

Report 05: Changes in children and young people's mental health symptoms and 'caseness' during lockdown and patterns associated with key demographic factors

Date: 11 September 2020

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The Co-SPACE Study

Background

COVID-19 has caused major disruptions to families' lives, through social distancing, school closures and lockdown. This is also a rapidly changing situation where different pressures will arise for children, young people and their families over time. While research has provided valuable information about how parents can support their children's mental health in general, we know little about what is most effective in the current, changing context.

The Co-SPACE project is tracking the mental health of school-aged children and young people aged 4-16 years throughout the COVID-19 crisis. An online survey is sent out and completed on a monthly basis by parents/carers and young people (if aged 11-16 years) throughout the pandemic. The study has full ethical and data protection approval (ethical approval ref: R69060) and is fully GDPR compliant.

The findings will help identify what protects children and young people from deteriorating mental health over time, and at particular stress points. Findings will be shared directly with health and education services to inform the development and provision of effective support for children and families.

Recruitment & Sample

The study sample has been recruited through a variety of means, including social media, distribution through partner organisations, networks and charities, the media and targeted online advertising. The self-selecting nature of recruitment means that this will not be a nationally representative sample. In the current report, 92.3% of all participants who completed the questionnaire at baseline were female, presumably mothers. Furthermore, the majority of the baseline sample was employed, either part-time (35.9%) or full-time (37%), had an average income of >£30,000 (72.9%), and were white British (93.1%).

For the long-term, we are aiming to have good representation across a wide range of socio-demographic and health factors (e.g., income, ethnicity, pre-existing mental/physical health difficulties) to investigate the experiences for different groups that may be particularly vulnerable during and after the pandemic.

We are keen to recruit as many families as possible to the study. Parents/carers can sign up and take part at any point: <https://cospaceoxford.com/survey>

Funding

This research is funded by the Economic and Social Research Council (ESRC) as part of the UK Research and Innovation's rapid response to COVID-19 and the Westminster Foundation, and supported by the NIHR Oxford Health Biomedical Research Centre, the Oxford and Thames Valley NIHR Applied Research Consortium and the UKRI Emerging Minds Network Plus.

Focus of this report

Participants

To date, over 11,500 parents/carers and 1,300 adolescents have taken part in the Co-SPACE survey at baseline. We continue to collect data at baseline and on a monthly basis.

In this report we have focused on participants who completed the one month follow-up while the UK was within lockdown. Approximately half of the participants who completed the baseline survey in early lockdown (30/03/2020 - 30/04/2020) completed the survey again at follow up and completed the measure reported here (Strengths and Difficulties Questionnaire; SDQ).

Parents/carers who completed the measure at follow up were more likely than those who did not to be female, working part time (as opposed to full time, self-employed or not working), have a higher than average household income, be a parent of a primary school aged child and to have reported that their child had fewer behavioural difficulties at baseline (as measured by the SDQ) than those who did not complete the follow up survey. Further information about participants' characteristics at baseline and follow up can be found at the end of the report.

Data analysed

This report provides longitudinal data from 2,729 parents/carers who took part in both the baseline questionnaire and the first follow up questionnaire. These participants completed¹ the baseline questionnaire between 30/03/2020 and 30/04/2020. Each participant completed the follow up questionnaire approximately one month after having completed their baseline questionnaires.

In this report, we examined changes in children and young people's emotional, behavioural and restless/attentional difficulties, as reported by parents/carers, over a one-month period during lockdown before any easing of restrictions had taken place.

This was examined for the whole sample, as well as the following specific groups:

- By income (above or below a household income of £16,000 per annum)
- For single adult households (single adult household or not)
- By available household space (overcrowded or not)
- By access to outside space (access to outside space or not)

¹ 'Completion' of the baseline survey is based on participants having completed items up to and including the pre-defined main outcome measure (the Strengths and Difficulties Questionnaire – parent reporting on child).

Emotional, behavioural and restless/attentional difficulties were looked at in terms of:

- a) Symptom severity (i.e. continuous SDQ score)
- b) 'Caseness' (i.e. whether a mental health case is possible/probable or not)

When examining changes in symptom severity and caseness within the whole sample and by income and single adult households, we were also able to look at this by age group (child and adolescent). However, for household and outside space, there was insufficient data in some groups to reliably analyse the sample by age group.

Measurement of difficulties

This report uses the Strengths & Difficulties Questionnaire (SDQ) to measure emotional, behavioural and restless/attentional difficulties. This is a well-validated questionnaire for symptom scores and caseness categorisation. There are versions for parents/carers (as well as young people's self-report). The following subscales are used in this report:

- Emotional difficulties (emotional symptoms subscale): items relate to the child being worried, afraid, unhappy, clingy and having physical symptoms of anxiety (e.g. whether the child is "Often unhappy, down-hearted or tearful", or has "many worries, often seems worried").
- Behavioural difficulties (conduct problems subscale): items relate to the child doing what they are asked, having tantrums, fighting, lying or stealing things (e.g. whether the child "often lies, or cheats", or is "generally obedient, usually does what adults request").
- Restless/attentional difficulties (hyperactivity/inattention subscale): items relate to the child being restless, fidgety, distractible, impulsive and having a good attention span (e.g. whether the child "sees tasks through to the end, good attention span", or is "restless, overactive, cannot stay still for long").

Each subscale consists of 5 items which are summed to compute a total score, with a maximum score of 10 indicating the most severe difficulties.

In addition, caseness was computed for each difficulty to indicate where difficulties are likely (i.e., possible or probable) to meet diagnostic criteria for either an emotion disorder (e.g. anxiety or depression), a conduct disorder (e.g. conduct disorder or oppositional defiant disorder) or hyperactivity disorder (e.g. Attention Deficit Hyperactivity Disorder; ADHD). Algorithms for determining caseness are based on parent-reported SDQ symptom score *and* ratings of interference in daily life.

For this report, participants were either a case (suggesting that they were likely to have significant problems due to symptoms being at a level that may meet diagnostic criteria and causing interference or impairment in the young person's life) or a non-case (where diagnosis is unlikely).

