

COVID-19 Survey in Five National Longitudinal Studies

Waves 1, 2 and 3

User Guide (Version 4)

February 2024

Contact

Data queries: help@ukdataservice.ac.uk

Authors

Matt Brown, Emla Fitzsimons, Alissa Goodman, Andrew Peters, George B. Ploubidis, Aida Sanchez, Richard Silverwood, Kate Smith.

How to cite this guide

Brown, M., Fitzsimons, E., Goodman, A., Peters, A., Ploubidis, G.B., Sanchez, A., Silverwood, R., Smith, K. (2021) *COVID-19 Survey in Five National Longitudinal Studies: Waves 1, 2 and 3 User Guide (Version 3)*. London: UCL Centre for Longitudinal Studies and MRC Unit for Lifelong Health and Ageing.

This guide was published in June 2021 by the UCL Centre for Longitudinal Studies (CLS) and the MRC Unit for Lifelong Health and Ageing (LHA).

The UCL Centre for Longitudinal Studies (CLS) is an Economic and Social Research Council (ESRC) Resource Centre based at the UCL Social Research Institute, University College London. It manages four internationally-renowned cohort studies: the 1958 National Child Development Study, the 1970 British Cohort Study, Next Steps, and the Millennium Cohort Study. For more information, visit www.cls.ucl.ac.uk.

The MRC Unit for Lifelong Health and Ageing at UCL (LHA) is home to three major studies: MRC National Survey of Health and Development, Southall And Brent REvisited Study and LINKAGE-Camden. For more information, visit <https://www.ucl.ac.uk/cardiovascular/research/population-science-and-experimental-medicine/mrc-unit-lifelong-health-and-ageing-ucl>

This document is available in alternative formats. Please contact the Centre for Longitudinal Studies. For questions and feedback about this user guide:

tel: +44 (0)20 7612 6875

email: clsfeedback@ucl.ac.uk

Contents

1. Introduction	1
1.1 Background.....	1
2. Development.....	2
3. Fieldwork	2
3.1 Issued sample.....	3
3.2 Contact strategy	4
3.3 Incentives.....	7
3.4 Response.....	8
4. Overview of questionnaire	12
4.1 Overview	12
4.2 Scales	17
5. Survey Research Data	26
5.1 Licencing and data access.....	26
5.2 Identifiers	27
5.3 Use of individual identifiers to merge with cohort study data.....	29
5.4 Variable names	29
5.5 Variable description	30
5.6 Missing values	30
5.7 Variable order	31
5.8 Coding of disclosive information	32
5.9 Data errors and inconsistencies.....	33
5.10 Weights variables.....	35
6. Derivation and implementation of non-response weights.....	35
6.1 Introduction	35

6.2 Target population and response	36
6.3 Derivation of non-response weights.....	39
6.4 Weights effectiveness	46
6.5 Implementation of non-response weights.....	49
6.6 References.....	55
7. Mode effects	56
7.1 Mode effects in the COVID-19 Wave 3 survey.....	56
7.2 References.....	58
8. Appendices	59
APPENDIX 1 - Non-response weights estimation.....	59
APPENDIX 2 – Restoring sample representativeness – further examples	74
APPENDIX 3 – Mode effects	83

1. Introduction

1.1 Background

The Centre for Longitudinal Studies (CLS) and the MRC Unit for Lifelong Health and Ageing (LHA) have carried out three surveys of the participants of five national longitudinal cohort studies which have collected insights into the lives of study participants including their physical and mental health and wellbeing, family and relationships, education, work, and finances during the coronavirus pandemic. The Wave 1 Survey was carried out at the height of lockdown restrictions in May 2020 and focussed mainly on how participants' lives had changed from just before the outbreak of the pandemic in March 2020 until then. The Wave 2 survey was conducted in September/October 2020 and focussed on the period between the easing of restrictions in June through the summer into the autumn. The Wave 3 survey took place in February/March 2021, during the third UK lockdown. The Wave 1 and Wave 2 Surveys were conducted purely online. In Wave 3 participants were initially invited to take part online but a subset of web-survey non-respondents were followed up and invited to take part via telephone.

The surveys were sent to participants of all five of the national longitudinal cohort studies run at CLS and the LHA unit. These studies have been following large nationally representative groups of people since birth, and their ages currently range from 19 through to 74. The studies included are:

- Millennium Cohort Study (born 2000-02) both cohort members and parents (MCS),
- Next Steps (born 1989-90) (NS),
- 1970 British Cohort Study (BCS70),
- 1958 National Child Development Study (NCDS), and
- MRC National Survey of Health and Development (NSHD, 1946 British birth cohort)

The Centre for Longitudinal Studies is funded by the [Economic and Social Research Council](#). The [Medical Research Council](#) funds the MRC Unit for Lifelong Health and Ageing.

2. Development

A consultation was carried out in advance of each wave, during which time academic researchers, Government departments, third sector representatives and funders made proposals for the content of the surveys. The scientific and technical development of the questionnaires was supported by members of the CLS and LHA teams, including Matt Brown, Darina Peycheva, Sierra Mesplie Cowan, Kate Smith, Bozena Wielgoszewska, David Bann, Jane Maddock, Morag Henderson, Andy Wong, Gaby Captur, Dan Davis and Praveetha Patalay. Final decisions on questionnaire content were taken by the PIs of the five studies and the Research Director of CLS (Professors Lisa Calderwood, Nish Chaturvedi, Emla Fitzsimons, Alissa Goodman, George B. Ploubidis and Alice Sullivan).

3. Fieldwork

Fieldwork dates for the three surveys are shown below:

Wave	Fieldwork start	Fieldwork end
1	4 th May 2020	30 th May 2020
2	10 th September 2020	16 th October 2020
3	1 st February 2021	21 st March 2021

The Wave 1 Survey was programmed and administered by CLS/LHA using Qualtrics. Wave 2 and Wave 3 Surveys were programmed and administered by Kantar Public.

3.1 Issued sample

At the time the Wave 1 survey was conducted, CLS/LHA were not able to send mass postal mailings, so the survey invitations had to be sent via email, meaning only those for whom an email address was held could be invited to participate.

The Wave 1 issued sample was therefore comprised of all NCDS, BCS70, NSHD, Next Steps and MCS cohort members for whom an email address was held, provided that they a) had not permanently withdrawn from the study b) were not 'permanently untraced' and c) were not known to have died.

At Waves 2 and 3 it was possible to send invitations via post, meaning that it was possible to include those for whom no email address was held. Cohort members with no email address were invited to take part provided that they had taken part in a recent major sweep of data collection or their address had been confirmed in recent years. As at Wave 1, cohort members who had permanently withdrawn from the study, were 'permanently untraced' or were known to have died were excluded from the survey. In addition, in Waves 2 and 3 study members who had 'opted out' of the COVID project in previous waves were not invited to take part.

MCS parents were also invited to complete the surveys. At Wave 1, parents were invited to take part if they had taken part in the Age 17 Survey (MCS7) and provided an email address. At Waves 2 and 3, parents were invited to take part regardless of whether they had taken part in the Age 17 Survey and regardless of whether an email address was held (unless their families had permanently withdrawn, were permanently untraced, or the parent had opted out of the COVID project in a previous wave). Where cohort members had two parents, both were invited to take part. MCS cohort members and parents were all treated as individuals for the purpose of the survey – there were no links made between family members during the invitation process or within the questionnaire - however respondents can be linked for research purposes.

Emigrants for whom an email address was held were included in the issued sample. This includes study members living outside of Great Britain in the case of NCDS, BCS70 and Next Steps and those living outside the UK (i.e. including Northern Ireland) in the case of MCS.

3.2 Contact strategy

Wave 1

In Wave 1, all communication with participants was conducted via email. Study-specific invitation emails, which included study branding and logos were sent by CLS/LHA from Qualtrics. Two email reminders were sent to NCDS, BCS70, Next Steps and MCS participants who had not started, or who had partially completed the survey. A single email reminder was sent to NSHD participants.

Wave 1 key dates

	Date
Invitation email – NCDS	4/5/2020
Invitation email - BCS70, Next Steps, MCS	5/5/2020
Invitation email - NSHD	11/5/2020
Email reminder 1 – NCDS, BCS70, Next Steps	
Email reminder 1 – MCS	12/5/2020
Email reminder 2 – NCDS, BCS70, Next Steps, MCS	15/5/2020
Email reminder 1 – NSHD	20/5/2020
Web survey closed - NCDS, BCS70, Next Steps, MCS	26/5/2020
Web survey closed – NSHD	30/5/2020

Wave 2

In Wave 2, invitations were sent by both post and email (where email addresses were held). Invitations were followed by email reminders (where email addresses were held), two text message reminders (where mobile numbers were held) and a postal reminder (if no email address was held).

MCS cohort members received a leaflet which provided some examples of recent research findings from the study.

The Wave 2 issued sample was split into a soft-launch and main-stage. The soft-launch sample was comprised of 20% of issued cases (across all cohorts). Individual study members were randomly allocated to the two stages.

Wave 2 key dates

	Date
Soft Launch	
Soft launch advance letters sent	07/09/2020
Soft launch first email sent	09/09/2020
Soft launch first email/SMS reminder	16/09/2020
Soft launch Only Letter reminder	23/09/2020
Soft launch second email/SMS reminder	25/09/2020
Soft launch final email reminder	01/10/2020
Main Launch	
Main launch advance letters sent	16/09/2020
Main launch first email sent	18/09/2020
Main launch first email/SMS reminder	23/09/2020
Main launch Only Letter reminder	30/09/2020
Main launch second email/SMS reminder	02/10/2020
Main launch final email reminder	08/10/2020
Wave 2 Fieldwork end	11/10/2020

Wave 3

At Wave 3, invitations again were sent by both post and email (where email addresses were held). Invitations were followed by email reminders (where email addresses were held), two text message reminders (where mobile numbers were held) and a postal reminder (if no email address was held). Next Steps cohort members received a leaflet providing some examples of recent research findings from the study.

The Wave 3 issued sample was again split into a soft-launch and main-stage and telephone stage. The soft-launch sample was comprised of 20% of issued cases (across all cohorts). In Wave 3 MCS cohort members and MCS parents were randomly allocated to the two stages at family level so that all members of the same family were allocated to the same stage.

In order to boost response, Wave 3 involved a telephone phase in which a sub-set of web-survey non-respondents were invited to take part via telephone.

Given the short fieldwork period it was not possible to issue all web-survey non-respondents to the telephone phase. As such, two priority groups for issue to the telephone phase were identified:

- Priority 1: NCDS, BCS70, Next Steps and MCS cohort members who had completed at least one of the previous COVID survey waves.
- Priority 2: NCDS, BCS70, Next Steps and MCS cohort members who had not completed either of the previous two COVID survey waves, but had taken part in the most recent cohort survey.

In the final week of fieldwork, calls focused solely on MCS and Next Steps Priority 1 cases.

MCS parents and NSHD cohort members were not issued to the telephone phase.

