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Difficulties in Functioning Among Children in the United States: 2021–2023

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Abstract

Objectives—This report presents national estimates of difficulties in functioning for children ages 2–17.

Methods—2021–2023 National Health Interview Survey (NHIS) data were used to assess difficulties in functioning among children. NHIS has included the Child Functioning Module, developed jointly by UNICEF and the Washington Group on Disability Statistics, since 2019. The module's questions ask about difficulties in the following functional domains: seeing, hearing, walking, communication, behavior, and learning (for all children ages 2–17); fine motor and playing (for children ages 2–4); and self-care, remembering, concentrating, coping with change, relationships, and affect (anxiety and depression) (for children ages 5–17). Prevalence estimates were calculated for different levels of difficulty (a lot of difficulty, some difficulty, or no difficulty) and are presented for overall functioning, by individual functional domain, and by number of functional domains where difficulties were reported. Differences in functioning by age, sex, race and Hispanic origin, urbanization level, and family income are also presented.

Results—In 2021–2023, about one-quarter (24.9%) of children ages 2–4 experienced difficulties in functioning (4.1% experienced a lot of difficulty in one or more domains and 20.8% experienced some difficulty). Among children ages 5–17, just over one-half (50.8%) experienced functioning difficulties (13.0% experienced a lot of difficulty and 37.8% experienced some difficulty). The prevalence of functioning difficulties varied by sex, with boys being more likely than girls to experience a lot of difficulty in at least one domain, but differences across other characteristics varied. Functioning difficulties were most prevalent in the domains of communication, learning, behavior, and playing among children ages 2–4. For those ages 5–17, the most prevalent domains were anxiety, accepting change, behavior, depression, and making friends. Among children who experienced functioning difficulties, most had difficulty in only one functional domain.

Keywords: functional domains • Child Functioning Module • Washington Group on Disability Statistics • National Health Interview Survey (NHIS)

Introduction

Children with functioning difficulties experience limitations in their ability to perform basic activities (1). These difficulties, or limitations, can be experienced in a variety of activity domains such as seeing, hearing, walking, and learning and can vary in severity and can impact participation in social, recreational, educational, and other age-appropriate activities (2–5). As a result, children with functioning difficulties are a highly diverse population group. In addition, physical, emotional, behavioral, and social development occur rapidly during infancy, early and middle childhood, and adolescence, which results in challenges for the measurement of functioning in children. Prevalence estimates vary across data sources, and the measures used to assess functioning in children are often more appropriate for adults (6,7).

Measuring functioning difficulties in children

Nationally representative surveys are important tools for monitoring the prevalence and severity of functioning difficulties, as well as the types of functioning difficulties children

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experience. However, measuring functioning in children presents unique challenges compared with adults due to the rapid pace of child development and the wide variation of developmental trajectories across children (6–8). Differentiating between expected variations and delays in development can make it difficult to determine when difficulties in functioning are present among children. This can be particularly challenging in some domains (or areas) of functioning such as walking, communication, and learning, that are more susceptible to age-related expectations and variation at different stages of childhood development.

Functioning for children is complex, and the domains of functioning are interrelated. Development in one domain does not occur independently of other functional domains. Rather, progression in one domain often depends on progression in another (for example, development in the domains of cognition, communication, and social-emotional functioning). The significance of functioning in various domains can also change with age. For example, social development and the ability to perform self-care activities may be more critical for older children, including teenagers. The measurement of child functioning should reflect the broader developmental contexts, span age-appropriate functional domains, and allow for variations in the normal development process (1,9).

The UNICEF/WG Child Functioning Module

Development

The Washington Group on Disability Statistics (WG) collaborated with the United Nations Children's Fund (UNICEF) to develop and test questions for national surveys that could be used to collect high-quality, internationally comparable data on functioning in children (10,11). Among other goals, the questions were intended to reflect:

- The understanding that functioning is a complex process that "denotes the negative aspects of the interaction between an individual (with a health condition) and that individual's contextual (environmental and personal) factors," thereby conforming to the World Health Organization's International Classification of Functioning, Disability, and Health (ICF) (12);
- A conceptual framework consistent with the International Classification of Functioning, Disability, and Health for Children and Youth (ICF-CY) (1) adopting a functional approach to operationalization, assessing difficulty across age-appropriate basic, universal activity domains;
- The understanding that functioning is not a dichotomy, but that it exists along a continuum; and
- The need for cross-nationally comparable data, including basic functional actions applicable to children regardless of nationality or culture.

The UNICEF/WG Child Functioning Module (CFM) module was developed to produce internationally comparable statistics, including overall functioning, functioning in individual domains, and level or severity of functioning difficulties, and was finalized and adopted for use in 2016 (13,14).

CFM comprises separate sets of questions for children ages 2–4 and children ages 5–17 (15). Although important for early detection, assessing functioning among children younger than age 2 is especially challenging, particularly in population-based data collections designed for statistical and research purposes (16). The development process can be subjective and developmental norms are more likely to be culturally influenced among infants and children in this age range. In addition, a perceived developmental delay during these very early ages may not necessarily be a sign of future functioning difficulty and may therefore lead to large proportions of false positive cases (8,9,13). For these reasons, CFM does not include questions for children in this age group.

Question development for CFM involved international subject matter experts and collaborations with national statistical offices and organizations of people with disabilities. The questions were cognitively tested and field tested across more than a dozen countries by regional and international data collection programs, including in the United States (17–19). Since that time, it has been endorsed by United Nations agencies and the international disability community for collecting data on functioning in children. Data have been used in more than 60 countries to inform and monitor policies and programs, including the 2030 Sustainable Development Goals, and for the disaggregation of data by functional status (5,20–22). More detailed information about CFM, including the questionnaires, translation and analytic guidance documents, question-by-question specifications, interviewer manuals, tabulation plans, and syntaxes are available elsewhere (23).

Questionnaire content

The CFM functional domains were selected based on their universality and commonality across cultures and countries at various stages of economic development. Difficulties in functioning for young children (ages 2–4) are assessed in the following eight domains: seeing, hearing, walking, fine motor, communication, learning, playing, and behavior. For older children (ages 5–17), difficulties are assessed in seeing, hearing, walking (100- and 500-yard distances), self-care, communication, learning, remembering, concentrating, accepting change, behavior, relationships, and affect. The affect domain includes one question each on anxiety and depression. These questions are typically presented separately, rather than in combination, for a total of 13 domains of functioning. The CFM questions generally capture information about difficulties encountered when assistive devices are not being used. However, the domains of seeing and hearing are handled differently, largely because aids that correct vision and hearing are readily available and commonly used in many countries, and also because they often restore functioning. The wording of the CFM questions and responses are provided in Tables A and B.

CFM was added to the National Health Interview Survey (NHIS) annual core questionnaire in 2019, allowing

Table A. UNICEF/Washington Group Child Functioning Module questions for children ages 2–4

Functioning domain and question	Response set
Seeing	
Does [name] wear glasses?	Yes or no
When wearing his/her glasses, does [name] have difficulty seeing?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Does [name] have difficulty seeing?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Hearing	
Does [name] use a hearing aid?	Yes or no
When using his/her hearing aid, does [name] have difficulty hearing sounds like peoples' voices or music?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Does [name] have difficulty hearing sounds like peoples' voices or music?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Walking	
Does [name] use any equipment or receive assistance for walking?	Yes or no
Without his/her equipment or assistance, does [name] have difficulty walking?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
With his/her equipment or assistance, does [name] have difficulty walking?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Compared with children of the same age, does [name] have difficulty walking?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Fine motor	
Compared with children of the same age, does [name] have difficulty picking up small objects with his/her hand?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Communication	
Does [name] have difficulty understanding you?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
When [name] speaks, do you have difficulty understanding him/her?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Learning	
Compared with children of the same age, does [name] have difficulty learning things?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Playing	
Compared with children of the same age, does [name] have difficulty playing?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Behavior	
Compared with children of the same age, how much does [name] kick, bite or hit other children or adults?	Not at all, the same or less, more, or a lot more

SOURCE: UNICEF/Washington Group Child Functioning Module: Questionnaires. Available from: https://data.unicef.org/resources/module-child-functioning/.

for the assessment of functioning among children. This report presents the most recent estimates of difficulties in functioning among children using the 2021–2023 NHIS. Prevalence is reported for different levels of difficulties (or severity) in individual functional domains and overall for all domains combined among U.S. children ages 2–4 and 5–17. Estimates are also examined by selected sociodemographic characteristics including age, sex, race and Hispanic origin, urbanization level, and family income as a percentage of the federal poverty level (FPL).

Methods

Data source

Data from the 2021–2023 NHIS were pooled for this analysis. Three years of data were used to increase the number of reliable estimates that can be presented. NHIS is a nationally representative survey of the U.S. civilian noninstitutionalized population. Interviews are conducted continuously throughout each calendar year. Interviews are typically initiated face-to-face in respondents' homes, but follow-ups to complete interviews may be conducted over the telephone. In each household, selected demographic characteristics are collected for each person living in the household. Detailed health interviews are collected from one randomly selected household adult (sample adult). If present, one child younger than age 18 is randomly selected to be the sample child, and a parent or guardian knowledgeable about and responsible for the child's health answers a detailed health questionnaire for them. Sample children ages 2–17 were included in this analysis (n = 20,825); after excluding records with missing data (n = 3 among children ages 2–4, n = 1 among children ages 5–17), the analytic sample sizes were n = 3,553 for children ages 2–4 and n = 17,268 for children ages 5–17. The final response rate for the 2021–2023 Sample Child interview ranged from 44.9%–49.9% (24–26). For more information about the 2021–2023 NHIS sample designs and questionnaires, see the survey description documentation (24–26).

Measures of child functioning

For this analysis, indicators of difficulties in functioning were created for each individual functional domain. Not all CFM questions included in NHIS were used to describe functioning difficulties in this report. Specifically, questions on the use of equipment or assistance, and on difficulty functioning with the use of equipment and assistance, were not used. That is, other than for the domains of seeing and hearing, functioning was evaluated without accommodation (without the use of assistive devices).