Key findings

Within the Co-SPACE sample, on the basis of parent report, over a one-month period early in lockdown:

- In primary school aged children, there were mean increases in emotional, behavioural and restlessness/inattention difficulties. The proportion of children likely to have *significant* difficulties (i.e., meet diagnostic criteria for a clinical diagnosis) in one of these 3 areas also increased, by up to 35%.
- In young people of secondary school age, there was a reduction in emotional difficulties, no change in behavioural difficulties and a slight increase in restlessness/inattention. The proportion of young people within this age range likely to have *significant* emotional difficulties did not change but did increase for difficulties with behaviour and restlessness/inattention.
- For children and young people from low income households, emotional and attention difficulties (and behaviour difficulties for primary school aged children) were consistently elevated compared to those from higher income households, with around two and a half times as many children experiencing significant problems in low income households.
- There were similar levels of emotional, behavioural and restless/attention difficulties for children and young people from single and multiple adult households, but primary school aged children from single adult households were reported as having more emotional difficulties than those from multiple adult households throughout lockdown.

Findings

Reminder: This sample is not nationally representative. Parents/carers and their children were typically from high-income, white British households, and parents/carers were typically working full- or part-time. Further demographic information about participants can be found at the end of the report.

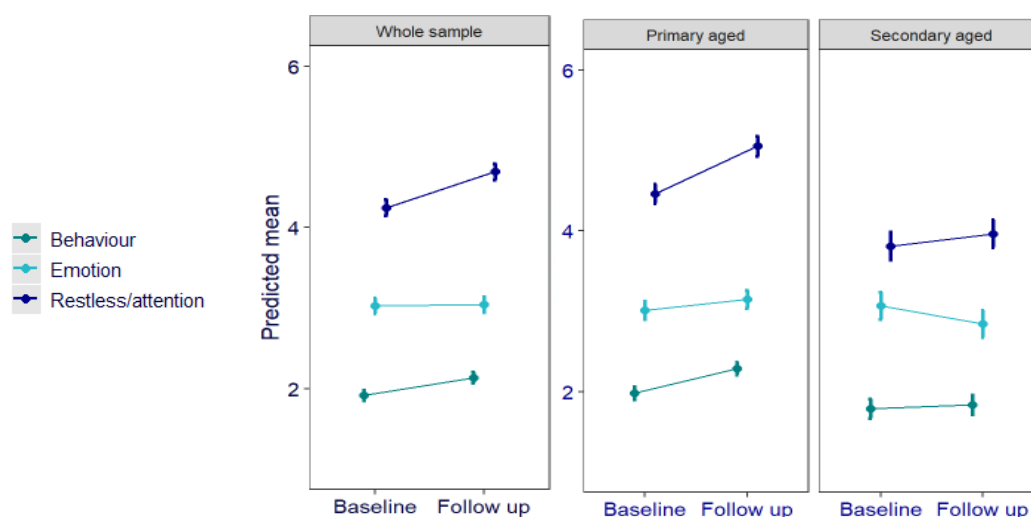
Unless stated otherwise, each analysis accounted for the effects of child age group (for those not stratified by age group), gender, ethnicity, household income (above/below £16,000 p.a.), and parental employment status.

For plots of SDQ symptoms, scores represent means predicted by the models that were used to analyse the data. In other words, these are the expected means after taking account of other factors (e.g. child age, gender, etc.). These scores are presented with confidence intervals, which indicate the range of values that are likely to contain the true population mean. Factors affecting the width of the confidence interval include the size and variability of the sample; a larger sample will tend to produce a better estimate of the population mean (and therefore smaller confidence intervals). For the caseness data, proportions (%) have been calculated from the raw data.

The Whole Sample (ages 4-16 years)

a) SDQ Symptoms

Figure 1. Mean parent/carer reported SDQ emotion, behaviour and restlessness/attention scores at baseline and 1-month follow up for the whole sample and stratified by age group.



	Whole sample		Primary aged		Secondary aged	
	Baseline	Follow up	Baseline	Follow up	Baseline	Follow up
Behaviour	1.9	2.1	2.0	2.3	1.8	1.8
Emotion	3.0	4.0	3.0	3.2	3.1	2.8
Restless/attention	4.3	4.7	4.5	5.1	3.8	4.0

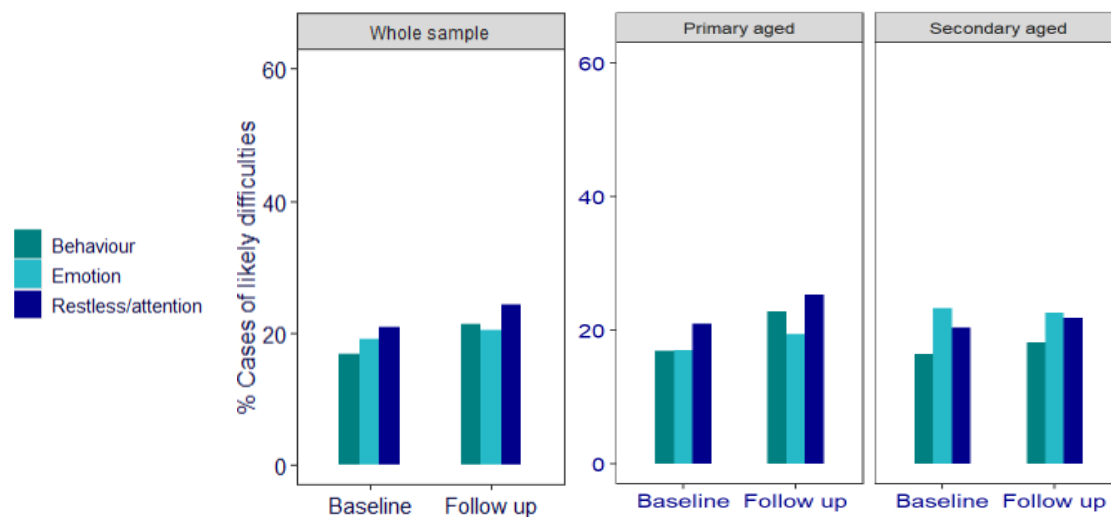
As reported in Report 04, parents/carers of primary school aged children reported an increase in emotional difficulties over one month at the beginning of lockdown, whereas parents/carers of secondary school children reported a decrease in emotional difficulties over time.

Parents/carers of children, but not adolescents, reported an increase in young people's behavioural difficulties over time.

