Mental Health of Children and Young People in England, 2017

Multiple conditions and wellbeing

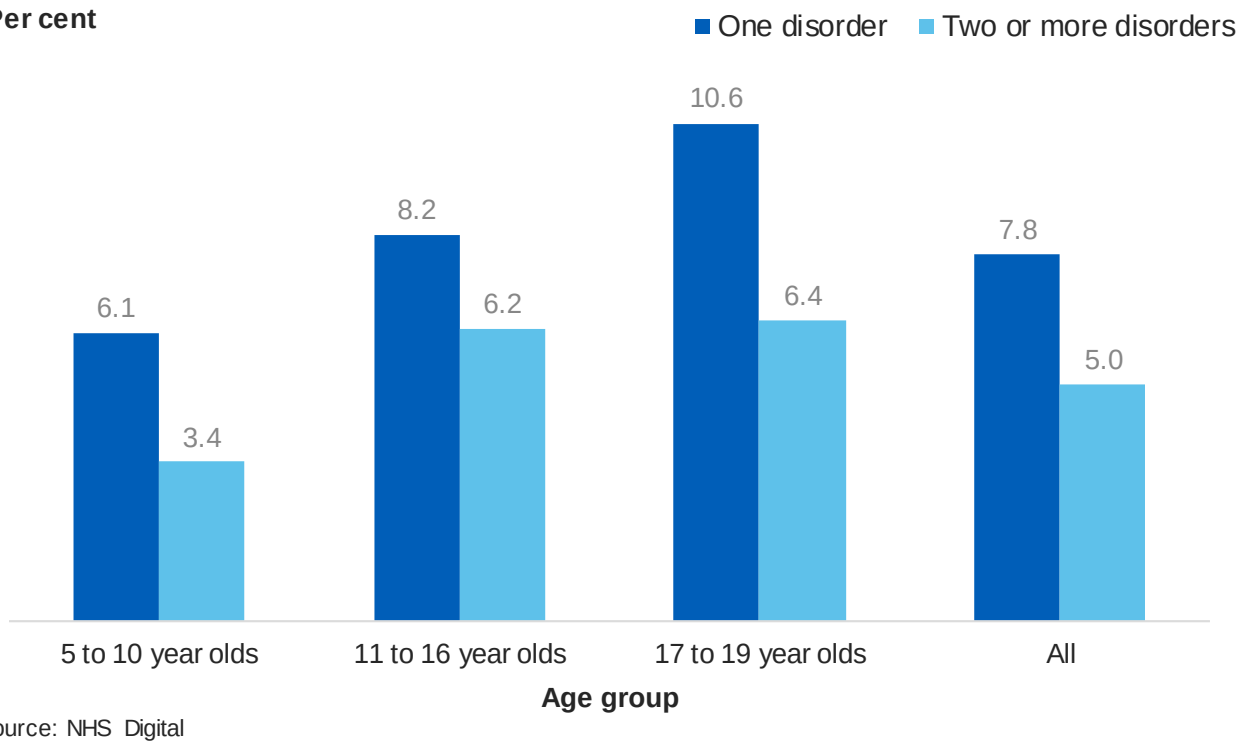
This topic report examines the multiple conditions experienced by 5 to 19 year olds in England in 2017. It presents the prevalence of two or more mental disorders as well as the comorbidity of mental disorders with physical or developmental problems and long-term illnesses, alongside rates of self-esteem and wellbeing in children and young people.

Overall, one in twenty (5.0%) 5 to 19 year olds met the criteria for two or more mental disorders at the time of the interview. In comparison, 7.8% of children had one mental disorder. Children aged 17 to 19 were more likely to have two or more mental disorders (6.4%) than 5 to 10 year olds (3.4%).

Number of mental disorders by age, 2017

Base: 5 to 19 year olds with at least one disorder

Per cent



Source: NHS Digital

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Main findings

- **Characteristics of children with two or more mental disorders:** Children living in households with the lowest household income were more likely to have two or more (comorbid) mental disorders compared to children living in households with the highest household income. Additionally, children who lived with a parent in receipt of income or disability benefits had higher rates of comorbid mental disorders when compared to other children
- **Physical and developmental problems:** Children with a mental disorder were more likely to have a physical or developmental problem (71.7%) compared to children without a mental disorder (50.5%). Rates of physical or developmental problems increased with the number of mental disorders present in children
- **Long-term illness:** Having a limiting long-term illness was associated with having a mental disorder. About one in four (25.9%) 11 to 19 year olds with a mental disorder had a limiting long-term illness, compared to about one in twenty-five (4.2%) of children without a mental disorder
- **Self-esteem and mental wellbeing:** Children with a mental disorder were more likely to have low self-esteem than children without a mental disorder (43.0% and 6.3% respectively). Mental wellbeing was lowest in children who had three or more mental disorders (mean score of 36.4) and highest in children with no mental disorders (mean score of 53.0)

Contents

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This report may be of interest to people working with children and young people in mental health, social care or educational settings, as well as to policy officials, commissioners of health and care services, and parents, young people and the general public. A profile of children and young people with multiple (comorbid) conditions is presented, alongside rates of self-esteem and wellbeing.

Acknowledgements

First of all, we thank all the children, young people, parents and teachers who so generously gave their time to participate in this survey.

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Introduction

Major surveys of the mental health of children and young people in England were carried out in 1999 (Meltzer et al., 2000), 2004 (Green et al., 2005), and 2017. The latest survey was funded by the Department of Health and Social Care, commissioned by NHS Digital, and carried out by the National Centre for Social Research, the Office for National Statistics and Youthinmind.

In each of the three surveys, the Development and Well-Being Assessment (DAWBA) was administered to a stratified probability sample of children and young people and their parents and teachers (Goodman et al., 2000). Cases were reviewed by clinically-trained raters. While many surveys use brief tools to screen for nonspecific psychiatric distress or dissatisfaction, this series applied rigorous, detailed and consistent methods to assess for a range of different types of disorder according to International Classification of Disease (ICD-10) diagnostic criteria (WHO, 1992). Comparable data is available for 5 to 15 year olds living in England in 1999, 2004, and 2017. In keeping with broadening definitions of adolescence (Sawyer et al., 2018) the 2017 sample was the first in the series to include 17 to 19 year olds. Children aged 2 to 4 were also included in the sample, however they have not been included in this topic report due to the experimental use of the DAWBA to identify mental disorders in this age group.

Comorbidity refers to the presence of two or more conditions at the same time. This topic report looks at the associations between having a mental disorder and comorbidity with:

- another mental disorder (for 5 to 19 year olds)
- a physical or developmental problem (for 5 to 19 year olds)
- a long-term illness (for 11 to 19 year olds)

This topic report also examines how comorbidity relates to self-esteem and wellbeing in 11 to 19 year olds.

As well as a Summary Report, other topic reports are available focusing on:

- Trends and characteristics
- Emotional disorders
- Behavioural disorders
- Hyperactivity disorders
- Autism spectrum, eating and other less common disorders
- Predictors of mental disorders (to be released at a later date)
- Professional services, informal support and education
- Behaviours, lifestyles and identities
- Preschool children

Further information about the survey and methods can be found in the Survey Design and Methods Report. All reports and associated tables are available at: https://digital.nhs.uk/pubs/mhcypsurvey17 .

Background

Mental disorders are complex combinations of psychological problems which often have overlapping characteristics. Individuals diagnosed with one mental disorder have substantially increased odds of meeting the criteria for at least one other disorder (Clark et al., 2017). Because of this, the presence of multiple conditions (also referred to as comorbidity) in children and young people is an important area which can have a substantial impact on a child's health and wellbeing.

Research shows there are strong associations between certain mental disorders in children. For example, anxiety and depression often appear together (Garber & Weersing, 2010) while hyperactivity disorders often co-occur with behaviour disorders and conduct disorders (Ford et al., 2003). However, identifying comorbidity of mental disorders is dependent on the classification systems used during diagnosis. This report uses the ICD-10 classification system, which does not allow for certain disorders to be diagnosed at the same time (for example anorexia and bulimia, or hyperkinetic disorder and pervasive development disorders such as autism). This will affect the rates of comorbidity and should be considered when interpreting the results in this report.

Mental disorders can also co-occur with a range of physical and developmental disorders. The presence of both a mental and physical problem can worsen health outcomes, increase severity of complications, and increase the cost of treatment (Sartorius, 2013). Research has found links between specific mental disorders and physical or developmental problems. For example, speech and language problems in children have been linked with autism (Mody & Belliveau, 2013) as well as emotional and behavioural disorders (Hollo et al., 2014). In addition, research has found that children with chronic illness are more than twice as likely to have emotional or behavioural problems (Glazebrook et al., 2003). Understanding comorbidity of mental and physical disorders is important so that more effective mechanisms for prevention and intervention can be developed to improve treatment outcomes (Merikangas et al., 2015).

As well as exploring the comorbidity of disorders, this report describes the wellbeing and self-esteem of children and young people with a mental disorder. Factors associated with mental wellbeing are often different to those associated with mental disorders (Patalay and Fitzsimons, 2016) meaning that it is important to explore the relationship between these two concepts. Self-esteem can have both positive and negative impacts on mental health. Research has found that adolescents with low self-esteem have poorer mental and physical health, worse economic prospects, and higher levels of criminal behaviour during adulthood (Trzesniewski et al., 2006). Conversely, adolescents with higher self-esteem experience fewer symptoms of anxiety, depression and attention problems over time (Henriksen et al., 2017).

Terminology

In this report, the words 'children', 'boys' and 'girls' are used, even when 17 to 19 year olds are included in the group. This is to avoid the text becoming cumbersome.

The term 'mental disorder' is also used, although we are sensitive to the negative connotations this word can have. It is used because the survey did not just screen for general mental health problems, but applied operationalised diagnostic criteria for specific disorders (see the Survey Design and Methods Report for detail).

