

Prevalence of Attention-Deficit/Hyperactivity Disorder Symptoms in 4- to 17-Year-Old Children in the General Population

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The purposes of this study were (a) to estimate the prevalence of Attention-Deficit/Hyperactivity Disorder (AD/HD) symptoms in the general preschool and school population; and (b) to analyze the influence of gender, age, and socioeconomic status (SES) variables on AD/HD symptoms. Out of the 80,000 preschool and schoolchildren living in Manizales, Colombia, a random sample of 540 children was selected. Two gender, three age (4- to 5-year olds, 6- to 11-year olds, and 12- to 17-year olds), and three SES (low, middle, and high) groups were used. The 18 DSM-IV symptoms corresponding to AD/HD Criterion A were assessed on a scale of 0 (*never*) to 3 (*almost always*). All three demographic variables established statistically significant differences: AD/HD symptoms were more frequent in 6- to 11-year-old, low-SES, male participants. DSM-IV Criterion A for AD/HD was fulfilled by 19.8% of the boys and 12.3% of the girls. However, this difference was marginally significant only in the AD/HD Subtype I: Combined. It was concluded that demographic variables are significant correlates of the AD/HD diagnosis. The prevalence found in this study was higher than usually reported, even though only the symptomatic DSM-IV AD/HD criterion was analyzed. We failed to confirm the assumed AD/HD gender ratio.

KEY WORDS: Attention-deficit/hyperactivity disorder; behavioral rating scales; demographic variables; cross-cultural assessment.

Different behavioral scales have been used to evaluate developmental disorders, including Attention-Deficit/Hyperactivity Disorder (AD/HD; e.g., Barkley, 1990; Conners, 1979a,b; Doyle, Ostrander, Skare, Crosby, & August, 1997; Glow, Glow, & Rump, 1982; Ostrander, Weinfurt, Yarnold, & August, 1998). A diversity of symptoms can be observed in AD/HD and, consequently, different dimensions should be included in the AD/HD diagnosis (Barkley, 1990; Chen, Faraone, Biederman, & Tsuang, 1994; Vaughn, Riccio, Hynd, & Hall, 1997; Harris, 1995; Pineda, 1996; Pineda, Ardila, & Rosselli, 1999). The

American Psychiatric Association (APA; 1994) systematized the major symptoms observed in AD/HD. These symptoms correspond to three different dimensions: inattention, hyperactivity, and impulsivity (APA, 1994). They are referred to as Criterion A for AD/HD. The diagnosis of AD/HD requires four additional criteria: (B) symptoms are present before the age of 7 years; (C) they are present in two or more settings; (D) they result in significant impairment in social, academic, or occupational functioning; and, (E) symptoms do not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder. It is particularly difficult to establish the diagnosis of AD/HD in children younger than 4 years (APA, 1994). We assumed that a checklist directly based on the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; DSM-IV) could represent the best available instrument to determine the symptomatic dimensions conforming to the AD/HD syndrome.

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Prevalence of AD/HD has been controversial, even though it is usually estimated at 3–10% in school-age children (APA, 1994; Goldman, Genel, Bezman, & Slanetz, 1998; Milberger, Biederman, Faraone, Murphy, & Tsuang, 1995). The male-to-female ratio ranges from 4:1 to 9:1, depending upon the target population (e.g., APA, 1994; Barkley, 1990; Milberger *et al.*, 1995). Even though it is usually assumed that this gender difference is related to some fundamental biological factors, it also has been proposed that AD/HD may be underdiagnosed in girls (McGee & Feehan, 1991; Silverthorn, Frick, Kuper, & Ott, 1996) and, hence, the accepted gender ratio may be biased.

AD/HD symptoms tend to persist during adulthood in about 10 to 60% of individuals (Cantwell, 1996). Persistent symptoms leads to increased risk for the development of antisocial behaviors, substance abuse, and psychopathology (Biederman, 1991; Pineda, Ardila, Rosselli, Cadavid, & Mancheno, 1998). In consequence, despite being considered as a developmental disorder, some significant sequelae may remain during adulthood. AD/HD is associated 40–50% of the time with conduct disorders and emotional problems (Bird *et al.*, 1988; Cantwell, 1996; Gittelman, Mannuzza, Ronald, & Bonagura, 1985; Mannuzza, Gittelman, Bonagura, Horowitz, & Shenker, 1988; Mannuzza, Gittelman, Bonagura, Horowitz, & Giampino, 1989; Pellock, 1996; Satterfield, Swanson, Schell, & Lee, 1994). Depression and anxiety are frequently observed, and AD/HD individuals present a high frequency of suicidal attempts (Cantwell, 1996; Mannuzza *et al.*, 1988, 1989).

