

ORIGINAL RESEARCH

# Emotional and Behavioral Difficulties and Impairments in Everyday Functioning Among Children With a History of Attention-Deficit/Hyperactivity Disorder

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## Abstract

### Introduction

Attention-deficit/hyperactivity disorder (ADHD) affects 3% to 7% of school-aged children and has been associated with a variety of comorbid mental illnesses and functional impairments, largely in clinical samples. However, little is known about the spectrum of emotional and behavioral problems and areas of impairment among children with a history of ADHD in nonclinical, nationally representative samples.

### Methods

Data were analyzed from the 2003 National Health Interview Survey, an ongoing, computer-assisted, random-sample, personal-interview survey of the noninstitutionalized U.S. population. We examined the associations between history of parent-reported ADHD diagnosis and levels of parent-reported emotional and behavioral difficulties and related impairments among a nationally representative sample of U.S. children aged 4 to 17 years (n =

8681). The extended version of the Strengths and Difficulties Questionnaire was used to measure and score levels of difficulty and impairment.

### Results

Approximately 5.9% of children had a history of ADHD diagnosis. Children with a history of ADHD were 6 times as likely as those without ADHD to have a high level of overall difficulties including emotional, conduct, and peer problems and were 9 times as likely to manifest a high level of impairment including interference with home life, friendships, classroom learning, and leisure activities.

### Conclusion

This study documents the significant level of current emotional and behavioral difficulties and impairments in everyday functioning experienced by children with a history of ADHD diagnosis, suggesting that people involved with the care of children — parents, health care providers, and teachers — need to be informed about the signs, symptoms, and appropriate treatment of ADHD and other comorbid disorders.

## Introduction

Attention-deficit/hyperactivity disorder (ADHD), a common neurobehavioral disorder characterized by excessive hyperactivity, impulsivity, inattention, or the combination of these (1), affects 3% to 7% of school-aged children (2). The American Psychiatric Association provides diagnostic criteria for ADHD in the *Diagnostic and Statistical*

*Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR)* (2,3). ADHD is often complicated by the presence of comorbid conditions such as conduct disorder, oppositional defiant disorder, anxiety disorder, tic disorders, and depression (1,4-7). Although the etiology of ADHD is unknown, recent studies suggest that both genetic factors and adverse environmental precipitants — such as preterm delivery and maternal smoking — may contribute to its development (1,8-11).

It was previously believed that ADHD often resolved by adulthood. Although some of the core symptoms of ADHD may improve with maturity, most current research indicates that many children with ADHD remain symptomatic into adolescence and adulthood — even if they no longer manifest all of the core symptoms at clinically significant levels (12-14). Whereas the prevalence of ADHD in community samples of adolescents has been estimated to be between 1.5% and 6% (12), the prevalence among adults has been estimated to be approximately 4% (13). Given that many people manifest ADHD or its symptoms beyond childhood, a chronic illness approach to care and intervention seems warranted, including ongoing diagnostic services, medication management, family-centered care, parent and peer support, and coordination of care with schools, families, and health care specialists (7).

A few national epidemiologic studies completed in North America have included ADHD: the National Institute of Mental Health (NIMH) Methods for the Epidemiology of Child and Adolescent Mental Disorders (MECA) Study (15), the National Comorbidity Survey-Replication (NCS-R) (16), and the Ontario Child Health Study (OCHS) (17). Although informative, neither the MECA nor the OCHS is conducted annually and therefore neither necessarily reflects current population trends. Although it is more recent, the NCS-R excludes individuals aged younger than 18 years and relies on retrospective self-report of childhood ADHD symptoms.

We found no North American population-based studies that examined the current emotional and behavioral functioning of children with a history of ADHD diagnosis. Given the potential clinical and scientific importance of ADHD and its large public health impact, the purpose of this study was to test two hypotheses: 1) that children with a history of ADHD diagnosis are more likely than children without a history of ADHD diagnosis to exhibit high levels of emotional, conduct, hyperactivity-inattention, and peer

difficulties, and 2) that children with a history of ADHD diagnosis experience greater levels of impairment in everyday functioning than children without a history of this diagnosis.