For the purpose of this report, comorbidity is when an individual has two or more disorders or conditions at the same time. When talking about comorbidity with other mental disorders, we define comorbidity as the presence of two or more specific mental disorders. For example, a child may have an emotional disorder (such as obsessive compulsive disorder) and a behavioural disorder (such as oppositional defiant disorder). Alternatively, a child may have multiple types of emotional disorders (such as obsessive compulsive disorder and panic disorder).

The approach to defining comorbidity of mental disorders differs from previous reports in this series, which defined comorbidity of mental disorders as the presence of two or more groups of mental disorders (for example, the presence of an emotional disorder and a behavioural disorder). Furthermore, it's important to note that the definition of comorbidity of mental disorders will be driven by the classification system used in this report (ICD-10) and the rules around the presence of certain disorders at the same time. For example, some types of disorders do not allow diagnosis of other disorders (for example anorexia and bulimia cannot be diagnosed at the same time under ICD-10, with the same applying to hyperkinetic disorder and pervasive development disorders such as autism). This will affect the rates of comorbidity and should be considered when interpreting the results in this report.

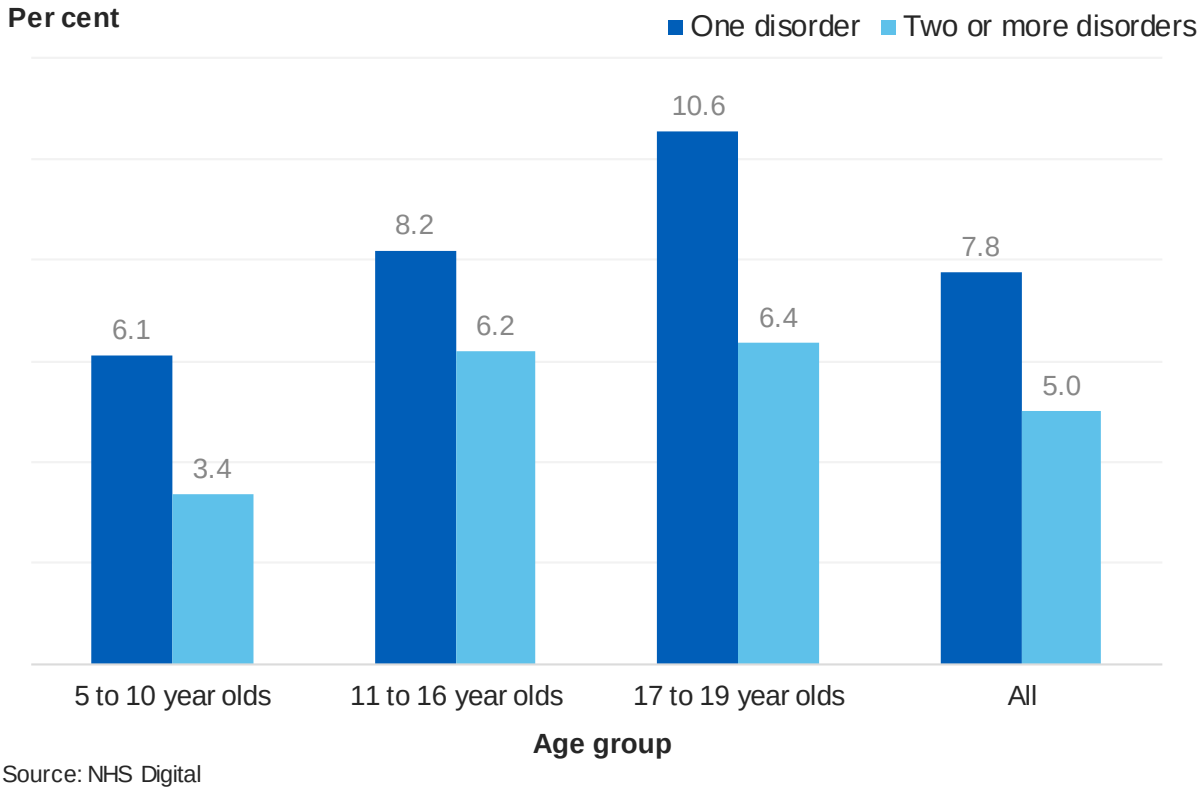
Prevalence of comorbid mental disorders

This section looks at the comorbidity of mental disorders in 5 to 19 year olds. For a child to be classified with comorbid mental disorders they had to meet diagnostic criteria for two or more specific emotional, behavioural, hyperactivity, or less common disorders around the time of the interview.

Overall, one in eight (12.8%) 5 to 19 year olds met the criteria for at least one mental disorder at the time of the interview. 7.8% of children had one mental disorder while 5.0% had two or more[1]. Children aged 17 to 19 were more likely to have two or more mental disorders (6.4%) than 5 to 10 year olds (3.4%). (Figure 1; Table 1c)

Figure 1: Number of mental disorders by age, 2017

Base: 5 to 19 year olds



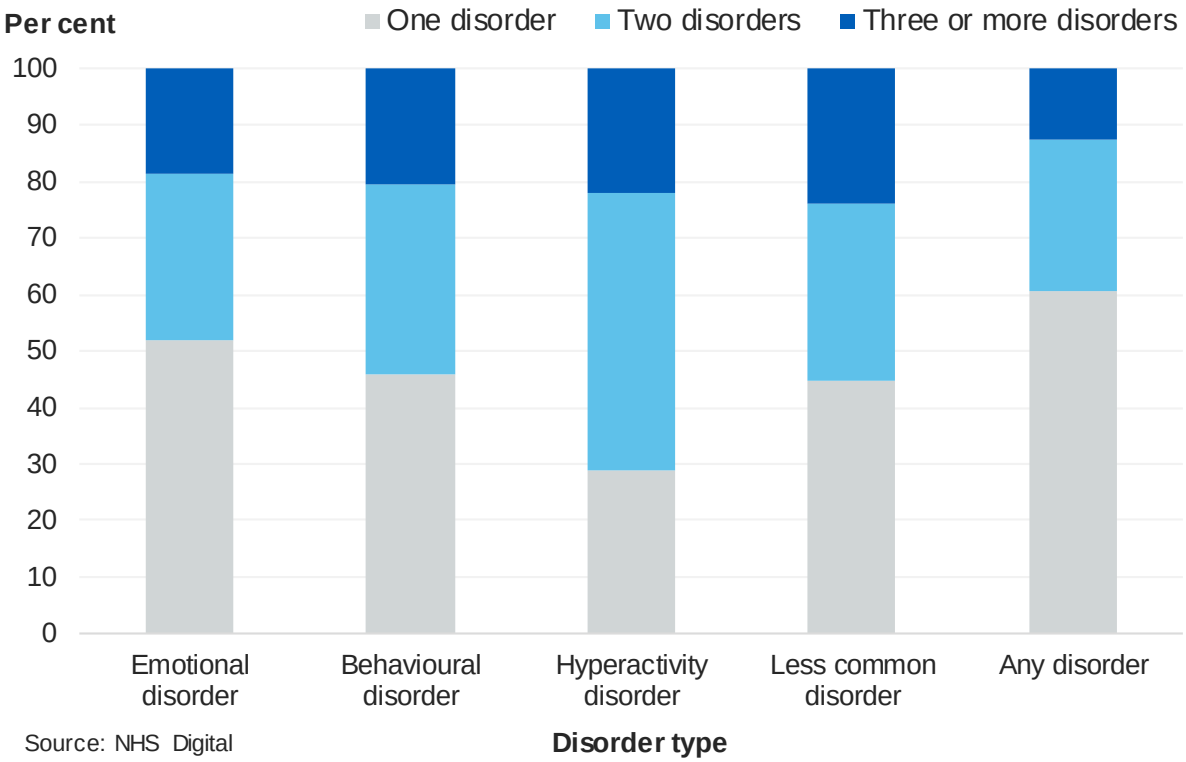
Source: NHS Digital

Of children who had a mental disorder, the majority had one mental disorder (60.7%) while 26.6% had two mental disorders and 12.7% had three or more. Of children with a hyperactivity disorder, 71.0% had two or more mental disorders. About half of children (48.2%) with an emotional disorder had two or more mental disorders, this was also true of children with behavioural disorders (54.0%) and less common disorders (55.4%). (Figure 2; Table 1b)

[1] These estimates are based on a sample and so are subject to a margin of error. For further information about accuracy see the Survey Design and Methods Report.

