0.002	5.391	0.000	2.237	0.025

Comparisons were made between the three study groups in all CBCL and TRF scales, using the U Mann-Whitney test (see Table 3).

Significant differences between the ADHD combined type and the control group were seen on all scales except Withdrawn (z and p values given in Table 3). There were no significant differences between the two ADHD groups in Withdrawn, Somatic Complaints, Social Problems, Thought Problems, Delinquent Behaviors, and Internalizing Scale. Higher rates on Anxious/Depressed, Attention Problems, Aggressive Behaviors, Externalizing Scale and Total score were seen in the ADHD combined group when compared to the ADHD inattention type.

Significant differences between the ADHD inattention type and the control group were seen in Social Problems, Attentive Problems, Delinquent Behaviors, Aggressive Behaviors, Externalizing Scale and Total score. There were no differences between ADHD inattention type and the control group in the rest of the CBCL scales (Withdrawn, Somatic Complaints, Anxious/Depressed, Internalizing Scale).

In TRF results, the ADHD combined type significantly differed from the control group in all scales except for Somatic Complaints. There were no significant differences between the two ADHD groups in Withdrawn, Somatic Complaints, Thought Problems and Delinquent Behaviors. More elevated scales were seen in ADHD combined type than in ADHD inattention type in Anxious/Depressed, Social Problems, Attention Problems, Aggressive Behaviors, Delinquent Behaviors, Externalizing Scale, Internalizing Scale and Total score.

There were no significant differences between the ADHD inattentive type and control group on Withdrawn, Somatic Complaints, Anxious/Depressed, Social Problems, Thought Problems and Internalizing Scale.

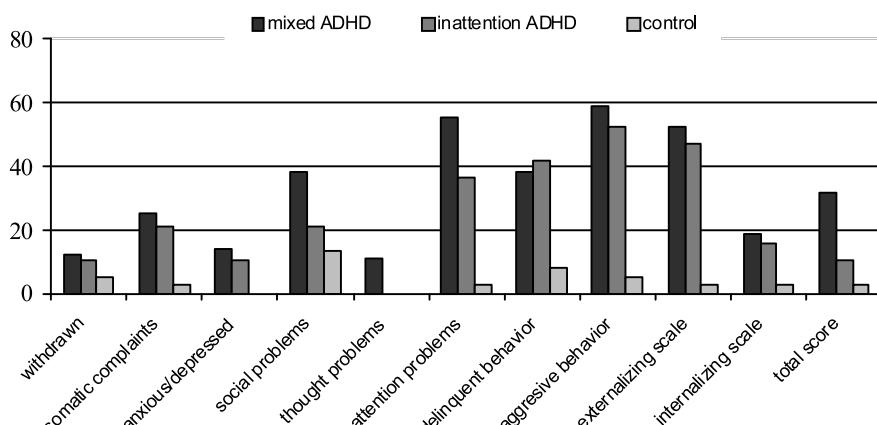


Fig. 3. Percentage of diagnostic groups with T-scores above clinical cut-off (>70) on the CBCL Scales

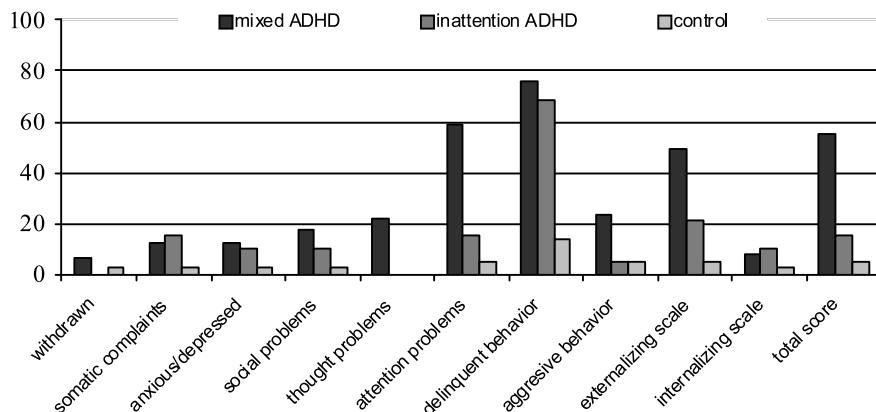


Fig. 4. Percentage of diagnostic groups with T-scores above clinical cut-off (>70) on the TRF Scales

The next step in the data analysis was to assess the percentage of diagnostic groups with T-scores above clinical cut-off (>70) on the CBCL and TRF Scales.