For most CFM domains, only one question is used to assess difficulty. For these domains (seeing, hearing, walking, fine motor, learning, playing, and behavior for children ages 2–4 and

Table B. UNICEF/Washington Group Child Functioning Module questions for children ages 5–17

Functioning domain and question	Response set
Seeing	
Does [name] wear glasses?	Yes or no
When wearing his/her glasses, does [name] have difficulty seeing?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Does [name] have difficulty seeing?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Hearing	
Does [name] use a hearing aid?	Yes or no
When using his/her hearing aid, does [name] have difficulty hearing sounds like peoples' voices or music?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Does [name] have difficulty hearing sounds like peoples' voices or music?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Walking	
Does [name] use any equipment or receive assistance for walking?	Yes or no
Without his/her equipment or assistance, does [name] have difficulty walking 100 yards/meters on level ground? That would be about the length of one football field.	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Without his/her equipment or assistance, does [name] have difficulty walking 500 yards/meters on level ground? That would be about the length of five football fields.	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
With his/her equipment or assistance, does [name] have difficulty walking 100 yards/meters on level ground? That would be about the length of one football field.	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
With his/her equipment or assistance, does [name] have difficulty walking 500 yards/meters on level ground? That would be about the length of five football fields.	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Compared with children of the same age, does [name] have difficulty walking 100 yards/meters on level ground? That would be about the length of one football field.	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Compared with children of the same age, does [name] have difficulty walking 500 yards/meters on level ground? That would be about the length of five football fields.	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Self-care	
Does [name] have difficulty with self-care such as feeding or dressing him/herself?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Communication	
When [name] speaks, does he/she have difficulty being understood by people inside of this household?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
When [name] speaks, does he/she have difficulty being understood by people outside of this household?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Learning	
Compared with children of the same age, does [name] have difficulty learning things?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Remembering	
Compared with children of the same age, does [name] have difficulty remembering things?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Concentration	
Does [name] have difficulty concentrating on an activity that he/she enjoys doing?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Accepting change	
Does [name] have difficulty accepting changes in his/her routine?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Behavior	
Compared with children of the same age, does [name] have difficulty controlling his/her behavior?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Relationships	
Does [name] have difficulty making friends?	No difficulty, some difficulty, a lot of difficulty, or cannot do at all
Affect	
How often does [name] seem very anxious, nervous, or worried?	Daily, weekly, monthly, a few times a year, or never
How often does [name] seem very sad or depressed?	Daily, weekly, monthly, a few times a year, or never

SOURCE: UNICEF/Washington Group Child Functioning Module: Questionnaires. Available from: https://data.unicef.org/resources/module-child-functioning/.

seeing, hearing, self-care, learning, remembering, concentrating, accepting change, behavior, relationships, anxiety, and depression for children 5–17), three categories were created for the analysis to describe level of difficulty based on the response to that one question: "no difficulty," "some difficulty," or "a lot of difficulty." As a category, "a lot of difficulty" combined responses of "a lot of difficulty" and "cannot do at all." For the behavior domain, which asks about kicking, biting, or hitting others, the "a lot of difficulty" category was based on a response of "a lot more" compared with children of the same age. For the anxiety and depression domains, which ask about frequency, "a lot of difficulty" was based on a response of "daily." For CFM domains where more than one question is used to collect difficulty functioning (communication for children ages 2–4 and walking and communication for children 5–17), the information was combined in the analysis, and the highest level of difficulty reported was used to create the three-category functioning

indicator. See Technical Notes for more information on each functional domain indicator.

An overall composite indicator combining responses across all of the CFM functional domains was also created. Only respondents with missing data across all domains were assigned a missing value on this overall indicator. Like the individual domain indicators, the composite indicator included in the analysis used three mutually exclusive categories to describe the level of functioning difficulty. In general, these categories correspond to the question level responses; however, because the response options for the domains of behavior, anxiety, and depression differ, categorization based on these domains varied slightly and is detailed below. Because difficulty can be experienced in more than one domain, the categories for the composite indicator are no difficulties, some difficulties, and a lot of difficulties. The categories are described in more detail below.

For children ages 2–4, responses to the eight domains were combined to create the following functioning categories for the overall composite indicator:

- *A lot of difficulties*—Includes any response of "a lot of difficulty" or "cannot do at all" in at least one of the following seven functional domains: seeing, hearing, walking, fine motor, communication, learning, and playing, or a response of "a lot more" to kicking, biting, or hitting others;
- *Some difficulties*—Includes any response of "some difficulty" (but no reports of "a lot of difficulty" or "cannot do at all") in at least one of the seven domains, or a response of "more" to kicking, biting, or hitting others; and
- *No difficulties*—Includes responses of "no difficulty" in all seven domains, and a response of "the same or less" or "not at all" to kicking, biting, or hitting others.

For children ages 5–17, responses to the 13 domains were combined to create the following functioning categories for the overall composite indicator:

- *A lot of difficulties*—Includes any response of "a lot of difficulty" or "cannot do at all" in at least 1 of the following 11 functional domains: seeing, hearing, walking, self-care, communication, learning, remembering, concentrating, accepting change, behavior, or relationships, or a response of "daily" to either the frequency of anxiety or depression questions;
- S*ome difficulties*—Includes any response of "some difficulty" (but no reports of "a lot of difficulty" or "cannot do at all") in at least one of the 11 domains, or a response of "monthly" or "weekly" to either of the frequency of anxiety or depression questions; and
- *No difficulties*—Includes responses of "no difficulty" in all 11 domains, and a response of "never" or "a few times a year" to both the frequency of anxiety and depression questions.

Sociodemographic characteristics

Sociodemographic characteristics presented in this report include age group, sex, race and Hispanic origin, urbanization level, and family income as a percentage of FPL. See Technical Notes for information on selected characteristics.

Statistical analysis

Prevalence estimates of difficulties in functioning are presented separately for children ages 2–4 and 5–17 for both the overall composite indicator and individual domains. Weighted percentages for the overall indicator of functioning difficulties for children ages 2–4 and 5–17 and by sociodemographic characteristics were calculated. Additionally, weighted percentages for the three-category outcome indicator for each of the functional domains, and for the number of domains with functioning difficulties, were calculated and reported for each age group.

All analyses incorporated clustering, stratification, and Sample Child weights to reflect the complex sampling design and allow for the calculation of nationally representative estimates using SUDAAN version 11.0 (RTI International, Research Triangle Park, N.C.). All estimates and 95% confidence intervals were generated using the Korn–Graubard method for complex surveys (27). Respondents with missing data or unknown information were excluded unless specifically noted. Differences in percentages between sociodemographic subgroup characteristics were evaluated using two-sided significance tests at the $p < 0.05$ level. Linear and quadratic trends by family income and urbanization level were evaluated using orthogonal polynomials. Terms such as "more likely," "less likely," "higher than," and "lower than" indicate a statistically significant difference. Lack of comment regarding the difference between any two estimates does not necessarily mean that the difference was tested and not found to be significant. All percentages reported in this analysis meet National Center for Health Statistics standards of reliability (28).

Results

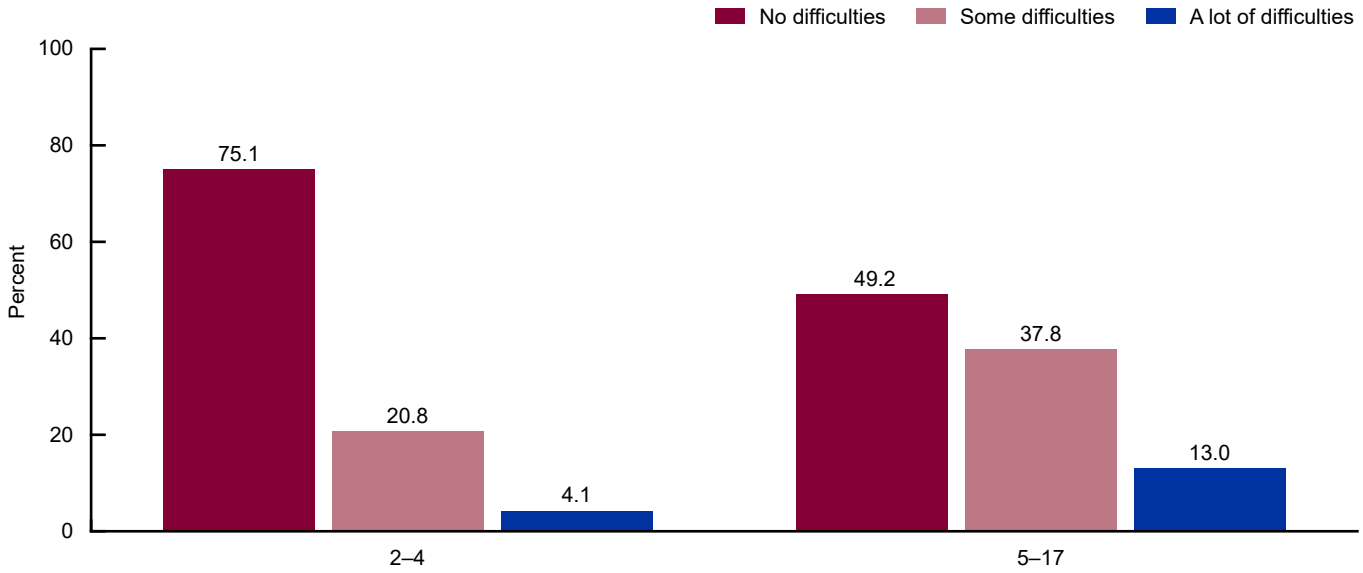
Functioning difficulties across all domains

Prevalence estimates for the overall composite indicator of functioning difficulties that combines information from all domains and uses the three-category outcome variable (no difficulties, some difficulties, and a lot of difficulties) are shown for all children ages 2–4 (Table 1) and 5–17 (Table 2) by selected sociodemographic characteristics.