## Methods

### Procedures and sample

#### Survey

The National Health Information Survey (NHIS) is an annual, computer-assisted personal interview survey of a nationally representative sample of the civilian noninstitutionalized U.S. population conducted by the Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS) in cooperation with the U.S. Census Bureau (18,19). Each year, a representative sample of households across the United States is selected on the basis of a multistage cluster sample design. NHIS methodology and data weighting procedures are fully described elsewhere (19,20). Trained interviewers from the U.S. Census Bureau visit selected households and administer the survey to consenting adult respondents.

#### Sample

Data from the extended version of the Strengths and Difficulties Questionnaire, also known as the SDQ-EX, administered as a supplement to the NHIS in 2003, were analyzed. A total of 9399 interviews with a knowledgeable adult in the family, usually a parent, regarding the behavior during the past 6 months of one randomly selected child aged 4 to 17 years was completed. Children without complete information for ADHD status ( $n = 16$ ), children missing total difficulties and impact scores ( $n = 406$ ), and children with mental retardation, other developmental delays, Down syndrome, or autism ( $n = 296$ ) were excluded, yielding data for 8681 children available for analysis (92.4% of the original sample).

### Study measures

#### Demographics

Data on the sampled child's sex, age group, race and ethnicity, parental structure, poverty level, and health insurance coverage were collected from the adult respondent.

Age of the sample child was grouped for analyses into two subsets, 4 to 11 years and 12 to 17 years. Race and ethnicity were delineated as Hispanic, white non-Hispanic, black non-Hispanic, and other non-Hispanic. Parental structure was defined as follows: single-parent household (mother and no father or father and no mother), both parents, and neither parent. Mothers and fathers included biological and adoptive parents, stepparents, and foster relationships. An adult who serves solely as a child's legal guardian was not considered a parent. Poverty level was categorized based on the ratio of the family's income in the previous calendar year to the appropriate poverty threshold (given the family's size and number of children) defined by the U.S. Census Bureau in 2003. In this study, two categories of poverty level were used: poverty/near poverty (less than 200% of the federal poverty level), and low/middle/high income (greater than or equal to 200% of the federal poverty level). Because of high nonresponse rates for questions on total family income in the previous year, missing information was replaced with imputed values generated by NCHS (21). Insurance at the time of interview was classified as follows: 1) state-sponsored insurance (children whose only insurance coverage is Medicaid, State Children's Health Insurance Program, or other state-sponsored plans); 2) private and other insurance (children with private coverage, other types of nonstate government-sponsored insurance, or a combination of public and private insurance), and 3) no private or public insurance (22).

### Parental report of clinical diagnosis

History of an ADHD diagnosis was assessed by asking the adult respondent, "Has a doctor or health professional ever told you [child's name] had attention-deficit/hyperactivity disorder (ADHD) or attention-deficit disorder (ADD)?" The presence of existing developmental or cognitive disorders or disabilities such as mental retardation, other developmental delays, Down syndrome, and autism were assessed similarly by parental report.

### Parental report of emotional and behavioral difficulties and impairments

**The SDQ-EX.** The SDQ-EX (23-25) was used to measure and score the child's emotional and behavioral difficulties as well as impairment in daily functioning. The SDQ-EX has two components. The first component, known as the Strengths and Difficulties Questionnaire, has 25 questions

designed to capture information on emotional and behavioral difficulties experienced by children aged 3 to 17 years; several versions have been designed for various age groups and for self-report, teacher-report, and parent-report. This study used version P4-10 (SDQ and impact supplement for the parents of children aged 4 to 10 years) and version P11-17 (SDQ and impact supplement for the parents of children aged 11 to 17 years). (All versions of the SDQ and their scoring instructions are available for view and download from [www.sdqinfo.com](http://www.sdqinfo.com).) Parents were asked to respond to statements such as "often loses temper" or "thinks things out before acting." Possible responses are not true, somewhat true, and certainly true.

For scoring purposes, the SDQ categorizes strengths and difficulties into five scales: emotional problems, conduct problems, hyperactivity, peer problems, and prosocial behavior. A total difficulties scale was generated by summing all of the scales except the prosocial scale. Because the prosocial scale is not included in the scoring algorithm for the questionnaire, analysis was not conducted for the prosocial scale. The scale scores and the total difficulties score are further classified into low, medium, or high levels of difficulties using recently developed cutpoints for the United States (26).