Figure 2: Number of mental disorders by type of disorder, 2017

Base: 5 to 19 year olds with at least one disorder



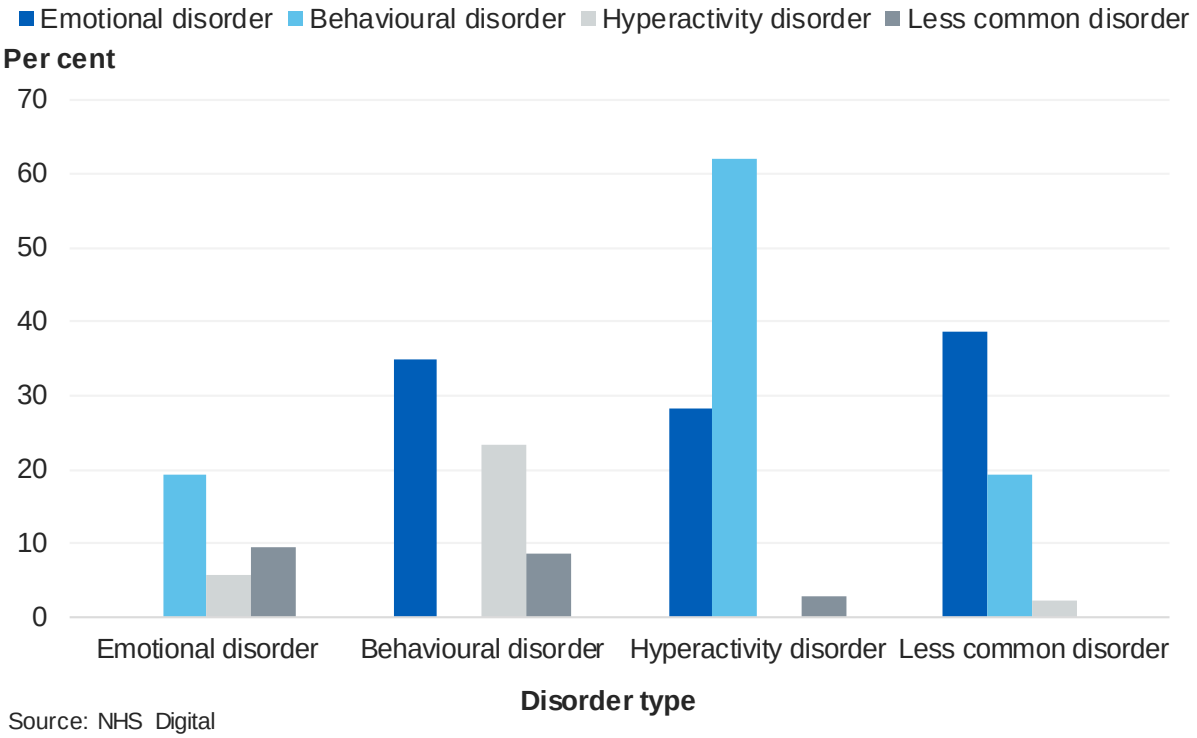
Source: NHS Digital

Almost two in three (62.2%) children with a hyperactivity disorder also had a type of behavioural disorder. Similarly, about one in five (19.2%) children with an emotional disorder and one in five (19.2%) children with a less common disorder had a behavioural disorder. More than a third (34.9%) of children with behavioural disorders had a type of emotional disorder. Similarly, 38.5% of children with less common disorders also had an emotional disorder. (Figure 3; Table 1a)

Figure 3: Comorbidity rates across mental disorder types, 2017

Base: 5 to 19 year olds

Comorbid with:



Source: NHS Digital

Footnotes

This figure presents the comorbidity rates across mental disorder types. For example, of children with an emotional disorder, it shows what proportion also had a behavioural disorder, hyperactivity disorder or less common disorder. This shows which types of disorder commonly occur together.

Characteristics of children with two or more mental disorders

This section looks the factors which were associated with comorbidity. In this context comorbidity is defined as the presence of two or more specific mental disorders. Information on comorbidity by these characteristics can be found in Tables 2a to 2j.

Demographics

Rates of comorbidity were similar across age groups, sex, and ethnic groups.

Health

Children with special educational needs had higher rates of comorbidity than other children. Children whose general health was reported as fair, bad or very bad also showed higher levels of comorbidity than other children. However, in both instances, the mental disorders may have been the special educational need or been considered as an aspect of the child's general health.

Family

Comorbidity was higher in children of parents with poor mental health compared to children of parents with good mental health. Family functioning was not associated

with comorbidity rates. As this is a cross-sectional survey, these associations cannot explain causality. While the presence of a common mental disorder in parents may contribute to the development of mental disorders in children, the presence of multiple mental disorders in children may also lead to a deterioration of the parents' mental health.

Socioeconomics

Children living in households with the lowest household income showed higher levels of comorbidity than children living in households with the highest household income. Additionally, children who lived with a parent in receipt of income or disability benefits had higher rates of comorbidity when compared to other children. Rates of comorbidity were similar across neighbourhood deprivation quintiles and regions.

Physical or developmental problems

Information was collected on physical and developmental problems experienced by children, based on a list of twenty-four different items[2]. It is possible that in some instances, the physical or developmental problem was a symptom of their mental disorder.

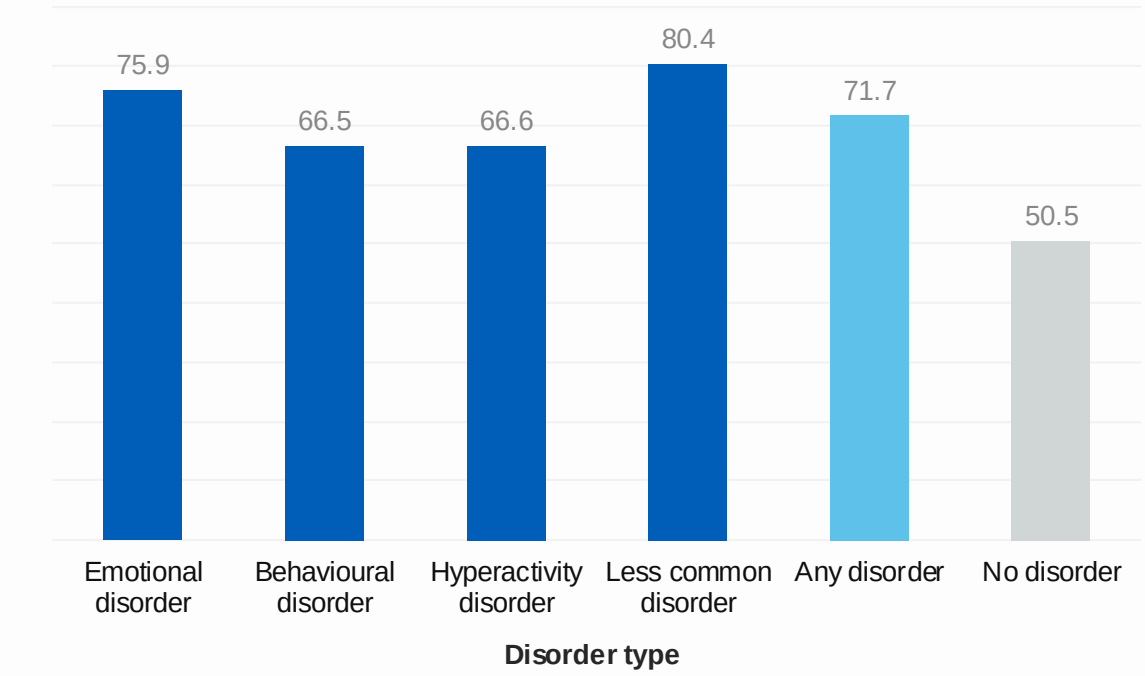
Overall, about half of children (53.1%) had at least one of the physical or developmental problems listed. The most commonly cited problems were hay fever or non-food allergy (17.8%), eczema (12.9%), eye or sight problems (11.0%) and asthma (10.9%).

Physical and developmental problems by mental disorder

Children with a mental disorder were more likely to have a physical or developmental problem (71.7%) compared to children without a mental disorder (50.5%). Rates of physical and developmental problems varied by mental disorder type, ranging from two-thirds of those with behavioural (66.5%) or hyperactivity (66.6%) disorders to 80.4% of those with other less common disorders. (Figure 4; Table 3)

Figure 4: Any physical or developmental problem by type of mental disorder, 2017

Base: 5 to 19 year olds



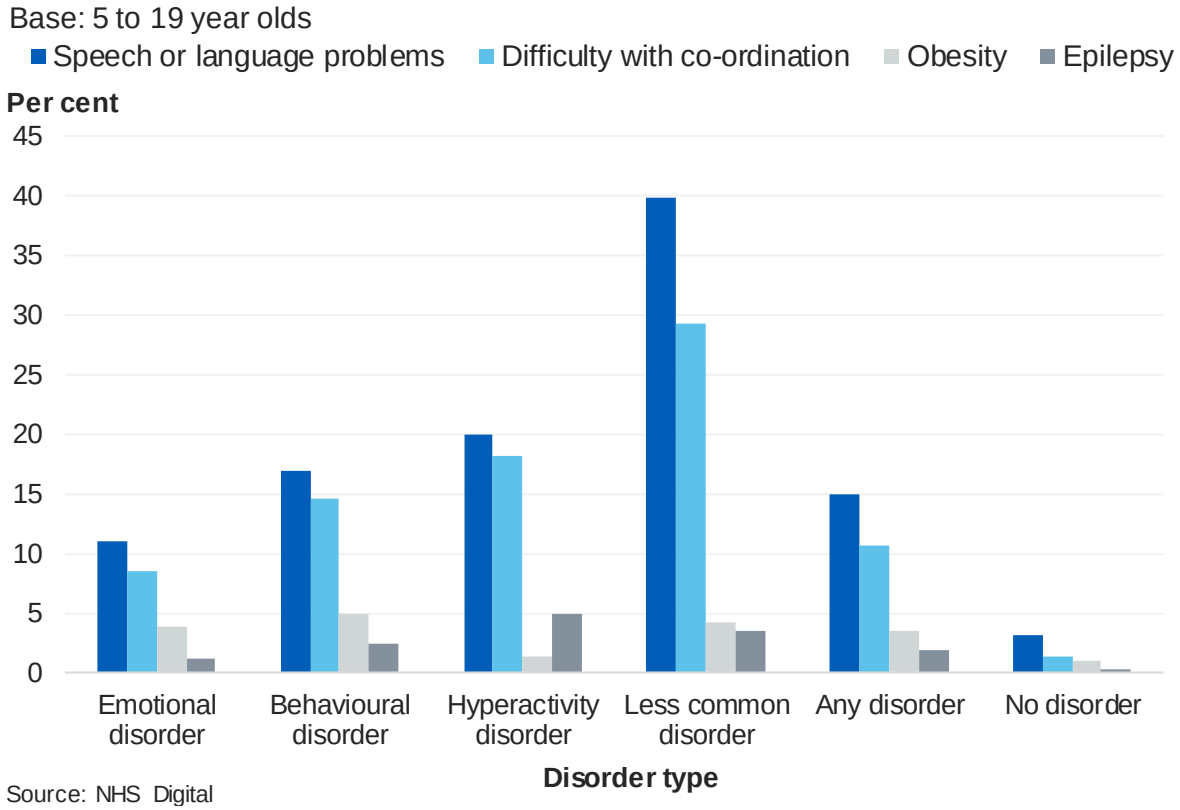
Source: NHS Digital

[2] See the definitions section for the full list.