Children ages 2–4

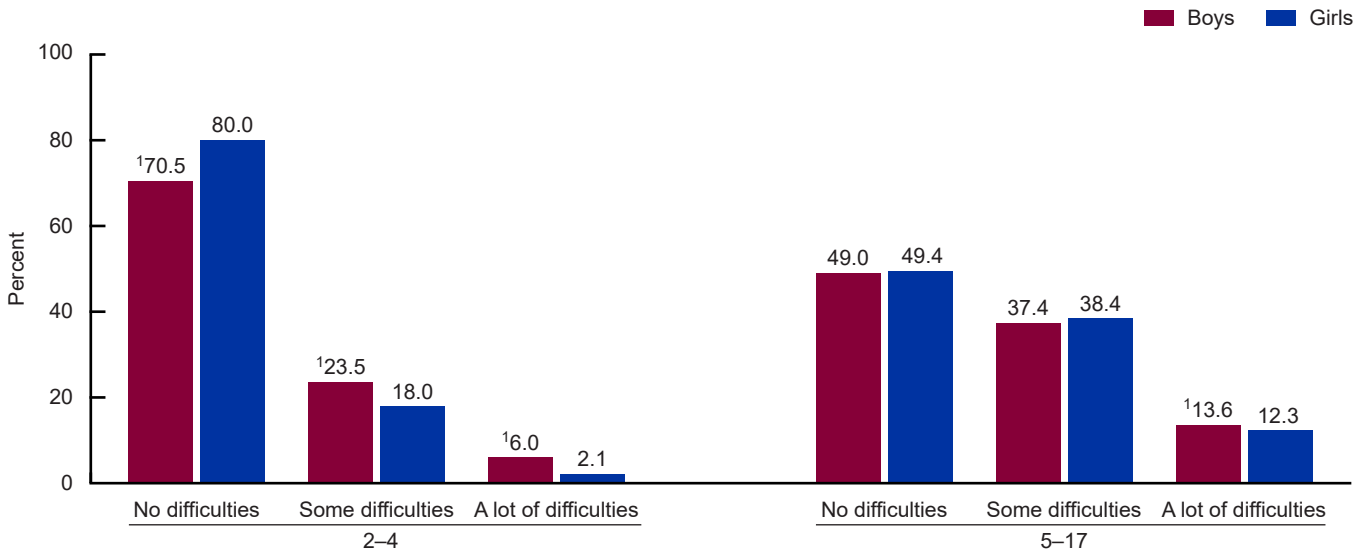
Among children ages 2–4, 4.1% had a lot of difficulties and 20.8% had some difficulties in functioning (Figure 1). Significant differences were seen in the prevalence of level of functioning difficulties by sex, with boys being more likely than girls to have had a lot of difficulties (6.0% compared with 2.1%) and some difficulties (23.5% compared with 18.0%) (Figure 2). However, no significant differences were seen in the prevalence of levels of functioning difficulties by race and Hispanic origin (Table 1). The prevalence of functioning

Figure 1. Percent distribution of children ages 2–17, by age and level of functioning difficulty: United States, 2021–2023



NOTES: Functioning difficulty for children ages 2–4 is defined using responses to eight functional domains: 1) seeing, 2) hearing, 3) walking, 4) fine motor, 5) communication, 6) behavior, 7) learning, and 8) playing. "No difficulties" includes responses of "no difficulty" to domains 1–7 and a response of "the same or less" or "not at all" to domain 8. "Some difficulties" includes any response of "some difficulty" (but no report of "a lot of difficulty" or "cannot do at all") to domains 1–7 or any response of "more" to domain 8. "A lot of difficulties" includes any response of "a lot of difficulty" or "cannot do at all" to at least one of domains 1– 7 or a response of "a lot more" to domain 8. Functioning difficulty for children ages 5–17 is defined using responses to 12 functioning domains: 1) seeing, 2) hearing, 3) mobility, 4) self-care, 5) communication, 6) learning, 7) remembering, 8) concentrating, 9) accepting change, 10) controlling behavior, 11) making friends, and 12) affect (anxiety and depression). "No difficulties" includes responses of "no difficulty" to domains 1–11 and responses of "never" or "a few times a year" to both questions in domain 12. "Some difficulties" includes any response of "some difficulty" (but no report of "a lot of difficulty" or "cannot do at all") to domains 1–11 or any response of "monthly" or "weekly" to either of the questions in domain 12. "A lot of difficulties" includes any response of "a lot of difficulty" or "cannot do at all" to at least one of domains 1–11 or any response of "daily" to either of the questions in domain 12. Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population.
SOURCE: National Center for Health Statistics, National Health Interview Survey, 2021–2023.

Figure 2. Percentage of children ages 2–17, by age, level of functioning difficulty, and sex: United States, 2021–2023



[1]Significantly different from girls ($p < 0.05$).
NOTES: Functioning difficulty for children ages 2–4 is defined using responses to eight functional domains: 1) seeing, 2) hearing, 3) walking, 4) fine motor, 5) communication, 6) behavior, 7) learning, and 8) playing. "No difficulties" includes responses of "no difficulty" to domains 1–7 and a response of "the same or less" or "not at all" to domain 8. "Some difficulties" includes any response of "some difficulty" (but no report of "a lot of difficulty" or "cannot do at all") to domains 1–7 or any response of "more" to domain 8. "A lot of difficulties" includes any response of "a lot of difficulty" or "cannot do at all" to at least one of domains 1– 7 or a response of "a lot more" to domain 8. Functioning difficulty for children ages 5–17 is defined using responses to 12 functioning domains: 1) seeing, 2) hearing, 3) mobility, 4) self-care, 5) communication, 6) learning, 7) remembering, 8) concentrating, 9) accepting change, 10) controlling behavior, 11) making friends, and 12) affect (anxiety and depression). "No difficulties" includes responses of "no difficulty" to domains 1–11 and responses of "never" or "a few times a year" to both questions in domain 12. "Some difficulties" includes any response of "some difficulty" (but no report of "a lot of difficulty" or "cannot do at all") to domains 1–11 or any response of "monthly" or "weekly" to either of the questions in domain 12. "A lot of difficulties" includes any response of "a lot of difficulty" or "cannot do at all" to at least one of domains 1–11 or any response of "daily" to either of the questions in domain 12. Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population.
SOURCE: National Center for Health Statistics, National Health Interview Survey, 2021–2023.

difficulties among children ages 2–4 varied by urbanization level. Children living in large central (5.4%) and medium and small (4.6%) metropolitan areas were more likely to experience a lot of difficulties than children living in large fringe metropolitan areas (2.1%), but the observed differences among other urbanization levels were not significant. The percentage of children experiencing some difficulties ranged from 19.3% among those living in large central metropolitan areas to 29.3% in nonmetropolitan areas. The percentage of children with a lot of difficulties decreased with increasing family income, from 8.3% among those with family incomes less than 100% FPL to 2.3% among those with family incomes of 200% FPL or more (Figure 3, Table 1), but no significant trend was noted for children who experienced some difficulties by family income.

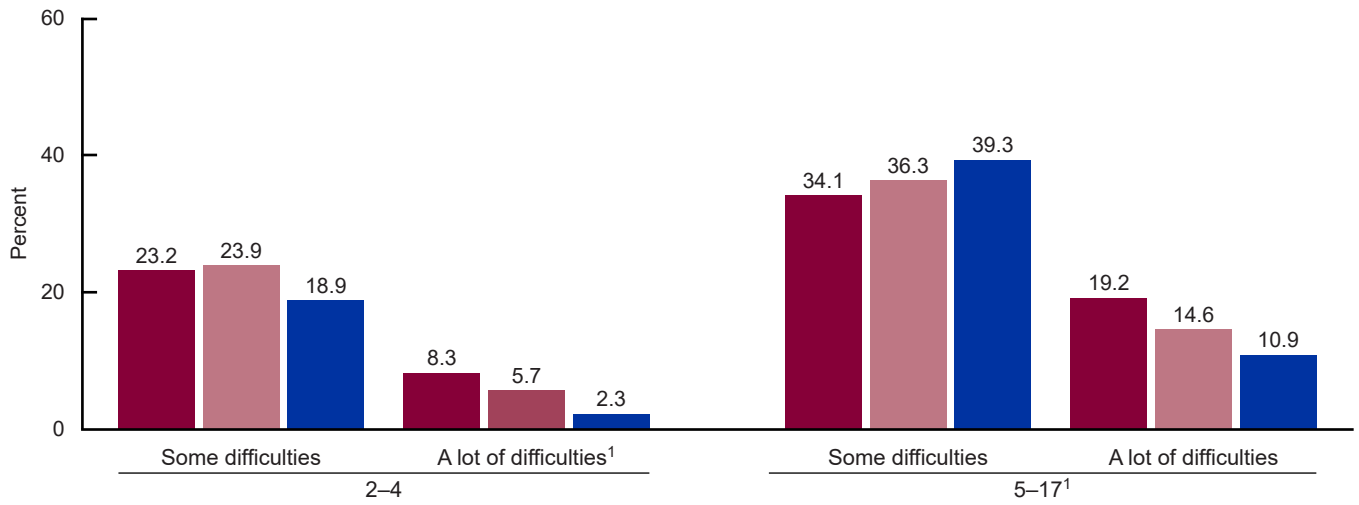
Children ages 5–17

Among children ages 5–17, 13.0% had a lot of difficulties and 37.8% had some difficulties in functioning (Figure 1, Table 2). Significant differences were seen by sex only in the prevalence of a lot of difficulties, with boys (13.6%) having a higher prevalence of a lot of difficulties compared with girls (12.3%) (Figure 2). Children ages 5–10 (11.5%) were less likely to have had a lot of difficulties than children ages 11–13 (13.6%) and 14–17 (14.5%). No significant differences were seen by age among those with some difficulties (Table 2). Several differences were noted by race and Hispanic origin, with both Black (14.4%) and White (13.9%) children having a higher prevalence of a lot of difficulties than other and multiple race (11.3%) and Hispanic (11.0%) children (Table 2). White children (41.3%) had the highest prevalence of some difficulties compared with children of all other race and Hispanic-origin groups, while Black children (31.4%) were least likely to have some difficulties. Among children ages 5–17, the prevalence of functioning difficulties by urbanization varied by level of functioning difficulties (Table 2). The prevalence of having a lot of difficulties increased as level of urbanization decreased, from 11.3% among children living in large central metropolitan areas to 16.5% among children living in nonmetropolitan areas. Children in large central metropolitan areas (35.8%) were less likely to have some difficulties than those living in large fringe (38.7%) and medium and small (39.4%) metropolitan areas. As family income increased, the prevalence of a lot of difficulties decreased from 19.2% among children with family incomes less than 100% FPL to 10.9% among children with family incomes of 200% FPL or more (Figure 3). Conversely, as family income increased, the prevalence of some difficulties increased from 34.1% among children with family incomes less than 100% FPL to 39.3% among children with family incomes of 200% FPL or more.