Parents/carers of both children and adolescents reported an increase in young people's restless/attentional difficulties over time.

b) SDQ Caseness

Figure 2. Percentage of parent/carers reporting SDQ emotion, behaviour and restlessness/attention caseness at baseline and 1-month follow up, overall and stratified by age group



	Whole sample		Primary aged		Secondary aged	
	Baseline	Follow up	Baseline	Follow up	Baseline	Follow up
Behaviour	16.8	21.3	16.9	22.8	16.4	18.1
Emotion	19.1	20.5	17.0	19.4	23.3	22.6

Restless/attention	20.8	24.2	21.0	25.4	20.4	21.9
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A higher proportion of parents/carers of primary school aged children indicated that their child may have significant emotional difficulties in the follow up survey than in the baseline survey one month earlier (14% increase).

However, there were not marked differences in the proportion of parents/carers of secondary school aged children who indicated that their child may have significant emotional difficulties in the follow up survey than in the baseline survey one month earlier.

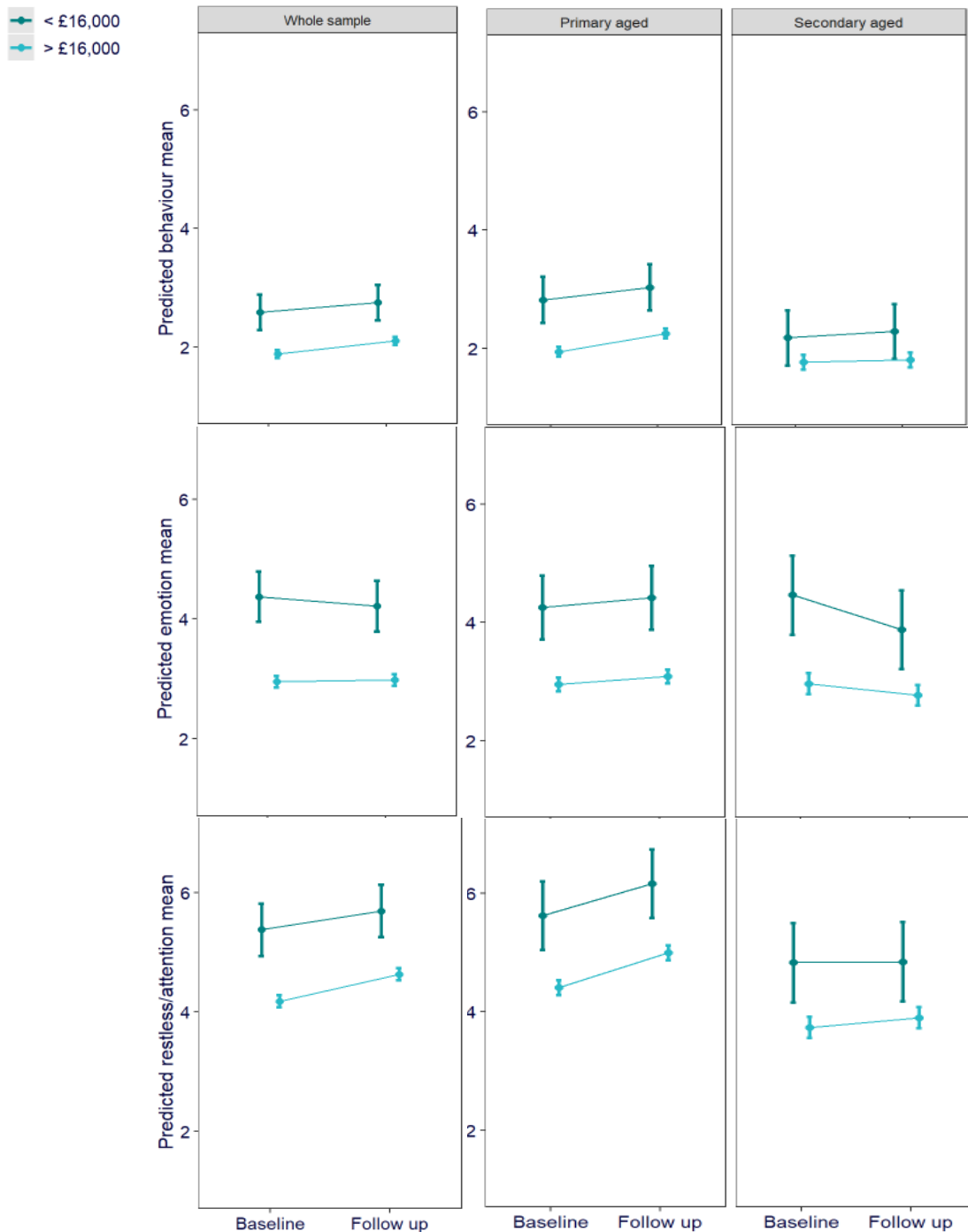
A higher proportion of parents/carers of both primary and secondary school aged children indicated that their child may have significant behavioural (primary - 35% increase; secondary – 10% increase) and restless/attentional difficulties (primary - 21% increase; secondary – 7%) in the follow up survey than in the baseline survey one month earlier.

Household Income above and below £16,000

Approximately 6% of parents/carers who completed the baseline survey reported a low regular household income of less than £16,000 per year.

a) SDQ Symptoms

Figure 3. Mean parent/carer reported SDQ emotion, behaviour and restlessness/attention score for households with a regular income of <£16,000 at baseline and 1-month follow up, overall and stratified by age group.