Children with a mental disorder were over five times more likely to have epilepsy (2.0% compared to 0.4%), and about three times more likely to be obese (3.5% compared to 1.0%) than children without a mental disorder. Additionally, migraines and severe headaches were three times more common in children with a mental disorder (9.7%) than children without a mental disorder (3.0%).

Children with a mental disorder were eight times more likely to report having difficulties with co-ordination (10.6%) than those without (1.3%), and about five times more likely to have speech or language problems (14.9% compared to 3.2%). These developmental problems were observed in each type of mental disorder and were notably prominent in children with less common disorders (39.7% had speech and language problems, 29.2% had difficulty with co-ordination). Developmental problems such as difficulties with co-ordination and speech or language problems are common features of some neurodevelopmental disorders such as autism spectrum disorder (classified under less common disorders) and hyperactivity disorders. (Figure 5; Table 3)

Figure 5: Specific physical and developmental problems by type of mental disorder, 2017



Source: NHS Digital

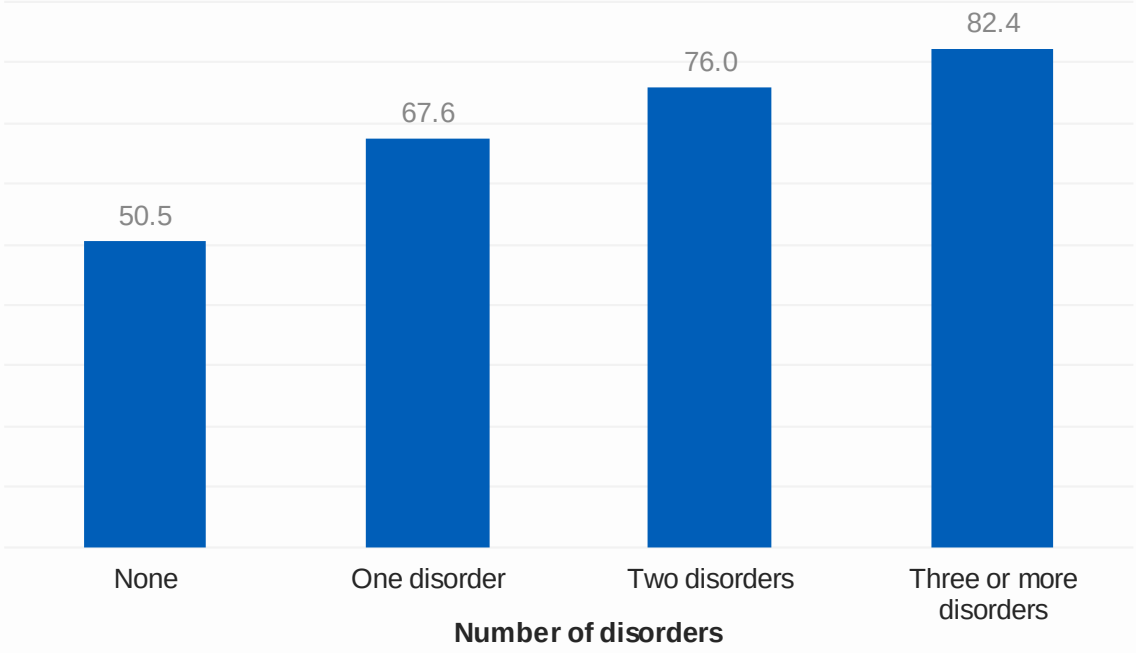
Physical and developmental problems by number of mental disorders

Rates of physical or developmental problems increased with the number of mental disorders present in children. Of children with one mental disorder, 67.6% also had a physical or developmental problem. This increased to 76.0% of children with two mental disorders, and to 82.4% of children with three or more mental disorders. (Figure 6; Table 4)

Figure 6: Any physical or developmental problem by number of mental disorders, 2017

Base: 5 to 19 year olds

Per cent



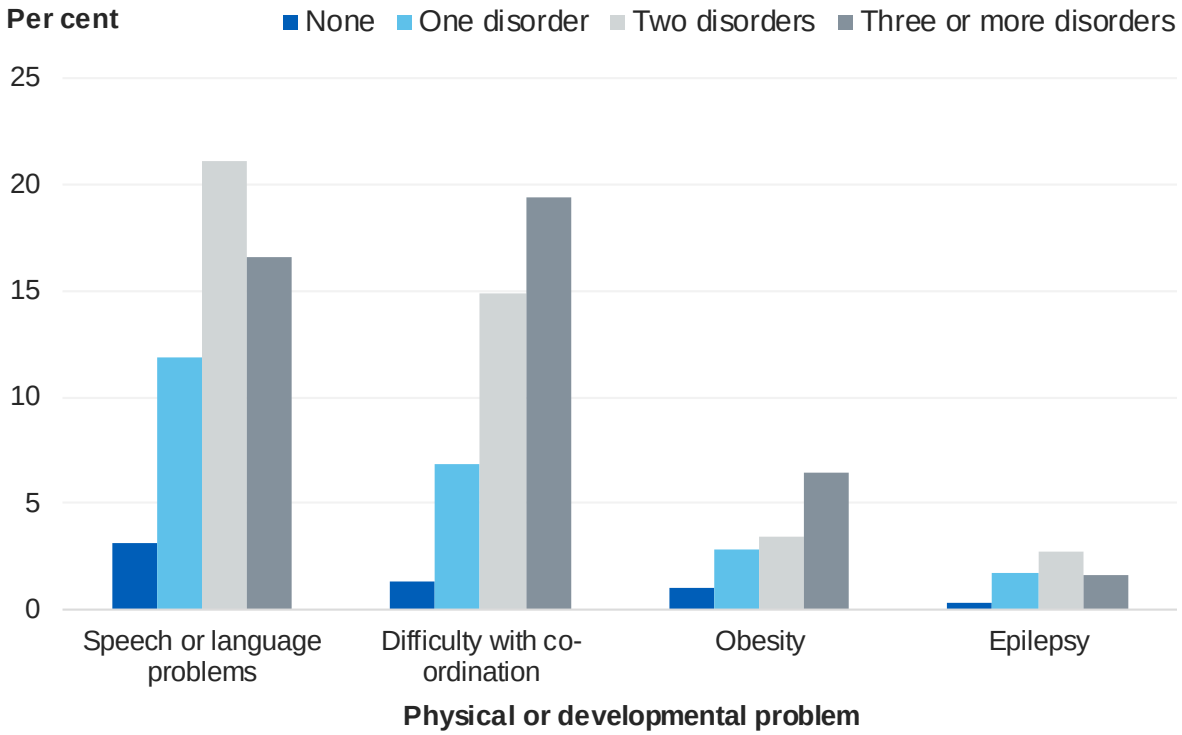
Source: NHS Digital

Obesity was about six times higher in children with three or more mental disorders compared to children without a mental disorder (6.5% and 1.0% respectively) while epilepsy was four times higher (1.6% compared to 0.4%).

Children with three or more mental disorders were fifteen times more likely to have difficulties with co-ordination than children with no mental disorder (19.4% compared to 1.3%). Similarly, problems with speech or language were five times higher in children with three or more mental disorders (16.5%) than in those without any mental disorder (3.2%). These developmental problems are features of some neurodevelopmental disorders such as autism spectrum disorder (classified under less common disorders) and hyperactivity disorders, children with these types of disorders commonly experience two or more mental disorders. (Figure 7; Table 4)

Figure 7: Specific physical and developmental problems by number of mental disorders, 2017

Base: 5 to 19 year olds



Source: NHS Digital

Long-term illness and limiting long-term illness

Children were asked whether they had a physical or mental health condition or illness that had lasted or was expected to last for 12 months or more (defined as a long-term illness). They were then asked whether their condition or illness reduced their ability to carry out day-to-day activities to determine whether the illness was limiting or not.

Overall, 7.0% of children aged 11 to 19 had a limiting long-term illness while 6.8% of children had a non-limiting long-term illness.

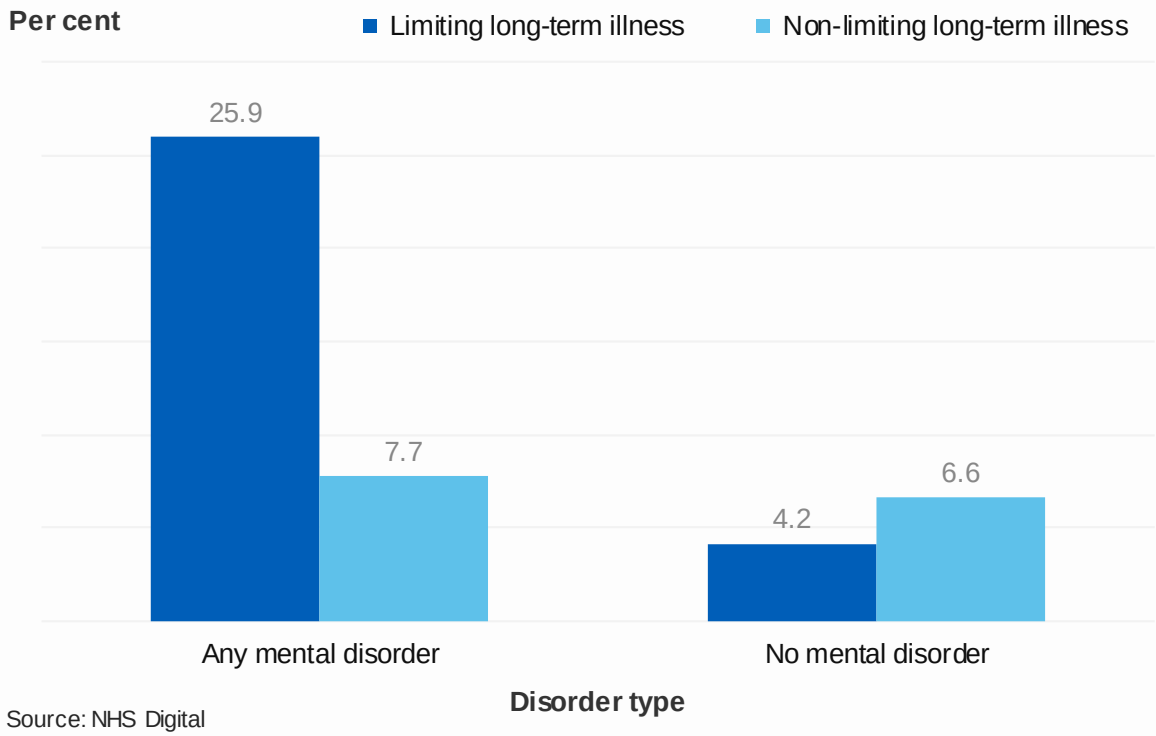
Long-term illness and limiting long-term illness by mental disorder