Wave 3 key dates

	Date
Soft Launch	
Soft launch advance letters sent	01/02/2021
Soft launch first email sent	01/02/2021
Soft launch first reminder email	09/02/2021
Soft launch first reminder SMS	10/02/2021
Soft launch letter reminder	10/02/2021
Soft launch second reminder email	12/02/2021

Soft launch second reminder SMS	15/02/2021
Soft launch third reminder email	17/02/2021
Soft launch telephone launch starts	22/02/2021
Main Launch	
Main launch advance letters sent	05/02/2021
Main launch first email sent	08/02/2021
Main launch first reminder email	15/02/2021
Main launch first SMS sent	16/02/2021
Main launch letter reminder	17/02/2021
Main launch second reminder email	19/02/2021
Main launch second SMS reminder	22/02/2021
Main launch 3rd reminder email	24/02/2021
Main launch telephone launch starts for those without an email address	22/02/2021
Rest of telephone launch starts	01/03/2021
Wave 3 Fieldwork end	21/03/2021

3.3 Incentives

In Wave 1 no incentives were paid.

In Wave 2, only Next Steps study members were offered an incentive. Those who participated in the Wave 1 survey were offered a £5 unconditional voucher in their advance letter and/or email and a further £5 conditional incentive for completion of the survey. Those who did not take part in Wave 1 were offered a £10 conditional incentive.

In Wave 3 Next Steps study members were again offered an incentive. Those who had participated in both Wave 1 and Wave 2 received a £10 unconditional voucher with their invitation. Those who participated in Wave 2 because no email address was held were also offered a £10 unconditional voucher. All other participants were offered a £10 conditional voucher for completion of the survey.

An incentive experiment was conducted with MCS cohort members where 75% were offered a £10 conditional incentive and the remaining 25% were not. MCS parents were not offered an incentive.

3.4 Response

The issued sample and response rates each wave are shown below by cohort. Response was defined as completion of the first module of questions covering experience of COVID-19.

	Wave1		Wave 2		Wave 3			
Cohort	Issued sample (n)	Response*	Issued sample (n)	Response*	Issued sample (n)	Web interview	Telephone interview	Response*
NCDS	8943	5178 (57.9%)	11655	6282 (53.9%)	11630	6535	274	6809 (58.5%)
BCS70	10458	4223 (40.4%)	12133	5320 (43.9%)	12683	5575	183	5758 (45.4%)
Next Steps	9380	1907 (20.3%)	11529	3664 (31.8%)	12349	3962	277	4239 (34.3%)
MCS (Cohort Members)	9946	2645 (26.6%)	13547	3274 (24.2%)	13533	3611	863	4474 (33.1%)
MCS (Parent)	9909	2831 (28.6%)	22321	5707 (25.7%)	22278	5251	-	5251 (23.6%)
NSHD	1843	1258 (68.2%)	2551	1569 (61.5%)	1559	1399	-	1399 (89.9%)
TOTAL	50479	18042 (35.7%)	73736	25816 (35.0%)	74032	26333	1597	27930 (37.7%)

Detailed breakdowns of response for Waves 2 and 3 are provided in the [Wave 2 and 3 Technical Report](#).

The table below shows the number of waves completed by each participant who took part in at least one wave, by cohort. Overall, 34,218 participants took part in at least one of the three waves.

COVID Surveys Participation – Number of waves – by cohort

	Number of Waves			
	1	2	3	
NCDS	1573	1892	4304	7769
	20.2%	24.4%	55.4%	100.0%
BCS70	2060	2083	3025	7168
	28.7%	29.1%	42.2%	100.0%
Next Steps	1713	1932	1411	5056
	33.9%	38.2%	27.9%	100.0%
MCS Cohort Member	2259	1779	1522	5560
	40.6%	32.0%	27.4%	100.0%
MCS Parent	3128	2490	1892	7510
	41.7%	33.2%	25.2%	100.0%
NSHD	197	346	1113	1656
	11.9%	20.9%	67.2%	100.0%
Total	10930	10522	13267	34719
	31.5%	30.3%	38.2%	100.0%

Base: All those participating in at least one COVID survey.

The table below summarises response across the three waves amongst those who took part in at least one.

COVID Survey Participation Summary – by cohort

	All 3 waves	Two waves - W2,W3	Two waves - W1,W3	Two waves - W1,W2	Wave 1 only	Wave 2 only	Wave 3 only	Total
NCDS	4304	1334	324	234	316	410	847	7769
	55.40%	17.20%	4.20%	3.00%	4.10%	5.30%	10.90%	100.00%
BCS70	3025	1294	425	364	409	637	1014	7168
	42.20%	18.10%	5.90%	5.10%	5.70%	8.90%	14.10%	100.00%
Next Steps	1411	1598	204	130	162	525	1026	5056
	27.90%	31.60%	4.00%	2.60%	3.20%	10.40%	20.30%	100.00%
MCS Cohort Member	1522	1023	508	248	367	481	1411	5560
	27.37%	18.40%	9.14%	4.46%	6.60%	8.65%	25.38%	100.00%
MCS Parent	1892	1906	238	346	355	1563	1210	7510
	25.19%	25.38%	3.17%	4.61%	4.73%	20.81%	16.11%	100.00%
NSHD	1113	283	3	60	84	113	0	1656
	67.21%	17.09%	0.18%	3.62%	5.07%	6.82%	0.00%	100.00%
Total	13267	7438	1702	1382	1693	3729	5508	34719
	38.21%	21.42%	4.90%	3.98%	4.88%	10.74%	15.86%	100.00%

Base: All those participating in at least one COVID survey.

Section 6 of this User Guides sets out further information about response, the achieved sample and derivation of weights.

4. Overview of questionnaire

4.1 Overview

The aim of the surveys was to capture the health, social and economic consequences of the COVID-19 outbreak. The surveys sought to understand the immediate and ongoing impact of the pandemic. Where possible, measures were chosen to maximise the use of the longitudinal measures already previously collected within the studies.

For each wave one survey was designed for all five cohorts, with the majority of questions being asked of all. However, a number of scales or questions were asked of specific cohorts only, primarily to enable longitudinal continuity with questions which had been included previously in major sweeps of each study. Some additional questions were added to the NSHD questionnaire.

The Wave 1 survey focussed on the period between the outbreak of the pandemic in March 2020 and the time of completion in May. In many domains, the Wave 1 survey sought to collect pre and post-pandemic measures of activity or behaviours in order to evaluate the level of change.

The coverage of the three surveys was similar with the majority of content being repeated across the waves. Some new topics were introduced at Wave 2 including questions around the impact of the pandemic on receipt of health care and medication, children's schooling, financial transfers and the experience of adverse life events. New topics added at Wave 3 included questions on vaccination and long COVID. Wave 3 also collected additional details about pay and household income.

Some of the questions in Waves 2 and 3 were not asked of new participants (i.e. those who had not participated in a previous wave) because they were asked to answer questions about their pre-pandemic circumstances in

addition to current circumstances – so if all new topics were asked of them the questionnaire would have been too long. A number of questions asked in Wave 3 via telephone were also dropped in order to keep the questionnaire to a reasonable length.

At the end of all three surveys respondents were asked to sign up to the [Zoe COVID-19 symptom tracker app](#). It was explained to participants that we hoped to be able to link the data collected by the app with the data collected in the survey. Participants were able to opt-out from this if they did not wish this to happen.

An open-ended question was included in the Wave 1 and Wave 3 questionnaires which asked participants to describe in their own words the impact that the COVID pandemic had had, and would continue to have, on their lives.

It is estimated that the Wave 1, Wave 2 and Wave 3 questionnaires took around 30 minutes to complete on average.

A summary of the content is provided below. The full questionnaires, annotated with variable names, are available within this same data release and are also available on the [CLS website](#).

Topic summary W1-3

Section	Topic	W1	W2	W3
Physical health	Whether has had COVID-19	Y	Y	Y
	Whether has had COVID-19 test & results	N	Y	Y
	Long COVID-19 symptoms	N	N	Y
	Symptoms of COVID-19	Y	Y	Y
	Extent of compliance with social distancing guidelines	Y	N	Y
	Whether has downloaded NHS Track & Trace app	N	N	Y
	Whether been offered COVID-19 vaccine; whether received it & date; if not: how likely to have it; if not likely: reasons	N	N	Y

Section	Topic	W1	W2	W3
	How well Government has dealt with pandemic	N	N	Y
	Self-rated general health	Y	Y	Y
	Long-standing health conditions	Y	Y	Y
	Disruption to medical appointments	Y	Y	Y
	Difficulty obtaining medication	Y (46 only)	Y	Y
	Whether in defined vulnerable category	Y	Y	Y
Time use	Time use on typical weekday since outbreak	Y	Y	N
Family and household	Current household composition (household grid)	Y	Y	Y
	Children who do not live in household	Y	Y	Y
	Changes in household composition	Y	Y	Y
	Change in childcare & schooling arrangements (tailored questions, by age-band)	Y	Y	Y
	Whether in non-cohabiting relationship	Y	Y	Y
	Relationship satisfaction and conflict (current)	Y	Y	Y
	Family conflict (current)	N	Y	Y
	Whether study member or partner is pregnant: week of pregnancy	Y	Y	Y
	Number & age of children live with	Y	Y	Y
	Household care needs and receipt of care	Y	Y	Y
Housing	Number of rooms in house	Y	Y	Y
	Postcode	Y	Y	Y
	Access to garden	Y	Y	Y
	Tenure	Y	Y	Y
Financial situation	Subjective assessment of how managing financially pre and post outbreak	Y	Y	Y
	Food security, use of food banks	Y	N	N
	Receipt of benefits (self and/or partner) in 3 months before outbreak	Y	Y	Y
	New claims for benefits since outbreak	Y	Y	Y

Section	Topic	W1	W2	W3
	Use of mortgage/rent/debt holidays since outbreak	Y	Y	Y
	Giving /receiving financial help	N	Y	Y
	Amount given /received in financial help	N	N	Y
	Total household income (pre-pandemic & current)	N	N	Y
Employment & education (FE, HE, apprenticeships)	Economic activity (pre-COVID and current): (cohort member & partner)	Y	Y	Y
	Employment - pre-COVID - cohort member and partner			
	Occupation	Y	Y	Y
	Hours	Y	Y	Y
	Contract type	Y	Y	Y
	Gross pay	N	N	Y
	Employment - current - cohort member and partner			
	Occupation	Y	Y	Y
	Hours	Y	Y	Y
	Contract type	Y	Y	Y
	Gross pay	N	N	Y
	Work location	Y	Y	Y
	Key worker status	Y	N	Y
	Job satisfaction	N	Y	Y
	Home working satisfaction	N	Y	Y
	Education: (cohort member only)			
	Subject of study	Y	Y	Y
	Institution name and town	Y	Y	Y
	Course length	Y	Y	Y
	Current year of study	Y	Y	Y
	Disruption of teaching / online learning	Y	Y	Y
	Satisfaction with learning provision / academic progress	Y	Y	Y
Health behaviours	Smoking and vaping	Y	Y	Y
	Alcohol consumption	Y	Y	Y
	Physical activity	Y	Y	Y
	Diet (fruit & veg)	Y	Y	Y

Section	Topic	W1	W2	W3
	Sleep	Y	Y	Y
	Weight	Y	Y	Y
	Screen time	N	N	Y
Social contact, social support and loneliness	Contact with friends & family in past 7 days (telephone, video calls, email, text, electronic messaging)	Y	Y	Y
	Frequency gave help in past 7 days to anyone outside household affected by coronavirus	Y	Y	Y
	Participation in online community activity	Y	Y	Y
	Provision of help to others	Y	Y	Y
	Social support	Y	Y	Y
	Loneliness	Y	Y	Y
Mental health	Overall life satisfaction	Y	Y	Y
	Self-assessed mental health	N	Y	Y
	Control over life	N	Y	Y
	Mental health and wellbeing scales (capturing depression and anxiety). NB Scales vary by cohort study;	Y	Y	Y
Optimism, risk patience, trust	Optimism	N	Y	Y
	Risk	Y	Y	Y
	Patience	Y	Y	Y
	Trust	Y	Y	Y
	Trust in government & political leaders	Y	Y	Y
Life events	Life Events	N	Y	Y
Child Loop	For children aged 4-18 living in household:			
	Education: Whether enrolled in school, school year and school type, extent of in-person schooling, home learning: hours per day, online lesson provision; parental help with home schooling (self/partner), learning resources, effect of pandemic on academic progress	N	Y	Y
	Child's mental health pre covid & current	N	Y	Y
OPEN	Open question on impact of COVID	Y	N	Y
Consent to link to symptom tracker app	Request to download ZOE symptoms tracker app	Y	Y	Y

4.2 Scales

The UCL COVID-19 questionnaires included several established scales which are listed below. Some scales were cohort specific. All scales detailed below were included in all three waves with the exception of the Revised Life Orientation Test LOT-R (measuring optimism) which was not included at Wave 1.