The extended version of the SDQ includes an additional component, known as the impact supplement. The impact supplement begins with the following two questions: 1) "Overall, do you think that [child's name] has difficulties in any of the following areas: emotions, concentration, behavior, or being able to get along with other people?" and 2) "How long have these difficulties been present?" Possible answers to the first question include no; yes, minor difficulties; yes, definite difficulties; and yes, severe difficulties. Possible answers to the second question include less than 1 month, 1 to 5 months, 6 to 12 months, and more than 12 months.

If difficulties (minor, definite, or severe) have been present for at least 1 month, the parent is asked five further questions about the extent to which the difficulties upset or distress the child or interfere with home life, friendships, classroom learning, or leisure activities. Possible answers are not at all, a little, a medium amount, or a great deal.

Responses to the impact questions were scored in the following way: "not at all" and "a little" were scored as zero;

“a medium amount” was scored as 1; and “a great deal” was scored as 2. Within each impact area, *impairment* was defined as a response of either “a medium amount” or “a great deal” (i.e., a score of 1 or 2). Responses to the five impact questions were summed to produce an impact score that was categorized as low impairment (impact score = 0), medium impairment (impact score = 1), or high impairment (impact score = 2–10). If the child was reported not to have difficulties with emotions, concentration, behavior, or being able to get along with others, the impact score was automatically scored as zero.

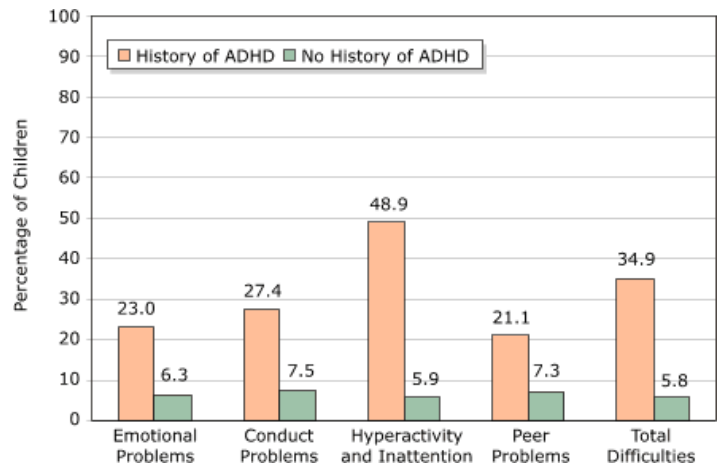
**Analytic approach**

Data were analyzed using SUDAAN version 9 (Research Triangle Institute, Research Triangle Park, Cary, NC) to account for the complex sample design and to calculate prevalence estimates, odds ratios (ORs), and 95% confidence intervals (CIs). An  $\alpha$  level of .05 was used for all statistical tests. First, we calculated the unadjusted prevalence estimates and ORs of parental-reported history of ADHD by selected sociodemographic characteristics using logistic regression. Next, we compared the unadjusted prevalence estimates of high difficulty and impairment scores between children with and without a history of ADHD diagnosis using pairwise *t* tests. Finally, we calculated unadjusted prevalence estimates and ORs of high difficulty scores among children with a history of ADHD by selected sociodemographic characteristics using logistic regression.

**Results**

**Prevalence and demographics**

After applying study exclusion criteria, 5.9% (95% CI, 5.3%–6.5%) of U.S. children aged 4 to 17 years were reported by a parent to have a history of ADHD diagnosis. A history of ADHD was significantly more common among boys than girls, among children aged 12 to 17 years than children aged 4 to 11 years, and among white non-Hispanics and black non-Hispanics than Hispanics (Table 1). Additionally, children living in single-parent households or with neither parent were significantly more likely to have a history of ADHD than children living in two-parent households, and children with state-sponsored insurance were significantly more likely to have a history of ADHD than children with private or other insurance.



**Figure 1.** Results of Strengths and Difficulties Questionnaire, based on parent-report, 2003 National Health Information Survey: percentage of children aged 4 to 17 who scored a high level of difficulty in each of four scales analyzed and in total difficulties, by attention-deficit/hyperactivity disorder (ADHD) diagnosis status.

**The SDQ-EX behavioral screening questionnaire**

Figure 1 shows that children with a history of ADHD were 6 times as likely as children without ADHD to have a high total difficulties score ( $t_{338} = 10.89; P < .001$ ). In addition to being characterized by a high prevalence of hyperactivity–inattention ( $t_{338} = 15.49; P < .001$ ), children with a history of ADHD were significantly more likely than children without such a history to have a high level of emotional problems ( $t_{338} = 6.83; P < .001$ ), conduct problems ( $t_{338} = 7.34; P < .001$ ), and peer problems ( $t_{338} = 5.41; P < .001$ ).