The purposes of this study were (a) to determine the prevalence of AD/HD symptoms in the general preschool and school population in a middle-size Colombian city (Manizales); and (b) to analyze the influence of gender, age, and socioeconomic status (SES) variables on AD/HD symptoms.

METHOD

Participants

Participants were taken from Manizales city (about 600,000 inhabitants), Colombia. According to the Manizales Secretary of Education, there are 80,000 children, ages 4 to 17 years, attending preschool and school programs. From this group, an initial 612-child sample was randomly selected, using the computer program Epi-Info 6.01 (Centers for Disease Control and Prevention/World Health Organization, 1994). Further, the sample was reduced to 540 participants. The procedure called "Statcalc sample population survey randomized size" of this computer program was used. The calculated sample was 238 for a 95% confidence interval and 540 for a 99%

confidence interval. All of the Manizales schools were grouped according to SES. The same number of subjects was initially sampled from each SES, gender, and age range. To guarantee that each subject had the same probability of being selected within his or her SES, a sample fraction (f) was calculated using the formula $f = n/N$, where n is the fraction of the expected sample in each SES (30 participants) and N is the total number of subjects in that SES. Special education groups were not included in the sampling. In Colombia, children presenting mental retardation, cerebral palsy, autism, and significant sensory defects attend special education groups or special institutions. A factorial $2 \times 3 \times 3$ design was used with about 30 children in each cell: Two gender groups (boys, girls), three age groups (4–5 years, 6–11 years, and 12–17 years), and three SES (low, middle, and high) groups were included.

To determine SES, the official city criteria were used, which are based on prices of houses and monthly income of the population in a particular area. Thus, children attending a specific school most often belong to the same SES. Six different SES groups are recognized in Colombian cities: SES 1 and SES 2 are low SES, SES 3 and SES 4 represent the middle class, and SES 5 and 6 include those at the highest socioeconomic level. SES 1 represents the poorest population, which earns about the minimum legal wage. Families in SES 2 and 3 have monthly incomes equivalent to about 2 to 4 times the minimum legal wages (i.e., U.S. \$600 to \$1200/month). Usually, families living in SES areas 2 and 3 have a high school education, and frequently some additional technical training. For example, they work as clerks, salespersons, and cab drivers. All the children were monolingual native Spanish speakers. Testing was performed in Spanish. Table I presents the distribution of the sample.

Table I. Characteristics of the Sample ($n = 540$)

Characteristic	Mean (SD)	No. of subjects	Percentage
Gender			
Boys		272	50.4
Girls		268	49.6
Age group	9.1 (4.3)		
4 to 5 years		181	33.5
6 to 11 years		182	33.7
12 to 17 years		177	32.8
Schooling	3.5 (3.5)		
Preschool		187	34.6
Primary		189	35.0
Secondary		164	30.4
SES			
Low		183	33.9
Middle		178	33.0
High		179	33.1

Instruments

AD/HD Checklist

Based on the DSM-IV (APA, 1994), an AD/HD checklist was constructed. The 18 DSM-IV symptoms corresponding to AD/HD Criterion A (9 inattention, 6 hyperactivity, and 3 impulsivity items) were included (see Appendix). In all of the listed symptoms, the adverb "often" was deleted. Each symptom was scored on a scale of 0 (*never*), 1 (*sometimes*), 2 (*often*), and 3 (*almost always*). Scores ranged from a minimum of 0 to a maximum total of 54. The AD/HD checklist was divided into two subscales: Inattentive (maximum score = 27), and Hyperactive-Impulsive (maximum score = 27).

For the diagnosis of probable AD/HD, items were rescored in the following way: answers 0 (*never*) and 1 (*sometimes*) were considered as "absence of the symptom," whereas 2 (*often*) and 3 (*almost always*) were interpreted as "presence of the symptom." Considering that the DSM-IV requires six or more of these symptoms for attributing the Inattention or Hyperactivity-Impulsivity dimension, symptoms were added in each dimension. The maximum score was 9 and minimum score was 0 for each dimension. Participants with scores of 6 or over on the Inattention dimension were considered as AD/HD Inattentive Type; subjects with scores of 6 or over on the Hyperactivity-Impulsivity dimension were considered as AD/HD Hyperactive-Impulsive Type. Children with scores of 6 or over on both subscales were regarded as AD/HD Combined Type. This analysis allowed us to estimate the number of cases in each subtype.

