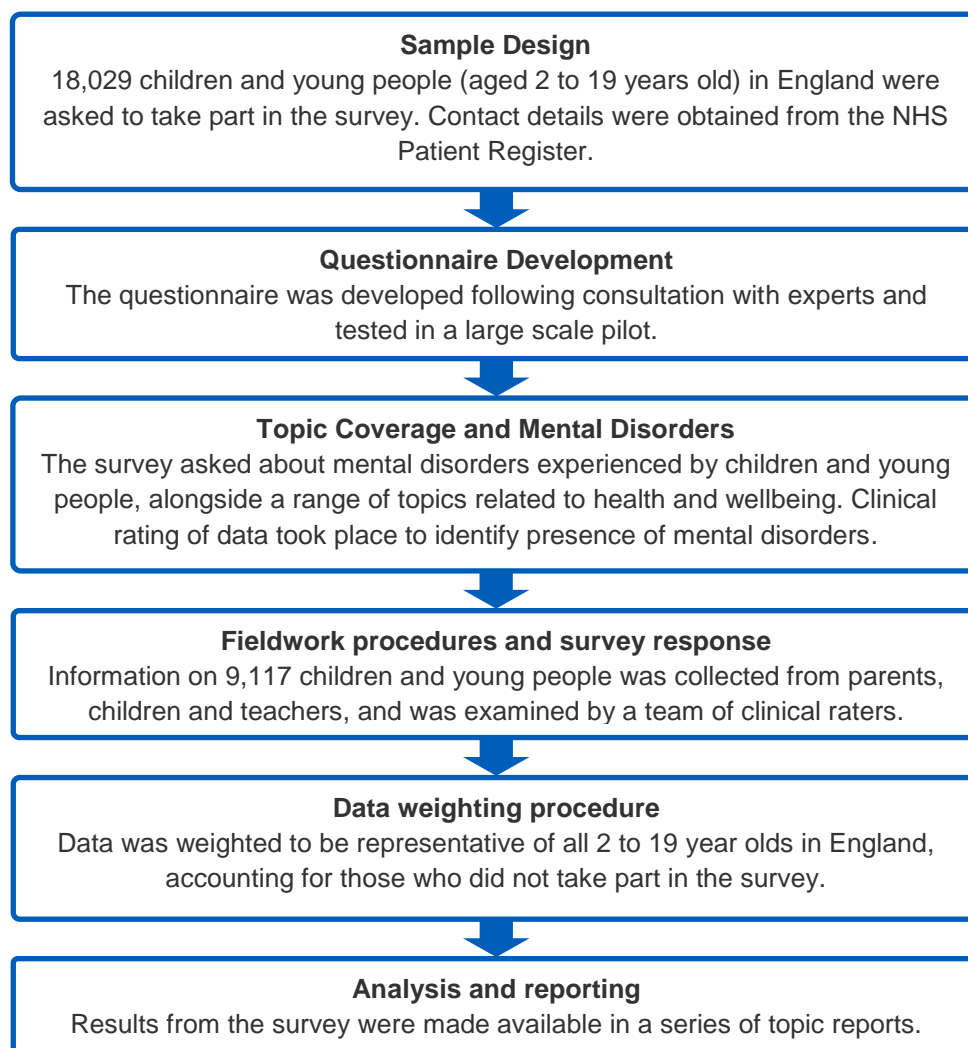


Mental Health of Children and Young People in England, 2017

Survey Design and Methods Report

This report provides a description of the survey methodology used on the Mental Health of Children and Young People survey 2017. This report contains information on the strengths and limitations of the survey, how the survey was designed and conducted, and how the results should be interpreted.



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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. This report provides information that will be useful for researchers carrying out secondary analysis or looking to replicate the results.

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

Running a national survey relies on the expertise of many people. We thank the professional and committed interviewers, operations department, computing, statistical, and survey and data management staff based at the National Centre for Social Research (NatCen) and the Office for National Statistics (ONS).

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NHS Digital commissioned the survey series with funding from the Department of Health and Social Care. We are particularly grateful to Dan Collinson, Alison Neave, Steven Webster, Jane Town, Ben Osborne and Kate Croft for their thoughtful engagement throughout.

Summary

The Survey of the Mental Health of Children and Young People 2017 (MHCYP) is the third in a series of national surveys of the mental health of children and young people. Each survey involved interviewing a large stratified probability sample of children and young people, and their parents and teachers. In the 2017 survey, children and young people were eligible if they were aged 2 to 19, they lived in England, and were registered with a GP.

For 2 to 10 year olds, an interview was conducted with the parent or legal guardian only (referred to as parents throughout this report). For 11 to 16 year olds an initial interview with the parent or legal guardian was followed by an interview with the child. Young people aged 17 to 19 were interviewed directly; as was their parent if the young person and parent agreed. Teachers also completed an online or paper questionnaire about 5 to 16 year olds, where consent was provided.

The detailed and comprehensive Development and Well-Being Assessment (DAWBA) (Goodman et al., 2000) was used to assess a range of mental health conditions, including emotional, hyperactivity, behavioural and less common disorders, like autism. After interviews had been completed, trained clinical raters reviewed the data collected to assess for a range of mental disorders for each participant.

The questionnaire also covered many aspects of people's lives that are linked to mental health, and this information can be used to profile the circumstances of children and young people with mental disorders.

Aims and rationale for the survey

- To collect robust data on a range of topics relating to the mental health of children and young people
- To estimate what proportion of children and young people in England are living with a mental disorder (and the types of mental disorders experienced)
- Produce trends in disorders through comparisons with previous surveys in the series
- Enable the circumstances of children and young people with different mental disorders to be compared with those of children and young people without
- Improve understanding of the state of children and young people's mental health and wellbeing
- Inform the design of mental health services for children and young people

Design strengths

- **Sampling from the NHS Patient Register provided a comprehensive sample of children and young people aged 2 to 19 in England.** This meant a representative sample of children and young people could be drawn within a cluster of postcode sectors across England, leading to a robust and efficient sample design. In addition, sampling from the NHS Patient Register allowed the estimation of children and young people living with a mental disorder, rather than the proportion of children and young people who are in contact with mental health services
- **Interviewing of multiple participants**, whereby several people were interviewed or completed a questionnaire (parents, child/young person and teacher), rather than relying on one self-report account for information, allowed for a more complete picture of the mental health of the child or young person.
- **The survey used a rigorous and detailed assessment tool consistent with the two previous surveys.** This allowed for long-term trends in a number of conditions to be monitored. Additionally, the tool was adapted to include 2 to 4 year olds and 17 to 19 year olds, allowing this survey to explore a wider age range than previously
- **Survey content was developed through consultation with a wide range of stakeholders.** This ensured the most relevant topics were prioritised for inclusion
- **The use of a computer assisted self-completion module to cover the most sensitive topics** (such as self-harm, drug use, and sexual identity) meant that the survey collected information that some participants may have never disclosed before
- **At the end of the survey, permissions for follow-up and for data linkage were requested**, creating opportunities for future linkage to health and education data and longitudinal data collection from participants
- **The MHCYP dataset is available to researchers (from 2019)**, suitable for extensive further analysis. There is only scope for a small part of the data collected to be covered in this report. A more detailed version of the dataset will also be available from NHS Digital

Design limitations

- **Some people selected for the survey could not be contacted or refused to take part.** The achieved response rate (52%) is in line with that of similar surveys (Bolling & Smith, 2018). A problem for all such studies is how to take account of those who do not take part, either because contact could not be established with the selected household or individual, or because they refused to take part. This may include children and young people who were at a greater risk of mental disorders (for example children in long term inpatient care would not have been interviewed), or who were hard to reach (for example students living in halls of residence). The weighting included a non-response adjustment (outlined in the weighting section) to help account for non-response bias.
- **Although interviewing multiple participants was a strength of this survey, this was not possible in all cases.** For example, information was not collected for all teachers of children aged 5 to 16, this was accounted for by applying an adjustment factor to minimise bias. Information was not collected from teachers for children aged 2 to 4 and 17 to 19 years old and should be taken into account when comparing rates across age groups. Additionally, questions which were unique to either parents or children and young people were not asked if they were not interviewed which resulted in high levels of non-response to some questions.
- **Findings in the individual topic reports have excluded item non-response from analysis.** Item non-response is where a participant fails to answer a question in a survey, introducing potential problems such as non-response bias. This was particularly an issue for questions where a respondent was unable or unwilling to answer (e.g. household income). Analysis in this survey assumes that the characteristics of participants who answered each question are the same of those who did not provide an answer, which may introduce a source of bias.
- **Socially undesirable or stigmatised feelings and behaviours may be underreported.** While this is a risk for any study based on self-report data, this study goes some way to minimising this by collecting information from multiple participants (parents, children/young people and teachers) to produce a more complete picture. Additionally, a self-completion format was used with all participants, which will help reduce bias in survey estimates.
- **As for all surveys, it should be acknowledged that prevalence rates are only estimates.** If everyone in the population had been assessed, the rate found may be higher or lower than the survey estimate. Confidence intervals are given for key estimates later in this report, which highlight the uncertainty around the estimates. For conditions with low prevalence, small changes may have a disproportionate effect on the estimates.
- **Coverage of MHCYP 2017 is limited to England,** whilst previous surveys in the series have covered Great Britain. Users should be mindful that results from 2017 MHCYP are representative of children and young people in England.

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. Participants to the 2004 survey were also followed up in 2007 (Parry-Langdon et al., 2008). 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). The 1999 survey covered 5 to 15 year olds, the 2004 survey covered those aged 5 to 16, and the 2017 survey covered 2 to 19 year olds.

This survey is part of a wider series of surveys commissioned by NHS Digital and funded by the Department of Health and Social Care. This includes a survey focussing on looked after children conducted between 2001-2003, covering children aged 5 to 17 in local authority care in Great Britain (Meltzer et al., 2003). Core topics are covered in every survey in the series, such as emotional, behavioural and hyperactivity disorders. New topics in 2017 included social media and cyber bullying.

This report provides a description of the survey methodology used on the survey in 2017, including an outline of the:

- Sample design
- Questionnaire development and piloting
- Topic coverage
- Fieldwork procedures
- Survey response
- Data weighting procedure
- Data analysis and reporting
- Quality, Value and Trustworthiness

Further methodological detail is provided in the following appendices:

- A - Confidence Intervals and Standard Errors
- B - Questionnaire documentation
 - Parent questionnaire
 - Child/young person questionnaire
- C - Teacher questionnaire
- D - Showcards (parent questionnaire)
- E - Showcards (child/young person questionnaire)

- F - Project instructions
- G - Fieldwork documents
 - Advance letter (parent)
 - Advance letter (young person)
 - Translated screening card
 - Information leaflet (parent)
 - Information leaflet (young person)
 - Information leaflet (child)
 - Useful contacts leaflet
 - Data linkage form (parent)
 - Data linkage form (young person)
- H - Teacher fieldwork documents
 - Teacher contact card
 - Teacher letter
 - Head teacher letters

All reports, tables and appendices are available at:
[https://digital.nhs.uk/pubs/mhcypsurvey17](https://digital.nhs.uk/pubs/mhcypssurvey17).

Sample design

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. The sample was designed to be representative of the population of children and young people aged 2 to 19 living in England.