Functioning difficulty in individual domains

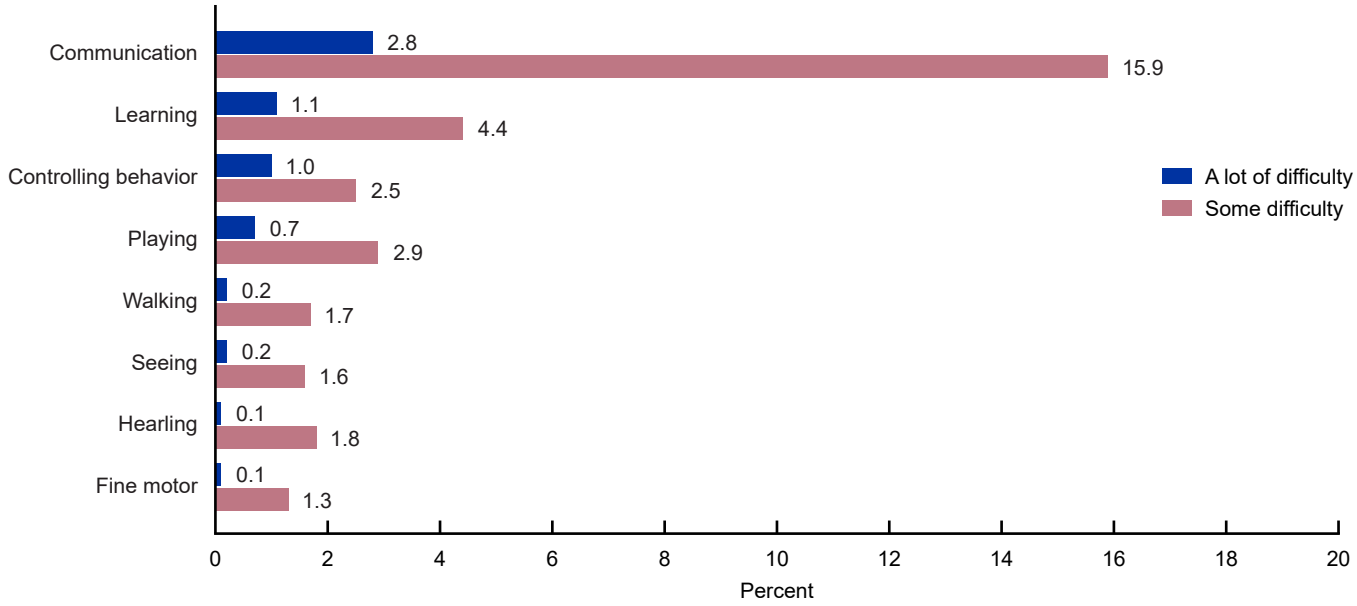
Figure 4 and Figure 5 (Table 3) present the percentages of children with some difficulty and a lot of difficulty in each of the CFM functional domains for children ages 2–4 and 5–17.

Figure 3. Percentage of children ages 2–17 with functioning difficulties, by age, level of difficulty, and family income: United States, 2021–2023



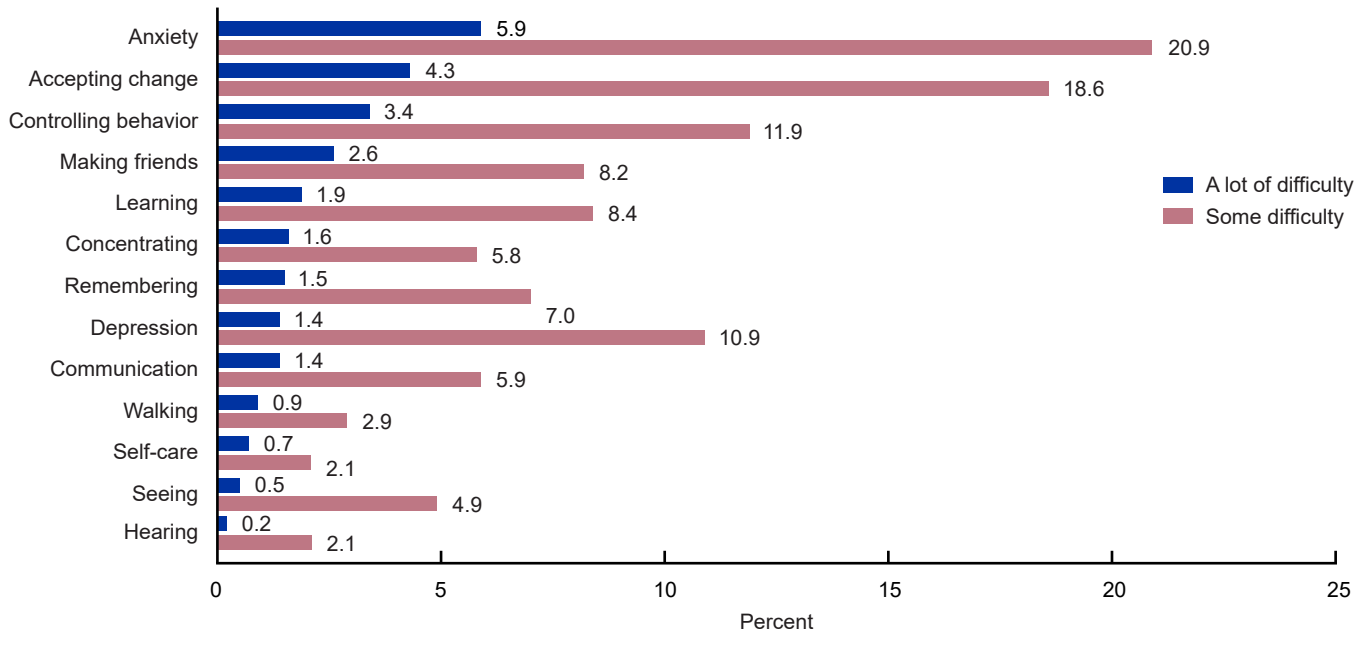
[1]Significant linear trend by family income ($p < 0.05$).
NOTES: Functioning difficulty for children ages 2–4 is defined using responses to eight functional domains: 1) seeing, 2) hearing, 3) walking, 4) fine motor, 5) communication, 6) behavior, 7) learning, and 8) playing. "No difficulties" includes responses of "no difficulty" to domains 1–7 and a response of "the same or less" or "not at all" to domain 8. "Some difficulties" includes any response of "some difficulty" (but no report of "a lot of difficulty" or "cannot do at all") to domains 1–7 or any response of "more" to domain 8. "A lot of difficulties" includes any response of "a lot of difficulty" or "cannot do at all" to at least one of domains 1– 7 or a response of "a lot more" to domain 8. Functioning difficulty for children ages 5–17 is defined using responses to 12 functioning domains: 1) seeing, 2) hearing, 3) mobility, 4) self-care, 5) communication, 6) learning, 7) remembering, 8) concentrating, 9) accepting change, 10) controlling behavior, 11) making friends, and 12) affect (anxiety and depression). "No difficulties" includes responses of "no difficulty" to domains 1–11 and responses of "never" or "a few times a year" to both questions in domain 12. "Some difficulties" includes any response of "some difficulty" (but no report of "a lot of difficulty" or "cannot do at all") to domains 1–11 or any response of "monthly" or "weekly" to either of the questions in domain 12. "A lot of difficulties" includes any response of "a lot of difficulty" or "cannot do at all" to at least one of domains 1–11 or any response of "daily" to either of the questions in domain 12. Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population.
SOURCE: National Center for Health Statistics, National Health Interview Survey, 2021–2023.

Figure 4. Percentage of children ages 2–4 with functioning difficulties, by functional domain: United States, 2021–2023



NOTES: Functioning difficulty for children ages 2–4 is defined using responses to eight functional domains: 1) seeing, 2) hearing, 3) walking, 4) fine motor, 5) communication, 6) behavior, 7) learning, and 8) playing. "No difficulties" includes responses of "no difficulty" to domains 1–7 and a response of "the same or less" or "not at all" to domain 8. "Some difficulties" includes any response of "some difficulty" (but no report of "a lot of difficulty" or "cannot do at all") to domains 1–7 or any response of "more" to domain 8. "A lot of difficulties" includes any response of "a lot of difficulty" or "cannot do at all" to at least one of domains 1–7 or a response of "a lot more" to domain 8. Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population.
SOURCE: National Center for Health Statistics, National Health Interview Survey, 2021–2023.

Figure 5. Percentage of children ages 5–17 with functioning difficulties, by functional domain: United States, 2021–2023



NOTES: Functioning difficulty for children ages 5–17 is defined using responses to 12 functioning domains: 1) seeing, 2) hearing, 3) mobility, 4) self-care, 5) communication, 6) learning, 7) remembering, 8) concentrating, 9) accepting change, 10) controlling behavior, 11) making friends, and 12) affect (anxiety and depression). "No difficulties" includes responses of "no difficulty" to domains 1–11 and responses of "never" or "a few times a year" to both questions in domain 12. "Some difficulties" includes any response of "some difficulty" (but no report of "a lot of difficulty" or "cannot do at all") to domains 1–11 or any response of "monthly" or "weekly" to either of the questions in domain 12. "A lot of difficulties" includes any response of "a lot of difficulty" or "cannot do at all" to at least one of domains 1–11 or any response of "daily" to either of the questions in domain 12. Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population.
SOURCE: National Center for Health Statistics, National Health Interview Survey, 2021–2023.

Children ages 2–4

Communication was the domain with the highest prevalence of a lot of difficulty (2.8%) and some difficulty (15.9%) among children ages 2–4. Next, 1.1% of children had a lot of difficulty and 4.4% had some difficulty in the learning domain. In the behavior domain, 1.0% of young children experienced a lot of difficulty and 2.5% experienced some difficulty. In the playing domain, 0.7% had a lot of difficulty and 2.9% had some difficulty. For the remaining domains, 1.7% of children had some difficulty and 0.2% had a lot of difficulty walking, 1.6% had some difficulty and 0.2% had a lot of difficulty seeing, 1.8% had some difficulty and 0.1% had a lot of difficulty hearing, and 1.3% had some difficulty and 0.1% had a lot of difficulty with fine motor skills.