4.2.1 Short Social Provisions Scale (3-items) (NS & MCS only)

Cutrona CE, Russell DW. The provisions of social support and adaptation to stress. *Advance in Personal Relationships*. 1987;1:37–67

Three items were included from the 10-item Social Provisions Scale (Cutrona 1987). The Social Provisions Scale measures the availability of social support.

Next Steps and MCS cohort members were asked to think about their current relationships with friends, family members, community members and so on. They were asked to indicate the extent to which each statement described their current relationship with other people from the following responses:

1. Very true
2. Partly true
3. Not true at all

Variable Name	Questions	Cohort
CW*_SOCPROV_1	I have family and friends who help me feel safe, secure and happy	NS & MCS
CW*_SOCPROV_2	There is someone I trust whom I would turn to for advice if I were having problems	NS & MCS
CW*_SOCPROV_3	There is no one I feel close to	NS & MCS

4.2.2 UCLA Loneliness Scale (3-items) (All)

Daniel W. Russell (1996) UCLA Loneliness Scale (Version 3): Reliability, Validity, and Factor Structure, *Journal of Personality Assessment*, 66:1, 20-40, DOI: [10.1207/s15327752jpa6601_2](https://doi.org/10.1207/s15327752jpa6601_2)

Three items from the 20-item UCLA loneliness scale were asked of all cohort members. They were asked to give the frequency in response to questions about current loneliness and related emotional states from the following response options:

1. Hardly ever
2. Some of the time
3. Often

In addition, a fourth item (How often do you feel lonely?) was included which is not part of the UCLA scale, but has been used in NCDS62 survey.

Variable Name	Questions	Cohort
CW*_LONELY_1	How often do you feel that you lack companionship?	ALL
CW*_LONELY_2	How often do you feel left out?	ALL
CW*_LONELY_3	How often do you feel isolated from others?	ALL

4.2.3 Kessler 6 (MCS only)

Kessler, R.C., Barker, P.R., Colpe, L.J., Epstein, J.F., Gfroerer, J.C., Hiripi, E., Howes, M.J, Normand, S-L.T., Manderscheid, R.W., Walters, E.E., Zaslavsky, A.M. (2003). Screening for serious mental illness in the general population. *Archives of General Psychiatry*. 60(2), 184-189. Information on scoring and interpretation of this scale can be found at http://www.hcp.med.harvard.edu/ncs/k6_scales.php.

The Kessler 6 (K6) scale is a quantifier of non-specific psychological distress. It consists of six questions about depressive and anxiety symptoms that a person has experienced in the last 30 days.

MCS cohort members were asked six questions on how they had felt over the last 30 days with a self-report scale of five possible answers plus don't know/don't wish to answer (which was not shown on screen unless an item was left blank):

1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

Variable name	Question	Cohort
CW*_PHDE	During the last 30 days, about how often did you feel so depressed that nothing could cheer you up?	MCS
CW*_PHHO	During the last 30 days, about how often did you feel hopeless?	MCS
CW*_PHRF	During the last 30 days, about how often did you feel restless or fidgety?	MCS
CW*_PHEE	During the last 30 days, about how often did you feel that everything was an effort?	MCS
CW*_PHWO	During the last 30 days, about how often did you feel worthless?	MCS
CW*_PHNE	During the last 30 days, about how often did you feel nervous?	MCS

4.2.4 Warwick-Edinburgh Mental Wellbeing Scale (Short WEMWBS) (MCS & NSHD only)

Copyright: Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) © NHS Health Scotland, The University of Warwick and University of Edinburgh, 2006, all right reserved.

The 7-item short WEMWBS is a mental wellbeing scale. It provides a single summary score indicating overall wellbeing. Permission was granted to use the scale.

The MCS cohort members were asked to select the answer that best described their experience over the past two weeks for seven statements:

1. None of the time
2. Rarely
3. Some of the time
4. Often
5. All of the time

Variable name	Question	Cohort
CW*_WEMWBS_1	I've been feeling optimistic about the future	MCS & NSHD
CW*_WEMWBS_2	I've been feeling useful	MCS & NSHD
CW*_WEMWBS_3	I've been feeling relaxed	MCS & NSHD
CW*_WEMWBS_4	I've been dealing with problems well	MCS & NSHD
CW*_WEMWBS_5	I've been thinking clearly	MCS & NSHD
CW*_WEMWBS_6	I've been feeling close to other people	MCS & NSHD
CW*_WEMWBS_7	I've been able to make up my own mind about things	MCS & NSHD

Scoring:

<https://warwick.ac.uk/fac/sci/med/research/platform/wemwbs/using/howto/>

4.2.5 Malaise inventory (9-item) (NCDS & BCS70 only)

Rutter, M., Tizard, J., & Whitmore, K. (1970). *Education, health, and behaviour*. London: Longman.

The questions in the Malaise inventory measure levels of psychological distress, or depression.

NCDS and BCS70 cohort members were asked how they were feeling generally in response to the 9 questions with the response options:

1. Yes
2. No

Variable name	Question	Cohort
CW*_MALAISE_1	Do you feel tired most of the time?	NCDS & BCS70
CW*_MALAISE_2	Do you often feel miserable or depressed?	NCDS & BCS70
CW*_MALAISE_3	Do you often get worried about things?	NCDS & BCS70
CW*_MALAISE_4	Do you often get in a violent rage?	NCDS & BCS70
CW*_MALAISE_5	Do you often suddenly become scared for no good reason?	NCDS & BCS70
CW*_MALAISE_6	Are you easily upset or irritated?	NCDS & BCS70
CW*_MALAISE_7	Are you constantly keyed up and jittery?	NCDS & BCS70
CW*_MALAISE_8	Does every little thing get on your nerves and wear you out?	NCDS & BCS70
CW*_MALAISE_9	Does your heart often race like mad?	NCDS & BCS70

4.2.6 GHQ-12 (Next Steps and 1946 cohort)

Goldberg D, Williams P. A user's guide to the general health questionnaire. London: Nfer-Nelson; 1988.

The General Health Questionnaire (GHQ) is used as a screening tool of probable mental ill health. The 12 item screening instrument measures general, non-psychotic and minor psychiatric disorders; and concentrates on the broader components of psychological ill health and characteristics as general levels of happiness, depression and self-confidence. Each of the 12 GHQ items, six positively and six negatively phrased, are rated on a four-point scale to indicate whether symptoms of mental ill health are present.

Variable name	Question	Cohort
CW*_GHQ121	Have you recently been able to concentrate on what you're doing?	NS & NSHD
CW*_GHQ122	Have you recently lost much sleep over worry?	NS & NSHD
CW*_GHQ123	Have you recently felt that you are playing a useful part in things?	NS & NSHD
CW*_GHQ124	Have you recently felt capable of making decisions about things?	NS & NSHD
CW*_GHQ125	Have you recently felt constantly under strain?	NS & NSHD
CW*_GHQ126	Have you recently felt you couldn't overcome your difficulties?	NS & NSHD
CW*_GHQ127	Have you recently been able to enjoy your normal day to day activities?	NS & NSHD
CW*_GHQ128	Have you recently been able to face up to your problems?	NS & NSHD
CW*_GHQ129	Have you recently been feeling unhappy or depressed?	NS & NSHD
CW*_GHQ1210	Have you recently been losing confidence in yourself?	NS & NSHD

Variable name	Question	Cohort
CW*_GHQ1211	Have you recently been thinking of yourself as a worthless person?	NS & NSHD
CW*_GHQ1212	Have you recently been feeling reasonably happy, all things considered?	NS & NSHD

The cohort member's score on the General Health Questionnaire 12 point scale (GHQ12) is derived by summing responses to the twelve GHQ12 questions (GHQ121 to GHQ1212). This is scored according to the 0-0-1-1 method, in which the first two possible responses to each question are assigned a value of 0 and the third and fourth responses with a value of 1, resulting in a maximum possible score of 12 for this variable. A higher score on this scale indicates a greater likelihood of mental ill health.

4.2.9 GAD-2 (Generalised Anxiety Disorder 2-item) (ALL)

Kroenke K, Spitzer RL, Williams JB, Monahan PO, Löwe B. Anxiety disorders in primary care: prevalence, impairment, comorbidity, and detection. *Ann Intern Med.* 2007;146:317-25.

The GAD-2 was based on the GAD-7, which was developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues, with an educational grant from Pfizer Inc. No permission required to reproduce, translate, display or distribute.

The Generalized Anxiety Disorder 2-item (GAD-2) is a brief initial screening tool for generalized anxiety disorder.

Respondents are asked whether they have been bothered by problems over the last 2 weeks, with the following response options:

1. Not at all
2. Several days

3. More than half the days

4. Nearly every day

The GAD-2 score is obtained by adding the score for each question (Total points). The score for each question is:

0 = Not at all

1 = Several days

2 = More than half the days

3 = Nearly every day

Variable name	Question	Cohort
CW*_GAD2PHQ2_1	Feeling nervous, anxious or on edge	ALL
CW*_GAD2PHQ2_2	Not being able to stop or control worrying	ALL

4.2.10 PHQ-2 (Patient Health Questionnaire 2-item) (ALL)

Kroenke K, Spitzer RL, Williams JB. The Patient Health Questionnaire-2: Validity of a Two-Item Depression Screener. Medical Care. 2003;41:1284-92.

The PHQ-2 enquires about the frequency of depressed mood and anhedonia over the past two weeks. The PHQ-2 includes the first two items of the PHQ-9

Respondents are asked whether they have been bothered by problems over the last 2 weeks, with the following response options:

1 = Not at all

2 = Several days

3 = More than half the days

4 = Nearly every day

The PHQ-2 score is obtained by adding the score for each question (Total points). The score for each question is:

0 = Not at all

1 = Several days

2 = More than half the days

3 = Nearly every day

Variable name	Question	Cohort
CW*_GAD2PHQ2_3	Little interest or pleasure in doing things	ALL
CW*_GAD2PHQ2_4	Feeling down, depressed or hopeless	ALL

4.2.11 Revised Life Orientation Test LOT-R (3 optimism items) (ALL) (WAVES 2 and 3 only)

Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology*, 67(6), 1063-1078.