		Whole sample		Primary aged		Secondary aged	
		Baseline	Follow up	Baseline	Follow up	Baseline	Follow up
Behaviour	<£16,000	2.6	2.8	2.8	3.0	2.2	2.3
	>£16,000	1.9	2.1	1.9	2.3	1.8	1.9
Emotion	<£16,000	4.4	4.2	4.3	4.4	4.5	3.9
	>£16,000	3.0	3.0	3.0	3.1	3.0	2.8
Restless/attention	<£16,000	5.4	5.7	5.6	6.2	4.8	4.9
	>£16,000	4.2	4.6	4.4	5.0	3.7	3.9

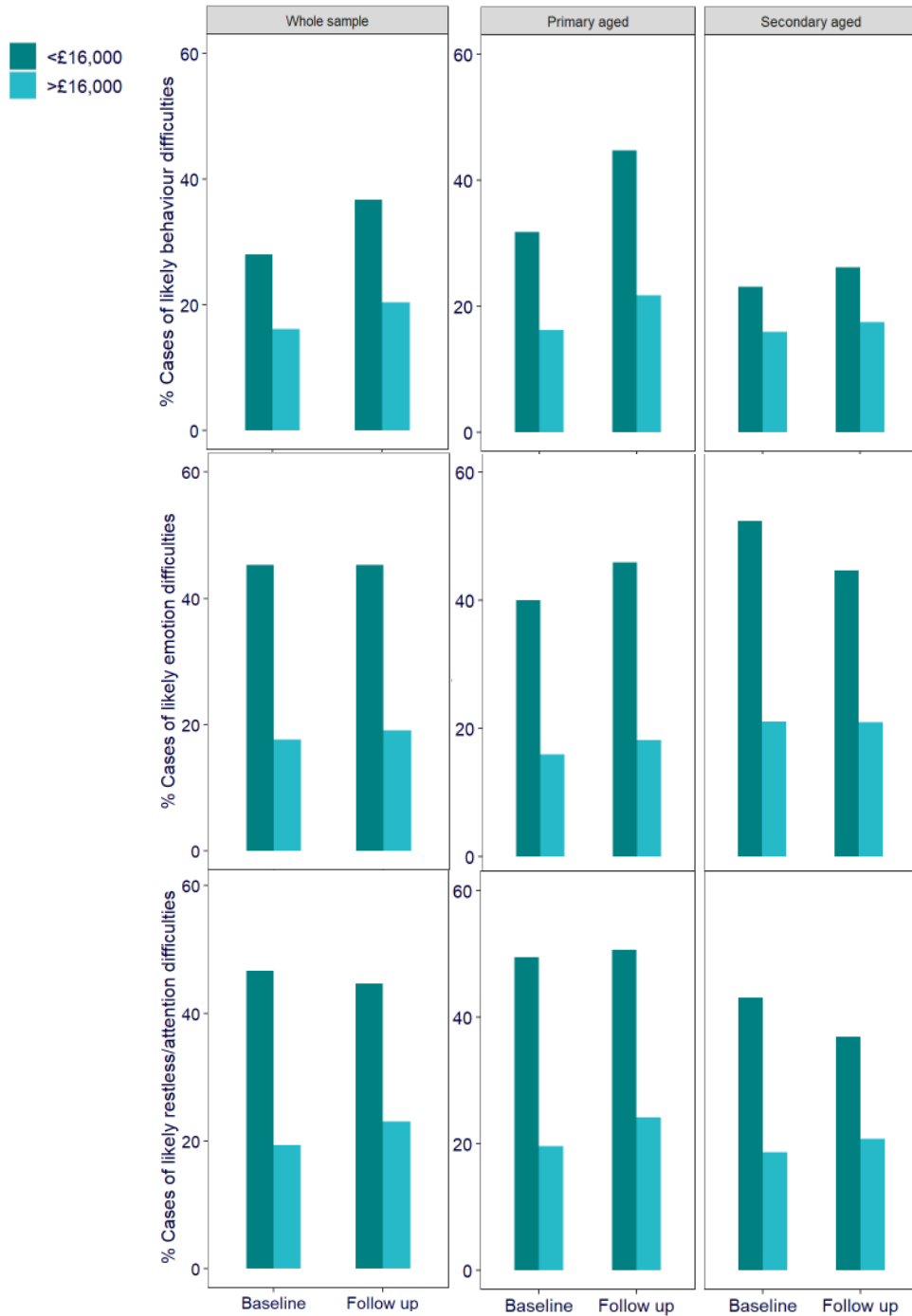
Parents/carers from low income households (below £16,000 p.a.) consistently reported more emotion and restless/attention difficulties than those from higher income households (above £16,000 p.a.) in children of both primary and secondary school age.

Parents/carers of primary school children from low income households also reported more behavioural difficulties than those from higher income households. This difference was less pronounced in reports from parents/carers of young people of secondary school age.

Change in parent/carer reports of their child’s emotional, behavioural or restless attentional difficulties over a one-month period at the beginning of lockdown did not appear to differ on the basis of income (above or below £16,000 p.a.)

b) SDQ caseness

Figure 4. Percentage of parent/carers reporting SDQ emotion, behaviour and restlessness/attention caseness for households with a regular income of <£16,000 at baseline and 1-month follow up, overall and stratified by age group.



		Whole sample		Primary aged		Secondary aged	
		Baseline	Follow up	Baseline	Follow up	Baseline	Follow up
Behaviour	<£16,000	28.0	36.7	31.8	44.7	23.1	26.2
	>£16,000	16.1	20.4	16.2	21.8	15.9	17.5
Emotion	<£16,000	45.3	45.3	40.0	45.9	52.3	44.6
	>£16,000	17.6	19.1	15.9	18.1	21.1	21.0
Restless/attention	<£16,000	46.7	44.7	49.4	50.6	43.1	36.9
	>£16,000	19.3	23.0	19.7	24.2	18.7	20.8

Across both time points, a consistently higher proportion of parents/carers from low income households (below £16,000 p.a.) indicated significant emotion (2.6 times as many at baseline and 2.4 times as many at follow-up) and restless/attention (2.4 times as many at baseline and 1.9 times as many at follow up) difficulties than those from higher income households (above £16,000 p.a.) in children of both primary and secondary school age.

A higher proportion of parents/carers of primary school children from low income households also indicated significant behavioural difficulties than those from higher income households (2.0 times as many at baseline and 2.1 times as many at follow up). This difference was less pronounced in reports from parents/carers of young people of secondary school age.