Children ages 5–17

Anxiety was the domain with the highest prevalence of a lot of difficulty (5.9%) and some difficulty (20.9%) among children ages 5–17. The ranking of the other domains differed by level of difficulty. Ranking domains by the prevalence of a lot of difficulty, accepting change had the second highest prevalence at 4.3%, with 18.6% of children having some difficulty in this domain. In the behavior domain, 3.4% of children had a lot of difficulty and 11.9% had some difficulty. For making friends, 2.6% of children had a lot of difficulty and 8.2% had some difficulty. For learning, 1.9% of children had a lot of difficulty and 8.4% had some difficulty. For concentrating, 1.6% of children had a lot of difficulty and 5.8% had some difficulty. Similarly, 1.5% of children had a lot of difficulty remembering and 7.0% had some difficulty. While 1.4% of children had a lot of difficulty with depression, the percentage having some difficulty was 10.9%, making depression the domain with the fourth highest prevalence in the having some difficulty category. For communication, 1.4% of children had a lot of difficulty and 5.9% had some difficulty. For the remaining domains, 2.9% of children had some difficulty and 0.9% had a lot of difficulty walking, 2.1% had some difficulty and 0.7% had a lot of difficulty with self-care, 4.9% had some difficulty and 0.5% had a lot of difficulty seeing, and 2.1% had some difficulty and 0.2% had a lot of difficulty with hearing.

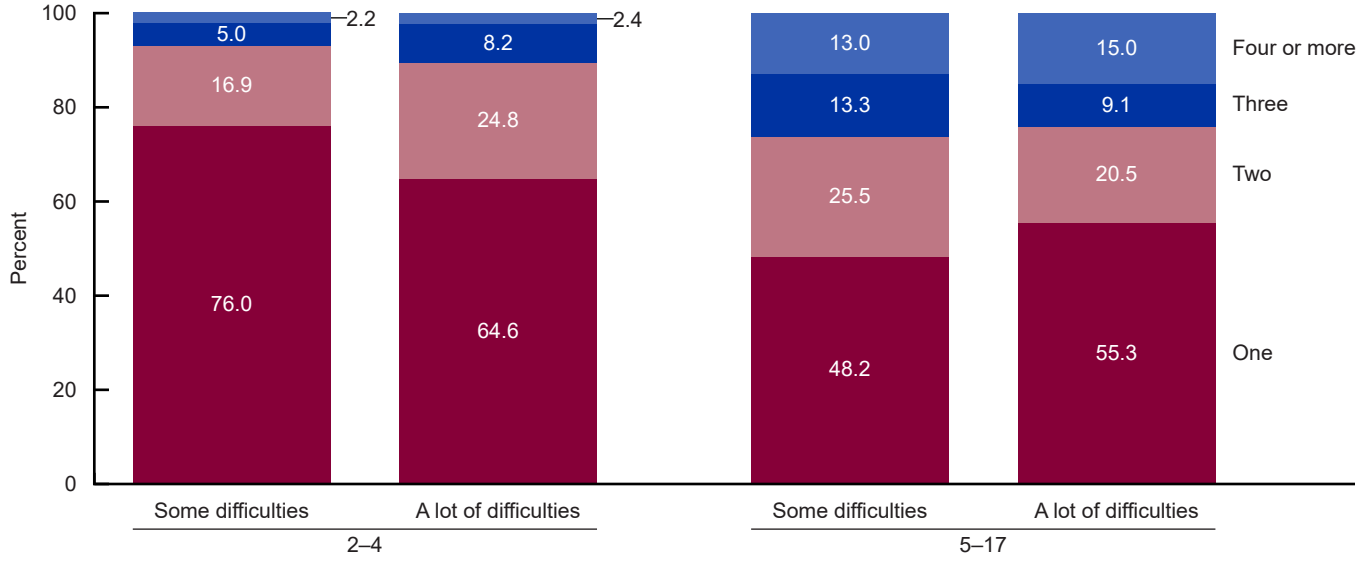
Number of domains with functioning difficulty

Table 4 presents the percentages of children with functioning difficulties by age and number of domains. Figure 6 presents the percent distributions of the number of domains with difficulties for children ages 2–4 and 5–17 having a lot of difficulties and some difficulties.

Children ages 2–4

Among all children ages 2–4, 4.1% had a lot of difficulties in one or more of the eight functional domains (2.6% with one, 1.0% with two, 0.3% with three, and 0.1% with four or more domains) (Table 4). Of the 4.1% of children ages 2–4 with a lot of difficulties, the majority (64.6%) had a lot of difficulty in only one

Figure 6. Percent distribution of children ages 2–17 with functioning difficulties, by level of difficulty and number of functional domains: United States, 2021–2023



NOTES: Functioning difficulty for children ages 2–4 is defined using responses to eight functional domains: 1) seeing, 2) hearing, 3) walking, 4) fine motor, 5) communication, 6) behavior, 7) learning, and 8) playing. "No difficulties" includes responses of "no difficulty" to domains 1–7 and a response of "the same or less" or "not at all" to domain 8. "Some difficulties" includes any response of "some difficulty" (but no report of "a lot of difficulty" or "cannot do at all") to domains 1–7 or any response of "more" to domain 8. "A lot of difficulties" includes any response of "a lot of difficulty" or "cannot do at all" to at least one of domains 1– 7 or a response of "a lot more" to domain 8. Functioning difficulty for children ages 5–17 is defined using responses to 12 functioning domains: 1) seeing, 2) hearing, 3) mobility, 4) self-care, 5) communication, 6) learning, 7) remembering, 8) concentrating, 9) accepting change, 10) controlling behavior, 11) making friends, and 12) affect (anxiety and depression). "No difficulties" includes responses of "no difficulty" to domains 1–11 and responses of "never" or "a few times a year" to both questions in domain 12. "Some difficulties" includes any response of "some difficulty" (but no report of "a lot of difficulty" or "cannot do at all") to domains 1–11 or any response of "monthly" or "weekly" to either of the questions in domain 12. "A lot of difficulties" includes any response of "a lot of difficulty" or "cannot do at all" to at least one of domains 1–11 or any response of "daily" to either of the questions in domain 12. Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population. Totals may not add to 100 due to rounding.
SOURCE: National Center for Health Statistics, National Health Interview Survey, 2021–2023.

domain (Figure 6), while 24.8% had a lot of difficulties in two, 8.2% in three, and 2.4 % in four or more domains. A greater percentage of children ages 2–4 reported some difficulties in one or more domain (20.8%), but the percent distribution of the number of domains with functioning difficulty was similar to that for those with a lot of difficulties, with the majority (76.0%) having some difficulty in only one domain, 16.9% in two, 5.0% in three, and 2.2% in four or more domains.

Children ages 5–17

Among all children ages 5–17, 13.0% had a lot of difficulties in one or more of the 13 functional domains (7.2% with one, 2.7% with two, 1.2% with three, and 1.9% with four or more domains) (Table 4). Of those children ages 5–17 with a lot of difficulties, over one-half (55.3%) had a lot of difficulty in only one domain (Figure 6). An additional 20.5% had a lot of difficulties in two, 9.1% in three, and 15.0% in four or more domains. More than one-third (37.8%) of children in this older age group experienced some difficulties in one or more functional domains. Compared with those who experienced a lot of difficulties, those with some difficulties were also more likely to experience some difficulties in multiple domains (48.2% in one, 25.5% in two, 13.3% in three, and 13.0% in four or more domains).

Discussion

This report presents national estimates of difficulties in functioning among children ages 2–4 and 5–17 using data from the 2021–2023 NHIS. Using a composite measure that combines information on functioning across domains, prevalence of experiencing a lot of difficulties, some difficulties, and no difficulties was examined overall and by selected sociodemographic characteristics. The prevalence of difficulty across a range of individual functional domains and percent distributions of the number of domains for which difficulties are reported are also presented.

Among children ages 2–4, three-quarters had no functioning difficulties (75.1%), and among children ages 5–17, nearly one-half had no functioning difficulties (49.2%). Of the nearly one-quarter of children ages 2–4 who experienced any level of functioning difficulties (24.9%), 4.1% had a lot of difficulties and 20.8% had some difficulties. Among children ages 5–17, the prevalence of functioning difficulties was higher (50.8%): 13.0% had a lot of difficulties, and 37.8% had some difficulties. Within this older group, the prevalence that had a lot of difficulties increased as age increased. Difficulties in functioning varied across other sociodemographic characteristics examined as well. Among younger children, boys were more likely than girls to have had a lot or some difficulties in functioning, while in older children, boys were only more likely to have had a lot of difficulties. While no significant differences were observed by race for children ages 2–4, Black and White children ages 5–17 were more likely than children of other race and Hispanic-origin groups to have had a lot of difficulties in functioning, and Black children were less likely to experience some difficulties in functioning. Findings by level of urbanization varied by age group and level of difficulties. A significant linear trend was seen among older children, with the prevalence of a lot of difficulties increasing as level of urbanization decreased. Significant quadratic trends were observed across children for both age groups with some difficulties. As family income increased, children of all ages were less likely to experience a lot of difficulties, and older children were more likely to experience some difficulties in functioning.

Functioning difficulties experienced within the individual domains varied by age group. Among children ages 2–4, functioning difficulties in communication, learning, behavior, and playing were among the most frequently reported. Among children ages 5–17, difficulties in anxiety, accepting change, behavior, depression, and making friends were among the highest reported.

In addition to degree of difficulty, the number of functioning domains with which children experience difficulties provides additional information on functioning burden and severity. Among children of all ages examined who had a lot of difficulties in functioning, most experienced difficulty in only one domain. While this was also true for children with some difficulties, a higher percentage reported some difficulties in multiple domains than reported a lot of difficulties in multiple domains. However, while the overall prevalence of having any level of functioning difficulties is low among children, and most children with functional difficulties experienced it in only one domain, of children ages 2–4 who had a lot of difficulties, 10.6% had a lot of difficulties in three or more domains (8.2% in three and 2.4% in four or more) (Figure 6); of those who had some difficulties, 7.2% had some difficulties in three or more domains, combined. In older children who experienced difficulties, reporting in multiple domains increased (24.1% had a lot of difficulties in three or more domains, combined, and 26.3% had some difficulties in three or more domains, combined), though the number of functional domains in CFM for children ages 5–17 is also greater.