Table 2 shows that among children with a history of ADHD, boys were significantly more likely than girls to have a high level of conduct problems and high hyperactivity–inattention scores, and children living with both parents were significantly less likely than children living with one parent or neither parent to have a high level of conduct problems and high total difficulties scores. In addition, among children with a history of ADHD, children aged 4 to 11 years were significantly more likely than children aged 12 to 17 years to manifest high levels of conduct problems and hyperactivity–inattention and high total difficulties scores, as were children who had state-sponsored insurance compared with children who had private and other types of insurance. Finally, children with a history of ADHD living in poor or near-poor households were significantly more likely than

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children living in low-, middle-, or high-income households to have high levels of emotional problems, conduct problems, hyperactivity-inattention, and peer problems, and high total difficulties scores.

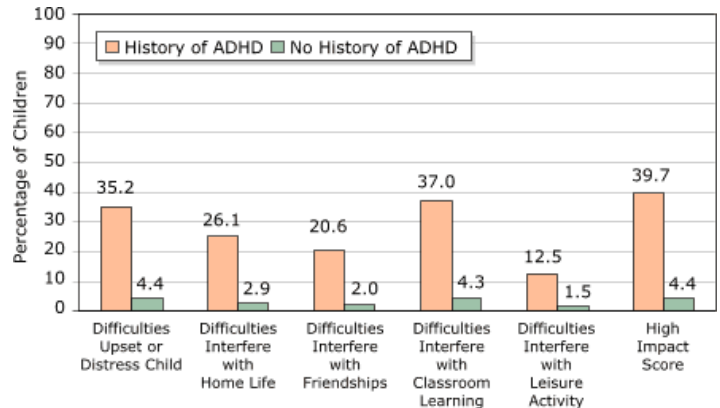
**The SDQ-EX impact supplement**

Children with a history of ADHD were 9 times as likely to have a high total impact score compared with children without ADHD ( $t_{338} = 12.49; P < .001$ ) (Figure 2). They were significantly more likely than those without ADHD to be upset or distressed by their difficulties a medium amount or a great deal ( $t_{338} = 11.23; P < .001$ ) and to have a medium amount or a great deal of impairment in their home life ( $t_{338} = 8.54; P < .001$ ), friendships ( $t_{338} = 7.09; P < .001$ ), classroom learning ( $t_{338} = 12.14; P < .001$ ), and leisure activities ( $t_{338} = 4.90; P < .001$ ). The only significant sociodemographic characteristic was observed in the total impact score: boys (43.1%) were significantly more likely than girls (29.9%) to have a high total impact score ( $t_{338} = 2.38; P = .02$ ).

**Discussion**

To our knowledge, this is the first nationally representative study in the United States using the SDQ-EX to examine emotional and behavioral difficulties and impairments in everyday functioning among children with a history of ADHD diagnosis. The results of this study supported our hypothesis that children with a history of ADHD represent a high-risk group for ongoing emotional and behavioral problems and impaired functioning across various social, familial, and educational settings. Impaired functioning in these domains can have a lasting impact on the educational attainment, quality of life, and health status of these children as they mature into adulthood (27,28).

More than one third of ADHD-diagnosed children were reported to exhibit high levels of emotional and behavioral difficulties, and nearly 40% were reported by their parents to have impairments in aspects of daily living. These data may reflect lack of access or adherence to continued care for the condition, use of ineffective treatments or interventions, or a parental report of problems that included periods during which children were not receiving usual treatments or medications (e.g., medication holidays). Additionally, difficulties and impairments in non-ADHD-specific domains such as



**Figure 2.** Results of impact supplement of Strengths and Difficulties Questionnaire, based on parent-report, 2003 National Health Information Survey: percentage of children aged 4 to 17 years experiencing impairment in five impact areas and having a high total impact score, by history of attention-deficit/hyperactivity disorder (ADHD) diagnosis status.

emotional, conduct, and peer problems may reflect the comorbid psychopathology (e.g., obsessive compulsive disorder, anxiety disorder, depression, oppositional defiant and conduct disorder) frequently found in children with ADHD in cross-sectional and longitudinal clinical samples (4,29).