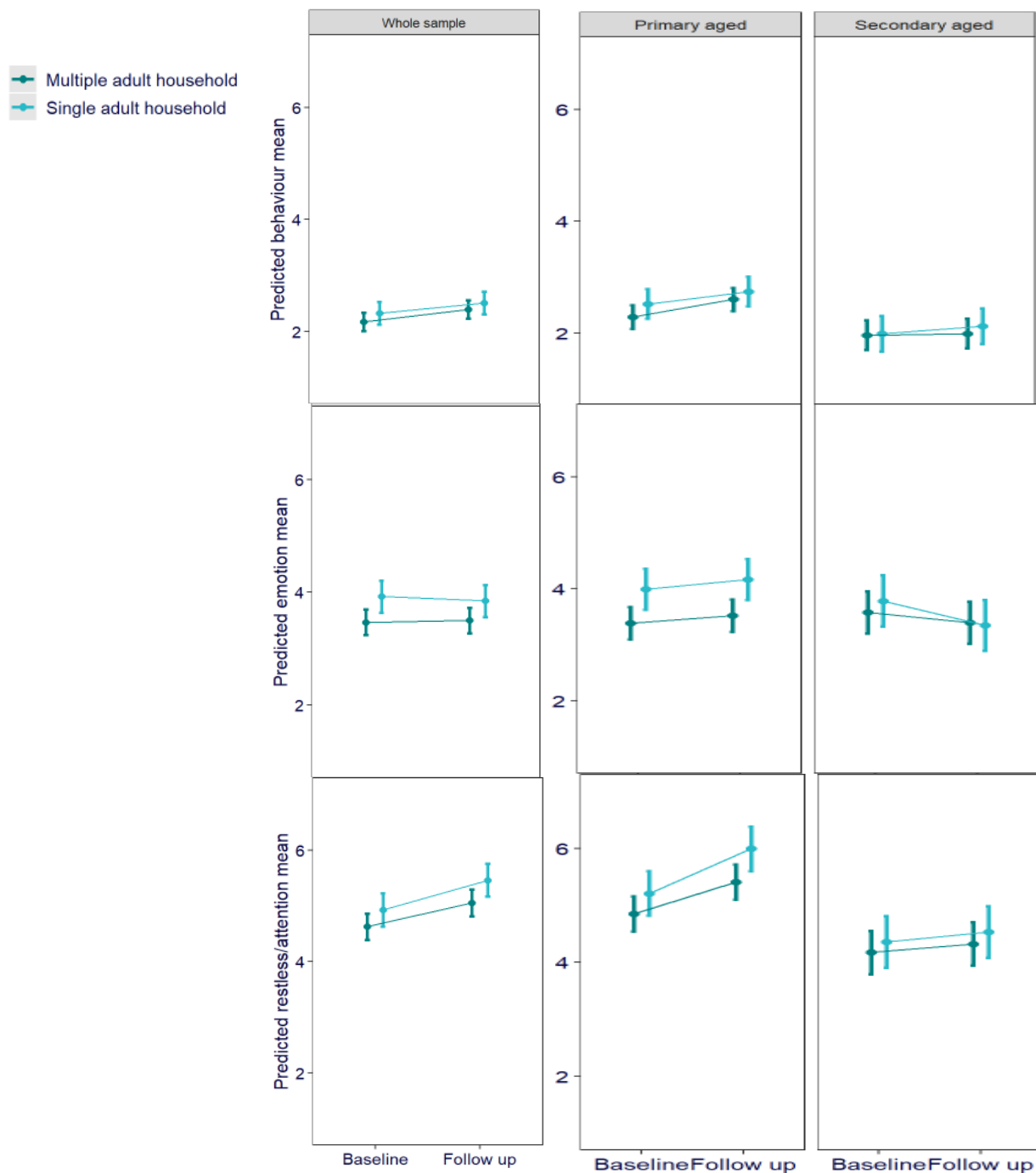
For secondary school aged children, the difference in the proportion of parents/carers indicating significant restless/attention difficulties between those on low and higher incomes narrowed at follow up compared to baseline.

Single adult households

Parents/carers were asked about the people living in their household and their ages. Approximately 15% of parent/carers reported that there was only one individual over the age of 18 years living in the household.

a. SDQ symptoms

Figure 5. Mean parent/carer reported SDQ emotion, behaviour and restlessness/attention score for households with one or multiple adults at baseline and 1-month follow up, overall and stratified by age group.



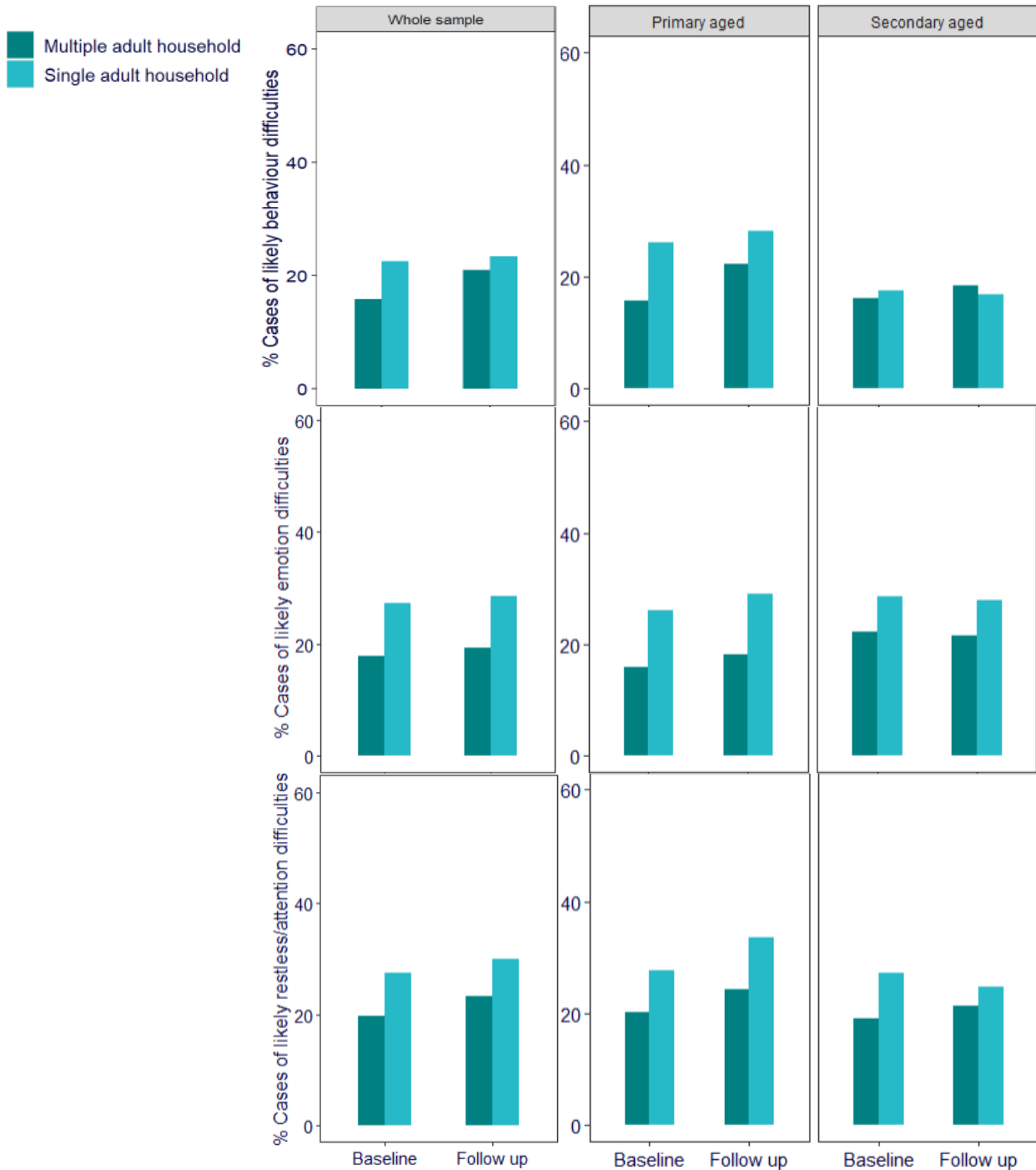
		Whole sample		Primary aged		Secondary aged	
		Baseline	Follow up	Baseline	Follow up	Baseline	Follow up
Behaviour	Multi adult	2.2	2.4	2.3	2.6	2.0	2.0
	Single adult	2.3	2.5	2.5	2.7	2.00	2.1
Emotion	Multi adult	3.5	3.5	3.4	3.5	3.6	3.4
	Single adult	3.9	3.9	4.0	4.2	3.8	3.4
Restless/attention	Multi adult	4.6	5.1	4.9	5.4	4.2	4.3
	Single adult	4.9	5.5	5.2	6.0	4.4	4.5