Functioning and disability

This report provides prevalence estimates of functioning difficulties among children using CFM. These estimates of functioning are not necessarily synonymous with disability. Functioning is closely related to disability, but the relationship is dependent on how disability is conceptualized and defined. Disability is the more generic—and broadly interpreted—term, and has been conceptualized using different models over time (29). The result is that the term “disability” has no universally accepted definition and can mean different things to different people and in different contexts.

When presenting estimates of disability based on CFM using data from NHIS, NCHS has operationalized disability, often as a dichotomy, based on the severity of limitations. This is a common practice, and the categorization used is based on international standards and recommendations for cross-national comparisons by WG, which defines the overall composite indicator of

disability using the category of "a lot of difficulties" as presented in this report (30). Since 2019, this dichotomous composite disability indicator has been available in the NHIS public-use data files and online interactive data query systems (31).

Analyses comparing children with disabilities to children without disabilities require that one or more cut points be made on the continuum of functioning to identify the subgroups (much the same way that cut points are needed to create age groups from the continuum of age in years). Such determinations should be made based on the purpose and use of the analyses. However, the availability of information on the full continuum of functioning allows for the generation of several thresholds for defining disability in the population.

Both functioning and disability exist, to some degree, along a continuum. The risk of a person's participation limitation is related to the level of functioning difficulties they experience. Conceptualizing disability as the result of an interaction involving characteristics (functioning and participation) that exist on a continuum makes collecting data on disability challenging, and often results in the misinterpretation of disability data if the definition of disability being used is not clearly stated (29). For this reason, and to maximize clarity, this report uses terminology related to functioning and functioning difficulties, as opposed to disability.

To better reflect this full continuum and acknowledge the range of analytic purposes for which the CFM data may be used, NCHS is adding a composite indicator of functioning status identifying children with any functioning difficulties (using at least "some difficulty") to its online interactive NHIS data query system (32). This will supplement the current disability status composite indicator (using at least "a lot of difficulty") and provide access to prevalence estimates based on a more inclusive definition of child functioning. It will also allow for comparisons of how children with different levels of functioning difficulties fare relative to children without functioning difficulties in health outcomes measured in NHIS.

Limitations and strengths

The results in this report are subject to limitations and considerations. NHIS data on children are based on parent (or other caregiver) report and interviews are conducted either in person or by phone. Some CFM questions, such as those on relationships, anxiety, and depression, may be of a sensitive nature, and parents may not be comfortable disclosing to the interviewer (leading to social desirability bias in the resulting data). Also, parents may be unaware of their children's experiences, so their responses to these questions may differ from those collected directly from children, especially from teenagers. Cognitive testing comparing child and parent or caregiver reports using CFM have been conducted and findings suggest that agreement between child-parent dyads is high (33). Despite these limitations, NHIS has several notable strengths, including its large sample size as well as its ability to produce cross-nationally comparable estimates of functioning for children, monitor them over time, and explore differences by various subgroups. In addition, when used in conjunction with other characteristics, the NHIS child functioning data allow for comparing participation (such as in school attendance) among children with and without functioning difficulties, and associations of functioning with healthcare utilization and health-related outcomes. Further, a notable strength of this report is its focus on levels of severity of functioning difficulties prevalence that reflect a continuum.

Conclusions

This report provides the first published U.S. estimates of difficulties in functioning in children collected using CFM. The availability of data on the functional status of children has, historically, lagged behind that of adults despite the explicit need for such data, which has been reinforced by international human rights and development agreements (22,34,35). To meet this need, CFM was developed, tested, and is now endorsed for use in national population surveys. One of CFM's objectives was to capture information on the domains characterizing functioning in children that are often overlooked by question sets developed for the general population, typically those targeting adults. The developmental process in children differs from that in adults, both in terms of the types of functional domains involved and in the timing of the development processes. To address this, CFM contains two question sets, one for children ages 2–4 and one for 5–17, which cover different functional domains given the different processes experienced by younger and older children. The degree of functioning difficulty is captured in each domain using a graded response set, allowing for reporting on the severity of functioning difficulty in individual functional domains and overall when combining information across all domains, such as presented in this report.

This report is also the first to provide a U.S. prevalence of the range of functioning difficulties among children using measures from CFM. Prevalence, while informative on its own, does not address how these difficulties impact other aspects of children's lives. The CFM data available from NHIS allow for further exploration, including comparing outcomes for children with different levels of functioning difficulties with those for children without functioning difficulties.

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Table 1. Percentage of children ages 2–4 with functioning difficulties, by selected characteristics and level of functioning difficulty: United States, 2021–2023

Characteristic	Level of functioning difficulty					
	No difficulties		Some difficulties		A lot of difficulties	
	Percent (95% confidence interval)	Standard error	Percent (95% confidence interval)	Standard error	Percent (95% confidence interval)	Standard error
Total	75.1 (73.3–76.8)	0.9	20.8 (19.2–22.5)	0.8	4.1 (3.3–5.0)	0.4
Sex						
Boys	[1]70.5 (67.9–73.0)	1.3	[1]23.5 (21.2–25.9)	1.2	[1]6.0 (4.7–7.5)	0.7
Girls	80.0 (77.8–82.1)	1.1	18.0 (16.0–20.1)	1.0	2.1 (1.3–3.2)	0.5
Race and Hispanic origin						
Black or African American, non-Hispanic	72.6 (67.1–77.7)	2.6	21.4 (16.8–26.5)	2.4	6.0 (3.3–9.9)	1.6
White, non-Hispanic	75.5 (72.9–78.0)	1.3	20.9 (18.6–23.3)	1.2	3.6 (2.5–4.9)	0.6
Other and multiple race, non-Hispanic	73.9 (68.9–78.6)	2.4	22.6 (18.1–27.6)	2.4	3.4 (1.8–5.8)	0.9
Hispanic	76.1 (72.5–79.4)	1.7	19.5 (16.4–23.0)	1.6	4.4 (3.0–6.2)	0.8
Urbanization level						
Large central metropolitan	[2]75.2 (71.8–78.4)	1.6	[2]19.3 (16.5–22.5)	1.5	[3]5.4 (3.8–7.5)	0.9
Large fringe metropolitan	79.2 (76.1–82.0)	1.5	18.7 (16.0–21.7)	1.4	[4]2.1 (1.1–3.6)	0.6
Medium and small metropolitan	74.7 (71.4–77.8)	1.6	20.7 (17.9–23.8)	1.5	4.6 (3.2–6.4)	0.8
Nonmetropolitan	67.1 (61.4–72.5)	2.7	29.3 (24.3–34.7)	2.6	3.6 (1.9–6.0)	1.0
Family income as a percentage of federal poverty level (FPL)						
Less than 100% FPL	[5]68.4 (63.5–73.1)	2.4	23.2 (19.2–27.7)	2.1	[5]8.3 (5.8–11.4)	1.4
100% to less than 200% FPL	70.4 (66.1–74.4)	2.1	[6]23.9 (20.2–27.9)	1.9	5.7 (3.6–8.5)	1.2
200% FPL or more	78.8 (76.7–80.8)	1.0	18.9 (17.1–20.9)	1.0	2.3 (1.6–3.1)	0.4

[1]Significantly different from girls ($p < 0.05$).
[2]Significant quadratic trend by urbanization level ($p < 0.05$).
[3]Significantly different from large fringe metropolitan ($p < 0.05$).
[4]Significantly different from medium and small metropolitan ($p < 0.05$).
[5]Significant linear trend ($p < 0.05$).
[6]Significantly different from 200% FPL or more ($p < 0.05$).

NOTES: Functioning difficulty for children ages 2–4 is defined using responses to eight functional domains: 1) seeing, 2) hearing, 3) walking, 4) fine motor, 5) communication, 6) behavior, 7) learning, and 8) playing. "No difficulties" includes responses of "no difficulty"' to domains 1–7 and a response of "the same or less" or "not at all" to domain 8. "Some difficulties" includes any response of "some difficulty" (but no report of "a lot of difficulty" or "cannot do at all") to domains 1–7 or any response of "more" to domain 8. "A lot of difficulties" includes any response of "a lot of difficulty" or "cannot do at all" to at least one of domains 1–7 or a response of "a lot more" to domain 8. Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 2021–2023.

Table 2. Percentage of children ages 5–17 with functioning difficulties, by selected characteristics and level of functioning difficulty: United States, 2021–2023

Characteristic	Level of functioning difficulty					
	No difficulties		Some difficulties		A lot of difficulties	
	Percent (95% confidence interval)	Standard error	Percent (95% confidence interval)	Standard error	Percent (95% confidence interval)	Standard error
Total	49.2 (48.2–50.2)	0.5	37.8 (37.0–38.7)	0.5	13.0 (12.3–13.6)	0.3
Sex						
Boys	49.0 (47.6–50.4)	0.7	37.4 (36.1–38.6)	0.6	[1]13.6 (12.7–14.6)	0.5
Girls	49.4 (48.1–50.7)	0.7	38.4 (37.2–39.6)	0.6	12.3 (11.5–13.1)	0.4
Age group						
5–10	[2]51.0 (49.6–52.4)	0.7	37.5 (36.2–38.8)	0.7	[2]11.5 (10.6–12.5)	0.5
11–13	48.1 (46.1–50.1)	1.0	38.3 (36.4–40.1)	0.9	13.6 (12.3–15.0)	0.7
14–17	47.5 (45.9–49.1)	0.8	38.1 (36.6–39.5)	0.7	14.5 (13.4–15.6)	0.5
Race and Hispanic origin						
Black or African American, non–Hispanic	[3]54.2 (51.2–57.2)	1.5	[3–5]31.4 (29.0–33.9)	1.2	[4,5]14.4 (12.2–16.8)	1.1
White, non–Hispanic	[4,5]44.8 (43.4–46.1)	0.7	[4,5]41.3 (40.1–42.6)	0.6	[4,5]13.9 (13.1–14.8)	0.4
Other and multiple race, non–Hispanic	53.9 (51.1–56.6)	1.4	34.9 (32.4–37.4)	1.2	11.3 (9.7–13.0)	0.8
Hispanic	53.7 (51.9–55.5)	0.9	35.3 (33.7–36.9)	0.8	11.0 (10.0–12.1)	0.5
Urbanization level						
Large central metropolitan	[2]52.8 (51.0–54.7)	0.9	[6]35.8 (34.3–37.4)	0.8	[2]11.3 (10.1–12.6)	0.6
Large fringe metropolitan	50.2 (48.1–52.2)	1.0	38.7 (36.9–40.5)	0.9	11.2 (10.1–12.3)	0.6
Medium and small metropolitan	46.0 (44.4–47.7)	0.8	39.4 (37.8–41.1)	0.8	14.5 (13.4–15.7)	0.6
Nonmetropolitan	46.4 (43.7–49.2)	1.4	37.1 (34.8–39.5)	1.2	16.5 (14.9–18.2)	0.8
Family income as a percentage of federal poverty level						
Less than 100% FPL	[2]46.7 (44.0–49.3)	1.3	[2]34.1 (31.9–36.4)	1.1	[2]19.2 (17.1–21.5)	1.1
100% to less than 200% FPL	49.1 (47.0–51.3)	1.1	36.3 (34.3–38.3)	1.0	14.6 (13.2–16.0)	0.7
200% FPL or more	49.8 (48.6–51.1)	0.6	39.3 (38.2–40.4)	0.5	10.9 (10.2–11.6)	0.3

[1]Significantly different from girls ($p < 0.05$).
[2]Significant linear trend ($p < 0.05$).
[3]Significantly different from White children ($p < 0.05$).
[4]Significantly different from Other and multiple-race children ($p < 0.05$).
[5]Significantly different from Hispanic children ($p < 0.05$).
[6]Significant quadratic trend ($p < 0.05$).