The sampling frame

The sample was drawn from the NHS Patient Register held by NHS Digital. This is held on the Medical Research Information Service Integrated Database Administrative System (MIDAS). The principle advantage of the Patient Register over alternative frames was that it provides a person level sampling frame of children and young people, enabling the direct sampling of children based on their age. This greatly reduced the sampling of ineligible addresses where children within the target age group do not reside.

Previous surveys made use of the Child Benefit Register (CBR), however due to changes made to child benefit eligibility the CBR is no longer a representative sampling frame. The use of the NHS Patient Register meant children in care were also included in the sample frame in the 2017 survey, something that was not possible with the CBR. Looked after children typically have higher rates of mental disorders when compared to non-looked after children (House of Commons Education Committee, 2016), emphasising the importance of their inclusion in the sample. However, the number of looked after children sampled to take part in the 2017 survey was likely to be small (at 31 March 2017 there were 72,670 looked after children in England, representing 0.6% of the 0 to 19 year old population) (DfE, 2017), meaning:

- the inclusion of looked after children in the sample would have a minimal effect on the comparability between the 2017 survey and previous MHCYP surveys
- specific analysis of looked after children group was not possible in the 2017 survey

There were some limitations associated with the use of the NHS Patient Register as a sampling frame for the 2017 survey. Two groups of children on the NHS Patient Register could not be sampled for this survey: those who had requested that their details not be shared with an external organisation when signing up to an NHS service and those where, due to sensitivities around the child's circumstances resulted in their details being withheld from selection. Furthermore, the NHS Patient Register also has under/over-coverage issues (ONS, 2016), including:

- some armed forces and dependants, and private-only patients are not included on the register
- patients often do not register when they leave the UK, which means the register contains patients who are no longer resident
- patients can be slow to (re)register following a change of address (particularly relating to students and graduates)

- measures to keep lists up to date will vary from GP practice to GP practice

Despite these limitations, the use of the NHS Patient Register offered the most comprehensive and efficient sampling frame for the 2017 survey.

Selection of sampling units

Stratification and selection of Primary Sampling Units (PSUs)

A stratified multistage random probability sample was used for the survey, involving a two-stage process: the selection of 380 postcode sectors (PSUs), then 42 children/young people within each sector. A reserve sample was also drawn, for this an additional 80 postcode sectors were drawn with 42 children/young people within each sector.

The main sample and the reserve sample were stratified by government office regions (GOR). These were sorted on factors associated with mental health disorders that were derived from 2011 Census data (ONS, 2012) and were aggregated to postcode sector level. The factors were the proportion of:

- social / privately rented houses within a PSU
- households within a PSU whose household reference person was employed in a routine occupation
- economically active men aged 16 to 74 who were unemployed

As the North East had a smaller population compared to other regions, more children were sampled to allow for comparison between regions at analysis stage. As a result, fewer cases were sampled in the North West and South East of England. Table 1 presents the % of sampled addresses in comparison to the estimated population within each region. PSUs were selected using the Postcode Address File (PAF), to ensure valid sectors were selected. Where smaller postcode sectors were selected, they were combined with neighbouring sectors to reduce clustering effects.

Table 1: Estimated population of 2 to 19 year olds by GOR in England, and sampled addresses (main sample)

Region	Population (%)	Sample (%)
North East	5%	8%
North West	13%	11%
Yorkshire and the Humber	10%	10%
East Midlands	8%	8%
West Midlands	11%	11%
East of England	11%	11%
London	16%	15%
South East	16%	14%
South West	9%	9%

Footnotes

Population estimates based on 2017 mid-year estimates for England (see further

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2017>)

The number of PSUs chosen within a region were selected relative to the size of the region. Size was defined using a composite measure that accounted for the number of children in each PSU, this ensured that PSUs with a larger number of children were equally likely to be selected compared to the smaller PSUs.

Table 2 shows the factors that were applied to the postcode sector population sizes in each age group to obtain the composite measure of size for each PSU¹.

Table 2: Factors for composite size measure

	Age			
	2 to 4 year olds	5 to 10 year olds	11 to 16 year olds	17 to 19 year olds
Factor	0.8	1.0	1.0	0.7

From this, 380 postcode sectors were selected across England, with a further 80 postcode sectors selected as part of the reserve sample.

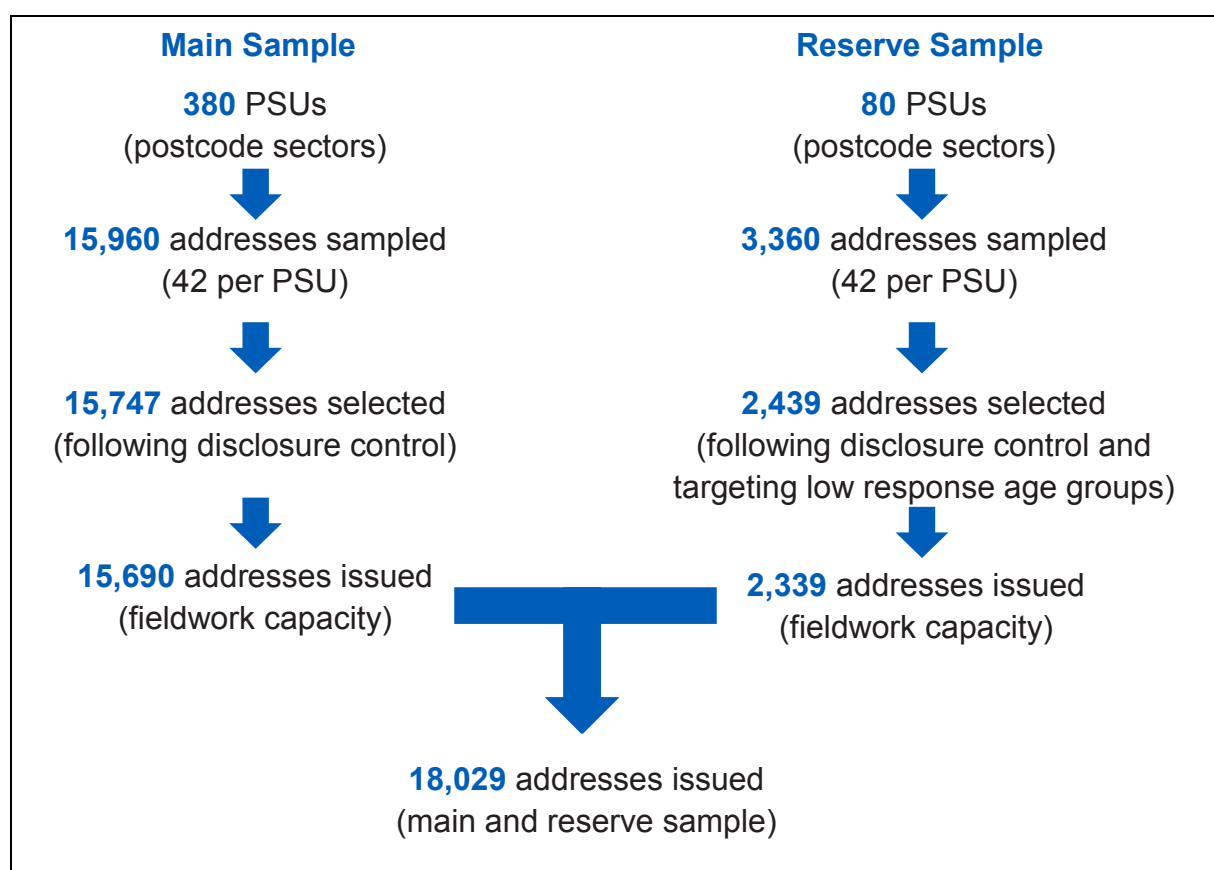
Sampling named children and young people

In the second stage of sampling, 42 children/young people were randomly selected within each of the selected PSUs. Figure 1 illustrates the sample selection process. Of the 15,960 children sampled, 213 were removed from the sample due to disclosure reasons, and a further 57 addresses not covered due to fieldwork capacity. The main sample therefore consisted of 15,690 children.

¹ Composite size of PSU $i = 0.8 * (\text{population size of age group 2 to 4 in PSU } i) + (\text{population size of age group 5 to 16 in PSU } i) + 0.7 * (\text{population size of age group 17 to 19 in PSU } i)$

For the reserve sample, 3,360 addresses were sampled, using the same approach adopted for the main sample. Of these, 36 cases were removed from the sample due to disclosure reasons, resulting in a reserve sample of 3,324 addresses. During fieldwork, a reserve sample of 2,339 cases was issued and covered, to boost response to the survey. Therefore, the total sample of issued addresses was 18,029. See the Survey Response section of this report for information on response rates.

Figure 1: Sampled and Issued addresses: Main and Reserve sample



In order to address a difference in the age distribution from the sample frame (NHS Patient Register) and population estimates (based on Census 2011 (ONS, 2012)), selection probabilities were created for each age group to increase the likelihood of the selected sample having an age distribution that reflected the distribution in the Census 2011 figures. This did, however, mean that the sampling probabilities for the children were not equal. The survey weighting procedure accounted for this, as described in the data weighting procedure section of this report.

About halfway through fieldwork, sampled addresses were updated to reflect changes made since the sample was drawn from the NHS Patient Register sampling frame (for example, updated address details for sampled participants).

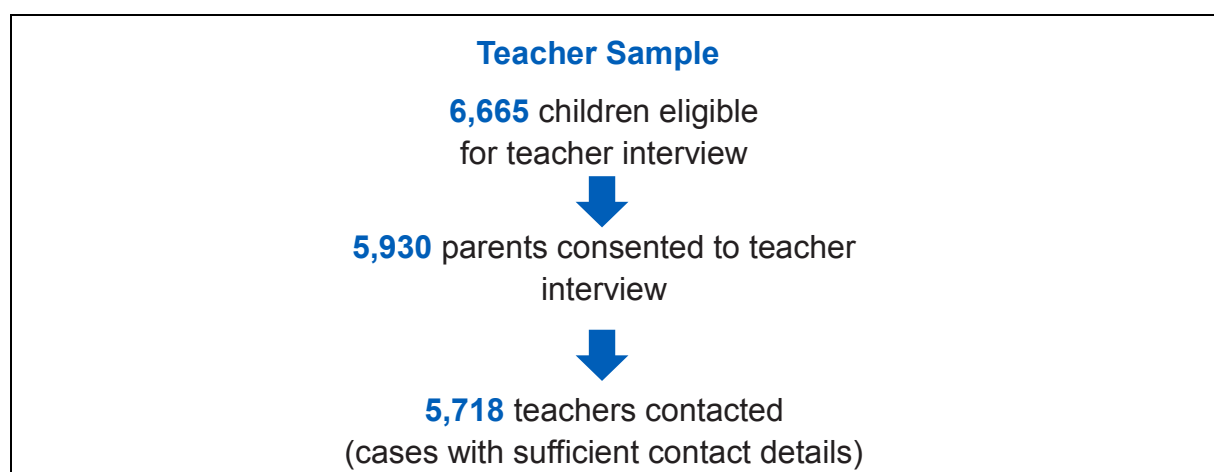
To preserve the principles of random probability sampling, interviews only took place with the sampled child or young person (or parents of the sampled child/young person). The survey design did not allow interviewers to substitute another child or young person to take part. By only interviewing the preselected sample, the sample

remained representative of the target population, reducing bias, and providing more reliable information.