Across the whole sample parents/carers from both single and multiple adult households reported similar levels of emotional, behavioural and restless/attention difficulties, however parents/carers of primary school aged children from single adult households generally rated their child as having more emotional difficulties than parents/carers of children from multiple adult households.

The *change* in parent/carer reports of their child's emotional, behavioural or restless attentional difficulties over one month at the beginning of lockdown was similar for single and multiple adult households.

b. SDQ caseness

Figure 6. Percentage of parent/carers reporting SDQ emotion, behaviour and restlessness/attention caseness for households with one or multiple adults at baseline and 1-month follow up, overall and stratified by age group



		Whole sample		Primary aged		Secondary aged	
		Baseline	Follow up	Baseline	Follow up	Baseline	Follow up
Behaviour	Multi adult	15.9	20.9	15.7	22.2	16.2	18.4
	Single adult	22.6	23.4	26.2	28.0	17.5	16.9
Emotion	Multi adult	17.9	19.3	15.8	18.2	22.2	21.6
	Single adult	27.2	28.3	26.2	29.0	28.6	27.9
Restless/attention	Multi adult	19.8	23.3	20.2	24.3	19.0	21.3
	Single adult	27.4	29.9	27.6	33.6	27.3	24.7

The proportion of parents/carers from single adult households indicating significant emotional (1.5 times as many at both baseline and follow up) and restless/attention difficulties (1.4 times as many at baseline and 1.3 times as many at follow up) was *consistently higher* than the proportion of those from multiple adult households.

For secondary school aged children, the difference in the proportion of parents/carers indicating significant restless/attention difficulties narrowed over one month at the beginning of lockdown due to a slight increase in parents/carers from multiple adult households indicating significant difficulties.

The proportion of parents/carers of primary school aged children from single adult households indicating that their child had significant behavioural difficulties was higher than the proportion of parents/carers of primary school children from multiple adult households (1.7 times as many at baseline and 1.3 times as many at follow up). This difference narrowed over one month at the beginning of lockdown due to a slight increase in parents/carers from multiple adult households indicating significant difficulties.

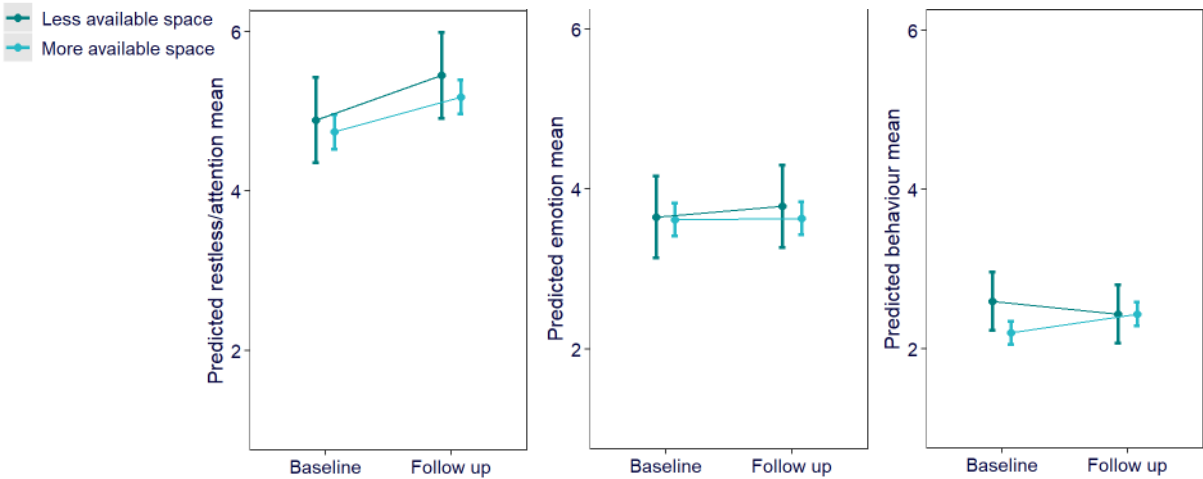
A similar proportion of parents/carers of secondary school aged children from multiple and single adult households indicated that their child may have significant behavioural difficulties.