Procedure

Once the sample was selected, contacts were established with the different schools. The purpose of this research was explained and permission was obtained to contact the children's parents or guardians. Parents or guardians were initially contacted by phone. The general purpose of the research was explained. No specific mention was made of pathologies, abnormalities, or diagnoses, in order to avoid bias in completing the checklist. Parents were told that this information was being collected to better understand the characteristics of our preschool-age and schoolchildren. They were further requested to complete a brief developmental history of the child and the DSM-IV AD/HD Checklist. In addition, it was explained that a written consent was required. The checklist and the consent form were given to the parents or guardians through the school. Parents or guardians returned both the checklist and the consent form to the school within

72 hours. When information was incomplete, or when the parents or guardian had three or fewer years of education, parents were again contacted by phone. Seventy-two subjects were not included because (a) parents or guardians did not agree to participate; (b) it was impossible to complete all of the information; or (c) for various reasons, it was not possible to contact the parents or guardian. Written consent was not requested from the children.

Statistical Analyses

Data collected on the 540 children were entered to an Excel 4.0 program. Statistical analyses were carried out using a SPSS 8.0 program. The following statistical analyses were performed: (a) Distribution of scores according to gender, age, and SES; and (b) one-way analysis of variance (ANOVA) with Bonferroni correction for multiples measures. Differences in the two DSM-IV subscales were analyzed as a function of three demographic variables: gender, age, and SES.

RESULTS

Scores on the DSM-IV Checklist were examined by gender, age, and SES (Table II). All three variables yielded statistically significant differences. AD/HD symptoms were more frequent in 6- to 11-year-old, low-SES boys. Gender differences were especially strong on the Hyperactivity-Impulsivity dimension, and weaker on the Inattention dimension. Age differences were highly significant, and especially so for the Inattention dimension. SES differences were marginal in the Inattention dimension, and highly significant on the Hyperactivity-Impulsivity dimension.

Table III presents the number of subjects in each group who received the diagnosis of probable AD/HD. AD/HD was associated with gender, age, and SES. AD/HD was found more frequently in 6- to 11-year-old, low-SES boys. It was observed that 54 of 272 (19.8%) boys and 33 of 268 (12.3%) girls received a tentative diagnosis of AD/HD. In both genders, the AD/HD Hyperactive-Impulsive type was more frequent, whereas AD/HD Combined type was the least frequent. AD/HD was found in 18.2% of the preschool children, 22.5% of the 6- to 11-year-old children, and 7.3% of the 12- to 17-year-old participants. In the younger two groups, AD/HD Hyperactive-Impulsive type predominated, whereas in the oldest group the Inattentive subtype was most frequent, and the Combined type was absent. AD/HD was clearly associated with SES. In the low-SES children, AD/HD was observed in 24.5% of cases, whereas in the high-SES children this condition was found in only 10.0% the participants.

Table II. Scores Obtained on the AD/HD Checklist^a

Variable	Mean (SD)	95% Confidence interval		F	p
		Inferior	Superior		
Inattention					
Gender				4.09	0.04
Boys	6.7 (5.5)	6.1	7.4		
Girls	5.8 (5.1)	5.2	6.4		
Age (years)				11.92	0.0001
4 to 5	5.7 (4.5)	5.0	6.4		
6 to 11	7.8 (6.1)	6.9	8.7		
12 to 17	5.3 (4.8)	4.5	6.0		
SES				2.96	0.052
Low	7.0 (5.7)	6.2	7.8		
Middle	6.1 (5.4)	5.3	6.9		
High	5.6 (4.8)	4.9	6.4		
Hyperactivity-Impulsivity					
Gender				8.20	0.004
Boys	8.3 (6.5)	7.5	9.1		
Girls	6.7 (6.1)	6.0	7.5		
Age (years)				24.19	0.0001
4 to 5	9.0 (6.5)	8.0	9.9		
6 to 11	8.6 (6.9)	7.5	9.6		
12 to 17	4.9 (4.6)	4.2	5.6		
SES				6.39	0.002
Low	8.8 (7.4)	7.7	9.9		
Middle	7.2 (6.0)	6.3	8.1		
High	6.5 (5.1)	5.7	7.2		
Total Score					
Gender				8.13	0.005
Boys	15.0 (10.3)	13.8	16.3		
Girls	12.6 (9.9)	11.4	13.8		
Age				18.87	0.0001
4 to 5	14.8 (9.5)	13.4	16.1		
6 to 11	16.4 (11.6)	14.7	18.1		
12 to 17	10.2 (8.1)	9.0	11.4		
SES				6.17	0.002
Low	15.8 (11.6)	14.1	17.5		
Middle	13.4 (9.9)	11.9	14.8		
High	12.2 (8.5)	10.9	13.4		