Teacher sample

Parents of 5 to 16 year olds were asked if they would consent to one of their children's teachers receiving an online or paper questionnaire about their child. Figure 2 shows that 5,930 parents consented to the teacher being contacted out of 6,665 participants who were eligible to consent to the teacher questionnaire. A sample file which contained the teacher contact details (i.e. a combination of teacher name, head teacher name, teacher or school office email address, and/or name and address of school) were cleaned and checked. At this stage, 212 participants were removed due to insufficient contact details. 5,718 questionnaires were sent out to teachers. The teacher questionnaire was administered both online and on paper; teachers had the choice of completing in either mode. See the Survey Response section of this report for information on response rates by mode of data collection.

Figure 2: Sampled and issued questionnaires: Teacher sample



Questionnaire development and piloting

The 2017 questionnaire design was based on that used in previous surveys in the series in order to maintain the comparability of key estimates over time. The survey development drew on the expertise of a wide range of advisors and data users. These included:

- Project oversight and management from key managers at NHS Digital, and the survey consortium of NatCen, ONS and YouthInMind
- A Steering Group that comprised representatives from the Department of Health and Social Care, Public Health England, NHS England, Department for Education, Anna Freud National Centre for Children and Families, academic leads in Child and Adolescent Mental Health, and academic leads in Contemporary Psychoanalysis and Developmental Science. This group was co-ordinated by NHS Digital
- A group of senior NatCen and ONS interviewers with practical experience of survey delivery

Consultation

On 26 November 2015, an online consultation was launched about the content for the 2017 survey, in order to understand:

- Which existing topic areas the survey should continue to cover
- Whether there were new topics that should be included
- Where new topics were suggested, which existing topics these could replace

The consultation was hosted on the NatCen and ONS websites, and received 225 responses from academic, clinical, public, private and the voluntary sector representatives, as well as members of the public.

Most of the topics included in the 2004 survey were considered important to include again in 2017, and a range of new topics were also proposed². Topics recommended for inclusion included: social media, gaming and caring responsibilities.

Ethical and Confidentiality Advisory Group Approval

The survey was reviewed and approved by the West London & GTAC Research Ethics Committee in April 2016 (REC reference: 16/LO/0155), with a substantial amendment approved in October 2016. The survey was also reviewed and approved by the Health Research Authority Confidentiality Advisory Group in May 2016 (CAG reference: 16/CAG/0016), with a substantial amendment approved in September 2016.

² A response to the consultation on survey content can be found at:
http://www.natcen.ac.uk/media/1431140/mhcyp-2016_consultation-report.pdf.

Cognitive testing

In order to maximise comprehension of the 2017 survey questions (and associated survey material) cognitive testing was conducted to assess the appropriateness of survey questions and associated documentation. This involved individual cognitive interviews with parents of 11 to 16 year olds, and interviews with separately recruited young people (11 to 19 year olds). The interview protocol comprised of interviewer observations, think aloud and probing techniques. Information was recorded with consent from participants, then transcribed and subjected to thematic analysis. The testing explored:

- First impressions of advanced materials
- Willingness to take part in the survey
- Ability to easily answer survey questions
- Sensitivity of questions

Cognitive testing provided recommendations for improvements to the survey questions and materials, including:

- Improvements to survey materials such as advance letters and information leaflets to make them more comprehensible for respondents
- Enhancements to new questions, including additional options for social media use identified during cognitive testing

These recommendations for improvement were reviewed and tested as part of the survey dress rehearsal.

Methodological pilot

A methodological pilot took place to test the proposed use of dongles with 3G connectivity to access the internet during the interview, allowing access to an online version of the DAWBA³. The pilot ran in a mixture of rural and urban areas with varying levels of internet connectivity. The methodological pilot revealed that the 3G dongle did not allow a consistent connection to the internet to allow the DAWBA to be completed online. Based on the results of the pilot, a DAWBA questionnaire requiring no internet connectivity was developed for the dress rehearsal.

Dress rehearsal

Following the cognitive testing and methodological pilot, the questionnaire was refined in preparation for a full dress rehearsal. The dress rehearsal enabled testing of the flow, content and timings of the complete interview process, and of individual sets of questions, together with the operation of fieldwork procedures.

In order to fully test all versions of the questionnaire, children and young people were selected across a split of four age groups: 2 to 4 year olds, 5 to 10 year olds, 11 to 16

³ An example of the online DAWBA can be found at <http://dawba.info/>.

year olds and 17 to 19 year olds. The dress rehearsal consisted of face-to-face and self-completion interviews for both parents and children and young people. A new online self-completion questionnaire for teachers was also tested for the 2017 survey.

As there was a delay in getting approval to use the NHS Patient Register as a sampling frame, the dress rehearsal sampled participants who took part in the Health Survey for England in 2015 and consented to be re-contacted for further studies.

The main recommendations taken forward for the 2017 survey from the dress rehearsal were the:

- addition of an education database in the questionnaire to avoid mistakes in teacher and school details
- inclusion of a paper questionnaire for the teachers. The paper questionnaire was in addition to the online questionnaire to improve response, due to a lower than anticipated response to the online teacher questionnaire
- provision of guidance to interviewers on how to handle potentially sensitive, difficult or similar sounding questions in the interviewer briefings

Topic coverage

2017 MHCYP survey

This section outlines the topics covered in the 2017 survey, with information about how they were collected. The 2017 topics were collected via Computer Assisted Personal Interviews (CAPI) and Computer Assisted Self Interviews (CASI), with the type of interview conducted dependant on the age of the sampled child or young person (see Table 3).

Table 3: Types of interviews for children and young people of different ages

2 to 10 year olds	11 to 16 year olds	17 to 19 year olds
<p>Parent interview only <i>(Interviewer administered and self completion)</i></p> <p>Teacher interview for those aged 5+ <i>(Postal or online questionnaire)</i></p>	<p>Parent interview <i>(Interviewer administered and self completion)</i></p> <p>Child interview <i>(Interviewer administered and self completion)</i></p> <p>Teacher questionnaire <i>(Postal or online questionnaire)</i></p>	<p>Young person interview <i>(Interviewer administered and self completion)</i></p> <p>Parent interview <i>(if present at same address)</i></p>

The 2017 survey collected information on a variety of topics through questions developed specifically for the survey (as outlined in the questionnaire development and piloting section) and standardised assessment tools. It also collected verbatim responses from participants about any significant problems experienced by the child. The full questionnaire can be found in Appendix B (parent/child/young person interview) and Appendix C (teacher questionnaire). After completion of fieldwork, it was identified that some questions had not been asked of certain parents, children and young people in error. This applied to questions into service use, social media, armed forces and special educational needs. Information on these errors can be found in the corresponding section in Appendix B.

This section presents the following information:

- Table 4 shows the standardised assessment tools used in the survey
- Table 5 presents the topics collected on the survey, by age of the sampled child
- Table 6 shows the topics collected from the parent interview, with table 7 presenting information from the child/young person interview
- Table 8 shows the content covered during the teacher interview

Table 4: Assessment tools used in the 2017 survey

Topic	Assessment tool	Interview type
Strengths and difficulties	Strengths and Difficulties Questionnaire (SDQ) The SDQ is a brief behavioural screening questionnaire developed by Professor Robert Goodman comprising positive and negative attributes about the child. The 2017 survey used the 25 item questionnaire with impact supplement. Further information can be found at: http://www.sdqinfo.com/ .	Child/YP Parents Teachers
Mental disorder	Development and Well-Being Assessment (DAWBA). The DAWBA is a package of interviews, questionnaires and rating techniques developed by Professor Robert Goodman designed to generate ICD-10 and DSM-IV or DSM-5 psychiatric diagnoses on children and young people. Further information can be found at: http://dawba.info/	Child/YP Parents
Self-esteem	Rosenberg Self-Esteem Scale. A 10-item scale measuring self-worth through positive and negative feelings about the self, developed by Morris Rosenberg in 1965. Further information can be found at: https://socy.umd.edu/about-us/rosenberg-self-esteem-scale	Child/YP
Wellbeing	Warwick Edinburgh Mental Wellbeing Scale (WEMWBS)^a. WEMWBS enables the monitoring of mental wellbeing in the general population. This survey used the 14 item scale. Further information can be found at https://warwick.ac.uk/fac/sci/med/research/platform/wemwbs/	Child/YP
Parental mental health	General Health Questionnaire The General Health Questionnaire is a screening device for identifying minor psychiatric disorders. Parents were asked the 12-item General Health Questionnaire (GHQ-12). Further information can be found at: https://www.gq-assessment.co.uk/products/general-health-questionnaire-ghq/	Parents
Family functioning	McMaster Family Assessment Device (FAD) The General Functioning Scale of the McMaster FAD was used to estimate family functioning. The scale comprises 12 statements which are a self-reported measure of perceived family functioning. Further information can be found in Epstein et al (1983).	Parents

^aWarwick-Edinburgh Mental Well-Being Scale (WEMWBS) © NHS Health Scotland, University of Warwick and University of Edinburgh, 2006, all rights reserved.

Table 5: MHCYP 2017 topic coverage by age of child

	Age of child or young person (years)			
	2 to 4	5 to 10	11 to 16	17 to 19
Demographics and Household composition	●	●	●	●
Accommodation, Ethnic group and Tenure	●	●	●	●
Strengths & Difficulties Questionnaire (SDQ)	●	●	●	●
Development and Well-Being Assessment (DAWBA)				
Eating, sleeping and toilet training disorders	●			
Separation anxiety disorder [Attachment and worries about separation]	●	●	●	●
Specific phobia [Fears of specific things or situations]	●	●	●	●
Social phobia [Fear of social situations]	●	●	●	●
Panic disorder, agoraphobia [Panic attacks or fears of crowds, public places, open spaces etc]		●	●	●
Post-traumatic stress disorder [Stress after a very frightening event]	●	●	●	●
Obsessive compulsive disorder [Obsessions and compulsions]		●	●	●
Body dysmorphic disorder [Worry about physical appearance]		●	●	●
Generalised anxiety disorder [Worrying a lot about many different things]	●	●	●	●
Depressive disorder [Depression]	●	●	●	●
Attachment disorder [Attachment and worries about separation]	●			
Disruptive Mood Dysregulation Disorder [Irritability, temper and anger control]		●	●	●
Hyperactivity disorder [Hyperactivity and attention problems]	●	●	●	●
Behavioural disorder [Difficult or troublesome behaviour]	●	●	●	●
Pervasive developmental disorders [Development of language, routines, play, and social ability]	●	●	●	●
Eating disorders [Dieting, bingeing and concern about body shape]		●	●	●
Tic disorder [Tics]	●	●	●	●
Other less common disorders [Other concerns]	●	●	●	●

<i>Continued</i>	Age of child or young person (years)			
	2 to 4	5 to 10	11 to 16	17 to 19
Strengths of the child	●	●	●	●
Social support			●	●
Social life, social media, cyber bullying			●	●
School exclusion and social services		●	●	●
Special educational needs	●	●	●	●
Educational attainment of child			● ^a	●
Education, employment and armed forces	●	●	●	●
Stressful life events	●	●	●	●
Self-esteem			●	●
Smoking, Drinking and Drug Use			●	●
Relationships with teachers			●	●
Service use	●	●	●	●
Wellbeing			●	●
Long-term illness and impairments			●	●
National identity, religion and sexual identity			● ^b	●
Benefits and income	●	●	●	●
General health of child	●	●	●	●
Parental health and family questions	●	●	●	●