Available space in the house

The number of people per room (PPR) was calculated by dividing the number of people in the house by the number of rooms in the house (excluding the bathroom and kitchen). As is convention in the PPR calculation, houses were considered ‘overcrowded’ where there is more than one person per room. Approximately 4% of the households of parents/carers who completed both the baseline and follow up surveys were considered overcrowded by this metric. *Given the small numbers of households classified as in an overcrowded household’, we have not looked at the results by age and findings should be interpreted with caution.*

a. SDQ symptoms

Figure 7. Mean parent/carer reported SDQ emotion score for children from overcrowded and not overcrowded households at baseline and 1-month follow up.



	Less available space		More available space	
	Baseline	Follow up	Baseline	Follow up
Behaviour	2.6	2.4	2.2	2.4
Emotion	3.7	3.8	3.6	3.6
Restless/attention	4.9	5.5	4.5	5.2

There were no clear differences in SDQ symptoms on the basis of overcrowding at either time point or over time.

b. SDQ caseness

Figure 6. Percentage of parent/carers reporting SDQ emotion, behaviour and restlessness/attention caseness for children from overcrowded and not overcrowded households at baseline and 1-month follow up.



Similar proportions of parents/carers from households with more or less available space indicated that their child may have significant emotional and restless/attentional difficulties across time points.

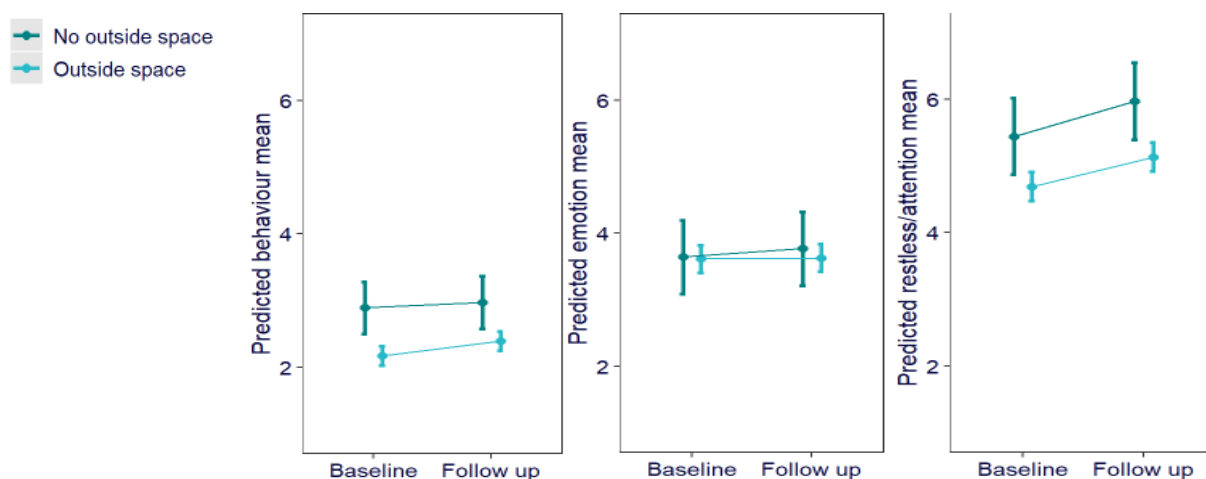
There was some indication that the difference in behavioural difficulties between the two groups narrowed over one month at the beginning of lockdown.

Access to outside space

Parents/carers were asked about whether the household had access to outside space where their children would be able to play or hang out currently. Approximately 3% of parents/carers who completed the baseline survey reported that they had no access to outside space. *Given the small numbers of households without access to outside space, we have not looked at the results by age and findings should be interpreted with caution.*

b. SDQ symptoms

c. Figure 7. Mean parent/carer reported SDQ emotion score for children with and without access to outside space at baseline and 1-month follow up.



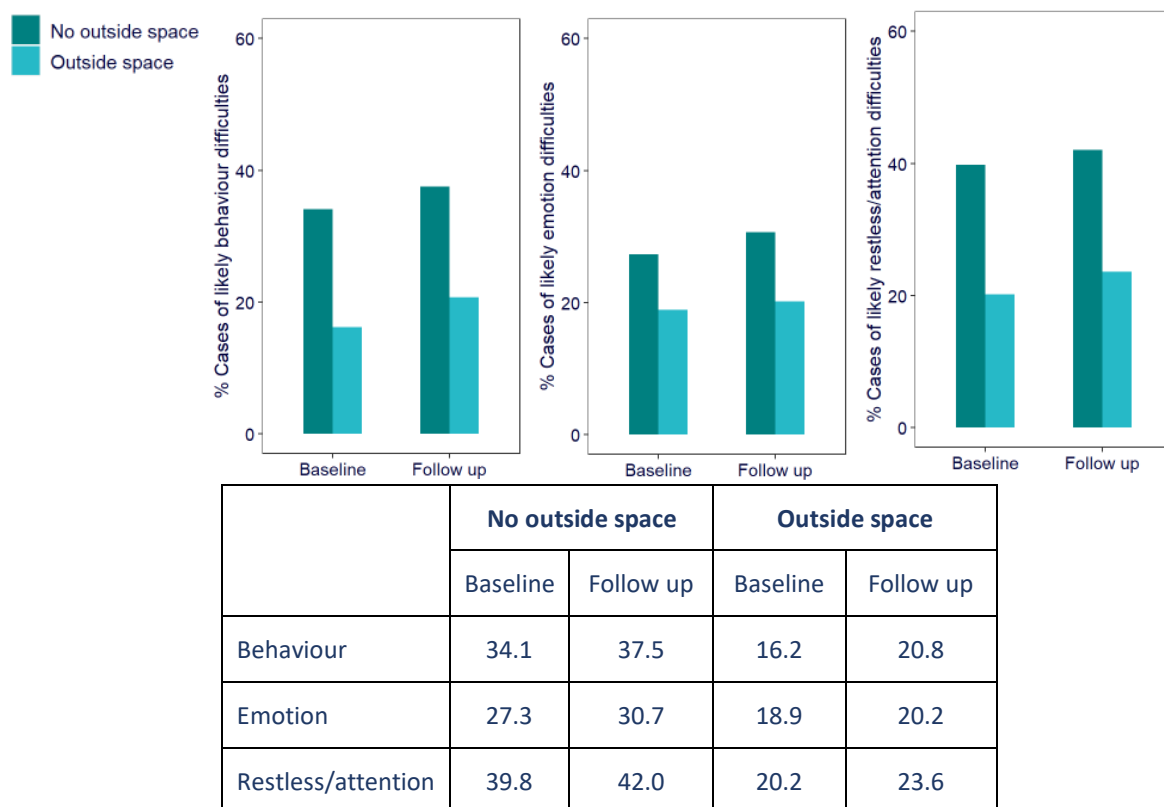
	No outside space		Outside space	
	Baseline	Follow up	Baseline	Follow up
Behaviour	2.9	3.0	2.2	2.4
Emotion	3.6	3.8	3.6	3.6
Restless/attention	5.5	6.0	4.7	5.1