Chi square analysis was conducted to see if the three groups differed in the relative frequency of subjects that received T scores above or at the clinical cut-off (>70) on each of the CBCL clinical scales.

All the scales differentiate all the diagnostic groups, except for the Withdrawn scale ($\chi^2 = 1.93$; n.s.) and Internalizing problems scale ($\chi^2 = 5.26$; n.s.). Statistically significant differences among the three groups were observed on the Somatic Complaints scale ($\chi^2 = 8.15$; $p<0.05$), Anxious/Depressed ($\chi^2 = 5.56$; $p<0.05$), Social Problems ($\chi^2 = 7.20$; $p<0.05$), Thought Problems ($\chi^2 = 6.48$; $p<0.05$), Attention Problems ($\chi^2 = 27.59$; $p<0.001$), Delinquent Behaviors ($\chi^2 = 9.64$; $p<0.01$), Aggressive Behaviors ($\chi^2 = 27.86$; $p<0.001$), Externalizing Problems ($\chi^2 = 25.49$; $p<0.001$) and Total score ($\chi^2 = 16.67$; $p<0.001$).

Also, chi square analysis was conducted to see if the three groups differed in the relative frequency of subjects that received T scores above or at the clinical cut-off (>70) on each of the TRF clinical scales.

There are no statistically significant differences among the three groups on the Withdrawn scale ($\chi^2 = 1.863$; n.s.), the Somatic complaints scale ($\chi^2 = 3.11$; n.s.), Anxious/depressed ($\chi^2 = 2.75$; n.s.), Social problems ($\chi^2 = 4.79$; n.s.), Aggressive behaviors ($\chi^2 = 4.90$; n.s.) and Internalizing problems scale ($\chi^2 = 1.46$; n.s.).

Statistically significant differences among the three groups were observed on the Thought problems ($\chi^2 = 13.21$; $p<0.01$), Attention problems ($\chi^2 = 32.14$; $p<0.001$), Delinquent behaviors ($\chi^2 = 37.52$; $p<0.001$), Externalizing problems ($\chi^2 = 21.39$; $p<0.01$) and Total score ($\chi^2 = 28.86$; $p<0.001$).

DISCUSSION

The aim of our study was to investigate a wide spectrum of psychopathology symptoms in ADHD children combined type in comparison to inattentive type and control groups, using CBCL and TRF. Analyzing the pattern of CBCL results, we found that ADHD children with combined symptoms of inattention, impulsivity and hyperactivity, against the background of all CBCL scales profile, have the greatest intensity of inattention symptoms, so inattention symptoms dominate the clinical picture of the problems of children with combined ADHD. Somewhat lower results, but still within one standard deviation above the average total score indicator on the Aggressive Behavior scale, were obtained by the ADHD combined type group. It should be pointed out that this scale consists of sentences describing classical verbal and physical, aggression and also argumentativeness, bragging, home disobedience, jealous outbursts, showing-off, verbal and nonverbal noisiness. That is why a high index on the scale does not imply active acting out to hurt others. The symptoms may result from hyperactivity and impulsiveness. These findings are consistent with other results (Derks et al., 2006; Steinhausen et al., 1997; Eiraldi et al., 2000; Graetz et al., 2001). The Delinquent Behaviors score suggests such behaviors as the lack of a sense of guilt, hanging out with problematic peers, lying and cheating, truancy, theft at home and in other environments; running away from home is seldom observed in this group. Social problems, defined as immature behaviors, typically in younger age manifesting as difficulties in making friends and maintaining satisfactory relationships, and motor clumsiness, which can hinder social functioning, are present in these children's behavior with more intensity than delinquent behaviors. The low scores obtained on the scales included in the Internalizing Scale suggest that combined ADHD children do not report increased anxiety levels, and problems connected with their disorder do not cause sadness and depressive symptoms. These children do not have such symptoms as preference for loneliness, limited verbal communication, or touchiness, and they do not have somatic problems. The TRF profile's shape is similar to the CBCL's. The high correlations between the CBCL scores and TRF scores in ADHD group suggest that parents and teachers perceive their children's behavior in a similar way.