The Revised Life Orientation Test (LOT-R) is a 10-item scale that measures how optimistic or pessimistic people feel about the future. The three items from the scale which are used to measure optimism were included.

Respondents were asked how much they agreed or disagreed with three statements with the response options:

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly agree

Variable name	Question	Cohort
CW2_OPTMSM1	In uncertain times I usually expect the best	ALL
CW2_OPTMSM2	I'm always optimistic about my future	ALL
CW2_OPTMSM3	Overall, I expect more good things to happen to me than bad	ALL

5. Survey Research Data

5.1 Licencing and data access

All datasets are available from the UK Data Service (UKDS).

All users of the data need to be registered with the UKDS. Details of how to do this are available at <https://www.ukdataservice.ac.uk/get-data/how-to-access/registration>.

The Covid-19 survey data from the surveys have been supplied to the UKDS under End User Licence (EUL) for the CLS studies (NCDS, BCS70, NS and MCS) and under Special Licence for the 1946 birth cohort study (NSHD).

The data from the four CLS cohort studies are included in the same dataset for each wave. These datasets can be downloaded once the End User Licence access conditions have been accepted by the user.

The NSHD data can be accessed by downloading the UKDS Special Licence application form. Once the form has been reviewed by UKDS and accepted by the LHA the data will be available to download.

The CLS data available under End User Licence exclude detailed data that present a potential risk for disclosivity. This applies to:

- 1) Verbatim responses to the open-ended question in Waves 1 and 3
- 2) Verbatim answers to questions on education and employment. This includes the full SOC employment codes
- 3) Postcodes
- 4) MCS data for families containing triplets. This affects 5 cohort members and 2 parents in Wave 1, 8 cohort members and 5 parents in Wave 2 and 10 cohort members and 5 parents in wave 3.

These potentially identifiable CLS data can be accessed securely by applying directly to the [CLS Data Access Committee](#).

Please refer to section 5.8 for information on how these data have been de-identified for inclusion under End User Licence.

Numbers in this guide represent the full data collected.

Summary of licence

Study	Data Owner	W1 cases*	W2 cases*	W3 cases*	UKDS Data Licencing
NCDS (1958)	CLS	5178	6282	6809	End User Licence
BCS70	CLS	4223	5320	5758	End User Licence
Next Steps	CLS	1907	3664	4239	End User Licence
MCS CMs**	CLS	2645 (2640)	3274 (3266)	4474 (4464)	End User Licence
MCS Parents**	CLS	2831 (2829)	5707 (5702)	5251 (5246)	End User Licence
NSHD (1946)	LHA	1258	1569	1399	Special Licence

* The EUL data only includes the cases who completed the first block of the questionnaire ("Physical health since outbreak").

** The EUL data excludes triplet families

5.2 Identifiers

Individual identifiers

All four CLS-based cohort studies are included in the same dataset, each with their standard research IDs that allow them to be linked to the other study data available at the UKDS.

The NSHD dataset has been pseudo-anonymised with an ID created exclusively for this project. If you wish to link other NSHD data to this web survey dataset, contact NSHD at: <https://skylark.ucl.ac.uk/NSHD/doku.php>.

For NCDS, BCS70 and Next Steps, the data for each cohort member is displayed with one case per row.

MCS data are displayed in long format, where MCSID identifies each family, and an individual identifier identifies each family member: CNUM00 for cohort member and PNUM00 for parent. Therefore, for families with several respondents there will be several rows per family (MCDSID), but one row per family member (CW*_CNUM00 / CW*_PNUM00). This is the same format as other MCS data deposits at UKDS.

Cohort identifier

Variable CW*_COHORT allows the identification of the data by cohort study, and for MCS whether it is the CM or parent respondent. This variable is referred to in the questionnaire documentation as 'GROUP'. It is set as follows:

- 1 = NCDS
- 2 = BCS70
- 3 = Next Steps
- 4 = MCS Cohort Member (CM)
- 5 = MCS Parent
- 6 = NSHD web

A second variable referred to in the questionnaire documentation but not included in the data deposit is COHORTID which does not distinguish between MCS cohort members and parents.

- 1 = NCDS
- 2 = BCS70
- 3 = Next Steps
- 4 = MCS
- 5 = NSHD web

Other identifiers

The wave 2 data includes a flag to identify respondents who previously completed the wave 1 survey (CW2_W1OUTCOME).

Wave 3 includes flags for both previous waves (CW3_W1OUTCOME, CW3_W2OUTCOME).

A number of questions in waves 2 and 3 were asked based on whether or not the cohort member participated in previous waves.

An emigrant flag (CW*_EMIGRANT) distinguishes between UK-based respondents and those living overseas.

5.3 Use of individual identifiers to merge with cohort study data

For NCDS, BCS70, Next Steps and MCS, the data are identified with the same research IDs used for the rest of cohort data available at the UKDS. This enables the data to be easily merged with one another using the

While merging Covid-19 survey data with cohort study data should be similarly straightforward using their respective identifiers, users should consult individual user guides for specific information beforehand.

For MCS, researchers need to use both the MCS family identifier (MCSID) and the two individual person identifiers (CNUM00/PNUM00) to merge on with other cohort data. As CNUM00 and PNUM00 include the wave number they may need consistent naming across datasets beforehand depending on the method of merging used.

There are different ways the data of MCS can be merged depending on the focus of the research project (Parent/Carers, Cohort Members or family).

Details, syntax and examples on merging is provided by the [MCS Data Handling Guide](#).

5.4 Variable names

In order to identify which wave of COVID-19 data collection variables belong to, the names of the variables are the original question names from the

questionnaire, preceded by “CW1_” for wave 1, “CW2_” for wave 2 and “CW3_” for wave 3. This is to allow the longitudinal matching of variables to subsequent data collection waves where only the wave number is different.

The variable names on the dataset have also been adjusted for question grids and for multi-code questions, where the question names are followed by the value number or order in the grid.

5.5 Variable description

Variable labels

The variable labels are based on the question wording from the survey questionnaire. Where necessary, labels have been modified in an effort to ensure they are comprehensible and accurate.

The labels from many variables include either a “Pre-C19” or “Post-C19” prefix to indicate whether the questions refers to the respondent’s lives before or after the coronavirus outbreak. Labels that do not incorporate either prefix refer to broader timescales.

In addition, labels include the name of the scale used (e.g. “MALAISE:”).

Value labels

The value labels are based on the answers from the questionnaire and have been individually reviewed and amended, where necessary.

5.6 Missing values

Wave 1

In wave 1, missing values are consistently labelled as follows:

-1 = Not applicable

-8 = No information

Not applicable (-1) indicate that a question was left unanswered because the routing of the questionnaire did not reach that item. This is the same across both waves.

No information (-8) in wave 1 indicates that the question was left blank where an answer is expected. This would cover a situation where the participant skipped the question (don't want to answer/don't know") or because of a technical issue.

Waves 2 and 3

Waves 2 and 3 distinguish between unanswered questions, as respondents could specify "Don't know" or "Don't want to answer". Therefore, in wave 2 and wave 3 missing values for survey responses are consistently labelled as follows:

- 1 = Not applicable
- 8 = Don't know
- 9 = Don't want to answer

5.7 Variable order

The order in which variables appear in the dataset is:

- IDs for each cohort
- Cohort study
- Emigrant status
- Sex
- Date of survey completion
- Outcomes (wave 2/3 only)
- Survey mode – CATI/CAWI (wave 3 only)
- Answers to the questions in the order in which there were asked on the questionnaire. Newly coded variables that replace a disclosive/open text question appear in the position of that original question
- Region of residence
- Weights

5.8 Coding of disclosive information

In addition to the pseudo-anonymisation, all text variables that contained detailed information provided by the respondents have been removed from the research dataset. This includes job titles, job descriptions, exact names of education institutions, town name, postcodes and the final open-ended question.

These variables have been replaced by less the disclosive coded variables, as follows:

Education (wave 1)

Two variables have been coded based on the open-ended questions provided by the respondents:

- CW1_STUDYQUALDV: pre-COVID qualification level
- CW1_EDUQUALDV: post-COVID qualification level.

Employment

- **SIC:** the Standard Industrial Classification for main respondent and partner (CW*_(P)SIC3) is available as a 3 digits code. Post-COVID SIC codes (CW*_(P)SIC3CUR) are only available for wave 3.
- **SOC 2010/2020:** the 2010 Standard Occupational Classification for main respondent and partner (CW*_(P)SOC2010) is available as SOC Minor (3 digits). Low count of less than 10 occurrences are potentially disclosive codes, in which case the SOC code is available as the corresponding major (2 digit) categories.
SOC 2020 is only available for waves 2 and 3. Post-COVID SOC codes (CW*_(P)SOC2010CUR, CW*_(P)SOC2020CUR) are only available for wave 3.
- **NS-SEC:** National Statistics Socio-economic classification is available for main respondent and partner covering. There are three NS-SEC variables: operational subcategories (CW*_(P)NSSEC2010SB), operational categories (CW*_(P)NSSEC2010OP) and analytic classes (CW*_(P)NSSEC2010AN).

Post-COVID NSSEC (CW*_(P)NSSEC2010(SB/OP/AN)CUR) are only available for wave 3.

NS-SEC was derived from SOC based on the simplified method described by ONS here:

<https://www.ons.gov.uk/methodology/classificationsandstandards/otherclassifications/thenationalstatisticssocioeconomicclassificationnssecrebasedonsoc2010#deriving-the-ns-sec-full-reduced-and-simplified-methods>

Geography

- **Region of residence:** for Waves 1 and 2, region has been derived from the postcode self-reported in the survey (CMPOST in the questionnaire). At Wave 3, region has been derived from the contact address details for all respondents except for MCS cohort members who attend university, for whom the postcode used is the one self-reported in the survey (CMPOST question).

5.9 Data errors and inconsistencies

Users should be aware of the following data corrections and details

Benefits (wave 1)

On the online questionnaire, the pre-COVID benefits grid (CW1_BENEFITB_1-14) included 'Pension Credit' twice (options 3 and 11). The data for these two values have been merged into the variable corresponding to option 3 (CW1_BENEFITB_3). Variable with option 11 (CW1_BENEFITB_11) has been removed from the final dataset.

It should be noted that some participants selected only one on these options, and some selected both.

Smoking (wave 1)

Participants who reported they currently smoked (CW1_SMOKING) were asked for the number of cigarettes smoked pre-COVID (CW1_NUMCIGSPP) and post-COVID (CW1_NUMCIGSSP).

The survey design did not allow participants to enter the value 0 for CW1_NUMCIGSPP (pre-COVID) so any potential respondents who only started smoking after the outbreak will not appear in the data.

Fruit and Vegetables (wave 1/wave 2)

In wave 1 of data collection many open-text numeric questions allowed for decimal input. While the majority of non-whole number responses were only 1 decimal place and have been left in the data, a number of unusual near 0 values occurred for CW1_FRTVEGPP and CW1_FRTVEGSP. These have been set to -8 (No information).

For the second wave, unlike wave 1, an upper limit (20) was set on daily portions of fruit and vegetables (CW2_FRTVEGPP, CW2_FRTVEGSP). A comparatively high number of respondents gave the highest possible answer of 20, suggesting many would have gone above if they could. Users are advised to consider setting their own cut-off because of this, particularly when comparing to the wave 1 equivalents.