By type of mental disorder

Having a limiting long-term illness was associated with having a mental disorder. About one in four 11 to 19 year olds with a mental disorder had a limiting long-term illness (25.9%), compared to about one in twenty-five (4.2%) of children with no mental disorder. However, in some cases the mental disorder may also have been the long-term illness reported. In contrast, children with a mental disorder had similar levels of non-limiting long-term illness compared to children without a mental disorder. (Figure 8; Table 5)

Figure 8: Long-term illness and limiting long-term illness by any mental disorder, 2017

Base: 11 to 19 year olds



Source: NHS Digital

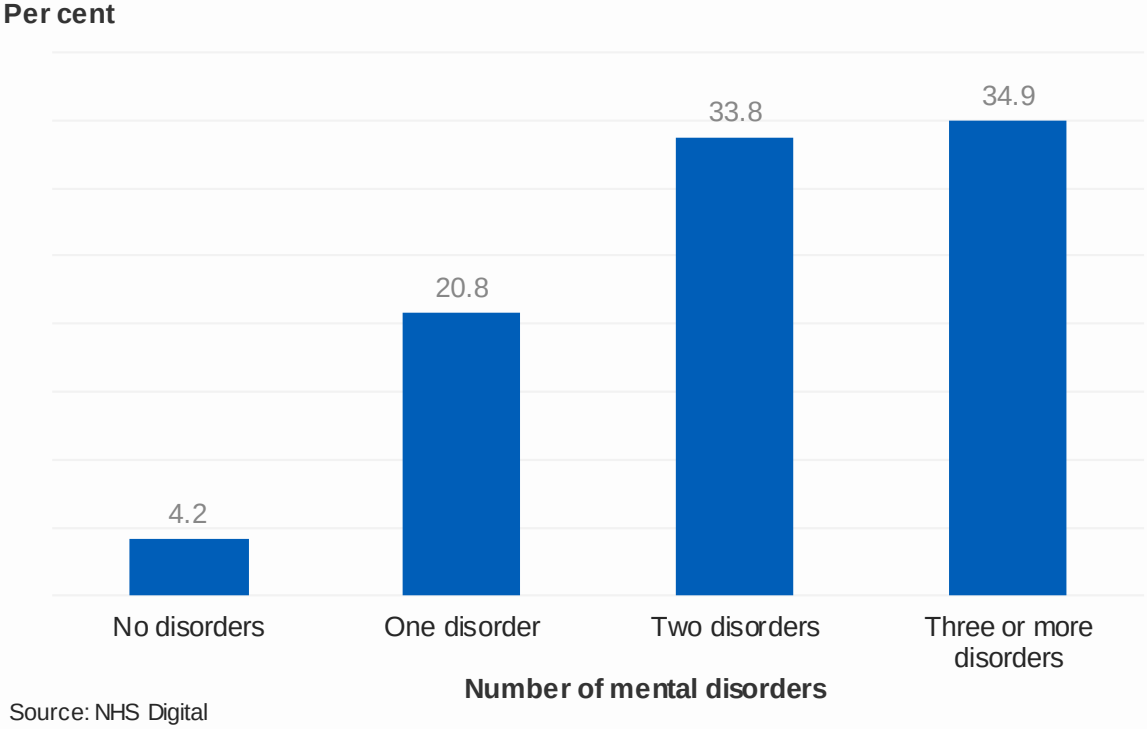
By number of mental disorders

The presence of a limiting long-term illness was associated with the number of mental disorders, and was higher among children with one or more mental disorders than children with no mental disorders. In some instances the mental disorder may also have been the long-term illness reported.

Among 11 to 19 year olds, 4.2% of children with no mental disorders had a limiting long-term illness, compared to 20.8% of children with one mental disorder. The prevalence of a limiting long-term illness was highest among children with two mental disorders (33.8%) and three or more mental disorders (34.9%). The same pattern was not evident for non-limiting long-term illnesses. (Figure 9; Table 6)

Figure 9: Limiting long-term illness by number of mental disorders, 2017

Base: 11 to 19 year olds



Source: NHS Digital

Impairments resulting from long-term illness

Children who had a long-term physical or mental health condition or illness were asked which impairments they experienced[3]. In some instances it is possible the impairment was a symptom of their long-term mental illness.

The most common impairment experienced as a result of a long-term illness was poor mental health (3.8%).

[3] Children were asked to choose from a list of ten impairments. See the Definitions section for full list.

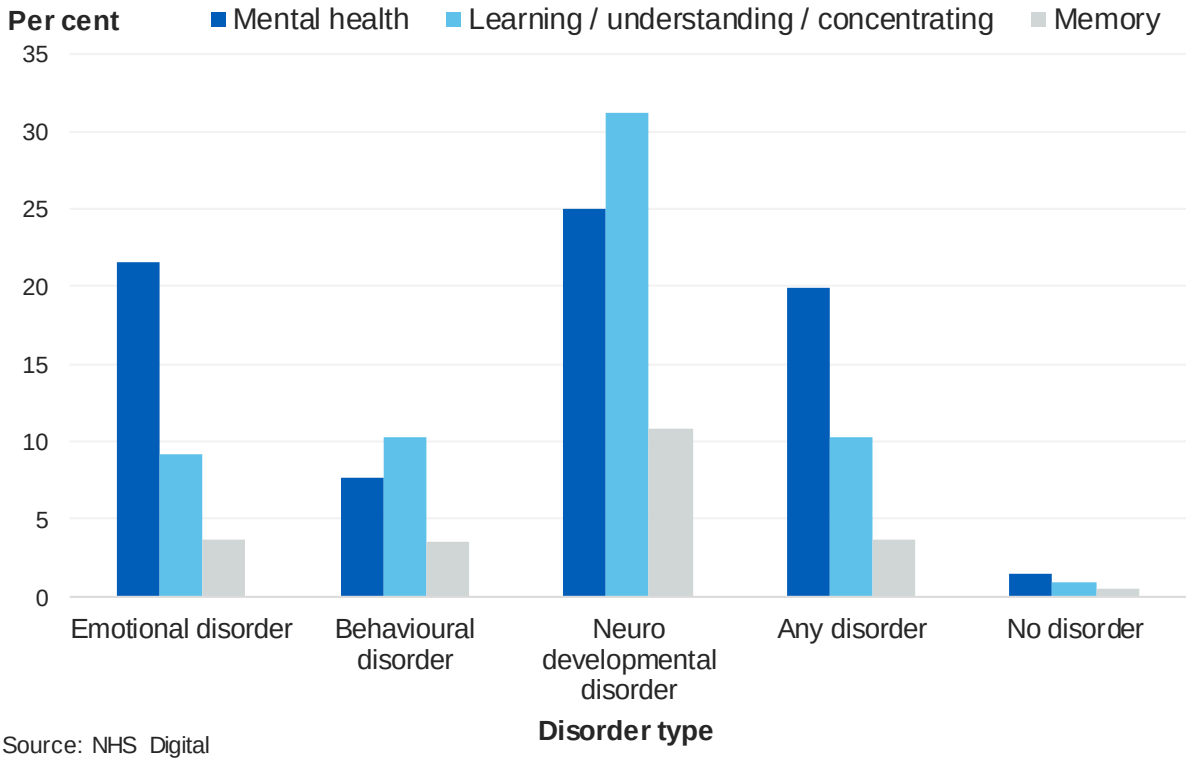
By type of mental disorder

Children with a mental disorder were more likely to experience impairments as a result of their long-term illness. As would be expected, children with a mental disorder reported higher rates of impairment to their mental health as a result of their long-term illness (19.9%).