^aTo determine the significance level, ANOVAs with Bonferroni corrections were used.

Table III. Prevalence of AD/HD in a Random Sample of 540 School Students

	Combined		Inattentive		Hyperactive-Impulsive	
	N	%	N	%	N	%
Gender						
Boys (n = 272)	13	4.8	1.4	5.1	27	9.9
Girls (n = 268)	5	1.9	9	3.4	19	7.1
Age						
4-5 years (n = 181)	5	2.8	3	1.7	25	13.8
6-11 years (n = 182)	13	7.1	11	6.0	17	9.3
12-18 years (n = 177)	0	0	9	5.1	4	2.3
SES						
Low (n = 183)	10	5.5	11	6.0	24	13.1
Middle (n = 178)	4	2.2	5	2.8	15	8.4
High (n = 179)	4	2.2	7	3.9	7	3.9

Table IV. Cross-Tabulation Analysis for Gender Differences in Each AD/HD Type

AD/HD Type	Male	Female	Risk	95% Confidence interval		χ^2	<i>p</i>
				Inferior	Superior		
I: Combined	13	5	0.38	0.1	1.0	3.55	0.059
II: Inattentive	14	9	0.64	0.3	1.5	1.50	<i>ns</i>
III: Hyp-Imp	27	19	1.44	0.8	2.7	1.40	<i>ns</i>

Gender differences in the prevalence of probable AD/HD were analyzed. As show in Table IV, $\chi^2_{(1)} = 3.55$, $p = .059$, for AD/HD Type I: Combined. No statistically significant differences were observed in the other two AD/HD subtypes. In other words, even if the frequency of AD/HD symptoms is significantly higher in boys than in girls, when comparing boys and girls who fulfill the DSM-IV Criterion A for AD/HD (six symptoms in each subtype), only marginal differences are observed.

DISCUSSION

Because only one DSM-IV criterion of AD/HD was analyzed, our results refer to the AD/HD *symptoms*, not to the AD/HD syndrome. This, of course, represents a major limitation in interpreting our results. Despite this significant limitation, however, because of the quantitative structure of the questionnaire, an indirect assessment of the frequency and severity Criteria C and D could be available, and some tentative conclusions can be drawn.

The prevalence of probable AD/HD was much higher than usually reported, at least partially as a consequence of the above-mentioned limitation. If the four additional AD/HD DSM-IV criteria (B through E) were applied, the prevalence would obviously decrease. Some additional reasons, however, may be considered:

1. Prevalence of any pathology is usually found to be higher in epidemiological studies using general population samples than in studies in clinical settings. According to Kurtzke (1992), epidemiological studies result in a higher prevalence, which should be considered as estimated or screening prevalence. Many false positives may be included.
2. AD/HD may be culture dependent. What is considered abnormal in one culture may be more acceptable in another. The symptoms included in the AD/HD Checklist may be more accepted or less accepted in Colombia than in other countries. If more accepted, they might be more frequent, but less reported; if less accepted, they may be readily recognized as abnormalities, and reported more frequently. In other words, culture would modify the way that parents would report AD/HD symp-

oms. Certain AD/HD symptoms are clearly culture dependent, for instance, "To talk excessively." Intuitively, it seems that Latin Americans are more talkative than Anglo Americans, and this is also valid for children. Nonetheless, parents decide by themselves what "excessively" means according to their own cultural pattern. Analyzing culturally different students (Caucasians and African Americans), Reid *et al.* (1998) found that behavior rating scales do not perform identically across groups.