The greater prevalence of ADHD among boys than among girls has been extensively documented (27) and was found in this national sample of children diagnosed with ADHD. Boys with a history of ADHD may be at greater risk than girls with a similar history to have a range of externalizing problems (i.e., hyperactivity, inattention, or conduct problems) and were also reported to have a higher frequency of associated impairment than their female counterparts.

These findings also suggest that children with a history of ADHD who live in poverty, have state-sponsored insurance, or live with at most one parent are more likely to exhibit a higher total difficulties score. It is conceivable that opportunities for intervention following a diagnosis of ADHD may be more difficult to access among families with limited means. These families may face barriers to accessing care, including the cost of treatment, transportation to care, and limited support to care for siblings.

The younger age group investigated had higher levels of parent-reported difficulties (i.e., high levels of conduct, hyperactivity-inattention, and total difficulties). There are several possible explanations for this finding. First,

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it is conceivable that some of the older children with a history of ADHD diagnosis are not currently exhibiting high levels of symptoms or that these symptoms may have resolved over time. Second, it is possible that older children have benefited from prior intervention or have developed coping strategies that have resulted in fewer difficulties compared with younger children. Third, it is possible that parents are more aware of the difficulties experienced by younger children than older children with ADHD. Previous research has suggested that although parents are frequently more adept at reporting their children's external problems (e.g., conduct disorders, hyperactivity-inattention) than the children themselves, they are less reliable at reporting their child's internal problems (e.g., emotional struggles), particularly among older children (29,30). Therefore, the findings of this study may underestimate the frequency of emotional difficulties experienced by older children with a history of ADHD and may suggest why younger children were reported by parents to have higher levels of difficulties than older children. Further research is needed to clarify the higher levels of difficulties found in this study among this younger age group.

These analyses are subject to several additional limitations. First, for a child to be appropriately diagnosed with ADHD, the diagnostic standards provided in the *DSM-IV-TR* must be met (2,3). We are unaware of the diagnostic criteria used by physicians in this study. Second, we do not have information about the interventions that the children were receiving at the time of the interview; therefore, we were unable to assess the potentially beneficial effects of pharmacological or behavioral treatments on rates of difficulties and impairments. Third, the data are based on parental reports and, as such, do not include behavior or distress reported by the child or teachers or documented in clinical evaluations. Despite the limitations of parental report, parents' perceptions of problem behaviors and impairments strongly relate to decisions to seek out mental health care for their children (26,31).

Fourth, a factor analysis of SDQ data from the 2001 NHIS has suggested that the four domains may be correlated, rather than independent (32). It is possible that correlated SDQ domains may explain why children with a history of ADHD diagnosis have high levels of symptoms or problems in domains other than hyperactivity-inattention. Therefore, high levels of emotional and behavioral problems among children with a history of

ADHD diagnosis should not be interpreted as necessarily indicative of an elevated risk for comorbid psychopathology until further validation studies are conducted (26).

In conclusion, the results of this study indicate that a parental-reported history of ADHD diagnosis is a marker for continued emotional and behavioral problems and impairment. In addition to ADHD-related symptoms, many children with ADHD have psychiatric disorders and other emotional and behavioral problems not directly related to ADHD warranting further assessment and intervention. This finding suggests that those involved with the care of children — parents, health care providers, and teachers — need to be informed about the signs and symptoms of ADHD and other comorbid disorders as well as appropriate treatments. In this regard, the American Academy of Pediatrics has established evaluation and treatment guidelines designed to improve the assessment of ADHD and the care of children with this disorder (33). Public health professionals are in a unique position to aid in the prevention of difficulties and impairments associated with ADHD by promoting awareness of assessment and treatment for ADHD. In addition, national surveillance systems could serve as useful tools to provide more comprehensive evaluations of populations demonstrating the greatest need for intervention, such as boys, the poor, children with state-sponsored insurance, and children living in households with at most one parent.