Self-reported weight (wave 1)

Participants could choose to provide their weight in stones (CW1_WGHTSTP_4) and pounds (CW1_WGHTSTP_5). There are 14 pounds in a stone.

In this survey no upper limit was set on how many pounds could be entered in the pounds field, and a number of respondents entered a value higher than 14. In some cases they left the weight in stones (CW1_WGHTSTP_4) empty, suggesting that the full weight was provided in pounds (CW1_WGHTSTP_5). However, the data is left untouched in order to leave any inference to data users.

Child School Autumn term (wave 2)

Respondents provided a response for each child in their household about whether or not they started autumn term at school (CW2_SCAUTT_1-10). Two cases had responses out of range which were set to -8 (Don't know)

5.10 Weights variables

The variables containing the calculated weights are as follows:

Variable name	Variable description
CW*_DESIGNWEIGHT	Weight: Design weight
CW*_SAMPPSU	Sampling: School (primary sampling unit)
CW*_SAMPSTRATUM	Sampling: Stratum
CW*_PTTYPE2	Stratum within Country
CW*_SPTN00	Fieldwork point number incorporating superwards
CW*_NH2	Population Correction Factor (for use in Stata)
CW*_WEIGHT2	MCS Weight to use on whole UK analyses
CW*_COMBWT	Combined weight (design weight x web survey non-response weight) – final

6. Derivation and implementation of non-response weights

6.1 Introduction

Non-response is common in longitudinal surveys. Missing values mean less efficient estimates because of the reduced size of the analysis sample, but also introduce the potential for bias since respondents are often systematically different from non-respondents. To support researchers in producing robust analysis, we have developed comprehensive advice on how to deal with missing data (1). The approaches we recommend to researchers capitalise on the rich data cohort members provided over the years before their non-response. These include well known methods such as Multiple Imputation (MI), Inverse Probability Weighting (IPW), and Full Information Maximum Likelihood (FIML). To correct for non-response in the COVID-19 Wave 1, 2 and 3 surveys and facilitate analysis in all cohorts, non-response weights are

provided, so that IPW analysis can be undertaken, either in isolation or in combination with MI.

This section of the User Guide describes the derivation and implementation of non-response weights for the COVID-19 Wave 1, 2 and 3 surveys. Non-response weight derivation was undertaken using a very similar approach at each wave.

The weights were created and documented by Richard Silverwood and George B. Ploubidis, and the development of datasets for creating the weights was undertaken by Aase Villadsen, Martina Narayanan, Brian Dodgeon and Bozena Wielgoszewska.

6.2 Target population and response

For the purposes of weighting in NSHD, NCDS and BCS70, we have defined the target population of each cohort as individuals born in the specified birth period of the cohort who are alive and still residing in the UK. The COVID-19 Wave 1, 2 and 3 surveys were also issued to a relatively small number of cohort members who had already emigrated from the UK, however we do not allocate weights to these individuals, and they are not used in the derivation of the non-response weights.

We note that for MCS and Next Steps, information on mortality and emigration was not available, and we therefore did not adjust the target populations to take deaths or emigrations into account. We expect mortality in both cohorts to be very low, and rates of emigration are also unlikely to be very significant. However to the extent that the target population in MCS and Next Steps may have been overestimated due to these factors, this would lead to a (likely, minor) underestimation of response relative to target in these cohorts. Non-response weights are not derived for the parents of MCS cohort members as parents are not the focus of the study.

The Wave 1, 2 and 3 target populations and responses within the target populations, as well as within the issued samples, are presented in Table 1. Note that details of the issued samples and total response are provided in

section 3 of this User Guide. The differences in responses between Table 1 and section 3 reflect responses outside of the target population (i.e. cohort members who had already emigrated from the UK). In MCS there was an additional exclusion from the target population: only singletons and one twin or triplet from each twin pair/triplet set were included (i.e. second twin and second/third triplets were excluded).

The total response rate of all cohort members with respect to the target population was 20.8% in Wave 1, 27.7% in Wave 2 and 31.2% in Wave 3, which is as expected lower than the response rates for cohort members with respect to the issued sample of 37.5%, 39.1% and 43.8% respectively (note these differ from the total response rates given in Section 3.3, since no weights have been derived for MCS parents and thus their response is not included in the response rate given here). The response rates of cohort members within the issued samples are comparable to those of similar web surveys undertaken at similar times (e.g. Understanding Society COVID-19 Web Survey Waves 2 (May 2020), 5 (September 2020) and 7 (January 2021), 39.7%, 40.6% and 38.2% respectively [calculated without excluding from the issued sample those who were "Non-respondent in all waves" to maintain comparability]).

Table 1. COVID-19 Wave 1, 2 and 3 surveys target population and responses within the target population by cohort.

Wave 1				
Cohort	Issued sample (n)	Response within the issued sample*	Cohort members within the target population (alive and still residing in the UK)	Response within the target population**
NCDS	8943	5178 (57.9%)	15,291	5119 (33.5%)
BCS70	10,458	4223 (40.4%)	17,486	4132 (23.6%)
Next Steps	9380	1907 (20.3%)	15,770***	1876 (11.9%)

MCS (Cohort Members)	9946	2645 (26.6%)	19,243	2609 (13.6%)
NSHD	1843	1258 (68.3%)	3758	1170 (31.1%)
Total	40,570	15,211 (37.5%)	71,548	14,906 (20.8%)
Wave 2				
Cohort	Issued sample (n)	Response within the issued sample*	Cohort members within the target population (alive and still residing in the UK)	Response within the target population**
NCDS	11,655	6282 (53.9%)	15,291	6228 (40.7%)
BCS70	12,133	5320 (43.9%)	17,486	5236 (29.9%)
Next Steps	11,529	3664 (31.8%)	15,770***	3609 (22.9%)
MCS (Cohort Members)	13,547	3274 (24.2%)	19,243	3233 (16.8%)
NSHD	2551	1569 (61.5%)	3758	1488 (39.6%)
Total	51,415	20,109 (39.1%)	71,548	19,794 (27.7%)
Wave 3				
Cohort	Issued sample (n)	Response within the issued sample*	Cohort members within the target population (alive and still residing in the UK)	Response within the target population**
NCDS	11,630	6809 (58.5%)	15,291	6,757 (44.2%)
BCS70	12,683	5758 (45.4%)	17,486	5,684 (32.5%)
Next Steps	12,349	4239 (34.3%)	15,770***	4,167 (26.4%)

MCS (Cohort Members)	13,533	4474 (33.1%)	19,243	4,422 (23.0%)
NSHD	1,559	1,399 (89.9%)	3758	1,325 (35.3%)
Total	51,574	22,679 (43.8%)	71,548	22,355 (31.2%)

* Response was defined as completion of the first block of the questionnaire (“Physical health since outbreak”)

** Mortality and emigration data not available for Next Steps and MCS.

*** Next Steps includes original sample only (i.e. not ethnic minority boost sample).

6.3 Derivation of non-response weights

The derivation of the COVID-19 Wave 1, 2 and 3 survey non-response weights was implemented in each cohort separately but following a common approach. For each wave separately, we proceeded as follows:

1. Within the sample corresponding to the target population (those alive and living in the UK), model COVID-19 survey response conditional on a common set of covariates using logistic regression. The selection of covariates was informed from results of the CLS Missing Data Strategy (2, 3) and their *a priori* assumed association with the probability of response and/or with key COVID-19 survey variables.
2. For COVID-19 survey respondents, predict the probability of response from the model.
3. Calculate the COVID-19 survey non-response weight as the inverse of the probability of response.
4. Examine the distribution of derived non-response weights across cohorts to decide whether truncation may be desirable; apply truncation if so.
5. Calibrate the COVID-19 survey non-response weights so that they sum to the number of COVID-19 survey respondents in each cohort.

The variables included in the response model in stage 1 are listed in Table 2. We aimed to use broadly the same set of variables in each cohort to ensure consistency in the non-response weight derivation. However, it was not possible to include identical sets of variables due to data being collected at different ages and using different questions, and occasionally due to certain variables not been collected at all in some cohorts. Given that the non-response weight derivation was implemented separately in each cohort, such relatively minor differences were not deemed likely to be important. The variables used in the Wave 1, 2 and 3 response models were identical, with the exception of the addition of Wave 1 response to the Wave 2 and 3 response models and the addition of Wave 2 response to the Wave 3 model.

Table 2. Variables included in the COVID-19 Wave 1, 2 and 3 survey response models in each cohort.

	NSHD	NCDS	BCS70	Next Steps	MCS
Sex	Birth	Birth	Birth	Age 14	9 months
Ethnicity	-	-	-	Age 14	9 months Age 3
Parental social class	Age 4	Birth	Birth	Age 14	9 months Age 11
Number of rooms at home/persons per room	Birth	Birth	Birth	-	9 months
Cognitive ability	Age 8	Age 7	Age 10	-	Age 11
Early life mental health	Age 13 & 15	Age 16	Age 16	Age 15	Age 11 Age 14
Voting	Age 26	Age 42	Age 42	Age 20	NA
Membership in organisations	Age 43	Age 42	Age 42	Age 26	Age 14
Internet access prior to web survey	Age 69	Age 50	Age 46	Age 26	Age 14

	NSHD	NCDS	BCS70	Next Steps	MCS
Consent for biomarkers	Age 60-64 ^B	Age 44	Age 46	-	-
Consent for linkages	Age 60-64 ^B	-	-	Age 26	-
Educational qualifications	Age 26	Age 42	Age 42	Age 26	9 months ^A
Economic activity	Age 60-64	Age 50	Age 46	Age 26	Age 14 ^A
Partnership status	Age 69	Age 50	Age 46	Age 26	Age 14
Psychological distress	Age 69	Age 50	Age 46	Age 26	Age 14
BMI	Age 69	Age 50	Age 46	Age 26	Age 11
Self-rated health	Age 69	Age 50	Age 46	Age 26	Age 14
Smoking status	Age 69	Age 50	Age 46	Age 26	Age 14
Maternal mental health^C	-	-	-	-	9 months
Social capital/social support	Age 69	Age 50	Age 46	Age 26	Age 14
Income	Age 69	Age 55	Age 42	Age 26	Age 14 ^A
Number of non-responses across all previous sweeps	Birth – age 69	Birth – age 55	Birth – age 42	Age 14 – age 26	9 months – age 14
Response to COVID-19 Wave 1 survey^D	Age 74	Age 62	Age 50	Age 30	Age 19
Response to COVID-19 Wave 2 survey^E	-	Age 62	Age 50	Age 30	Age 19

^A Main respondent, >90% mothers. ^B Excluded from final model due to collinearity. ^C

Also available in BCS70 at age 16 but not included in model. ^D Included in Wave 2 and 3 response models only. ^E Included in Wave 3 response model only, apart from in NSHD where Wave 3 web survey was only issued to those who had responded to previous COVID-19 surveys.

Missing values in the above variables were handled using multiple imputation (MI), conducted in each cohort separately. The imputation model for each cohort included the above variables, response at the Wave under consideration and, for relevant cohorts (NSHD, Next Steps and MCS), the design weight. Five imputed datasets were created using chained equations. Such a small number of imputations was deemed sufficient as only point estimates (the probability of COVID-19 Wave 1, 2 and 3 survey response) were to be estimated from the MI analysis (more imputations would certainly be required for inference).