3. The prevalence of AD/HD symptoms, and probably AD/HD, is indeed higher in our Colombian sample.

Cross-national studies of AD/HD are not readily available (Ching-Yen, Copeland, & Martin, 1995; Ideus, 1994; Mann, 1992; Reid, 1995). In India it was found that AD/HD prevalence increased with age; the prevalence at ages 3–4 years was estimated to be 5.2%, whereas at ages 11–12 years, it was found to be 29.2% (Bhatia, Nigam, Bohra, & Malik, 1991). In Germany, Baumgaertel, Wolraich, and Dietrich (1995) reported an increase in prevalence from 9.6% at the age of 5 years to 17.8% at the age of 17. Thus, in school samples in two rather different countries (India and Germany) a much higher than usual prevalence of AD/HD has been reported. Usually, the most accepted prevalence of AD/HD is around 3–10% (e.g., APA, 1994; Goldman *et al.*, 1998; Milberger *et al.*, 1995). Madoki, Sumner, Mathews-Ferrari (1991) proposed that some 20% of the school population may have AD/HD, even though usually it is not diagnosed. Shealy (1994) estimated a prevalence between 3% and 20%, depending upon the age, the criteria, and the instruments used in the AD/HD evaluation. We found 19.8% and 12.3% of AD/HD *symptoms* in boys and girls, no different from the figure proposed by Shealy. Consequently, the high AD/HD prevalence that we found in our general school sample sounds reasonable.

We found a male-to-female ratio of about 1.5:1, much lower than usually accepted. Several possibilities could be raised to account for this discrepancy: (a) AD/HD symptoms attract more attention and are considered more abnormal in boys than in girls; hence, AD/HD may be

overlooked in females and overdiagnosed in boys (Silverthorn *et al.*, 1996; McGee & Feehan, 1991); (b) parents tended to score their daughters higher on the AD/HD Checklist than their sons, because some behaviors may be more acceptable in boys than in girls (e.g., to run around or climb excessively); (c) gender differences obviously are culture dependent. It might be that in our cultural context a more passive behavior is expected in girls than in boys, and hence girls are frequently penalized with higher scores on the AD/HD Checklist. We think that each of these three factors may have contributed to this discrepancy.

Reliability of parents' reports have to be considered. The construct validity of the Conners' Parent Rating Scale (CPRS) and the Conners' Teacher Rating Scale (CTRS) Spanish versions were studied in 633 control children and 33 AD/HD subjects. Analysis of reliability using external validity with clinical criteria and correlation coefficients between CPRS and CTRS demonstrated that CPRS has lower reliability than CTRS. The concordance validity with clinical criteria was lower for CPRS than for CTRS. The correlation coefficients between the scales were statistically significant but ranged from modest to low (Farre-Riba & Narbona, 1997). Cantwell, Lewinsohn, Rohde, and Seeley (1997) examined the degree of agreement between parents' and adolescents' reports of major psychiatric disorders in adolescents (ages 14 to 18 years). The kappa values for parent/adolescent agreement of the disorder ranged from 0.19 for alcohol abuse to 0.79 for conduct disorder. Good concordance was found for the report of AD/HD symptoms. In any case, parents' reports may be a potential source of error and have to be taken with caution.

AD/HD symptoms were significantly related to SES. Larger differences were noted between middle and low SES than between high and middle SES. An association between central nervous system disorders and low SES has been pointed out (e.g., Alvarez, 1983). Some research studies have shown that low-SES subjects receive quantitatively and qualitatively less stimulation at home in comparison with the high-SES subjects. This differential stimulation contributes to the development of different behavioral styles (Cravioto & Arrieta, 1982). The results of these research studies indicate that development in an impoverished social environment results in insufficient stimulation, which in turn alters the development of the central nervous system. It has been well established that some central nervous system pathologies, for example, epilepsy, are significantly more frequent in developing countries and in low-SES subjects than in industrialized countries and high-SES individuals (e.g., Gómez, Arciniegas, & Torres, 1978; Gracia, Bayard, & Triana, 1988). Soft neurological signs have been found to be more frequent in low-SES (Ardila & Rosselli, 1996, *in press*). Low-SES individuals have poorer medical re-

sources and are exposed to a higher number of potentially risky conditions, including birth complications. AD/HD has been associated with a higher number of perinatal and early pathologies. Interestingly, SES differences in the Hyperactivity-Impulsivity dimension were robust, whereas differences in the Inattention dimension were just marginal.