Children with a mental disorder were about 10 times more likely to have difficulties in learning, understanding or concentrating (10.3%) than children without a mental disorder (0.9%). Of children with a neurodevelopmental disorder, almost one in three (31.2%) experienced difficulties in learning, understanding or concentrating. Additionally, about one in ten (10.9%) had issues with memory. However, some of these impairments were likely a result of the child's mental disorder. For example, difficulties with learning, understanding or concentrating as well as difficulties with memory are common symptoms of some neurodevelopmental disorders such as autism spectrum disorder and hyperactivity. (Figure 10; Table 5)

Figure 10: Specific long-term illness impairments by type of mental disorder, 2017

Base: 11 to 19 year olds



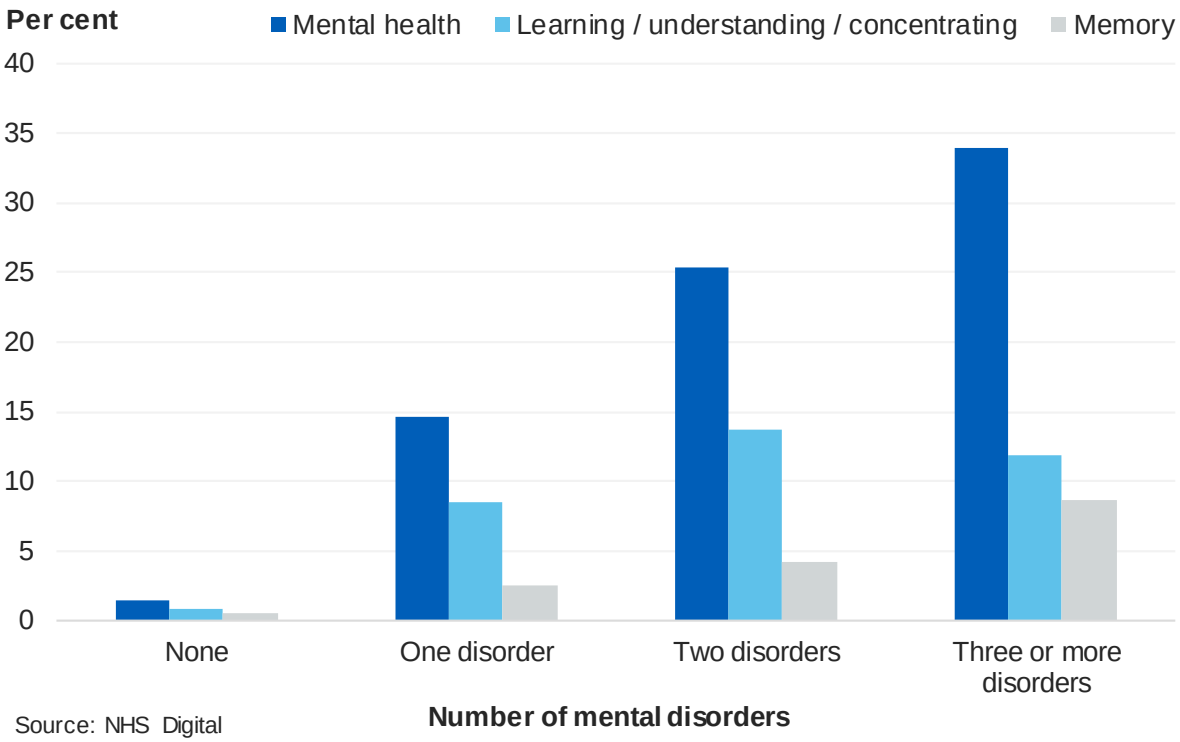
Source: NHS Digital

By number of mental disorders

Children with three or more mental disorders were about twenty-five times more likely to experience an impairment to their mental health because of their long-term illness compared to children who did not have a mental disorder (33.9% compared to 1.4%). Rates of impairments to learning, understanding, and concentrating as well as memory were also higher in children with more than one disorder. (Figure 11; Table 6)

Figure 11: Specific long-term illness impairments by number of mental disorders, 2017

Base: 11 to 19 year olds



Source: NHS Digital

Self-esteem

The Rosenberg self-esteem scale was used to measure children's self-esteem. Scores range from 0 to 30. A score below 15 was classed as low self-esteem, 15 to 25 as normal self-esteem, and a score of 26 to 30 indicated high self-esteem.

About one in ten (11.1%) children had low self-esteem, while 66.4% had normal self-esteem and 22.5% had high self-esteem. A greater proportion of girls had low self-esteem than boys (14.6% compared to 7.7%).

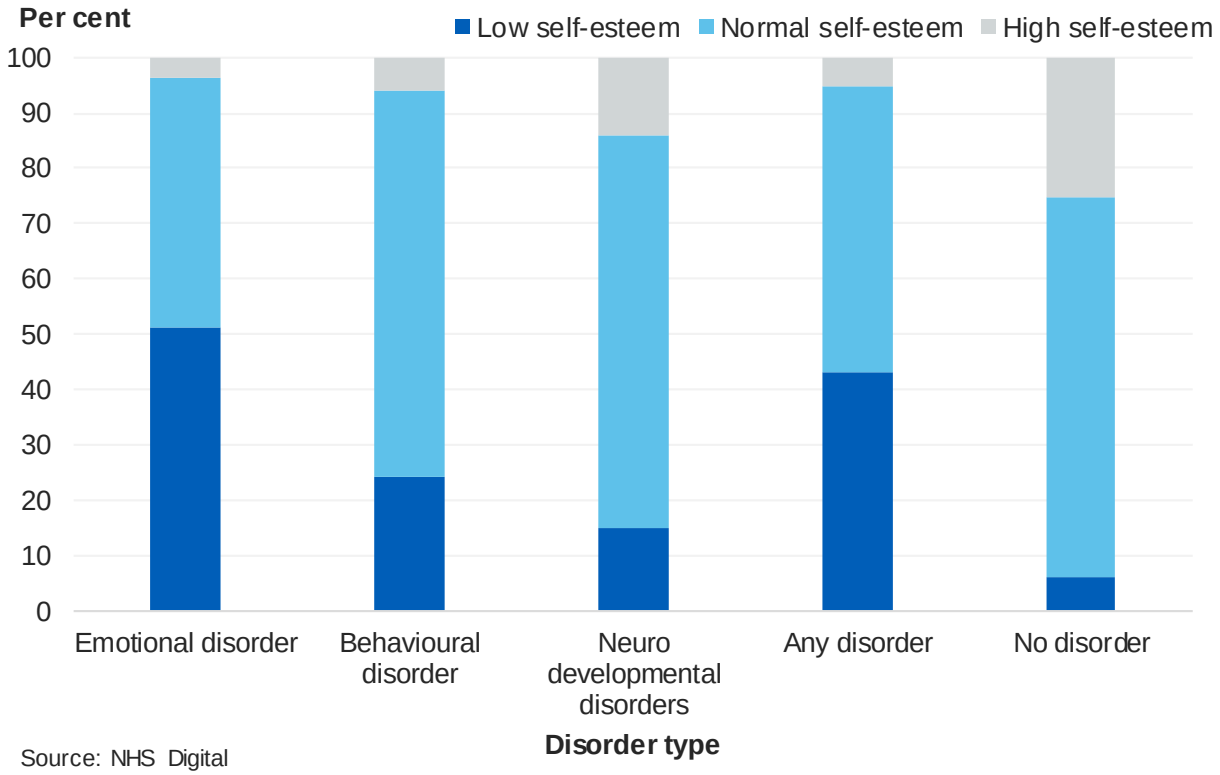
Self-esteem by mental disorders

A higher proportion of children with a mental disorder had low self-esteem compared to children without a mental disorder (43.0% and 6.3% respectively). This pattern was similar for boys and girls. Conversely, 5.2% of children with a mental disorder had high self-esteem compared to 25.1% of children without a mental disorder.

About half (51.4%) of children with an emotional disorder had low self-esteem. In comparison, 24.3% of children with a behavioural disorder and 15.0% of children with a neurodevelopmental disorder had low self-esteem. (Figure 12; Table 7)

Figure 12: Self-esteem by type of mental disorder, 2017

Base: 11 to 19 year olds



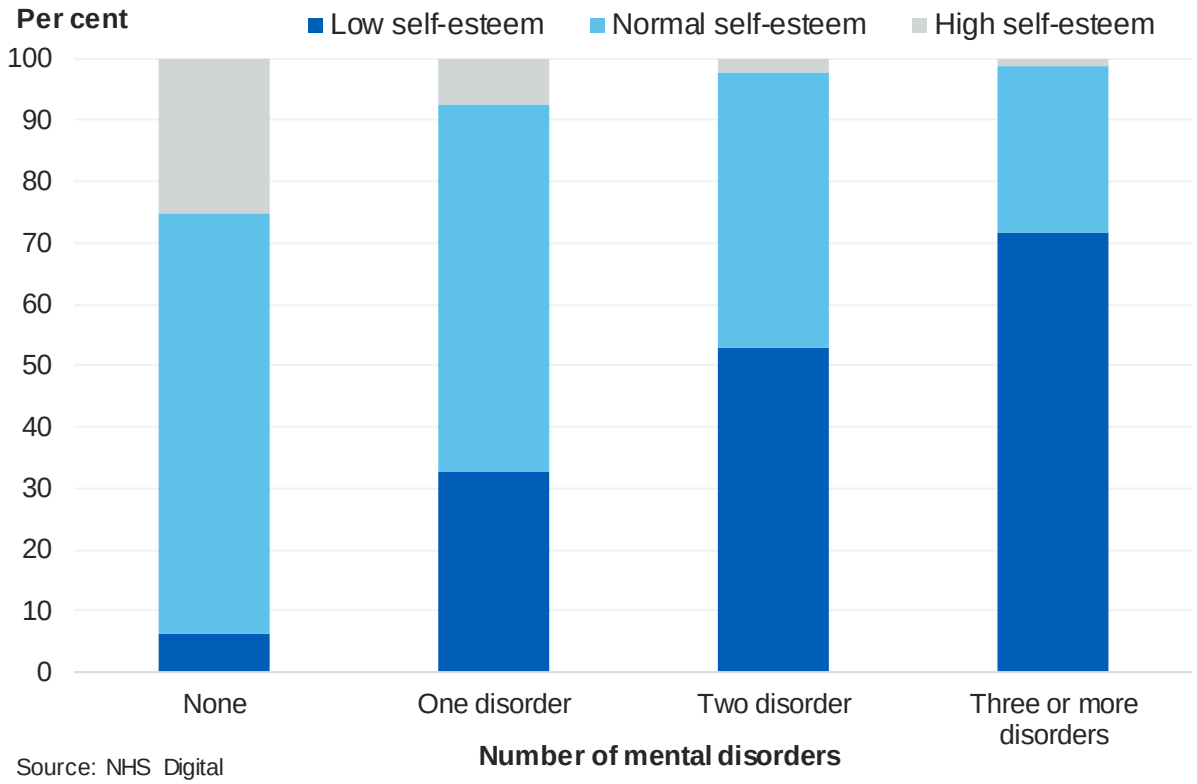
Source: NHS Digital

Self-esteem by number of mental disorders

The proportion of children with low self-esteem increased as the number of mental disorders increased. Seven in ten (71.5%) children with three or more mental disorders had low self-esteem, compared to one in three (32.7%) children with one mental disorder. In comparison, 6.3% of children with no mental disorders had low self-esteem. Conversely, 1.2% of children with three or more mental disorders had high self-esteem compared to 7.3% of children with one mental disorder and 25.1% of children without a mental disorder. (Figure 13; Table 8)

Figure 13: Self-esteem by number of mental disorders, 2017

Base: 11 to 19 year olds



Source: NHS Digital

Mental wellbeing

Mental wellbeing was assessed using the Warwick Edinburgh Mental Well-being Scale (WEMWBS). WEMWBS is a 14-item scale with five response categories, summed to provide a single score ranging from 14 to 70. A higher score indicates better mental wellbeing, reflecting more positive thoughts, behaviours and feelings.