Models for COVID-19 survey response were fitted in each imputed dataset and combined using standard rules. Estimated models are reported in Appendix 1 but coefficients should be interpreted with caution since inclusion of independent variables from across the life course will likely lead to over-adjustment for earlier variables. In particular, the inclusion of Wave 1 and 2 survey response, which are themselves affected by the other independent variables in the model, in the models for Wave 2 and 3 response will likely lead to over-adjustment for all other independent variables. We note that this since our focus is prediction of response for the derivation of non-response weights, over-adjustment is not an issue. However, if estimation of the association of specific variables with response was the aim, appropriate adjustment (e.g. not for variables in the causal pathway between the independent variable of interest and response) should be employed. From these models, the probability of COVID-19 survey response was predicted for each respondent, with the non-response weight calculated as the inverse of the response probability. The distributions of the resultant Wave 1, 2 and 3 non-response weights are presented in Table 3.

Test analyses were conducted in each cohort at different levels of weight truncation which suggested that truncation to 50 could provide some improvement in precision without undue introduction of bias in each of Waves 1, 2 and 3. Each set of non-response weights were therefore truncated to 50 in each cohort.

The non-response weights were then calibrated so that they sum to the number of COVID-19 survey respondents in each cohort by multiplying them by the ratio of the number of responses to the total of the uncalibrated non-response weights. The distributions of the resultant calibrated non-response weights are presented in Table 4.

Table 3. Distributions of the COVID-19 Wave 1, 2 and 3 survey non-response weight (prior to truncation and calibration).

	Wave 1					Wave 2					Wave 3				
Percentile	NSHD	NCDS	BCS70	Next Steps	MCS	NSHD	NCDS	BCS70	Next Steps	MCS	NSHD	NCDS	BCS70	Next Steps	MCS
0%	1.1	1.1	1.2	1.5	1.6	1.0	1.0	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0
5%	1.2	1.2	1.4	2.1	2.1	1.0	1.0	1.1	1.1	1.2	1.0	1.0	1.0	1.0	1.1
25%	1.5	1.4	1.8	3.0	2.6	1.0	1.1	1.1	1.2	1.4	1.1	1.0	1.1	1.1	1.1
50%	1.9	1.7	2.3	4.3	3.7	1.1	1.1	1.3	2.6	2.1	1.1	1.1	1.2	1.3	1.6
75%	3.0	2.4	3.6	7.2	6.3	2.0	1.9	3.0	4.2	6.0	1.5	1.3	1.8	3.1	4.4
95%	9.6	6.4	10.5	27.5	18.0	6.9	5.8	8.2	12.8	14.6	8.9	5.8	8.2	11.8	10.3
100%	136.1	150.7	133.6	233.2	424.8	81.4	94.9	80.8	100.5	324.4	111.9	142.1	73.5	73.0	135.1

Table 4. Distributions of the truncated and calibrated COVID-19 Wave 1, 2 and 3 survey non-response weights.

	Wave 1					Wave 2					Wave 3				
Percentile	NSHD	NCDS	BCS70	Next Steps	MCS	NSHD	NCDS	BCS70	Next Steps	MCS	NSHD	NCDS	BCS70	Next Steps	MCS
0%	0.34	0.44	0.32	0.20	0.27	0.44	0.47	0.37	0.25	0.23	0.41	0.53	0.40	0.29	0.29
5%	0.39	0.48	0.38	0.28	0.34	0.45	0.48	0.38	0.26	0.26	0.42	0.53	0.41	0.30	0.30
25%	0.47	0.55	0.47	0.39	0.43	0.45	0.49	0.40	0.28	0.29	0.43	0.54	0.42	0.31	0.32
50%	0.59	0.66	0.62	0.57	0.62	0.47	0.52	0.46	0.61	0.44	0.45	0.55	0.48	0.37	0.44
75%	0.94	0.92	0.94	0.96	1.04	0.89	0.89	1.08	1.00	1.25	0.61	0.65	0.72	0.89	1.24
95%	3.01	2.48	2.78	3.66	2.97	3.04	2.63	2.91	3.06	3.03	3.62	3.00	3.23	3.41	2.92
100%	15.75	19.52	13.22	6.65	8.23	21.89	22.90	17.68	11.93	10.41	20.28	25.86	19.62	14.43	14.19

6.4 Weights effectiveness

To examine the effectiveness of the derived non-response weights in restoring sample representativeness we conducted several analyses, one of which is presented here (with several more in Appendix 2). We considered the distribution of sex in each cohort, which is observed at baseline in virtually all cohort members. For Wave 1, 2 and 3 separately, we compared the distribution of sex across all cohort members to the distribution of the same variable in COVID-19 survey respondents only (to assess the extent of bias caused by non-response) and in COVID-19 survey respondents after the application of the non-response weights (to assess to what extent the bias due to non-response could be overcome). The results are presented in Fig. 1, 2 and 3 for Wave 1, 2 and 3, respectively.

Wave 1: The extent of bias in the estimated percentage of female cohort members caused by non-response to the COVID-19 Wave 1 survey varied across cohorts, but was substantial in most cases (Fig. 1). However, the application of the non-response weights greatly reduced this bias in all cohorts, essentially completely eliminating it in NSHD, NCDS, BCS70 and MCS so that the sample representativeness with respect to this variable was restored. Whilst the truncated version of the non-response weights were not as effective in eliminating the bias in Next Steps, the untruncated version performed much better, albeit with a wider confidence interval (results not shown).

Wave 2: The extent of bias caused by non-response to the Wave 2 survey was generally a little less than in Wave 1, but remained substantial in most cases (Fig. 2). The application of the non-response weights greatly reduced this bias in all cohorts, essentially completely eliminating it so that the sample representativeness with respect to this variable was restored.

Wave 3: The extent of bias caused by non-response to the Wave 3 survey was generally similar in Wave 2 (Fig. 3). The application of the non-response weights greatly reduced this bias in all cohorts, though was again slightly less effective in Next Steps.

Although these analyses illustrate the performance of the non-response weights with respect to sex observed at baseline, it does not form a “test” of the performance of the non-response weights in general. In analyses of other variables (see Appendix 2) we found the non-response weights to perform similarly well, but this may not be the case for all variables of interest.

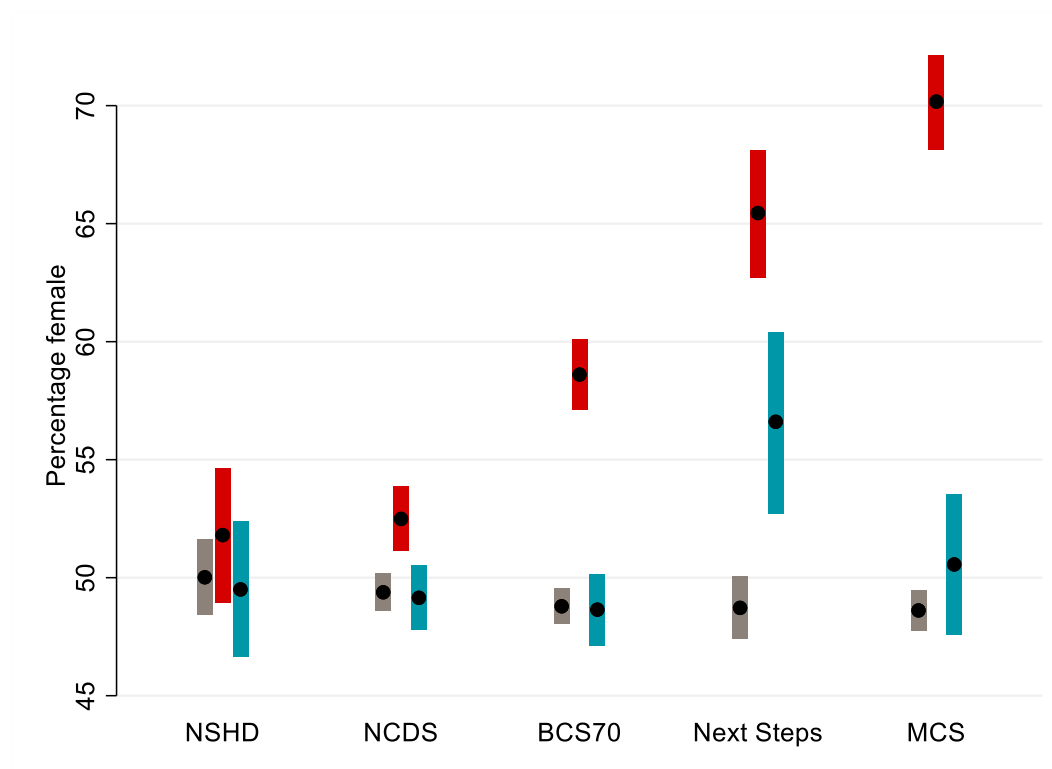


Fig. 1. Percentage female in each cohort under different estimation approaches.

Grey: using observed baseline data from the whole cohort; **red:** using observed baseline data from COVID-19 Wave 1 survey respondents only – unweighted (NCDS and BCS70) or using design weight only (NSHD, Next Steps and MCS); **blue:** using observed baseline data from COVID-19 Wave 1 survey respondents only – weighted using non-response weights (in addition to design weights as appropriate).

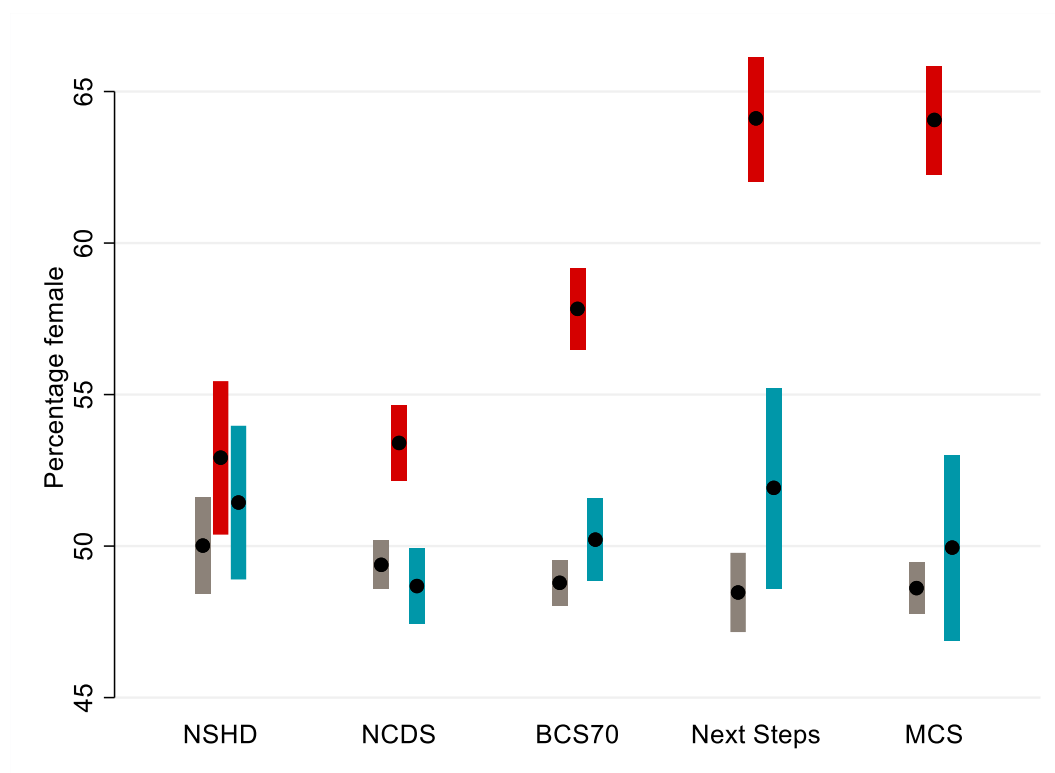


Fig. 2. Percentage female in each cohort under different estimation approaches. **Grey:** using observed baseline data from the whole cohort; **red:** using observed baseline data from COVID-19 Wave 2 survey respondents only – unweighted (NCDS and BCS70) or using design weight only (NSHD, Next Steps and MCS); **blue:** using observed baseline data from COVID-19 Wave 2 survey respondents only – weighted using non-response weights (in addition to design weights as appropriate).