NOTES: Functioning difficulty for children ages 5–17 is defined using responses to 12 functioning domains: 1) seeing, 2) hearing, 3) mobility, 4) self-care, 5) communication, 6) learning, 7) remembering, 8) concentrating, 9) accepting change, 10) controlling behavior, 11) making friends, and 12) affect (anxiety and depression). "No difficulties" includes responses of "no difficulty" to domains 1–11 and responses of "never" or "a few times a year" to both questions in domain 12. "Some difficulties" includes any response of "some difficulty" (but no report of "a lot of difficulty" or "cannot do at all") to domains 1–11 or any response of "monthly" or "weekly" to either of the questions in domain 12. "A lot of difficulties" includes any response of "a lot of difficulty" or "cannot do at all" to at least one of domains 1–11 or any response of "daily" to either of the questions in domain 12. Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 2021–2023.

Table 3. Percentage of children ages 2–17 with functioning difficulties, overall and by functional domain: United States, 2021–2023

Age group and functional domain	Level of functioning difficulty					
	No difficulty		Some difficulty		A lot of difficulty	
	Percent (95% confidence interval)	Standard error	Percent (95% confidence interval)	Standard error	Percent (95% confidence interval)	Standard error
2–4						
Any domain	75.1 (73.3–76.8)	0.9	20.8 (19.2–22.5)	0.8	4.1 (3.3–5.0)	0.4
Communication	81.2 (79.6–82.8)	0.8	15.9 (14.5–17.4)	0.7	2.8 (2.2–3.6)	0.4
Learning	94.5 (93.6–95.4)	0.5	4.4 (3.6–5.2)	0.4	1.1 (0.7–1.6)	0.2
Controlling behavior	96.5 (95.7–97.2)	0.4	2.5 (1.9–3.2)	0.3	1.0 (0.6–1.5)	0.2
Playing	96.4 (95.6–97.1)	0.4	2.9 (2.3–3.6)	0.3	0.7 (0.4–1.2)	0.2
Walking	98.1 (97.5–98.6)	0.3	1.7 (1.2–2.3)	0.3	0.2 (0.1–0.4)	0.1
Seeing	98.2 (97.7–98.7)	0.2	1.6 (1.2–2.2)	0.2	0.2 (0.0–0.4)	0.1
Hearing	98.2 (97.5–98.7)	0.3	1.8 (1.3–2.4)	0.3	0.1 (0.0–0.2)	0.0
Fine motor	98.6 (98.0–99.1)	0.3	1.3 (0.8–1.9)	0.3	0.1 (0.0–0.2)	0.0
5–17						
Any domain	49.2 (48.2–50.2)	0.5	37.8 (37.0–38.7)	0.5	13.0 (12.3–13.6)	0.3
Anxiety	73.2 (72.2–74.2)	0.5	20.9 (20.0–21.8)	0.5	5.9 (5.5–6.4)	0.2
Accepting change	77.1 (76.3–78.0)	0.4	18.6 (17.9–19.4)	0.4	4.3 (3.9–4.7)	0.2
Controlling behavior	84.7 (84.0–85.4)	0.3	11.9 (11.4–12.5)	0.3	3.4 (3.1–3.7)	0.2
Making friends	89.2 (88.6–89.7)	0.3	8.2 (7.7–8.7)	0.3	2.6 (2.4–2.9)	0.1
Learning	89.7 (89.1–90.2)	0.3	8.4 (7.9–8.9)	0.3	1.9 (1.7–2.2)	0.1
Concentrating	92.5 (92.0–93.0)	0.3	5.8 (5.4–6.3)	0.2	1.6 (1.4–1.9)	0.1
Remembering	91.5 (91.0–92.0)	0.3	7.0 (6.5–7.4)	0.2	1.5 (1.3–1.8)	0.1
Depression	87.7 (87.0–88.3)	0.3	10.9 (10.3–11.6)	0.3	1.4 (1.2–1.6)	0.1
Communication	92.7 (92.2–93.2)	0.3	5.9 (5.4–6.3)	0.2	1.4 (1.2–1.7)	0.1
Walking	96.2 (95.8–96.5)	0.2	2.9 (2.6–3.2)	0.2	0.9 (0.7–1.1)	0.1
Self-care	97.2 (96.9–97.5)	0.1	2.1 (1.8–2.4)	0.1	0.7 (0.6–0.9)	0.1
Seeing	94.6 (94.1–95.0)	0.2	4.9 (4.5–5.4)	0.2	0.5 (0.4–0.7)	0.1
Hearing	97.7 (97.5–98.0)	0.1	2.1 (1.9–2.4)	0.1	0.2 (0.1–0.2)	0.0

NOTES: Functioning difficulty for children ages 2–4 is defined using responses to eight functional domains: 1) seeing, 2) hearing, 3) walking, 4) fine motor, 5) communication, 6) behavior, 7) learning, and 8) playing. "No difficulties" includes responses of "no difficulty" to domains 1–7 and a response of "the same or less" or "not at all" to domain 8. "Some difficulties" includes any response of "some difficulty" (but no report of "a lot of difficulty" or "cannot do at all") to domains 1–7 or any response of "more" to domain 8. "A lot of difficulties" includes any response of "a lot of difficulty" or "cannot do at all" to at least one of domains 1–7 or a response of "a lot more" to domain 8. Functioning difficulty for children ages 5–17 is defined using responses to 12 functioning domains: 1) seeing, 2) hearing, 3) mobility, 4) self-care, 5) communication, 6) learning, 7) remembering, 8) concentrating, 9) accepting change, 10) controlling behavior, 11) making friends, and 12) affect (anxiety and depression). "No difficulties" includes responses of "no difficulty" to domains 1–11 and responses of "never" or "a few times a year" to both questions in domain 12. "Some difficulties" includes any response of "some difficulty" (but no report of "a lot of difficulty" or "cannot do at all") to domains 1–11 or any response of "monthly" or "weekly" to either of the questions in domain 12. "A lot of difficulties" includes any response of "a lot of difficulty" or "cannot do at all" to at least one of domains 1–11 or any response of "daily" to either of the questions in domain 12. Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 2021–2023.

Table 4. Percentage of children ages 2–17 with functioning difficulties, by number of functional domains: United States, 2021–2023

Age group and number of domains	Level of functioning difficulty: Some difficulties — Percent (95% confidence interval)	Some difficulties — Standard error	A lot of difficulties — Percent (95% confidence interval)	A lot of difficulties — Standard error
2–4 (8 domains)				
One or more	20.8 (19.2–22.5)	0.8	4.1 (3.3–5.0)	0.4
One	15.8 (14.4–17.3)	0.8	2.6 (2.0–3.4)	0.3
Two	3.5 (2.8–4.3)	0.4	1.0 (0.7–1.5)	0.2
Three	1.0 (0.6–1.6)	0.2	0.3 (0.1–0.7)	0.1
Four or more	0.5 (0.3–0.7)	0.1	0.1 (0.0–0.4)	0.1
5–17 (13 domains)				
One or more	37.8 (37.0–38.7)	0.5	13.0 (12.3–13.6)	0.3
One	18.2 (17.6–18.9)	0.3	7.2 (6.7–7.7)	0.2
Two	9.6 (9.1–10.2)	0.3	2.7 (2.4–2.9)	0.1
Three	5.0 (4.6–5.5)	0.2	1.2 (1.0–1.4)	0.1
Four or more	4.9 (4.6–5.3)	0.2	1.9 (1.7–2.2)	0.1

NOTES: Functioning difficulty for children ages 2–4 is defined using responses to eight functional domains: 1) seeing, 2) hearing, 3) walking, 4) fine motor, 5) communication, 6) behavior, 7) learning, and 8) playing. "No difficulties" includes responses of "no difficulty" to domains 1–7 and a response of "the same or less" or "not at all" to domain 8. "Some difficulties" includes any response of "some difficulty" (but no report of "a lot of difficulty" or "cannot do at all") to domains 1–7 or any response of "more" to domain 8. "A lot of difficulties" includes any response of "a lot of difficulty" or "cannot do at all" to at least one of domains 1–7 or a response of "a lot more" to domain 8. Functioning difficulty for children ages 5–17 is defined using responses to 12 functioning domains: 1) seeing, 2) hearing, 3) mobility, 4) self-care, 5) communication, 6) learning, 7) remembering, 8) concentrating, 9) accepting change, 10) controlling behavior, 11) making friends, and 12) affect (anxiety and depression). "No difficulties" includes responses of "no difficulty" to domains 1–11 and responses of "never" or "a few times a year" to both questions in domain 12. "Some difficulties" includes any response of "some difficulty" (but no report of "a lot of difficulty" or "cannot do at all") to domains 1–11 or any response of "monthly" or "weekly" to either of the questions in domain 12. "A lot of difficulties" includes any response of "a lot of difficulty" or "cannot do at all" to at least one of domains 1–11 or any response of "daily" to either of the questions in domain 12. Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population.