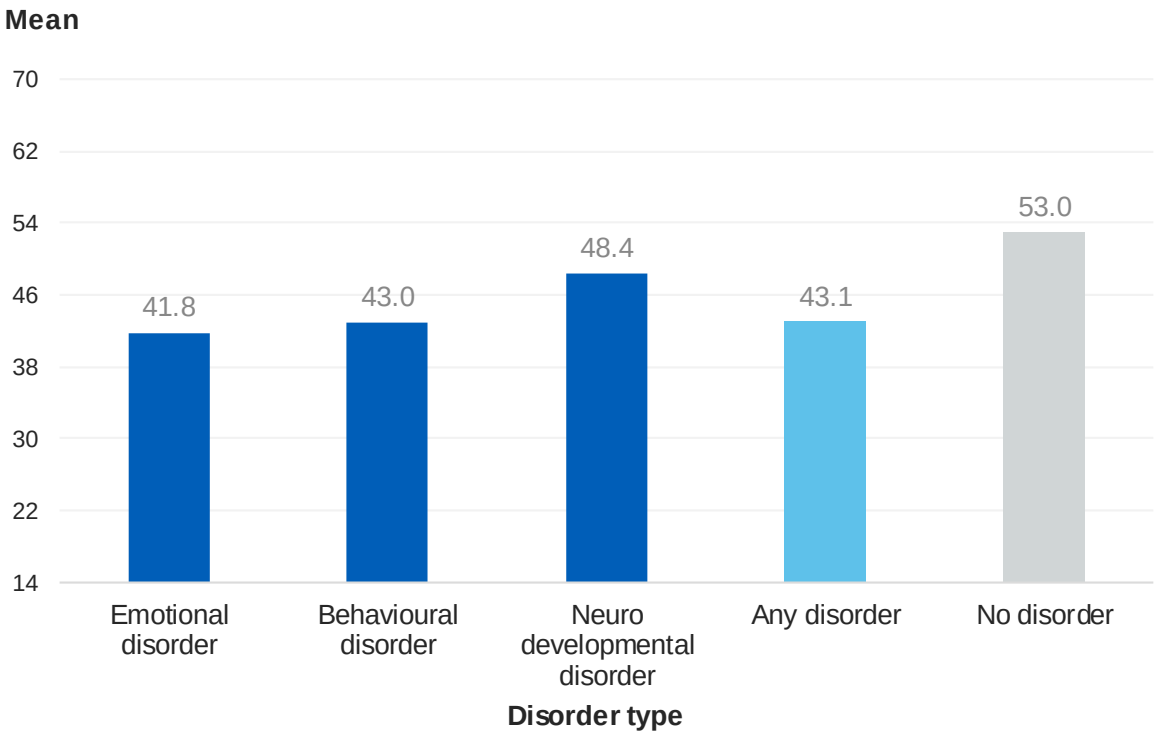
Overall, the mean wellbeing score among all 11 to 19 years olds was 51.7. Boys had a higher average wellbeing score (52.9) than girls (50.6).

Mental wellbeing by mental disorders

Children with a mental disorder had lower mental wellbeing (43.1) than children without a mental disorder (53.0); this pattern was observed across all mental disorder types. (Figure 14; Table 9)

Figure 14: Mental wellbeing scores by type of mental disorder, 2017

Base: 11 to 19 year olds



Source: NHS Digital

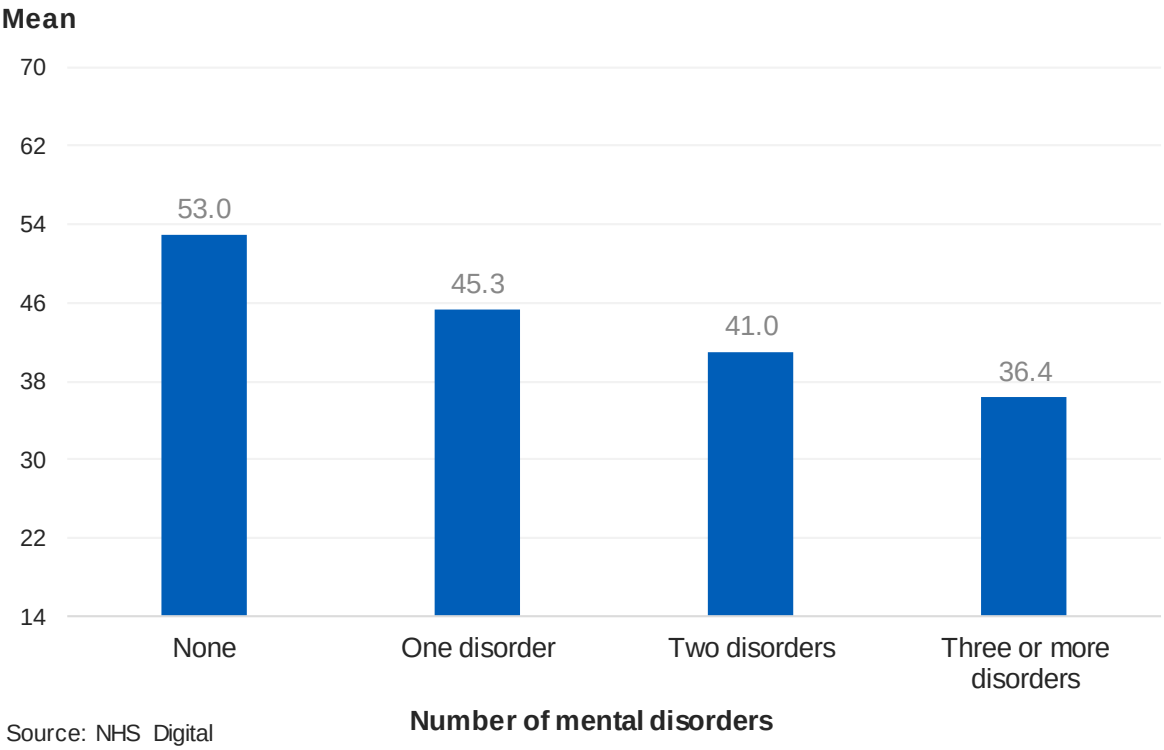
Girls with an emotional disorder had lower wellbeing than boys with an emotional disorder (41.6 compared to 42.4). This was also true for girls with a behavioural disorder (40.4 compared to 45.0).

Mental wellbeing by number of mental disorders

Mental wellbeing was lowest in children who had three or more mental disorders (36.4) and highest in children with no mental disorders (53.0). (Figure 15; Table 10)

Figure 15: Mental wellbeing scores by number of mental disorders, 2017

Base: 11 to 19 year olds



Source: NHS Digital

Discussion

This survey has found that one in twenty children and young people experienced two or more mental disorders. Classification systems such as ICD-10 (used in this report) consider mental disorders to be self-contained and distinct from each other. However, mental disorders are complex combinations of psychological problems which often have overlapping characteristics with individuals experiencing one mental disorder having substantially increased odds of having another mental disorder (Clark et al., 2017). Additionally, each disorder does not have its own clear-cut cause, instead mental health issues generally occur as a result of interactions between multiple biological, behavioural, psychosocial and cultural factors (Clark et al., 2017).

The importance of considering the associations between co-occurring mental disorders can be seen in the finding that nearly three quarters of children with a hyperactivity disorder in this survey had two or more disorders. This compared to about half of children with emotional, behavioural or less common disorders having two or more disorders. Previous research into this area has also shown that children with a hyperactivity disorder[4] often have a comorbid mental disorder (Larson et al., 2011). Furthermore, children who have comorbid hyperactivity disorders and behavioural disorders are at greater risk of adolescent and young adult antisocial activity and substance abuse (Barkley et al., 2004).

Seven in ten children with a mental disorder in this survey also had a physical or developmental problem, while one in four adolescents with a mental disorder reported a limiting long-term physical or mental illness. The link between mental and physical health is complex, and may differ depending on the mental disorder and physical condition experienced. It is also possible that the stress of living with a long-term illness can adversely affect mental health. For instance, some conditions may require painful, intrusive, complicated or time-consuming treatment regimes. The findings from this report show the importance of considering mental and physical health together, as recognised in the Five Year Forward View of Mental Health (Mental Health Taskforce, 2016) which highlighted the importance of an integrated approach to mental and physical health.

Self-esteem can have both a positive and negative impact on mental health. This survey showed that one in twenty children with a mental disorder had high self-esteem, compared to one in four children without a mental disorder. Research has shown that high self-esteem can serve as a protective buffer against the impact of negative influences (Mann et al., 2004), and that adolescents with high self-esteem suffer fewer symptoms of anxiety, depression and attention problems over time (Henriksen et al., 2017). Conversely, low self-esteem is considered to be a risk factor for mental health. Trzesniewski et al. (2006) found that adolescents with low self-esteem had more mental health problems during adulthood than those with high self-

[4] This topic report defines hyperactivity disorder in line with the ICD-10 definition of hyperkinetic disorder. Other research into hyperactivity disorder often uses the DSM classification of Attention Deficit Hyperactivity Disorder. See the Hyperactivity topic report for further information.

esteem. Furthermore, children with low self-esteem are more likely to develop major depression and anxiety (Sowislo & Orth, 2013).