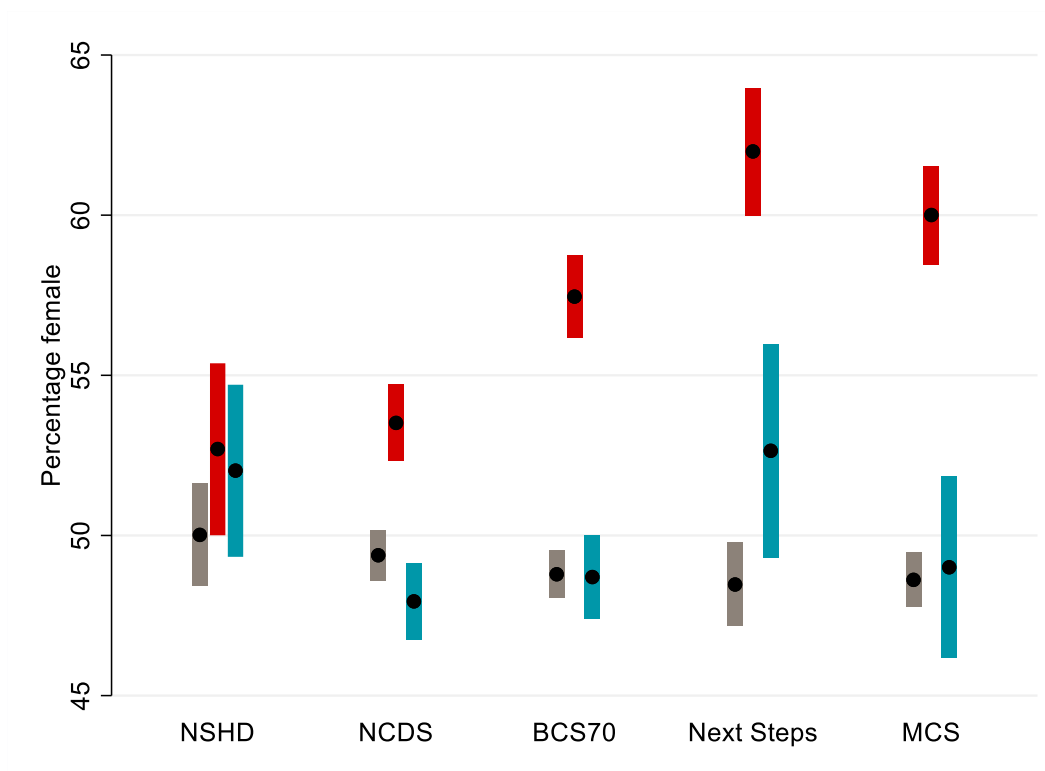


Fig. 3. Percentage female in each cohort under different estimation approaches.

Grey: using observed baseline data from the whole cohort; **red:** using observed baseline data from COVID-19 Wave 3 survey respondents only – unweighted (NCDS and BCS70) or using design weight only (NSHD, Next Steps and MCS); **blue:** using observed baseline data from COVID-19 Wave 3 survey respondents only – weighted using non-response weights (in addition to design weights as appropriate).

6.5 Implementation of non-response weights

COVID-19 Wave 1, 2 and 3 survey non-response weights are provided as part of the COVID-19 Wave 1, 2 and 3 surveys dataset. In cohorts where the study design means that design weights must be applied in any analyses (NSHD, Next Steps and MCS), the non-response weights have already been combined with the design weights (“CW*_INF”, “CW*_DESIGNWEIGHT” and “CW*_WEIGHT2”, respectively, where “CW*” means “CW1”, “CW2” or “CW3” as appropriate) to produce a combined weight (“CW*_COMBWT”). In cohorts without design weights (NCDS and BCS70), the same variable name (“CW*_COMBWT”) has been used for consistency but is simply the COVID-19 Wave 1, 2 or 3 survey non-response weight.

We will illustrate how to use the COVID-19 Wave 2 survey non-response weights (Wave 1 or 3 survey non-response weights would be applied analogously) by estimating the proportion of individuals reporting having coronavirus in each cohort at Wave 2, using the variable “CW2_COVID19” (the equivalent analysis of coronavirus at Wave 1 could be conducted using the variable “CW1_COVID19”, but is omitted here in the interests of space). This variable is initially coded 1 “Yes, confirmed by a positive test”, 2 “Yes, based on strong personal suspicion”, 3 “Unsure” and 4 “No”. We will combine the first two categories and combine the last two categories to produce a binary variable coded 0 “No” and 1 “Yes”.

```
. recode CW2_COVID19 -9/-1=. 1/2=1 3/4=0
. label define CW2_COVID19_lab 0 "No" 1 "Yes"
. label values CW2_COVID19 CW2_COVID19_lab
```

The illustrative analyses are conducted in Stata (version 16), but could be conducted similarly in other statistical software packages. We will use the command `proportion` to estimate the proportions and specify the use of Agresti-Coull confidence intervals (4), as these are the generally preferred option in this setting.

NSHD

In NSHD there is a design weight (“CW2_INF”) to take into account, but recall that this is already included in the COVID-19 Wave 2 survey combined weight (“CW2_COMBWT”).

```
. proportion CW2_COVID19 [pweight=CW2_COMBWT] if CW2_GROUP==6,
    citype(agresti)
```

```
Proportion estimation          Number of obs    =      1,485
```

```
-----
|                                     Agresti-Coull
| Proportion   Std. Err.   [95% Conf. Interval]
-----+-----
```

CW2_COVID19	|				
No	|	.9778868	.0050314	.9689836	.9843239
Yes	|	.0221132	.0050314	.0156761	.0310164

The estimated proportion of NSHD cohort members with coronavirus is 2.2%, with 95% confidence interval 1.6% - 3.1%.

NCDS

In NCDS there is no study design to take into account, so the analysis simply includes the COVID-19 Wave 2 survey weight ("CW2_COMBWT").

```
. proportion CW2_COVID19 [pweight=CW2_COMBWT] if CW2_GROUP==1,
  citytype(agresti)
```

Proportion estimation Number of obs = 6,185

	|				Agresti-Coull
	|	Proportion	Std. Err.		[95% Conf. Interval]
-----+-----					
CW2_COVID19	|				
No	|	.931368	.0063471	.92479	.9374106
Yes	|	.068632	.0063471	.0625894	.07521

The estimated proportion of NCDS cohort members with coronavirus is 6.9%, with 95% confidence interval 6.3% - 7.5%.

BCS70

In BCS70 there is similarly no study design to take into account, so the analysis simply includes the COVID-19 Wave 2 survey weight (“CW2_COMBWT”).

```
. proportion CW2_COVID19 [pweight=CW2_COMBWT] if CW2_GROUP==2,
    cotype(agresti)
```

Proportion estimation Number of obs = 5,199

	|	Agresti-Coull		
	|	Proportion	Std. Err.	[95% Conf. Interval]
-----+-----				
CW2_COVID19	|			
No	|	.8888752	.0075138	.8800385 .8971376
Yes	|	.1111248	.0075138	.1028624 .1199615

The estimated proportion of BCS70 cohort members with coronavirus is 11.1%, with 95% confidence interval 10.3% - 12.0%.

Next Steps

In Next Steps we must also account for the primary sampling unit (“CW2_SAMPPSU”) and strata (“CW2_SAMPSTRATUM”) of the study design. Recall that the Next Steps design weight (“CW2_DESIGNWEIGHT”) is already included in the COVID-19 Wave 2 Survey combined weight (“CW2_COMBWT”). We first svyset the data, then conduct the analysis using the svy prefix.

```
. svyset CW2_SAMPPSU [pweight=CW2_COMBWT], strata(CW2_SAMPSTRATUM)
```

```
    pweight: CW2_COMBWT
```



```

VCE: linearized

Single unit: missing

Strata 1: CW2_SAMPSTRATUM

SU 1: CW2_SAMPPSU

FPC 1: <zero>

. svy: proportion CW2_COVID19 if CW2_GROUP==3, citype(agresti)

(running proportion on estimation sample)

```

Survey: Proportion estimation

```

Number of strata =      37      Number of obs   =      3,545
Number of PSUs   =      647      Population size = 3,515.1557
                                   Design df       =      610

```

		Linearized	Agresti-Coull	
		Std. Err.	[95% Conf. Interval]	
	Proportion			
-----+-----				
CW2_COVID19	|			
No	|	.8844699	.0100528	.8631965 .9028214
Yes	|	.1155301	.0100528	.0971786 .1368035

The estimated proportion of Next Steps cohort members with coronavirus is 11.6%, with 95% confidence interval 9.7% - 13.7%.

MCS

In MCS we must again account for the primary sampling unit (“CW2_SPTN00”) and strata (“CW2_PTYPE2”) of the study design, and additionally apply a finite population correction (“CW2_NH2”). Recall that the MCS design weight (“CW2_WEIGHT2”) is already included in the COVID-19 Wave 2 Survey combined weight (“CW2_COMBWT”). We first `svyset` the data, then conduct the analysis using the `svy` prefix.

```
. svyset CW2_SPTN00 [pweight=CW2_COMBWT], strata(CW2_PTYPE2)
    fpc(CW2_NH2)

    pweight: CW2_COMBWT
          VCE: linearized

Single unit: missing

Strata 1: CW2_PTYPE2

SU 1: CW2_SPTN00

FPC 1: CW2_NH2

. svy: proportion CW2_COVID19 if CW2_GROUP==4, citype(agresti)

(running proportion on estimation sample)
```

Survey: Proportion estimation

Number of strata =	9	Number of obs =	3,158
Number of PSUs =	394	Population size =	3,197.8323
		Design df =	385

	Linearized	Agresti-Coull
--	------------	---------------

	|	Proportion	Std. Err.	[95% Conf. Interval]	
-----+-----					
CW2_COVID19	|				
No	|	.8749703	.0118362	.8497628	.8964835
Yes	|	.1250297	.0118362	.1035165	.1502372

The estimated proportion of MCS cohort members with coronavirus is 12.5%, with 95% confidence interval 10.4% - 15.0%.