SOURCE: National Center for Health Statistics, National Health Interview Survey, 2021–2023.

Technical Notes

Definitions

Child functioning measures for individual functional domains

Accepting change—For children ages 5–17, based on responses to the question, "Does [sample child] have difficulty accepting changes in his/her routine?" Response options are: "no difficulty," "some difficulty," "a lot of difficulty," or "cannot do at all." Three categories were created based on reported level of difficulty: no difficulty, some difficulty, and a lot of difficulty (includes responses of "a lot of difficulty" and "cannot do at all").

Anxiety—For children ages 5–17, based on responses to the question, "How often does [sample child] seem very anxious, nervous or worried?" Response options are: "daily," "weekly," "monthly," "a few times a year," or "never." Three categories were created based on reported frequency of difficulty: no difficulty (which includes "a few times a year" and "never"), some difficulty (includes responses of "weekly" and "monthly"), and a lot of difficulty (includes responses of "daily").

Behavior—For children ages 2–4, based on responses to the question, "Compared with children of the same age, how much does [sample child] kick, bite or hit other children or adults?" Response options are: "not at all," "the same or less," "more," or "a lot more." Three categories were created based on reported frequency of difficulty: no difficulty (includes "not at all" and "the same or less"), some difficulty (which includes responses of "more"), and a lot of difficulty (includes responses of "a lot more"). For children ages 5–17, based on responses to the question, "Compared with children of the same age, does [sample child] have difficulty controlling his/her behavior?" Response options are "no difficulty," "some difficulty," "a lot of difficulty" or "cannot do at all." Three categories were created based on reported level of difficulty: no difficulty, some difficulty, and a lot of difficulty (includes responses of "a lot of difficulty" and "cannot do at all").

Communication—For children ages 2–4, based on responses to the questions, "Does [sample child] have difficulty understanding you?" and "When [sample child] speaks, do you have difficulty understanding him/her?" Response options are "no difficulty," "some difficulty," "a lot of difficulty," or "cannot do at all" for both questions. Three categories were created based on reported level of difficulty to both questions: no difficulty (includes responses of "no difficulty" to both questions), some difficulty (includes a response of "some difficulty" to at least one question, but no response of "a lot of difficulty" or "cannot do" to either question), and a lot of difficulty (includes a response of "a lot of difficulty" or "cannot do at all" to at least one question). For children ages 5–17, based on responses to the questions, "When [sample child] speaks, does he/she have difficulty being understood by people inside of this household?" and "When [sample child] speaks, does he/she have difficulty being understood by people outside of this household?" Response options to both questions are "no difficulty," "some difficulty," "a lot of difficulty," or "cannot do at all." Three categories were created based on reported level of difficulty to both questions: no difficulty (includes responses of "no difficulty" to both questions), some difficulty (includes a response of "some difficulty" to at least one question, but no response of "a lot of difficulty" or "cannot do" to either question), and a lot of difficulty (includes a response of "a lot of difficulty" or "cannot do at all" to at least one question).

Concentration—For children ages 5–17, based on responses to the question, "Does [sample child] have difficulty concentrating on an activity that he/she enjoys doing?" Response options are: "no difficulty," "some difficulty," "a lot of difficulty," or "cannot do at all." Three categories were created based on reported level of difficulty: no difficulty, some difficulty, and a lot of difficulty (includes responses of "a lot of difficulty" and "cannot do at all").

Depression—For children ages 5–17, based on responses to the question, "How often does [sample child] seem very sad or depressed?" Response options were, "daily," "weekly," "monthly," "a few times a year," or "never." Three categories were created based on reported frequency of difficulty: no difficulty (which includes "a few times a year" and "never"), some difficulty (includes responses of "weekly" and "monthly"), and a lot of difficulty (includes responses of "daily").

Fine motor—For children ages 2–4, based on responses to the question, "Compared with children of the same age, does [sample child] have difficulty picking up small objects with his/her hand?" Response options are: "no difficulty," "some difficulty," "a lot of difficulty," or "cannot do at all." Three categories were created based on reported level of difficulty: no difficulty, some difficulty, and a lot of difficulty (includes responses of "a lot of difficulty" and "cannot do at all").

Hearing—For all children, the hearing questions are preceded by the question, "Does [sample child] use a hearing aid?" If the response is yes, the next hearing question asks about difficulties when using the hearing aid. Therefore, the functioning indicator for the domain of hearing is evaluated with the accommodation of hearing aids.

The hearing indicator for all children is based on responses to the question, "(When using his/her hearing aid,) does [sample child] have difficulty hearing sounds like people's voices or music?" Response options are: "no difficulty," "some difficulty," "a lot of difficulty," or "cannot do at all." Three categories were created based on reported level of difficulty: no difficulty, some difficulty, and a lot of difficulty (includes responses of "a lot of difficulty" and "cannot do at all").

Learning—For all children, based on responses to the question, "Compared with children of the same age, does [sample child] have difficulty learning things?" Response options are: "no difficulty," "some difficulty," "a lot of difficulty," or "cannot do at all." Three categories were created based on reported level of difficulty: no difficulty, some difficulty, and a lot of difficulty (includes responses of "a lot of difficulty" and "cannot do at all").

Playing—For children ages 2–4, based on responses to the question,

"Compared with children of the same age, does [sample child] have difficulty playing?" Response options are: "no difficulty," "some difficulty," "a lot of difficulty," or "cannot do at all." Three categories were created based on reported level of difficulty: no difficulty, some difficulty, and a lot of difficulty (includes responses of "a lot of difficulty" and "cannot do at all").

Relationships—For children ages 5–17, based on responses to the question, "Does [sample child] have difficulty making friends?" Response options are: "no difficulty," "some difficulty," "a lot of difficulty," or "cannot do at all." Three categories were created based on reported level of difficulty: no difficulty, some difficulty, and a lot of difficulty (includes responses of "a lot of difficulty" and "cannot do at all").

Remembering—For children ages 5–17, based on responses to the question, "Compared with children of the same age, does [sample child] have difficulty remembering things?" Response options are: "no difficulty," "some difficulty," "a lot of difficulty," or "cannot do at all." Three categories were created based on reported level of difficulty: no difficulty, some difficulty, and a lot of difficulty (includes responses of "a lot of difficulty" and "cannot do at all").

Seeing—For all children, the seeing questions are preceded by the question, "Does [sample child] wear glasses?" If the response is yes, the next question asks about difficulties when wearing glasses. Therefore, the functioning indicator is evaluated with the accommodation of glasses.

The seeing indicator for all children is based on responses to the question, "(When wearing his/her glasses,) does [sample child] have difficulty seeing?" Response options are: "no difficulty," "some difficulty," "a lot of difficulty," or "cannot do at all." Three categories were created based on reported level of difficulty: no difficulty, some difficulty, and a lot of difficulty (includes responses of "a lot of difficulty" and "cannot do at all").

Self-care—For children ages 5–17, based on responses to the question, "Does [sample child] have difficulty with self-care, such as feeding or dressing him/herself?" Response options are: "no difficulty," "some difficulty," "a lot of difficulty," or "cannot do at all." Three categories were created based on reported level of difficulty: no difficulty, some difficulty, and a lot of difficulty (includes responses of "a lot of difficulty" and "cannot do at all").

Walking—For all children, the walking questions are preceded by the question, "Does [sample child] use any equipment or receive assistance for walking?" If the response is yes, the next questions are administered twice: first by asking about difficulties when using the equipment or receiving the assistance, and then again asking about difficulties when not using the equipment or receiving the assistance. The walking indicator for all children is based on responses to the questions asking about difficulties without using equipment or assistance—without accommodation.

For children ages 2–4, based on responses to the question, "(Without his/her equipment or assistance,) does [sample child] have difficulty walking?" Response options are: "no difficulty," "some difficulty," "a lot of difficulty," or "cannot do at all." Three categories were created based on reported level of difficulty: no difficulty, some difficulty, and a lot of difficulty (includes responses of "a lot of difficulty" and "cannot do at all"). For children ages 5–17, based on responses to the questions, "Without his/her equipment or assistance, does [sample child] have difficulty walking 100 yards/meters on level ground? That would be about the length of one football field." and "Without his/her equipment or assistance, does [sample child] have difficulty walking 500 yards/meters on level ground? That would be about the length of five football fields." Response options to both questions are: "no difficulty," "some difficulty," "a lot of difficulty," or "cannot do at all." Three categories were created based on reported level of difficulty to both questions: no difficulty (includes responses of "no difficulty" to both questions), some difficulty (includes a response of "some difficulty" to at least one question, but no response of "a lot of difficulty" or "cannot do" to either question), and a lot of difficulty (includes a response of "a lot of difficulty" or "cannot do at all" to at least one question).

Selected sociodemographic measures

Family income—Based on a percentage of federal poverty level (FPL), which was calculated using family income in the previous calendar year and family size using the U.S. Census Bureau's poverty thresholds (36). Three categories were used in analyses: less than 100% FPL, 100% to less than 200% FPL, and 200% FPL or more. Family income was calculated using National Health Interview Survey imputed income files to account for missing data (37–39).

Race and Hispanic origin—Based on responses to two survey questions asking about race and Hispanic origin. Children were categorized as Black non-Hispanic (subsequently, Black), White non-Hispanic (subsequently, White), other and multiple races non-Hispanic (subsequently, other and multiple races), and Hispanic. Categories shown for non-Hispanic children are for those who selected only one racial group, except for other and multiple races. Children categorized as Hispanic may be of any race or combination of races. Analyses were limited to the race and Hispanic-origin groups for which data were reliable and sufficiently powered to make group comparisons.

Urbanization—Based on the 2013 National Center for Health Statistics Urban–Rural Classification Scheme for Counties (40,41). This classification is based on metropolitan statistical area status defined by the Office of Management and Budget according to published standards that are applied to U.S. Census Bureau data. This report uses the four-level condensed urban–rural classification that is available in the public-use data set: large central metropolitan (similar to inner cities), large fringe metropolitan (similar to suburbs), medium and small metropolitan, and nonmetropolitan. Large metropolitan areas have populations of 1 million or more. Metropolitan areas with populations of less than 1 million were classified as medium (250,000–999,999 population) or small (less than 250,000 population).

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