Footnotes

[] Indicates the names of the DAWBA sections

^a Question only asked of children aged 15 and over

^b Sexual identity only asked of children aged 14 and older

Table 6: MHCYP 2017 topic coverage for parent interviews

	Age of child or young person (years)			
	2 to 4	5 to 10	11 to 16	17 to 19
Interviewer administered (CAPI)				
Demographics and Household composition	●	●	●	●
Accommodation, Ethnic group and Tenure	●	●	●	●
Strengths & Difficulties Questionnaire (SDQ)	●	●	●	●
Development and Well-Being Assessment (DAWBA)				
Eating, sleeping and toilet training disorders	●			
Separation anxiety disorder [Attachment and worries about separation]	●	●	●	● ^a
Specific phobia [Fears of specific things or situations]	●	●	●	●
Social phobia [Fear of social situations]	●	●	●	●
Panic disorder, agoraphobia [Panic attacks or fears of crowds, public places, open spaces etc]		●	●	●
Post-traumatic stress disorder [Stress after a very frightening event]	●	●	●	●
Obsessive compulsive disorder [Obsessions and compulsions]		●	●	●
Body dysmorphic disorder [Worry about physical appearance]		●	●	●
Generalised anxiety disorder [Worrying a lot about many different things]	●	●	●	●
Depressive disorder [Depression]	●	●	●	●
Attachment disorder [Attachment and worries about separation]	●			
Disruptive Mood Dysregulation Disorder [Irritability, temper and anger control]		●	●	● ^a
Hyperactivity disorder [Hyperactivity and attention problems]	●	●	●	●
Behavioural disorder [Difficult or troublesome behaviour]	●	●	●	●
Pervasive developmental disorders [Development of language, routines, play, and social ability]	●	●	●	●
Eating disorders [Dieting, bingeing and concern about body shape]		●	●	●
Tic disorder [Tics]	●	●	●	●

<i>Continued</i>	Age of child or young person (years)			
	2 to 4	5 to 10	11 to 16	17 to 19
Other less common disorders [Other concerns]	●	●	●	●
School exclusion and social services		●	●	
Stressful life events	●	●	●	●
Strengths of the child ^b	●	●	●	●
Service use	●	●	●	
Special educational needs	●	●	●	●
Education, employment and armed forces	●	●	●	●
Benefits and income	●	●	●	●
General health of child	●	●	●	●
Self-completed (CASI)				
Parental health and family questions	●	●	●	●

Footnotes

[] Indicates the names of the DAWBA sections

^a Only asked about children aged 17 and younger as disorder is confined to childhood

^b DAWBA section

Table 7: MHCYP 2017 topic coverage for child and young person interviews

	Age of child or young person (years)	
	11 to 16	17 to 19
Interviewer administered (CAPI)		
Demographics and Household composition		● ^a
Accommodation, Ethnic group and Tenure		● ^a
Strengths & Difficulties Questionnaire (SDQ)	●	●
Development and Well-Being Assessment (DAWBA)		
Separation anxiety disorder [Attachment and worries about separation]	●	● ^b
Specific phobia [Fears of specific things or situations]	●	●
Social phobia [Fear of social situations]	●	●
Panic disorder, agoraphobia [Panic attacks or fears of crowds, public places, open spaces etc]	●	●
Post-traumatic stress disorder [Stress after a very frightening event]	●	●
Obsessive compulsive disorder [Obsessions and compulsions]	●	●
Body dysmorphic disorder [Worry about physical appearance]	●	●
Generalised anxiety disorder [Worrying a lot about many different things]	●	●
Depressive disorder [Depression]	●	●
Disruptive Mood Dysregulation Disorder [Irritability, temper and anger control]	●	● ^b
Hyperactivity disorder [Hyperactivity and attention problems]	●	● ^c
Pervasive developmental disorders [Development of language, routines, play, and social ability]		
Eating disorders [Dieting, bingeing and concern about body shape]	●	●
Tic disorder [Tics]		●
Other less common disorders [Other concerns]	●	● ^c
Social support	●	●
Social life, social media, cyber bullying, bullying	●	●
School attendance and exclusion	●	●

<i>Continued</i>	Age of child or young person (years)	
	11 to 16	17 to 19
Educational attainment of child	● ^d	●
General health of child		● ^a
Self-completed (CASI)		
Self-esteem	●	●
Strengths of the child ^f	●	● ^e
Behavioural disorder [Difficult or troublesome behaviour] ^f	●	●
Smoking, Drinking and Drug Use	●	●
Relationships with teachers	● ^g	●
Service use	● ^h	●
Wellbeing	●	●
Long-term illness and impairments	●	●
National identity, religion and sexual identity	● ⁱ	●

Footnotes

[] Indicates the names of the DAWBA sections

^a Only asked if no parent interview

^b Only asked of children aged 17 and younger as disorder is confined to childhood

^c More detailed questions asked of children aged 18 to 19

^d Only asked of children aged 15 and older

^e Less detailed questions asked of children aged 18 to 19

^f DAWBA section

^g Less detailed questions asked of children aged 15 and younger

^h Only asked of 13 to 16 year olds

ⁱ Sexual identity only asked of children aged 14 and older

Table 8: MHCYP 2017 topic coverage for teacher Interviews

Postal/online questionnaire	
Scholastic achievement and special educational needs	●
Strengths & Difficulties Questionnaire (SDQ)	●
Emotional disorder	●
Hyperactivity disorder	●
Behavioural disorder	●
Less common disorder	●
Help from school	●

Comparability with 1999 and 2004 MHCYP interviews

Table 9 summarises the topic coverage of the 1999, 2004 and 2017 MHCYP surveys. The 2017 survey aimed to have consistent core topic coverage, but some topics have been added and removed over the three surveys. The table also indicates whether the questions were asked as part of the parent interview or the child and young person (Child/YP) interview. The teacher interviews in 1999 and 2004 collected the same information as the 2017 survey, and therefore are not presented in this table.

Table 9: Summary of MHCYP topic coverage in 1999, 2004, and 2017 interviews

	Survey year		
	1999	2004	2017
Demographics and Household composition	Parent	Parent	Parent ^a
Accommodation, Ethnic group and Tenure	Parent	Parent	Parent ^a
Strengths & Difficulties Questionnaire (SDQ)	Parent Child/YP	Parent Child/YP	Parent Child/YP
Development and Well-Being Assessment (DAWBA)			
Eating, sleeping and toilet training disorders			Parent
Separation anxiety disorder [Attachment and worries about separation]	Parent Child/YP	Parent Child/YP	Parent Child/YP
Specific phobia [Fears of specific things or situations]	Parent Child/YP	Parent Child/YP	Parent Child/YP
Social phobia [Fear of social situations]	Parent Child/YP	Parent Child/YP	Parent Child/YP
Panic disorder, agoraphobia [Panic attacks or fears of crowds, public places, open spaces etc]	Parent Child/YP	Parent Child/YP	Parent Child/YP
Post-traumatic stress disorder [Stress after a very frightening event]	Parent Child/YP	Parent Child/YP	Parent Child/YP
Obsessive compulsive disorder [Obsessions and compulsions]	Parent Child/YP	Parent Child/YP	Parent Child/YP
Body dysmorphic disorder [Worry about physical appearance]			Parent Child/YP
Generalised anxiety disorder [Worrying a lot about many different things]	Parent Child/YP	Parent Child/YP	Parent Child/YP
Depressive disorder [Depression]	Parent Child/YP	Parent Child/YP	Parent Child/YP
Attachment disorder [Attachment and worries about separation]			Parent
Disruptive Mood Dysregulation Disorder [Irritability, temper and anger control]			Parent Child/YP
Hyperactivity disorder [Hyperactivity and attention problems]	Parent Child/YP	Parent Child/YP	Parent Child/YP

<i>Continued</i>	Survey year		
	1999	2004	2017
Behavioural disorder [Difficult or troublesome behaviour]	Parent Child/YP	Parent Child/YP	Parent Child/YP
Pervasive developmental disorders [Development of language, routines, play, and social ability]		Parent	Parent
Eating disorders [Dieting, bingeing and concern about body shape]		Parent Child/YP	Parent Child/YP
Tic disorder [Tics]		Parent	Parent Child/YP
Other less common disorders [Other concerns]	Parent Child/YP	Parent Child/YP	Parent Child/YP
Strengths of the child	Parent	Parent	Parent Child/YP
Social support		Child/YP	Child/YP
Social life, bullying		Child/YP	Child/YP
Social media, cyber bullying			Child/YP
School exclusion and social services		Parent	Parent Child/YP
Stressful life events	Parent	Parent Child/YP	Parent Child/YP
Service use	Parent	Parent	Parent Child/YP
Special educational needs	Parent	Teacher ^b	Parent
Educational attainment of child		Child/YP	Parent Child/YP
Education, employment	Parent	Parent	Parent
Armed forces			Parent
Benefits and income	Parent	Parent	Parent Child/YP
General health of child	Parent	Parent	Parent ^a
Parental health and family questions	Parent	Parent	Parent
Self-esteem			Child/YP
Smoking, Drinking and Drug Use	Child/YP	Child/YP	Child/YP
Relationships with teachers			Child/YP
Wellbeing	Child/YP		Child/YP
Long-term illness and impairments			Child/YP
National identity, religion and sexual identity			Child/YP

<i>Continued</i>	Survey year		
	1999	2004	2017
Previously asked topics			
Friendships	Child/YP	Parent	
Background characteristics	Parent ^c		
Social aptitudes		Parent	
Callous and unemotional traits		Parent	

Footnotes

[] Indicates the names of the DAWBA sections

^a Asked of 17-19 year olds if no parent interview

^b In MHCYP 2004 this was covered in the teacher interview

^c Demographic questions were asked in MHCYP 2017 but not specifically about the child as was the case in 1999.

Mental disorders

What is a mental disorder

The term 'mental disorder' has been used in this survey. 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.

Mental disorders were identified according to the standardised diagnostic criteria (ICD-10 and DSM-5). Specific mental disorders were grouped into four broad categories: emotional, behavioural, hyperactivity and other less common disorders. While some of the symptoms covered in the survey 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).

Classification systems such as ICD-10 and DSM-5 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).

Although sometimes used interchangeably in research, it is important to note that mental health (specifically mental disorders for this survey) and mental wellbeing are related, but nevertheless, distinct concepts. There is evidence that different factors are associated with mental wellbeing and mental health (Patalay and Fitzsimons, 2016). Moreover, prominent health practitioners caution against using these terms together (Davies, 2014), explaining how it cannot be assumed that mental illness (i.e. the presence of one or more mental disorders) simply represents the absence or opposite of mental wellbeing.

Assessing mental disorders

The clinical raters used information from the SDQ and DAWBA to assess whether each child showed evidence of a mental disorder. The SDQ is a brief behavioural screening questionnaire comprising positive and negative attributes about the child. The DAWBA uses structured questions which ask about symptoms relevant to each disorder type. Some of these questions asked whether the child had displayed these symptoms within a given reference period (for example, the last 4 weeks) or before a certain age (known as the age of onset) based on the ICD-10 diagnostic criteria. In addition to these structured questions, the DAWBA also uses semi-structured questions about problem areas, these improve the validity because they allow clinical raters to detect misunderstandings and provides them with additional details.