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## Tables

**Table 1. Prevalence and Odds of Having History of Attention-Deficit/Hyperactivity Disorder Diagnosis Among Children Aged 4 to 17 Years, by Sociodemographic Characteristics, National Health Interview Survey 2003**

Characteristic	% (95% Confidence Interval)	Odds Ratio (95% Confidence Interval)
<b>Sex</b>		
Male	8.7 (7.7-9.7)	3.0 (2.4-3.8)
Female	3.1 (2.5-3.7)	Referent
<b>Age group, y</b>		
4-11	4.7 (3.9-5.6)	Referent
12-17	7.5 (6.6-8.5)	1.7 (1.3-2.1)
<b>Race and ethnicity<sup>a</sup></b>		
Hispanic	3.3 (2.6-4.3)	Referent
White non-Hispanic	7.1 (6.3-8.1)	2.2 (1.7-3.0)
Black non-Hispanic	5.3 (4.1-6.9)	1.6 (1.1-2.4)
Other non-Hispanic	NA <sup>b</sup>	NA <sup>b</sup>
<b>Parental structure<sup>c</sup></b>		
Single-parent household	6.9 (5.9-8.1)	1.3 (1.1-1.6)
Two-parent household	5.4 (4.7-6.2)	Referent
Neither parent	9.4 (6.3-13.7)	1.8 (1.2-2.8)
<b>Poverty level<sup>d</sup></b>		
Poor/near poor	5.3 (4.5-6.4)	Referent
Low/middle/high income	6.2 (5.5-7.1)	1.2 (0.9-1.5)
<b>Health insurance coverage<sup>e</sup></b>		
Uninsured	5.3 (3.8-7.4)	1.0 (0.7-1.4)
State-sponsored insurance	7.6 (6.4-9.0)	1.4 (1.1-1.8)
Private and other insurance	5.5 (4.8-6.2)	Referent

<sup>a</sup>Statistics for non-Hispanic children of other race (other than white non-Hispanic and black non-Hispanic) are not displayed because of insufficient sample size.

<sup>b</sup>NA indicates that statistic does not meet National Health Interview Survey standard for reliability or precision (i.e., relative standard error >30).

<sup>c</sup>Parents indicate mother and father, including biological, adoptive, step, and foster relationships. Legal guardians are not considered parents.

<sup>d</sup>Poverty status is based on income-to-poverty ratio: poor/near poverty indicates less than 200% of the federal poverty level; low/middle/high income indicates greater or equal to 200% of the federal poverty level.

<sup>e</sup>Uninsured children have no private or public insurance; state-sponsored insurance includes Medicaid, State Children's Health Insurance Program, or other state-sponsored plans; private and other insurance includes private coverage, other types of government-sponsored insurance (nonstate-sponsored), or a combination of public and private insurance.

The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of the U.S. Department of Health and Human Services, the Public Health Service, the Centers for Disease Control and Prevention, or the authors' affiliated institutions. Use of trade names is for identification only and does not imply endorsement by any of the groups named above.

**Table 2. Prevalence and Odds of Having High Levels of Emotional and Behavioral Difficulties and High Total Difficulties Score<sup>a</sup> Among Children Aged 4 to 17 Years With a History of Attention-Deficit/Hyperactivity Disorder, by Selected Sociodemographic Characteristics, National Health Interview Survey 2003**