AD/HD symptoms were most frequently reported in children 6 to 11 years old, and least noted in children 12 to 17 years old. This finding supports the assumption that AD/HD symptoms decrease with central nervous system maturation. In 4- to 5-year-old children, AD/HD symptoms may be interpreted as normal behavior, and hence may not attract the parents' attention. In fact, in young children it is especially difficult to establish the diagnosis of AD/HD (APA, 1994). We found that Hyperactivity-Impulsivity steadily decreased with age, whereas Inattention was highest in 6- to 11-year-old children, and lower in the younger and the older groups. This means that the observed pattern was different in the two dimensions, even though the total score was, on average, highest in the 6- to 11-year-old group, and lowest in the 12- to 17-year-old participants. Note that the validity of the age-of-onset criterion of the DSM-IV AD/HD has been challenged. It has been found that children with the AD/HD hyperactive-Impulsive subtype indeed meet the age of onset of impairment criterion. Nonetheless, 18% of the individuals meeting the AD/HD-Combined subtype criteria and 43% who met the AD/HD-Inattentive subtype criteria do not manifest impairment before age 7 years (Applegate, Lahey, Hart, & Biederman, 1997). Consequently, in our youngest group, prevalence of the AD/HD-hyperactive subtype may be accurate, whereas prevalence of the other two subtypes may be underestimated.

AD/HD Type III-Hyperactive-Impulsive was the subtype of AD/HD most frequently found (8.5%), whereas AD/HD-Combined was the least frequent one (3.3%). These results support previous studies based on the DSM-IV (Lahey *et al.*, 1994; Milberger *et al.*, 1995; Riccio, Hynd, & Cohen, 1996). A study carried out in Puerto Rico found that the difficulty in differentiating Type I (Combined) and Type III (Hyperactive-Impulsive) could be due to the fact that 84% children in both groups meet the AD/HD DSM-III-R (APA, 1987) criteria. Now, applying DSM-IV AD/HD criteria, it is possible to clearly differentiate both groups (Bauermeister, Alegria, Bird, Rubio-Stipec, & Canino, 1992; Bird *et al.*, 1988; Silverthorn *et al.*, 1996). Note that the AD/HD-Hyperactive subtype has been related to externalizing and social problems, but these subjects are not rated as different from controls in learning or internalizing problems. The children with the AD/HD-Inattentive subtype are more impaired in learning, but are rated as displaying more appropriate behavior.

Those with the AD/HD-Combined subtype demonstrate severe pervasive difficulties across different domains (Lamminmaki, Ahonen, Narhi, & Lytinen, 1995; Miranda & Carlson, 1997).

There is no question that many more epidemiological studies of developmental disorders are required to advance our understanding of these pathologies. Cross-national comparisons can be particularly useful for a comprehensive understanding of different developmental disorders.

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APPENDIX

ADHD checklist taken from the DSM-IV (1994)

Inatención

1. No pone atención a los detalles y comete errores por descuido en sus tareas
2. Tiene dificultades para sostener la atención en las tareas y en los juegos
3. No parece escuchar lo que se le dice
4. No sigue las instrucciones o no termina las tareas en la escuela o los oficios en la casa a pesar de comprender las órdenes.
5. Tiene dificultades para organizar sus actividades
6. Evita hacer tareas o cosas que le demanden esfuerzos
7. Pierde sus útiles o las cosas necesarias para hacer sus actividades
8. Se distrae fácilmente con estímulos irrelevantes
9. Olvidadizo en las actividades de la vida diaria

Hiperactividad

10. Molesta moviendo las manos y los pies mientras está sentado
11. Se levanta del puesto en la clase o en otras situaciones donde debe estar sentado
12. Corretea y trepa en situaciones inadecuadas
13. Dificultades para relajarse o practicar juegos donde deba permanecer quieto
14. Está permanentemente en marcha, como si tuviera un motor por dentro
15. Habla demasiado

Impulsividad

16. Contesta o actúa antes de que se le terminen de hacer las preguntas
17. Tiene dificultades para hacer filas o esperar turnos en los juegos
18. Interrumpe las conversaciones o los juegos de los demás.

Puntaje Total _____

Note. Each symptom was scored from 0 to 3 (0 = never; 1 = sometimes; 2 = often; 3 = almost always).



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