Clinical raters reviewed the questionnaire answers and interviewer comments to ensure that the answers to structured comments were understood by the participants accurately. The raters also assessed how to interpret conflicts between child, parent and teacher questionnaires, and which assessment to prioritise. Clinical raters could also identify clinically impairing emotional, behavioural and hyperkinetic disorders that slipped through the operationalised diagnostic criteria (for example the clinician can assign a "not otherwise specified diagnosis" such as "other anxiety disorder").

Mental disorders in MHCYP 2017

Table 10 provides a high level of summary of the disorders covered in the survey, with information on the disorders also captured in previous survey series. Contextual information surrounding each type of mental disorder can be found in corresponding topic reports. Further information on the measures used to assess each of the mental disorders are listed in the remainder of this section.

Table 10: Disorders included and excluded in the 1999, 2004 and 2017 MHCYP surveys

Any mental disorder						
Disorder categories	Emotional disorders			Hyperactivity disorders	Behavioural (or 'conduct') disorders	Other less common disorders
<i>Disorder subgroups</i>	<i>Anxiety disorders</i>	<i>Depressive disorders</i>	<i>Bipolar affective disorder</i>			
Specific disorders (included in 1999, 2004 and 2017)	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)	Body dysmorphic disorder (added in 2017) ^a		Bipolar affective disorder Mania (Both added in 2004)			Attachment disorder (added in 2004) Feeding disorder Sleep disorder Eliminating disorder (all added in 2017)

Footnotes

^a 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 anxiety and depressive disorders that manifest themselves in fear, sadness, and low self-esteem. While some of these symptoms may be present in many children, to count as an emotional disorder they have to be sufficiently severe to cause distress to the child or impair their functioning (WHO, 1993).

Table 11 shows the different types of emotional disorders asked about or assessed during the interviews. This category contains anxiety disorders, depressive disorders and mania/bipolar disorder. Most of the disorders presented in the table fall within the ICD-10 classification system, with the exception of body dysmorphic disorder (BDD). BDD is not recognised as a specific disorder in ICD-10, however has been proposed for inclusion in ICD-11 (Veale and Matsunaga, 2014). As a result, this survey has classified BDD using the American Diagnostic and Statistical Manual (DSM-5) (American Psychiatric Association, 2013).

This survey also identified disruptive mood dysregulation disorder (DMDD) using DSM-5 diagnostic criteria. DMDD is not recognised as a specific disorder in ICD-10. In DSM-5, DMDD has overlaps with oppositional defiant disorder (see conduct disorders). As a result, DMDD has not been included in estimates of emotional disorders in this survey, however is available to users to analyse (see Data Analysis and Reporting section).

Table 11: Measures used to assess emotional disorders

Disorder sub-grouping	Diagnosis name	Diagnosis codes (ICD-10)	Interview type
Anxiety disorders	Separation anxiety disorder	F93.0	Child/Young Person ^a Parents ^a (Teachers)
	Specific phobia	F93.1 F40.2	Child/Young Person Parents (Teachers)
	Social phobia	F93.2 F40.1	Child/Young Person Parents (Teachers)
	Panic disorder	F41.0	Child/Young Person Parents ^b (Teachers)
	Agoraphobia	F40.0	Child/Young Person Parents ^b (Teachers)
	Post-traumatic stress disorder	F43.1	Child/Young Person Parents (Teachers)

Continued

Disorder sub-grouping	Diagnosis name	Diagnosis codes (ICD-10)	Interview type
	Obsessive compulsive disorder	F42	Child/Young Person Parents ^b (Teachers)
	Generalised anxiety disorder	F93.80	Child/Young Person Parents (Teachers)
	Other anxiety disorder	F41 ^c	Child/Young Person Parents (Teachers)
	Body dysmorphic disorder	DSM ^d 300.7	Child/Young Person Parents ^b (Teachers)
Depressive disorders	Mild depressive episode	F32.0	Child/Young Person Parents (Teachers)
	Moderate depressive episode	F32.1	Child/Young Person Parents (Teachers)
	Severe depressive episode	F32.2	Child/Young Person Parents (Teachers)
	Other depressive episode	F32.8 ^b	Child/Young Person Parents (Teachers)
	Disruptive mood dysregulation disorder	DSM ^d 296.99	Child/Young Person ^a Parents ^{a,b} (Teachers)
Mania/ Bipolar	Mania/bipolar affective disorder	F30/ F31	(Child/Young Person) (Parents) (Teachers)

Footnotes

() Interview type was only asked briefly about these disorders

^a Only asked of/about children aged 17 and younger as disorder is confined to childhood

^b Not asked about children aged 2 to 4

^c This referred to a child with clinically relevant symptoms and impact who does not meet the specific diagnostic criteria for one of the above disorders

^d These disorders used DSM-5 as the diagnostic criteria and not ICD-10

Behavioural (Conduct) disorders

Behavioural (conduct) disorders are generally only diagnosed in children and young people. They are characterised by repetitive and persistent patterns of disruptive and antisocial behaviour in which the rights of others and social norms or rules are violated (Pisano et al., 2017).

Table 12 shows the types of conduct disorders asked about during the interview. ICD-10 differentiates between those where challenging behaviour is confined to the family or more pervasive and by the child's level of social integration. ICD-10 was used for the classification of all conduct disorders.

Table 12: Measures used to assess for conduct disorders

Diagnosis name	Diagnosis codes (ICD-10)	Interview type
Oppositional defiant disorder	F91.3	(Child/Young Person) Parents Teachers
Conduct disorder confined to family	F91.0	(Child/Young Person) Parents Teachers
Conduct disorder, unsocialized	F91.1	(Child/Young Person) Parents Teachers
Conduct disorder, socialized	F91.2	(Child/Young Person) Parents Teachers
Other conduct disorder	F91.8 ^a	(Child/Young Person) Parents Teachers

Footnotes

() Interview type was only asked briefly about these disorders

^a This referred to a child with clinically relevant symptoms and impact who does not meet the specific diagnostic criteria for one of the above disorders

Hyperactivity disorders

Hyperactivity disorders start in childhood and are characterised by developmentally inappropriate patterns of inattention, impulsivity, and hyperactivity.

The results in this survey are based on the ICD-10 classification of hyperactivity disorders. The ICD-10 classification of hyperkinetic disorder is similar to the DSM-5 classification of attention deficit hyperactivity disorder (ADHD). Both classification systems require symptoms to present themselves in several settings such as school or work, home life and leisure activities (NICE, 2018). However, the ICD-10 criteria for hyperkinetic disorder tends to be more restrictive than the DSM-5 criteria for ADHD in identification of hyperactivity disorders (Lahey et al., 2006). For example, an ADHD diagnosis requires symptoms to be present by twelve years of age while symptoms of hyperkinetic disorder must be present by the age of seven. Table 13 below shows the hyperactivity disorders (based on ICD-10 criteria) asked about during the interviews.

Table 13: Measures used to assess for hyperactivity disorders

Diagnosis name	Diagnosis codes (ICD-10)	Interview type
Hyperkinetic disorder	F90	(Child/Young Person) Parents Teachers
Other hyperactivity disorder	F90.8 ^a	(Child/Young Person) Parents Teachers

Footnotes

() Interview type was only asked briefly about these disorders

^a This referred to a child with clinically relevant symptoms and impact who does not meet the specific diagnostic criteria for one of the above disorders

Autism and 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.

Table 14 shows autism and the less common disorders (including social disorders, feeding, sleeping and elimination disorders) asked about during the interviews. ICD-10 was used to classify most of the disorders presented in the table. Diagnostic classification systems were not used to diagnose the feeding, sleeping and elimination disorders. This was experimental work to see what proportion of families have problems in these domains, and that sound as if they would plausibly justify referral to specialist services.

Table 14: Measures used to assess for autism and less common disorders

Disorder sub-grouping	Diagnosis name	Diagnosis codes (ICD-10)	Interview type
Social disorders	Selective mutism	F94.0	(Child/Young Person) (Parents) (Teachers)
	Attachment disorder, disinhibited	F94.1	Parents
	Attachment disorder, reactive	F94.2	Parents
	Other attachment disorder	F94.8 ^a	Parents
Pervasive developmental disorders	Childhood autism	F84.0	Parents
	Atypical Autism	F84.1	Parents
	Asperger syndrome	F84.5	Parents
	Other pervasive developmental disorders	F84.8 ^a	Parents
Eating disorders	Anorexia nervosa	F50.0	Child/Young Person Parents (Teachers)
	Bulimia nervosa	F50.2	Child/Young Person Parents (Teachers)
	Atypical anorexia nervosa or Atypical bulimia nervosa	F50.1 or F50.3 ^a	Child/Young Person Parents (Teachers)

Continued

Disorder sub-grouping	Diagnosis name	Diagnosis codes (ICD-10)	Interview type
Other disorders	Vocal and motor tic	F95.2	Child/Young Person Parents (Teachers)
	Chronic vocal or motor tic	F95.1	Child/Young Person Parents (Teachers)
	Other tic disorders	F95.0, F95.8 or F95.9 ^a	Child/Young Person Parents (Teachers)
	Psychosis	F20-F29	(Child/Young Person) (Parents) (Teachers)
	Stereotypic disorder	F98.4	(Child/Young Person) (Parents) (Teachers)
Feeding, sleeping and elimination disorders	Feeding disorder	Experimental ^b	Parents
	Sleep disorder	Experimental ^b	Parents
	Elimination disorder	Experimental ^b	Parents

Footnotes

() Interview type was only asked briefly about these disorders

^a This referred to a child with clinically relevant symptoms and impact who does not meet the specific diagnostic criteria for one of the above disorders

^b Did not use diagnostic classifications, as this was experimental work to see what proportion of families have problems in these domains, and that sound as if they would plausibly justify referral to specialist services.

Fieldwork procedures

Training and supervision of interviewers

Experienced interviewers from NatCen and ONS were selected to work on the survey, and most had worked previously on other large-scale surveys. They were fully briefed on the administration procedures for the survey. Topics covered on the one-day survey-specific training included an introduction to the survey, questionnaire content, confidentiality, strategies for responding to participant distress and safeguarding. Written instructions were provided for interviewers (see Appendix F). In some situations, interviewers had to be substituted due to workforce capacity. In instances where less experienced interviewers were selected, a project supervisor accompanied the interviewer during the early stages of their fieldwork to ensure that the survey was administered correctly. After interviews, routine supervision of 10% of interviewer work was carried out, to ensure procedures were followed and quality was maintained.

Prior to fieldwork, interviewers were required to complete a Disclosure and Barring Service (DBS) standard level check⁴. This was required due to the sensitive nature of the survey content. Due to the sensitivity of some questions in the survey, interviewers were encouraged, where possible, to conduct:

- interviews with parents without the sampled child (or other children) present
- interviews with the sampled child without parents or other children present

In addition to this, interviewers were provided with safeguarding⁵ training tailored to the sensitive nature of the survey.

Advance letters

An advance letter was sent to each sampled address. Due to the availability of participant names from the sample frame, the letter was either addressed to the parent or carer of the sampled child (2 to 16 year olds), or the young person (17 to 19 year olds). This introduced the survey as the 'National Study of Health and Wellbeing: Children and Young People' and stated that an interviewer would be calling to seek permission to interview. Advance letters were sent 10 days in advance of an interviewer visiting the address, so that the participant had the chance to opt out via a Freephone telephone number. A sample advance letter is provided in Appendix G.

A token of appreciation, in the form of a post office high street voucher of £10, was printed on the advance letter to encourage survey participation. In addition, children aged 11 to 16 years old who completed an interview were entered into a prize draw to receive a Love2shop gift card of £20, which 50 participants were selected at random to receive, in November 2017.