Characteristic	High Level of Emotional Problems		High Level of Conduct Problems		High Level of Hyperactivity or Inattention		High Level of Peer Problems		High Level of Total Difficulties	
	% (95% CI <sup>b</sup> )	Odds Ratio (95% CI <sup>b</sup> )	% (95% CI <sup>b</sup> )	Odds Ratio (95% CI <sup>b</sup> )	% (95% CI <sup>b</sup> )	Odds Ratio (95% CI <sup>b</sup> )	% (95% CI <sup>b</sup> )	Odds Ratio (95% CI <sup>b</sup> )	% (95% CI <sup>b</sup> )	Odds Ratio (95% CI <sup>b</sup> )
<b>Sex</b>										
Male	22.5 (17.3-28.8)	0.9 (0.5-1.6)	30.8 (25.0-37.3)	2.1 (1.1-3.9)	53.1 (47.0-59.1)	2.0 (1.2-3.1)	23.7 (18.3-30.3)	2.0 (1.0-3.9)	37.0 (31.2-43.1)	1.4 (0.9-2.4)
Female	24.5 (17.3-33.5)	Referent	17.6 (10.7-27.6)	Referent	36.7 (27.6-46.9)	Referent	13.4 (8.0-21.7)	Referent	29.1 (20.8-39.0)	Referent
<b>Age group, y</b>										
4-11	27.6 (19.8-37.0)	Referent	35.3 (27.2-44.3)	Referent	59.4 (51.5-66.8)	Referent	24.6 (17.1-34.1)	Referent	45.2 (37.0-53.6)	Referent
12-17	19.3 (14.9-24.6)	0.6 (0.4-1.1)	21.0 (15.8-27.2)	0.5 (0.3-0.8)	40.3 (34.1-46.9)	0.5 (0.3-0.7)	18.2 (13.6-24.0)	0.7 (0.4-1.2)	26.6 (21.1-32.8)	0.4 (0.3-0.7)
<b>Race and ethnicity<sup>c</sup></b>										
Hispanic	24.4 (15.6-36.1)	Referent	27.3 (17.7-39.7)	Referent	46.3 (30.3-63.1)	Referent	15.0 (8.8-24.5)	Referent	35.9 (23.5-50.6)	Referent
White non-Hispanic	22.7 (17.6-28.8)	0.9 (0.5-1.7)	25.7 (20.2-31.9)	0.9 (0.5-1.7)	47.9 (41.7-54.1)	1.1 (0.5-2.2)	20.7 (15.4-27.2)	1.5 (0.7-3.0)	34.4 (28.6-40.6)	0.9 (0.5-1.8)
Black non-Hispanic	23.5 (12.7-39.1)	1.0 (0.4-2.4)	35.0 (22.7-49.7)	1.4 (0.6-3.3)	55.0 (40.7-68.5)	1.4 (0.6-3.4)	27.1 (15.6-42.8)	2.1 (0.8-5.3)	35.9 (23.3-50.8)	1.0 (0.4-2.3)
<b>Parental structure<sup>d</sup></b>										
Two-parent household	19.9 (14.2-27.1)	Referent	23.2 (17.1-30.8)	Referent	45.2 (38.1-52.5)	Referent	20.2 (14.5-27.5)	Referent	30.5 (24.1-37.9)	Referent
Single parent or neither parent	28.9 (22.8-36.0)	1.6 (1.0-2.7)	35.1 (28.0-43.0)	1.8 (1.1-3.0)	55.8 (47.9-63.4)	1.5 (1.0-2.4)	22.7 (16.4-30.6)	1.2 (0.7-2.0)	43.1 (36.1-50.4)	1.7 (1.1-2.7)
<b>Poverty status<sup>e</sup></b>										
Poor/near poor	31.3 (23.8-39.9)	2.0 (1.1-3.6)	37.4 (29.6-46.0)	2.1 (1.3-2.7)	61.2 (53.0-68.8)	2.2 (1.4-3.3)	30.3 (22.5-39.4)	2.3 (1.2-4.2)	50.3 (42.0-58.5)	2.8 (1.7-4.5)
Low/middle/ high income	18.5 (13.1-25.4)	Referent	21.9 (15.9-29.3)	Referent	42.1 (35.5-49.1)	Referent	16.0 (10.8-23.1)	Referent	26.5 (20.5-33.5)	Referent
<b>Health insurance<sup>f</sup></b>										
State-sponsored insurance	30.7 (22.2-40.6)	1.7 (0.9-3.0)	39.5 (30.3-49.4)	2.2 (1.3-3.8)	62.8 (53.2-71.4)	2.3 (1.4-3.7)	26.9 (18.8-36.8)	1.7 (0.9-3.1)	50.3 (41.0-59.6)	2.6 (1.6-4.4)
Private/other	20.9 (15.2-28.0)	Referent	23.0 (16.9-30.4)	Referent	42.7 (35.8-50.0)	Referent	18.1 (12.6-25.4)	Referent	27.8 (21.6-35.0)	Referent

<sup>a</sup>Scores were determined by the extended version of the Strengths and Difficulties Questionnaire.

<sup>b</sup>CI indicates confidence interval.

<sup>c</sup>Statistics for non-Hispanic children of other race (other than white non-Hispanic and black non-Hispanic) are not displayed because of insufficient sample size.

<sup>d</sup>Parents indicate mother and father, including biological, adoptive, step, and foster relationships. Legal guardians are not considered parents.

<sup>e</sup>Poverty status is based on income-to-poverty ratio: poor/near poverty indicates less than 200% of the federal poverty level; low/middle/high income indicates greater or equal to 200% of the federal poverty level.

<sup>f</sup>State-sponsored insurance includes Medicaid, State Children's Health Insurance Program, or other state-sponsored plans; private and other insurance includes private coverage, other types of government-sponsored insurance (nonstate-sponsored), or a combination of public and private insurance. Statistics for uninsured children (no private or public insurance) are not shown because of insufficient sample size.

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