Finally, this report revealed that children with a mental disorder had lower mental wellbeing compared to children who did not have a mental disorder. Although wellbeing and mental health are often considered to have a strong relationship, research has shown that the factors associated with each concept are often different, reflecting the importance of considering them separately (Patalay & Fitzsimons, 2016). While it is still unclear how wellbeing and mental illness relate to each other, as highlighted in the 2013 Annual Report of the Chief Medical Officer (Davies, 2014), the results from this survey suggest that this area would benefit from further research.

Methods

The Mental Health of Children and Young People (MHCYP) survey was conducted with 5 to 15 year olds living in Britain in 1999 and 5 to 16 year olds living in Britain in 2004. The 1999 and 2004 surveys sampled from Child Benefit records. For the 2017 survey a stratified multistage random probability sample of 18,029 children was drawn from NHS Patient Register in October 2016. Children and young people were eligible to take part if they were aged 2 to 19, lived in England, and were registered with a GP. Children, young people and their parents were interviewed face-to-face at home using a combination of Computer Assisted Personal Interview (CAPI) and Computer Assisted Self Interview (CASI), between January and October 2017. A short paper or online questionnaire was completed by a nominated teacher for children aged 5 to 16 years old. Data collection varied with the selected child's age:

- 2 to 4 year olds: parent interview
- 5 to 10 year olds: parent interview and teacher interview
- 11 to 16 year olds: parent interview, child interview and teacher interview
- 17 to 19 year olds: young person interview and parent interview (if parent present at the same address)

Furthermore, prevalence estimates for 5 to 16 year olds were adjusted slightly upwards with a factor designed to take account of the fact that only some of this age group had data from teachers. See the Survey Design and Methods Report for detail about the calculation and application of adjustment factors.

Productive interviews (involving one or more participants in each household) were achieved for 9,117 children (1,463 2 to 4 year olds; 3,597 5 to 10 year olds; 3,121 11 to 16 year olds; 936 17 to 19 year olds), and 3,595 teachers (54% of eligible children). The survey included the detailed and comprehensive Development and Well-Being Assessment (DAWBA). This allowed the assessment of emotional, hyperactivity, behavioural and less common disorders, like autism. After interviews were complete, eleven trained clinical raters reviewed the data to reach disorder codings for each participant. Raters applied the diagnostic criteria for specific disorders set out in the tenth International Classification of Disease (ICD-10) (WHO, 1992) and the Diagnostic and Statistical Manual of Mental Disorders (DSM5) (APA, 2013).

The 2017 survey was designed to be comparable with the 1999 and 2004 surveys. This included the continued use of the DAWBA, use of ICD-10, and consistent timing of data collection. However, some differences in design have taken place which may affect comparability with previous survey results, including that the 2017 survey:

- Sampled from the NHS Patient Register, whereas the 2004 and 1999 surveys sampled from Child Benefit records
- Included 2 to 4 and 17 to 19 year olds for the first time
- Response rate (52%) was lower than that for the previous surveys

- Covered England, while previous surveys in the series covered Britain. Analyses of 1999 and 2004 data presented in this report have been run on participants aged 5 to 15 years old living in England only to maintain comparability in trends

The 2017 interviews and analyses are based on participants' age at 31 August 2017, with participants grouped with their peers in terms of school year.

Definitions

Mental disorder

Mental disorders were identified on the survey according to the standardised diagnostic criteria in the tenth edition of the International Classification of Diseases (ICD-10). Specific mental disorders were grouped into four broad categories: emotional, behavioural, hyperactivity and other less common disorders. While some of the symptoms covered in this report may be present in many children, to count as a disorder they had to be sufficiently severe to cause distress to the child or impair their functioning (WHO, 1993).

Figure 16: Disorders included and excluded in trend measures

Any mental disorder						
Disorder categories	**Emotional disorders**			**Hyperactivity disorders**	**Behavioural (or 'conduct') disorders**	**Other less common disorders**
Disorder subgroups	*Anxiety disorders*	*Depressive disorders*	*Bipolar affective disorder*			
Specific disorders (included in trend measures)	Separation anxiety disorder Generalised anxiety disorder Obsessive compulsive disorder Specific phobia Social phobia Agoraphobia Panic disorder Post-traumatic stress disorder Other anxiety	Major depressive episode Other depressive episode		Hyperkinetic disorder Other hyperactivity disorder	Oppositional defiant disorder Conduct disorder confined to family Unsocialised conduct disorder Socialised conduct disorder Other conduct disorder	Autism spectrum disorder Eating disorder Tics Selective mutism Psychosis
Specific disorders (added since 1999, so excluded from trend measures)	Body dysmorphic disorder (added in 2017)[1]		Bipolar affective disorder Mania (Both added in 2004)			Attachment disorder (added in 2004) Feeding disorder Sleep disorder Eliminating disorder (all added in 2017)

[1] Body dysmorphic disorder was assessed using the Diagnostic and Statistical Manual of Mental Disorders (DSM) version 5 criteria.

Emotional disorders

Emotional disorders include a range of different types of **anxiety disorder** (characterised by fear and worry), **depressive disorder** (characterised by sadness, loss of interest and energy, and low self-esteem) and a small number of cases of **mania** and **bipolar affective disorder**.

Behavioural (conduct) disorders

A group of disorders characterised by repetitive and persistent patterns of disruptive and violent behaviour in which the rights of others, and social norms or rules, are violated. The umbrella term used in ICD-10 is conduct disorders, in this report we have used the term 'behavioural disorders' to avoid confusion with the sub-types of disorder included in the survey.

Hyperactivity disorders

These are characterised by developmentally inappropriate levels of inattention, impulsivity, and hyperactivity.

Less common disorders

A number of less common mental and neurodevelopmental conditions were also identified on the survey. These included: autism spectrum disorders (ASD), eating disorders, tic disorders, and a number of very low prevalence conditions such as psychosis, stereotypic movement disorder, selective mutism, and attachment disorders. Feeding, sleeping, and toileting disorders were also assessed in the preschool population.

Neurodevelopmental disorders

Due to the base size for the hyperactivity disorders and/or less common disorder groups falling below 50 cases for some analyses, some of these disorders have been combined for some sections of this report. Practitioners often apply the term neurodevelopmental disorder to refer to the combination of hyperactivity disorders, autism spectrum disorder (ASD), tic disorder, and stereotypic disorder.

Eating disorder, selective mutism, psychosis, and attachment disorder are not considered neurodevelopmental disorders and not included in this combined category.

Analysis variables

Ethnic group

Ethnic group was self-reported directly by children and young people aged 11 or more, and by parents for children aged 10 or under.

Special educational needs

Presence of special educational needs was based on information provided by the interviewed parent for children aged 2 to 16 and for young people aged 17 to 19.

Child's general health

Young people aged 17 and over rated their own general health. For children aged 16 and under, the interviewed parent rated their child's general health.

Parental mental health

The mental health of the interviewed parent or guardian (usually the mother), was assessed using the GHQ-12. Scores range from 0 (no psychological distress) to 12 (severe psychological distress). A score of 4 or more has been used to indicate the presence of a common mental disorder.

Family functioning

Family functioning was measured using the General Functioning Scale of the McMaster Family Activity Device (FAD). It comprises 12 statements that parents rate on a four point scale. A score was derived. A score above 2 was considered to indicate 'unhealthy' family functioning.

Equivalised household income

An estimate of overall household income was established by means of a showcard, and was adjusted to reflect the number and ages of people living in the household. For further details please refer to the Survey Design and Methods Report.

Welfare benefits

A household was classified as in receipt of 'low income benefits' if any resident adult with parental responsibility for the child reported being in receipt of any of the following: Housing Benefit, Working Tax Credit, Income Support, Universal Credit (UC), Job Seekers' Allowance, or Pension Credit. Child Tax Credit did not count as the eligible income threshold for this is higher. While UC could be received for disability-related reasons this was not distinguishable in the data collected.

A household was classified as in receipt of 'disability-related benefits' if an adult with parental responsibility for the sample child received any of: Disability Living Allowance, Carer's Allowance, Employment and Support Allowance, Personal Independence Payment, Industrial Injuries Disablement Benefit, Severe Disablement Allowance, Incapacity Benefit, Armed Forces Compensation Scheme, or Attendance Allowance.

Neighbourhood deprivation

The Index of Multiple Deprivation (IMD) 2015 combines a number of indicators, chosen to cover a range of economic, social and housing issues, into a single deprivation score for each small area in England. This allows each area to be ranked relative to others according to their level of deprivation. In this report quintiles of IMD are used to give an area-level measure of socioeconomic status, as opposed a household-level measure. For further details about IMD please refer to the Survey Design and Methods Report.

Region

The regional measure in this topic report was based on the former Government Office Regions. They were identified as being the most local level of geography possible for statistical analysis due to the survey design.

Physical and developmental problems

Parents, children and young people were presented with a list of twenty-four different types of physical or developmental problems and asked which they had:

- Asthma
- Eczema
- Hay fever
- Glue ear or otitis media, or having grommets
- Bed wetting
- Soiling pants
- Stomach/ digestive problems or abdominal/ tummy pains
- A heart problem
- Any blood disorder
- Epilepsy
- Food allergy
- Food intolerance
- Some other allergy
- Hyperactivity
- Behavioural problems
- Emotional problems
- Learning difficulties
- Dyslexia
- Cerebral palsy
- Migraine or severe headaches
- The Chronic Fatigue Syndrome or M.E
- Eye/sight problems
- Speech or language problems
- Hearing problems

Long-term illness impairments

Children and young people were presented with a list of ten types of physical or developmental problems and asked which they had experienced as a result of their long-term illness:

- Mental health
- Stamina, breathing, fatigue
- Vision
- Learning, understanding, concentrating
- Mobility
- Memory
- Socially or behaviourally
- Dexterity
- Hearing
- Other

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