⁴ See <https://www.gov.uk/guidance/dbs-check-requests-guidance-for-employers#types-of-dbs-checks>

⁵ 'Safeguarding' is defined as "protecting people's health, wellbeing and human rights, and enabling them to live free from harm, abuse and neglect". See www.cqc.org.uk/content/safeguarding-people

Making contact

Interviewers had various materials they could use on the doorstep and leave with participants, including a survey leaflet that introduced the study and provided a telephone number that people could call. The type of leaflet left with a participant differed based on whether the interview was taking place with the sampled child, young person or parent (see Appendix G).

Institutional contact

Interviewers were not always able to enter institutions (such as university halls of residences and care homes) where children or young people had been sampled.

To reduce the impact of potential under-coverage of young people in higher education institutions such as universities, fieldwork for this age group primarily took place over the summer holidays when many students were assumed to be living in their parental homes. Most participants were sampled from their parental homes owing to the sample being drawn in October, when it was thought few students living in halls would have updated their GP practice details. A few students may still have been missed who updated their GP details right at the start of term.

Interviews were not possible for the majority of cases where the sampled child was in a care home (for example mental health units and young offender institutions). Whilst this introduced under-coverage of this group in the survey, the small numbers of children in care homes in the sample suggests the impact of this under-coverage would be small.

Collecting the data

The interviews

Interviews were conducted via Computer Assisted Personal Interview (CAPI). The type of interview conducted depended on the age of the sampled child or young person (see Table 15).

Table 15: Types of interviews for children and young people of different ages

2 to 10 year olds	11 to 16 year olds	17 to 19 year olds
Parent interview only <i>(Interviewer administered and self completion)</i>	Parent interview <i>(Interviewer administered and self completion)</i>	Young person interview <i>(Interviewer administered and self completion)</i>
Teacher interview for those aged 5+ <i>(Postal or online questionnaire)</i>	Child interview <i>(Interviewer administered and self completion)</i>	Parent interview <i>(if present at same address)</i>
	Teacher interview <i>(Postal or online questionnaire)</i>	

The fieldwork took place over nine months (January to September 2017). Fieldwork with 5 to 16 year olds took place between January and June 2017 for consistency with previous surveys in the series, and to ensure a teacher questionnaire could be delivered and returned prior to end of the school Summer term. A copy of the parent and child/young person questionnaire can be found in Appendix B, and associated showcards used to help participants respond to some questions are available in Appendices D and E. The teacher questionnaire can be found in Appendix C.

For children who were aged 16 or below, the first stage of the fieldwork was a face-to-face interview with the parent (including a self-completion section for sensitive questions). If the parent had difficulties speaking English, they were provided with a language screener⁶ (see Appendix G) offering the opportunity to self-complete a translated paper Strengths and Difficulties questionnaire. Due to the low number of returned questionnaires post-fieldwork, these translated questionnaires were not included in the survey report.

Following the parent interview, permission was sought from the parent to ask questions of the sampled child if they were aged 11 to 16. For those who agreed, a face-to-face interview took place with the sampled child (with a self-completion section for sensitive questions). The parent was also asked to provide consent for the child's teacher to be contacted and to nominate the teacher that they felt knew the child best. A contact card was provided to the participant with details on the survey, which could be presented to their teacher (see Appendix H).

17 to 19 year olds were asked for their agreement to participate in an interview directly. At the start, the young person was asked if they agreed to their parents being interviewed too. If they did not agree to a parent being interviewed, the young person was asked additional questions about their living arrangements (such as house type and tenure). If the young person did agree for their parent to be interviewed, these types of questions were included in the parent questionnaire instead.

At the end of questionnaire, parents and young people without a parent present were asked whether they agreed to be re-contacted in the future for a follow-up survey. They were also asked whether they agreed to have their data in the survey linked to existing education and health records to allow for future research into mental health, education and general health. Agreement to data linkage was collected via a one-side A4 sheet which was signed by the participant and interviewer at the end of the interview. A copy was left with the participant for future reference and included information about how they could withdraw their permission for data linkage at any time in the future (see Appendix G for a copy).

⁶ The language screener was translated into the ten main 'Other' languages in England and Wales, based on 2011 Census. See <https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/language/articles/languageinenlandandwales/2013-03-04>

The teacher questionnaire

Where accurate teacher contact information was provided, a letter was mailed out to the head teacher of the school and the named teacher along with a paper teacher questionnaire for them to complete about the named child.

An invite email was also sent to the teacher, either to their specific email address if this was provided by the parent, or to the school email address (addressed for the attention of the selected teacher). The email contained a link to the web-based questionnaire, providing teachers with the option of completing the survey either on paper or online. The head teacher was also sent a letter, informing them that one of their teachers had been contacted and asked to complete the questionnaire. Teachers were sent up to three email reminders and a reminder letter containing a second copy of the paper questionnaire. A copy of the teacher questionnaire can be found in Appendix C.

Helpline information

After the DAWBA section of the interview, all participants were provided with a list of helpline numbers for organisations providing information about mental health and crisis support, as well as support specific to children and young people. The useful contacts leaflet also gave details of the NHS services which could be contacted for support and advice if needed (including contacting their own GP) (see Appendix G).

Survey response

Data were collected from children and young people, their parents and teachers. Individual response relates to the proportion of eligible/selected individual parents, children and young people. Household response concerns responses from the household within which, the featured child or young person resided. Teacher response relates to the proportion of eligible teachers with sufficient contact details.

Household response

Of the 18,029 addresses issued and covered in the sample, 393 (2%) were ineligible for participation, resulting in 17,636 eligible addresses. Of these, 4,956 (28%) were refusals, 2,194 (12%) had no contact and a further 1,369 (8%) were classified as 'other unproductive' (with 1% due to language difficulties). 9,117 productive interviews were achieved (including 98 partial interviews) with one or more participant in the household.

Table 16: Household response rates

	All Ages	2 to 4	5 to 10	11 to 16	17 to 19
Issued	18,029	2,627	6,539	6,426	2,437
Ineligible ^a	393 (2%)	56 (2%)	126 (2%)	142 (2%)	70 (3%)
Eligible households^b	17,636	2,571	6,413	6,284	2,367
Refusals	4,956 (28%)	631 (25%)	1,625 (25%)	6,284 (31%)	730 (31%)
Non-contacts	2,194 (12%)	269 (10%)	772 (12%)	748 (12%)	404 (17%)
Other unproductive	1,369 (8%)	208 (8%)	419 (7%)	445 (7%)	297 (13%)
Productive households	9,117 (52%)	1,463 (57%)	3,597 (56%)	3,121 (50%)	936 (40%)
Full interviews	9,019	1,454	3,568	3,085	912
Partial interviews ^c	98	9	29	36	24

Footnotes

Percentages based on eligible cases with exception of ineligible addresses (which was based on issued addresses)

^a Ineligible addresses were primarily identified by interviewers following visiting an address (for example, sampled participant had moved and was untraceable). The number of ineligible addresses reported here include 49 addresses which were assumed to be ineligible, however this was not confirmed by an interviewer (see below).

^b There were 2,243 addresses where an interviewer was unable to determine eligibility. For these addresses, 49 were estimated to be ineligible (for example sampled participant had moved and was untraceable), and the remaining 2,194 addresses were deemed to be eligible non-contacts.

^c Partials were defined as participants completing the interview up to the SDQ section and the first DAWBA module.

Individual response by age group for children, young people and parents

8,602 productive parent interviews were achieved in total. When split by age group 1,463 parent interviews were achieved for 2 to 4 year olds, 3,597 were achieved for 5 to 10 year olds and 3,121 were achieved for 11 to 16 year olds. A further 2,609 interviews were achieved with 11 to 16 year olds. For 17 to 19 year olds, 936 interviews were achieved with the young person and 421 interviews were achieved with their parent.

Table 17: Number of interviews with individuals by age group

Participant age	Parent	11 to 16 year olds	17 to 19 year olds
2 to 4	1,463	n/a	n/a
5 to 10	3,597	n/a	n/a
11 to 16	3,121	2,609	n/a
17 to 19	421	n/a	936
Total	8,602	2,609	936

Teacher response

Once an interview was completed with parents of 5 to 16 year olds, participants were asked if they consented to a teacher interview taking place. Of the 6,718 interviews conducted with parents of 5 to 16 year olds, 6,665 were eligible for teacher consent⁷. Of these, 5,930 (89%) consented to the teacher questionnaire, 5,718 (86%) were invited to take part, and 3,595 (54%) returned a completed questionnaire. 2,292 questionnaires were completed on paper and 1,303 were completed online.

⁷ Although interviews were achieved with 6,718 5 to 16 year olds, only 6,665 5 to 16 year olds were asked to provide consent to a teacher interview, and subsequently eligible (this was mainly a result of partial interviews and item non-response).

Table 18: Teacher eligibility and response rates

	Number	% of eligible	% of invited	% of completed
Eligible 5 to 16 year olds ^a	6,665			
Consent received	5,930	89%		
Invited to complete questionnaire ^b	5,718	86%		
Complete teacher questionnaires	3,595	54%	63%	
<i>Fully complete</i>	3,542		62%	
<i>Partially complete</i>	53		1%	
Completed on paper	2,292			64%
Completed online	1,303			36%

Footnotes

^a Although interviews were achieved with 6,718 5 to 16 year olds, only 6,665 5 to 16 year olds were asked to provide consent to a teacher interview, and subsequently eligible (this was mainly a result of partial interviews and item non-response).

^b This refers to cases where consent was received to contact the child's teacher and sufficient contact details were provided.

Strategies for improving response

In the first few months of data collection response was lower than anticipated. The steps outlined below were taken to further boost response.

Updated addresses

In the final sample, 12% of the issued sample had moved address. Updated sample information was requested from the NHS Patient Register for all participants who had registered an address change with their GP. Following this, new letters were sent out to individuals with a different address. When the new addresses were outside of England, interviews were not attempted; when the new addresses were in England but outside of the survey postcode sector, interviews were attempted subject to interviewer availability.

Re-issues

For instances where an interview was not achieved, 4% of main sample addresses were reissued. This included addresses where no contact was made or a refusal was given in the initial round of fieldwork.