Parents/carers from households with and without outside space gave similar reports of their child's emotional difficulties, across time-points, but parents/carers from households without outside space reported more child behavioural and restless/attentional difficulties than parents/carers from households with outside space at both time points.

The *change* in reported child emotional, behavioural or restless attentional difficulties over one month at the beginning of lockdown did not differ for those with and without access to outside space.

b. SDQ caseness

Figure 8. Percentage of parent/carers reporting SDQ emotion, behaviour and restlessness/attention caseness for children with and without access to outside space at baseline and 1-month follow up.



The proportion of parents/carers of children from households without outside space who indicated that their child was likely to have significant behavioural (2.1x – 1.8x), emotional (1.4x-1.5x) and restless/attentional difficulties (2.0x-1.8x) was consistently higher than the proportion of parents/carers of children with outside space.

However *change* in the proportion of parent/carer's indicating that their child may have a significant emotional, behavioural or restless/attentional difficulty over one month at the beginning of lockdown did not differ for those with and without access to outside space.

Appendix A

Participants' baseline demographics

		Baseline		Follow up 1 (took part)		Follow up 1 (did not take part)		National Figures (%)*
		n	%	n	%	n	%	
Total		5,280	100	2,729	100	2,551	100	-
Parent Gender	Female	4,870	92.2	2,567	94.1	2,303	90.3	51
	Male	384	7.3	151	5.5	233	9.1	49
	Other/Prefer not to say	26	0.5	11	0.4	15	0.6	-
Employment status	Not working	824	15.6	415	15.3	409	16.1	3.8
	Working full time	1,982	37.5	956	35	1,026	40.2	50.7
	Working part time	1,882	35.6	1,075	39.4	807	31.6	16.9
	Self employed	592	11.2	283	10.4	309	12.1	8.5
Household income	< £30,000	952	18	442	16.2	510	20	58
	> £30,000	3,953	74.9	2,090	76.6	1,863	73	42
	Prefer not to say	375	7.1	197	7.2	178	7	-
Child Gender	Female	2,533	48	1,302	47.7	1,231	48.3	52
	Male	2,709	51.3	1,407	51.6	1,302	51	48

	Prefer not to say	38	0.7	20	0.7	18	0.7	-
Child age group	Child (4-10)	3,327	63	1,808	66.3	1,519	59.5	55
	Adolescent (11-16)	1,953	37	921	33.7	1,032	40.5	45
Mental health problems	Any MH	801	15.2	405	14.8	396	15.5	12.8
	Depression	47	0.9	23	0.8	24	0.9	2.1
	Anxiety	254	4.8	123	4.5	131	5.1	7.2
	Other	109	2.1	47	1.7	62	2.4	-
	ASD	487	9.2	257	9.4	230	9	1.6
	ADHD	253	4.8	118	4.3	135	5.3	3-5
SEN	Any SEN	880	16.7	432	15.8	448	17.6	14.7
	Social/emotional	591	11.2	299	11	292	11.4	2.1
	Communication/interaction	429	8.1	225	8.2	204	8	2,7
	Cognitive/learning	438	8.3	210	7.7	228	8.9	4.4
	Sensory/physical	392	7.4	195	7.1	197	7.7	0.6
Ethnicity	Asian/Asian British - Indian, Pakistani, Bangladeshi, other	94	1.8	27	1	67	2.6	6.8
	Black/Black British - Caribbean, African, other	22	0.4	7	0.3	15	0.6	3.3
	Chinese/Chinese British	8	0.4	3	0.1	5	0.2	0.7

	Middle Eastern/Middle Eastern British - Arab, Turkish, other	25	0.5	5	0.2	20	0.8	0.4
	Mixed race - other	76	1.4	31	1.1	45	1.8	11
	Mixed race - White and Black/Black British	28	0.5	10	0.4	18	0.7	1
	Other ethnic group	30	0.6	13	0.5	17	0.7	0.5
	Prefer not to say	47	0.9	13	0.5	34	1.3	-
	White - British, Irish, other	4,950	93.8	2,620	96	2,330	91.3	86
Baseline SDQ Score Mean(sd)	Total	11.91 (7.12)		11.29(7.06)		11.68 (7.14)		-
	Emotions	3.16 (2.62)		3.04 (2.58)		3.01 (2.56)		-
	Behaviours	2.07 (1.9)		1.93 (1.83)		2.05 (1.97)		-
	Restlessness/attention	4.47 (2.8)		4.24 (2.8)		4.36 (2.73)		-
Baseline SDQ Caseness	Emotions	1,560	21.2	524	19.2	505	19.9	-
	Behaviours	1,481	20.1	463	17	526	20.7	-
	Restlessness/attention	1,739	23.6	570	20.9	557	22	-

*This data was extracted from the following sources on 12/05/2020:

<https://digital.nhs.uk/data-and-information/publications/statistical/mental-health-of-children-and-young-people-in-england/2017/2017>

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/z1zippedpopulationprojectionsdatafilesuk>

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/employmentintheuk/september2019#:~:text=Main%20points%20for%20May%20to%20July%202019,and%20unchanged%20on%20the%20quarter.>

<https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/bulletins/householddisposableincomeandinequality/yearending2018>

<https://www.gov.uk/government/collections/statistics-special-educational-needs-sen>

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/814244/SEN_2019_Text.docx.pdf

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