In CBCL and TRF, the group of children with combined type ADHD differs more from the control group, with no commonly existing problems, than from the ADHD inattentive type. The only subscale where differences do not occur is the Withdrawn scale.

Thus parents of ADHD children perceive their children as showing more fear symptoms and, on a larger scale, complaining about somatic problems (as consequences of somatization of psychological problems, but not resulting from real illnesses) than do the parents of control children. The scores obtained on the Withdrawn scale presented in different studies are not univocal. In some of these studies the Withdrawn scale is elevated, and ADHD

combined group have higher rates than do control groups (Bauermeister et al., 2005; Graetz et al., 2001, Dienes et al., 2002), in some others the Withdrawn scale does not discriminate between the ADHD and control groups (Biederman et al., 1996) or ADHD combined type and ADHD inattention type (Bauermeister et al., 2005).

The parents of ADHD children observe a greater intensity of social problems, in relationship with peers and adults than control children. They notice attention disorders, rule-breaking behaviors, and aggression. Children with combined ADHD are described by their teachers in a similar way. The one difference is that the latter observe more intensive withdrawal behaviors, and at the same time they do not notice somatic problems.

These differences may be explained by the distinct situations in which parents and teachers observe and analyze children's behavior. At school, where teachers work with such children, they usually have more possibilities to see withdrawal symptoms and social problems with peers. At home, parents can notice children's somatic complaints more often than teachers at school.

CONCLUSIONS

The analysis leads to some conclusions. First, the CBCL questionnaire is a good tool to differentiate ADHD combined type and healthy children. Secondly, ADHD combined type children, as well as inattention and hyperactivity/impulsivity symptoms, present other behavioral and emotional problems, partially resulting from difficulties due to the primary disorder – ADHD. The fact that parents and teachers assess children's behaviors in a similar way additionally confirms this conclusion.

The differences between the ADHD combined and ADHD inattention groups are not so clear, and occur only on some scales. ADHD-affected combined type children have anxiety symptoms more intensive than inattention ADHD, resulting probably from more difficult life experiences, specially social experiences. Core ADHD symptoms (and thus the children's inadequate behaviors) often cause reactions full of negative emotions in the social environment, and these are difficult experiences. Both parents and teachers notice this fact. Both groups are differentiated by the Attention scale. Parents and teachers observe more intensive symptoms of inattention in the ADHD combined group. Also, this group is perceived as more aggressive than the inattention group. Additionally, teachers in TRF describe more social problems in children with combined ADHD than with inattention ADHD.

The inattentive group scored significantly higher than the control group on the Attentive Problems scale, the Social Problems scale, the Delinquent Behaviors scale and the Aggression scale. In opposition to CBCL, on TRF the teachers did not notice differences between these groups in the intensiveness of their social problems. Differences between the ADHD inattention type and control groups on the rest of the TRF scales are similar to the CBCL scale.

The three groups differed in the relative frequency of subjects that received T scores above or at the clinical cut-off (>70) on all of the CBCL clinical scales. This means that more ADHD children than control children have more severe problems , as measured by a wide spectrum of psychopathology. Thus ADHD was found to be more related to externalizing than to internalizing psychopathology.

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