Reserve sample

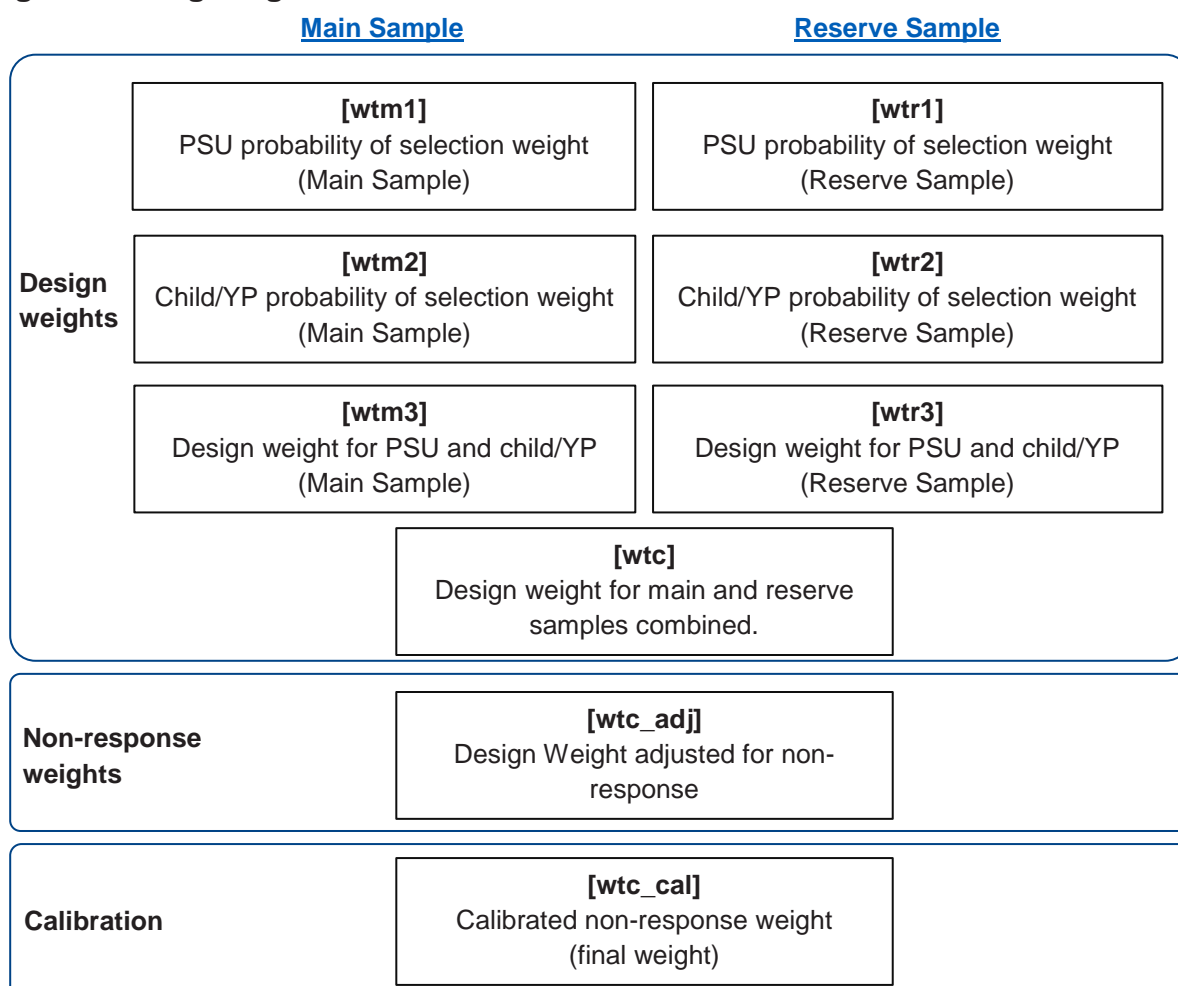
In addition to the above steps, a reserve sample was introduced part-way through fieldwork to increase the number of achieved interviews within each age group. The size of the issued reserve sample differed by age group, depending on the response rate achieved for each group.

The reserve sample resulted in an extension of fieldwork into October for the 2 to 4 and 17 to 19 year olds. Additional interviews with 5 to 16 year olds were mainly completed by June 2018, to ensure comparability with the fieldwork period for this age group in the 2004 survey, and to enable teacher interviews to take place before the end of the school Summer term.

Data weighting procedure

The survey data were weighted to take account of selection probabilities and non-response, so that the results were representative of the population aged 2 to 19. The following sections provides a technical summary of the weighting procedure used on the survey, with figure 3 illustrating these stages.

Figure 3: Weighting Procedure for MHCYP 2017



Design weights

Design weights were created to account for the probability of selection a child or young person had, in being selected to take part in the survey. This involved postcode sector (PSU) selection weights, which were applied to take account of the differential selection probabilities of the sampled PSUs and a child selection probability within each PSU based on the child's age. These selection probabilities were calculated separately for the main sample and reserve sample.

Main Sample

First, PSU selection weights [w_{tm1}] were applied to take account of the differential selection probabilities of the sampled PSUs. For each of the sampled PSUs, the weight was calculated as follows: $[w_{tm1}] = 1 / (\text{PSU selection probability})$. Second the child selection probability was computed in each PSU (second-stage selection probability): $[w_{tm2}] = 1 / (\text{Child/young person selection probability})$. Then the PSU sampling weight was divided by second stage selection probability weight to obtain main sample child/young person design weight ($[w_{tm1}] / [w_{tm2}] = [w_{tm3}]$). The main child/young person design weights were then scaled so that they add up to the total population.

Reserve Sample

First, PSU selection weights [w_{tr1}] were applied to take account of the differential selection probabilities of the sampled PSU's. Second, the child selection probability was computed in each PSU (second-stage selection probability): $[w_{tr2}] = (\text{child/young person probability of selection})$. Then the PSU sampling weight was divided by the second stage selection probability weight to obtain the reserve sample child/young person design weight ($[w_{tr1}] / [w_{tr2}] = [w_{tr3}]$). This weight was adjusted to account for sub-sampling within each PSU. This was divided by the sub-sampling factor by the age groups (2 to 10 and 11 to 19) to obtain reserve child or young person design weight. The reserve child or young person design weights were then scaled so that they added up to the total population⁸.

The main and reserve samples were combined to create [w_{tc}] by assigning factors related to the respective sample sizes and design effect stemming from weight variation.

Non-response weighting

Non-response can have a large impact on the accuracy of a survey that is voluntary. This survey applied a non-response adjustment to reduce the impact of non-response bias. This is a change from the 2004 survey and offers an improvement to reduce the non-response bias associated with the 2017 survey.

⁸ The population totals used for this step were ONS population figures calibrated to the month of August 2017.

To obtain the non-response factors, a logistic regression model was fitted on the response indicator variable using the age used for sample selection (grouped), region (at selection) and Index of Multiple Deprivation (IMD), and the source of the data (main or reserve sample) as additional variables. These were the variables that were found to be significant predictors of response. Other variables were tested (e.g. ethnic group, urban/rural indicator, and tenure) but not used within the final model as they were not significant. The non-response adjustment factors were equal to the inverse of the predicted probabilities from the fitted model. They were applied to [wtc] to obtain the pre-calibration weights: [wtc_adj].

Calibration

Calibration weighting of [wtc_adj] was used to improve precision and reduce the bias of population estimates produced by the sample, by adjusting the sample's design weights [wtc_cal]. The calibration adjusted the design weights produced, to reproduce known population totals at specified levels of aggregation. ONS population figures (which were calibrated to the month of August 2017) were used to calibrate by age group (2 to 4, 5 to 9, 10 to 15, 16, 17 to 19), sex and region for those aged 2 to 19. Age group was based on a participant's age on 31st August 2017.

The calibration considered but did not use data about the number of people in Higher Education, Further Education and Secondary education. The reason for this was that data from the Higher Education Statistics Agency (HESA) are from a point in time which is believed to be during the first part of the academic year. It gives the number of students under the age of 20 at the time of the Census (ONS, 2012); however, for calibration purposes, data would be required at time of the MHCYP 2017 interview. Upon review of the calibrated weights, the number of students in the weighted MHCYP data were close to the estimated number of students in HESA data (about 310,000).

Teacher non-response adjustment

To account for the difference between participants aged 5 to 16 years who had a teacher questionnaire and those without, a teacher adjustment factor was applied to reduce the bias between teacher response and teacher non-response. As children aged 2 to 4 and young people aged 17 to 19 were not eligible for a teacher interview, an adjustment factor was not applied to their ratings. This should be kept in mind when comparing rates of mental disorders across age groups.

In order to maintain consistency with the 1999 (Meltzer et al., 2000) and 2004 surveys (Green et al., 2005), a single teacher factor was calculated for each mental disorder type and applied across all 5 to 16 year olds (see Table 9). The 2017 survey implemented a small improvement to calculate adjustments on weighted data as opposed to raw survey data as the method applied in 2004. This had a minimal impact to teacher adjustment factors compared to the 2004 approach; however, the new approach reduced the bias in the factors as they were representative of the whole population not purely the unweighted survey data.

Table 19: Teacher adjustment factors for 5 to 16 year olds

Any disorder	1.06
Emotional disorder	1.03
Behavioural disorder	1.07
Hyperactivity disorder	1.00
Less common disorder	1.10

Example of application of teacher factors

This example shows how the teacher adjustment factor was applied to the number of children aged 5 to 16 with a disorder.

Step one: applying the population weight to the proportion of children with and without a disorder.

Weighted proportion of children aged 5 to 16 with any disorder = **11.1%**

Weighted proportion of children aged 5 to 16 with no disorder = **88.9%**

Step two: multiplying the prevalence of children with any disorder by the corresponding adjustment factor (see Table 19).

Adjusted proportion of children aged 5 to 16 with any disorder = $11.1\% \times 1.06 =$
11.8%

Step three: calculating the adjusted proportion of children with no disorder by subtracting the adjusted prevalence rate from 100%.

Adjusted number of children aged 5 to 16 with no disorder = $100\% - 11.8\% =$
88.2%

Data analysis and reporting

MHCYP 2017 is a cross-sectional survey concerning the general population of children and young people aged 2 to 19 years old. Survey data was analysed using statistical software (SPSS, SAS and STATA), with results from the survey published in a series of topic reports:

- Trends and characteristics
- Emotional disorders
- Behavioural disorders
- Hyperactivity disorders
- Autism spectrum, eating and other less common disorders
- Predictors of mental disorders
- Multiple conditions and wellbeing
- Professional services, informal support, and education
- Behaviours, lifestyles, and identities
- Preschool children

In addition, a Summary Report was published pulling together the key points from each topic report.

Each report looks at the associations in the data between mental health, personal characteristics and behaviour. Cross-sectional survey data like these can be used to profile circumstances and associations at one point in time, but cannot show whether one factor caused another.

Trend analysis

By keeping much core coverage consistent across the previous MHCYP surveys, this series is well placed for the examination of trends. Trend analyses are restricted to the demographic covered on all surveys: those aged 5 to 15 and living in England, and only covers disorders included on every survey in the series, so that any change over time can be traced with a comparable measure. It does not include BDD or any of the disorders added in 2017. It is our best measure for understanding trends over time.

Standard analysis breaks

Most of the disorders covered in this report and reported in the tables are analysed by a core set of breaks: age, sex, ethnic group, general health, parent's mental health, special educational needs, family functioning, household income, neighbourhood deprivation and region.

Demographics

Alongside age and sex, disorders were examined by ethnic group.

Ethnic group

Participants identified their ethnic group according to one of 18 groups (including 'other - please describe') presented on a show card. These groups were drawn from the ONS harmonised ethnic group questions for use on national surveys⁹. The groups were subsumed under five headings: White British, White other, Black/African/Caribbean/Black British, Asian/Asian British, Mixed/Multiple ethnic groups/Other ethnic group. About a quarter (24.5%) of the sample (2,233 participants) identified with an ethnic group other than White British. This is slightly lower than the combined prevalence of these groups in England in the 2017 School Census (ONS, 2017) (31.3%). Ethnic group-related results should also be interpreted with caution due to the great variability that exists within ethnic groups. Additionally, the small sample sizes of some of the ethnic groups may mean that low prevalence rates cannot be confidently detected.

Health

General health

Parents and young people were asked to rate the child or young person's health in general on a five-point scale: very good, good, fair, bad, very bad. It should be noted that when young people and their parents assessed general health they are likely to have considered both mental and physical health.

Special educational needs

Parents and young people aged 16 were asked whether the child or young person had any special educational needs¹⁰. Special educational needs refer to the needs of a child who has a difficulty or disability which makes learning harder for them than for other children their age. It should be noted that the same condition might have been counted both as the special educational need and as the mental disorder present.

Socioeconomics

The survey collected measures of wealth and deprivation at both a household and area level. It is likely that these measures will be related to an extent and so the results should be considered together.

Equivalent household income

In MHCYP, the income of household members was collected using a show card listing personal and household gross income bands. This was broken down on the show card by annual income, monthly income and weekly income. It was then adjusted

⁹<https://www.ons.gov.uk/methodology/classificationsandstandards/measuringequality/ethnicgroupnationalidentityandreligion>

¹⁰ More information can be found here: <https://www.gov.uk/children-with-special-educational-needs>

according to the number of people in the household to provide the equivalised household income.

Equivalised household income refers to household income that has been recalculated to take into account the size of the household and the household composition. Equivalised income is a useful measure because households with more members are likely to need a higher income to maintain the same standard of living as households with fewer members.

Equivalised household income is derived by giving each member of the household a score based on the number of adults apart from the household reference person and the age of dependent children. Dividing total household income by the sum of these scores provides the measure of equivalised household income. All household members were assigned to the equivalised household income quintile to which their household had been assigned.

Welfare benefits

Benefits and income information was collected for the parents of the selected person (or just of the young person, if applicable). Using show cards, participants were presented with a list of employment and disability benefits and asked if they were in receipt of any of these, either personally or on behalf of another person.

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: 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

Neighbourhood deprivation was measured using the Index of Multiple Deprivation (IMD). 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. Seven distinct deprivation domains have been identified in the English Indices of Deprivation. These are:

- Income deprivation
- Employment deprivation
- Health deprivation and disability
- Education skills and training deprivation

- Barriers to housing and services
- Living environment deprivation
- Crime

These individual domains can be used either in isolation (as measures of each specific form of deprivation) or combined into a single, overall IMD.

The IMD is frequently used by researchers to:

- Analyse patterns of deprivation
- Identify areas that would most benefit from interventions, initiatives and programmes
- Determine eligibility for specific funding streams

Region

The regional measure in most of the topic reports was based on the former Government Office Regions. Government offices for the regions (GOR) were established across England in 1994, and have now been superseded by a preference for local area analysis. However, there is still a requirement to maintain a region-level geography for statistical purposes¹¹.

Table 20: Estimated population of 2 to 19 year olds by GOR (thousands)

Region	2 to 4 year olds	5 to 10 year olds	11 to 16 year olds	17 to 19 year olds
North East	89	185	167	94
North West	266	538	484	254
Yorkshire and the Humber	199	406	364	199
East Midlands	169	347	312	175
West Midlands	221	446	405	213
East of England	229	466	413	203
London	371	702	580	278
South East	328	689	618	317
South West	185	385	350	193

Footnotes

Population estimates based on 2017 mid-year estimates for England (see further <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2017>)

Family

Parent's mental health

Parents were asked the 12-item General Health Questionnaire (GHQ12). The GHQ12 is a screening device for identifying minor psychiatric disorders that assesses participant's current state and the extent to which it differs from their usual state making it sensitive only to short-term psychiatric disorder rather than longstanding

¹¹ <https://www.ons.gov.uk/methodology/geography/ukgeographies/administrativegeography/england>

respondent attributes. The questionnaire specifically focuses on the inability to carry out normal functions and the appearance of new and distressing phenomena. Scores range from 0 (no psychological distress) to 12 (severe psychological distress). A score of 4 or more is generally considered indicative of the presence of a common mental disorder.

Family functioning

The General Functioning Scale of the McMaster Family Activity Device (FAD) was used to estimate family functioning. The scale comprises 12 statements, all rated on a 4-point scale: strongly agree, agree, disagree, strongly disagree. Research has shown that the scale had good reliability, internal consistency and validity in distinguishing non-clinical families from those attending a psychiatric service (Miller et al., 2000). A score of 2 or below indicated 'healthy' family functioning while a score above 2 indicated 'unhealthy' family functioning.

How to interpret item and unit non-response

Non-response can have a large impact on the accuracy of a survey that is voluntary. This can take the form of unit non-response (where invited participants do not take part in the survey) and item non-response (where participants taking part in the survey do not provide a response to all questions).

Unit non-response can be a problem when those who were invited to take part in the survey differ significantly in characteristic than those who took part. For example, if the majority of non-responders were participants living in neighbourhoods of the highest deprivation, then this would introduce a bias in the results. This survey has applied a non-response adjustment to reduce the impact of non-response bias (see Weighting the data section), however users should still be mindful of the impact non-response has on estimates from this survey.

Item non-response is where a participant fails to answer a question in a survey, either in-full or in-part. Item non-response introduces problems such as non-response bias; this is where there are considerable differences in the respondents who participated and those who did not. For example, if some children of parents with a mental disorder did not disclose they were in receipt of benefits then the rate of mental disorders would be underestimated for those in receipt of benefit. For this survey, there were two main reasons for item non-response:

- Participants were unable or unwilling to provide an answer to the question (for example, not being able to provide household income information)
- Participants were not asked questions due to either requiring:
 - a parent interview, which resulted in high levels of non-response for interviews with 17 to 19 year olds. This was because participants aged 17 to 19 were eligible to be interviewed without a parent present, and in these instances some questions related to socioeconomic status and family characteristics were not asked
 - self-completion with a child or young person. Some questions were only asked of children and young people via self-completion due to sensitivities of topics. If an interview was not possible with a child or young person, then item non-response occurred for these questions, potentially introducing bias to these estimates. This is particularly relevant for topics such as smoking, drinking and drug use. Base sizes are shown in all topic report tables, which indicate the number of children and young people who responded to each question.

Table 21 presents the levels of item non-response for the standard break variables by each age group. Findings in the individual topic reports have excluded cases with item non-response. This assumes that the characteristics of participants who answered each question are the same of those who did not provide an answer. However once again users should be mindful of the impact non-response has on estimates from this survey.

Table 21: Item non-response by standard break variables

	2 to 4 year olds	5 to 10 year olds	11 to 16 year olds	17 to 19 year olds
Ethnic group	1 (0%)	1 (0%)	1 (0%)	0 (0%)
Equivalised household income	140 (9.6%)	331 (9.2%)	354 (11.3%)	518 (55.3%)
Income related benefits	133 (9.1%)	260 (7.2%)	335 (10.7%)	577 (61.6%)
Disability benefits	135 (9.2%)	273 (7.6%)	338 (10.8%)	576 (61.5%)
Neighbourhood deprivation	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Region (GOR)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Family functioning	27 (1.8%)	53 (1.5%)	80 (2.6%)	529 (56.5%)
Parent mental health	21 (1.4%)	44 (1.2%)	61 (2%)	525 (56.1%)
General health	1 (0.1%)	0 (0%)	1 (0%)	0 (0%)
Special educational needs	11 (0.8%)	22 (0.6%)	23 (0.7%)	519 (55.4%)

Sampling errors and design factors

The 2017 sample was designed to represent the whole population of English children and young people. Therefore, the statistics based on this survey are not the actual rates; instead they are estimates subject to a margin of error, which is presented in the form of a 95% confidence interval.

The sampling error measures the extent to which estimates of population parameters (such as percentages) would vary if calculated repeatedly for many samples. For instance, in several random samples of children and young people, it is unlikely that mental disorder prevalence rates would be identical, they would instead vary between samples. Sampling error is a measure of this variability and is needed to calculate confidence intervals and statistical significance tests.

Relative Standard Errors (RSE) were calculated to show the size of the standard error relative to the estimate. The RSE is calculated by dividing the standard error of a survey estimate by the survey estimate itself, and then multiplying by 100. For this report, a relative standard error:

- Less than 5% indicates estimates are considered precise
- Greater than or equal to 5% and less than 10% indicates estimates are considered reasonably precise
- Greater than or equal to 10% and less than 20% indicates estimates are considered acceptable
- Greater than or equal to 20% indicates estimates are not generally considered reliable for practical purposes. In some instances, estimates with an RSE greater or equal to 20% have been published for low prevalence estimates in order to make estimates accessible to users, however these estimates should be treated with appropriate caution

Confidence intervals are used to make inferences about the values of a particular variable within a population (such as the prevalence of mental disorders in children and young people). They aid interpretation of data by identifying the range, within which, the true population percentage (or another summary statistic) most likely lies. Typically, 95 per cent confidence intervals are calculated. These indicate that if several random samples were drawn from the population the true percentage for a particular variable would lie within this range in 95 per cent of the samples.

Confidence intervals are influenced by the size of the sample on which the estimate is based. Larger sample sizes typically result in smaller confidence intervals and, therefore, more precise estimates.

The 2017 survey utilised a complex sample design. Furthermore, weights were applied when obtaining survey estimates. Using complex designs and weighting can increase standard errors and confidence intervals for survey estimates compared to those that would be derived from an unweighted, simple, random sample of the same size. Standard errors have been calculated, taking sample design complexity and weighting into account.

The design factor (Deft) estimates the effects of design complexity on the precision of estimates. Specifically, it represents the ratio of the standard error under a complex design and the standard error that would have resulted from a simple random sample. For example, a design factor of 3 indicates that standard errors are three times as large as they would have been in the case of a simple random sample. The sampling errors, relative standard errors, confidence intervals and design factors are presented in Appendix A of this report. The calculations were carried out using the statistical software Stata - an additional procedure was written to account for the effect of weighting as the available Stata procedures can only account for the complex sample design.

Data for approved researchers

Approved researchers seeking to undertake secondary analysis of the 2017 survey will be able to apply for access via NHS Digital. Access will be made available from 2019. Users interested in accessing data should contact enquiries@nhsdigital.nhs.uk.

Quality, Value and Trustworthiness

This survey and associated topic reports are classed as official statistics. Official statistics comply with the UK Statistics Authority's Code of Practice for statistics, which promotes the production and dissemination of official statistics that inform decision making.

By complying with the code of practice for statistics, users can be assured that the results from this survey are of high quality, public value and worthy of trust.

This survey has ensured quality through the following measures:

- Utilising suitable data sources. By basing results on a representative sample of children and young people, users can be assured that statistics are based on a data source which is appropriate for its intended use
- Adopting sound methods, achieved by:
 - using the widely used and accepted DAWBA to estimate the prevalence of mental disorders in children
 - the adoption of a rigorous weighting strategy to limit the impact of non-response bias
 - collaboration with leading experts in the field of children's mental health and wellbeing (via the MHCYP steering group) to ensure appropriate methods were adopted on the survey
- Assuring quality, achieved by:
 - Ensuring accuracy through rigorous testing of the survey questionnaire, and building in automated validation checks to ensure reliable and consistent results were provided by participants
 - Delivering reliability through dual running all analysis conducted in the survey in multiple software packages, with results reviewed by a team of

experienced researchers and academics in the field of children's mental health

- Providing coherence by using the DAWBA to deliver results coherent with previous studies into the mental health of children and young people in England. Furthermore, each topic report provides contextual information about how the results from this survey relate to existing research
- Providing timely results through clear project management of timescales to ensure results from the survey are published at the earliest opportunity without compromising quality

Further information on the Code of Practice for Official Statistics can be found at <https://www.statisticsauthority.gov.uk/code-of-practice/>.

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