6.6 References

1. Silverwood R, Narayanan M, Dodgeon B, Ploubidis G. Handling missing data in the National Child Development Study: User Guide. London: UCL Centre for Longitudinal Studies; 2020.
2. Mostafa T, Narayanan M, Pongiglione B, Dodgeon B, Goodman A, Silverwood RJ, et al. Improving the plausibility of the missing at random assumption in the 1958 British birth cohort: A pragmatic data driven approach. CLS Working Paper 2020/6. London: UCL Centre for Longitudinal Studies; 2020.
3. Silverwood RJ, Calderwood L, Sakshaug JW, Ploubidis GB. A data driven approach to understanding and handling non-response in the Next Steps cohort. CLS Working Paper 2020/5. London: UCL Centre for Longitudinal Studies; 2020.
4. Agresti A, Coull BA. Approximate Is Better than "Exact" for Interval Estimation of Binomial Proportions. The American Statistician. 1998;52(2):119-26.

7. Mode effects

7.1 Mode effects in the COVID-19 Wave 3 survey

As noted in Section 3 of this User Guide, with the exception of MCS parents and NSHD cohort members, the COVID-19 Wave 3 survey involved a telephone phase in which a subset of web survey non-respondents were invited to take part via telephone.

The mode by which each cohort member completed the Wave 3 survey is recorded in the variable CW3_MODE as computer-assisted web interview (“CAWI”) or computer-assisted telephone interview (“CATI”).

When using survey data collected using multiple modes, it is important to consider whether and how the mode of data collection may affect analyses. “Mode effects” are generally taken to mean differences in observed responses to survey items which are due solely to the mode of data collection. For example, an individual may give a certain answer to a question asked in a web interview but a different answer to the same question posed via a telephone interview. Mode effects will be more likely for some questions, for example those of a more sensitive nature, those where social desirability bias may play more of a role, or those where primacy or recency effects may be stronger. Mode effects may limit the ability to compare data from different modes in a meaningful way.

However, mode effects are difficult to identify in data where respondents are not randomised to different modes. Respondents to each mode will likely differ in potentially important ways due to self-selection into mode (e.g. web respondents are likely to be, on average, younger and more tech-savvy) and without appropriate control for these (possibly unobserved) characteristics, it is not possible to determine whether an observed between-mode difference in a given variable is due to selection, measurement error or truly a mode effect (or a combination of those).

In the context of the Wave 3 survey, we can be fairly certain that there will be underlying differences between cohort members who responded via web and those who responded via telephone as the telephone phase was targeted based on completion of previous COVID-19 survey waves and completion of the most recent

cohort survey (see Section 3 for details). We know from findings in this User Guide and elsewhere (1, 2) that responses to these surveys are patterned by a variety of observed characteristics.

Because of the difficulties in disentangling selection, measurement error and mode effects, we present here only an assessment of crude between-mode differences within each cohort with no attempt to control for selection into mode. These results therefore do not necessarily signify true mode effects, but can instead be used as a screening tool to identify variables for which there is evidence of crude between-mode differences and where a more detailed consideration of mode effects (and the implications thereof) could be considered.

Tables A6, A7 and A8 present an assessment of crude between-mode differences for all variables in the Wave 3 survey for binary, categorical and continuous variables, respectively. With the exception of CW3_ENDDATE (“Date in 2021 of survey completion”; derived using CW3_ENDDATED [“Date in 2021 of survey completion”] and CW3_ENDDATEM [“Month in 2021 of survey completion (February or March)”]), all variables were considered using their original coding. For binary variables, the percentage replying positively within each mode is presented; for continuous variables, the mean value within each mode is presented; for categorical variables, variability in the number of categories would make presentation of such descriptive statistics difficult, so they have not been presented (though we would encourage interested users to explore the necessary cross-tabulations themselves). Omitted findings signify that the between-mode comparison was not possible, for example because there were no responses for the variable, there were only responses within a single level of a binary or categorical variable, or there were only responses for that variable within a single mode.

For each variable, we have included a p-value for the hypothesis test that there is no between-mode difference. For binary and categorical variables, this is from Pearson's chi-squared test; for continuous variables, this is from a two-sample t-test. The reported p-values have been colour-coded, from green (higher values; weaker evidence of between-mode differences) to red (lower values; stronger evidence of between-mode differences). It could be argued that such a p-value-focussed approach may not be the optimal way to assess between-mode differences (and that

for certain variables these may not be the most appropriate tests), but we emphasise these findings are intended to be exploratory in nature and we encourage more thorough analyses where deemed appropriate.

7.2 References

1. Mostafa T, Narayanan M, Pongiglione B, Dodgeon B, Goodman A, Silverwood RJ, Ploubidis GB. Missing at random assumption made more plausible: evidence from the 1958 British birth cohort. *J Clin Epidemiol*. 2021;136:44-54.
2. Silverwood RJ, Calderwood L, Sakshaug JW, Ploubidis GB. A data driven approach to understanding and handling non-response in the Next Steps cohort. CLS Working Paper 2020/5. London: UCL Centre for Longitudinal Studies; 2020.

8. Appendices

APPENDIX 1 - Non-response weights estimation

Table A1. Estimated COVID-19 Wave 1, 2 and 3 survey response models in NSHD (n = 3,758).

	Wave 1		Wave 2		Wave 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Sex						
Male	1.00		1.00		1.00	
Female	1.25	1.03, 1.53	1.44	1.12, 1.84	1.31	1.02, 1.68
Voting						
Didn't vote	1.00		1.00		1.00	
Voted	1.02	0.79, 1.32	1.45	0.75, 2.78	1.61	0.88, 2.95
Internet access prior to web survey						
Never	1.00		1.00		1.00	
Not never	1.72	1.40, 2.11	1.91	1.38, 2.65	1.90	1.41, 2.57
Self-rated health						
Excellent/very good	1.00		1.00		1.00	
Good	0.61	0.50, 0.75	0.90	0.71, 1.16	0.81	0.62, 1.05
Fair/poor	0.38	0.28, 0.51	0.62	0.42, 0.90	0.52	0.35, 0.77
Income quintile						
1	1.00		1.00		1.00	
2	1.30	0.98, 1.74	1.49	1.00, 2.24	1.39	0.89, 2.20
3	1.61	1.21, 2.15	1.67	1.08, 2.58	1.80	1.20, 2.70
4	1.71	1.27, 2.31	2.00	1.28, 3.13	1.97	1.28, 3.03
5	1.90	1.41, 2.57	1.95	1.31, 2.90	2.07	1.33, 3.21
Parental social class						
Professional/intermediate	1.00		1.00		1.00	
Skilled	1.03	0.84, 1.26	0.91	0.70, 1.19	0.79	0.60, 1.04
Partly-/unskilled	0.88	0.67, 1.15	0.89	0.64, 1.23	0.81	0.58, 1.14
Early life mental health: Conduct problems						

	Wave 1		Wave 2		Wave 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Absent	1.00		1.00		1.00	
Mild	1.21	0.96, 1.53	0.80	0.56, 1.16	0.65	0.45, 0.93
Severe	1.07	0.69, 1.64	0.80	0.47, 1.36	0.61	0.37, 1.03
Early life mental health: Emotional problems						
Absent	1.00		1.00		1.00	
Mild	0.90	0.74, 1.09	1.18	0.94, 1.48	1.29	1.01, 1.64
Severe	0.82	0.61, 1.11	0.93	0.66, 1.31	1.15	0.80, 1.64
Membership in organisations						
None	1.00		1.00		1.00	
1	1.20	0.99, 1.45	1.21	0.91, 1.61	1.16	0.87, 1.54
2+	1.22	0.95, 1.56	1.01	0.74, 1.38	1.07	0.78, 1.47
Educational qualifications						
None attempted	1.00		1.00		1.00	
Up to GCE 'O' Level	2.14	1.61, 2.85	1.00	0.70, 1.42	0.95	0.69, 1.32
GCE 'A' Level	2.44	1.88, 3.16	1.37	0.97, 1.94	1.26	0.88, 1.81
First or higher degree	3.11	1.92, 5.05	1.02	0.59, 1.76	0.96	0.55, 1.67
Economic activity						
Still in main occupation	1.00		1.00		1.00	
Retired but still earning	1.06	0.78, 1.43	1.13	0.74, 1.75	1.02	0.69, 1.53
Fully retired/unemployed/housewife	0.88	0.67, 1.14	0.88	0.63, 1.24	1.00	0.75, 1.34
Partnership status						
Single & never married	1.00		1.00		1.00	
Married	2.97	1.70, 5.19	2.57	1.34, 4.94	2.76	1.38, 5.50
Separated/divorced/widowed	2.41	1.29, 4.52	1.90	0.97, 3.72	1.99	0.98, 4.03
Smoking status						
Current Smoker	1.00		1.00		1.00	
Ex-smoker	2.33	1.63, 3.35	1.76	1.14, 2.74	1.70	1.07, 2.70
Never smoked	1.92	1.33, 2.78	1.48	0.89, 2.45	1.28	0.75, 2.20
Social capital/social support: Frequency of meeting family and friends						

	Wave 1		Wave 2		Wave 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Never/almost never	1.00		1.00		1.00	
Fairly frequently	1.18	0.93, 1.50	0.86	0.63, 1.19	1.01	0.74, 1.38
Very frequently	1.22	0.93, 1.59	0.86	0.61, 1.21	0.99	0.72, 1.37
Number of persons per room (per person)	0.90	0.78, 1.03	0.76	0.64, 0.91	0.79	0.66, 0.95
Cognitive ability	1.47	1.29, 1.68	1.15	0.96, 1.39	1.17	0.98, 1.40
Psychological distress	0.98	0.95, 1.02	0.98	0.93, 1.02	0.97	0.93, 1.02
Body mass index (kg/m ²)	1.01	0.98, 1.03	0.98	0.96, 1.00	0.99	0.96, 1.01
Number of non-responses across all previous sweeps	0.85	0.82, 0.87	0.87	0.84, 0.89	0.88	0.86, 0.91
Response to COVID-19 Wave 1 survey						
Non-respondent	-	-	1.00		1.00	
Respondent	-	-	49.54	37.58, 65.30	40.03	31.46, 50.93
Response to COVID-19 Wave 2 survey						
Non-respondent	-	-	-	-	-	-
Respondent	-	-	-	-	-	-

Table A2. Estimated COVID-19 Wave 1, 2 and 3 survey response models in NCDS
(n = 15,291).

	Wave 1		Wave 2		Wave 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Sex						
Male	1.00		1.00		1.00	
Female	1.12	1.03, 1.22	1.31	1.19, 1.46	1.26	1.12, 1.43
Voting						
Didn't vote	1.00		1.00		1.00	
Voted	1.07	0.97, 1.19	1.12	1.00, 1.26	1.02	0.86, 1.20
Membership in organisations						
No	1.00		1.00		1.00	
Yes	1.25	1.13, 1.38	1.10	0.98, 1.23	1.22	1.07, 1.40
Membership in unions						
No	1.00		1.00		1.00	
Yes	1.10	0.99, 1.23	1.16	1.03, 1.31	1.10	0.97, 1.25
Internet access prior to web survey						
Yes	1.00		1.00		1.00	
No	0.35	0.30, 0.40	0.61	0.53, 0.7	0.91	0.77, 1.07
Consent for biomarkers						
Yes	1.00		1.00		1.00	
No	0.42	0.14, 1.21	0.70	0.28, 1.71	0.50	0.28, 0.89
Economic activity						
Currently employed	1.00		1.00		1.00	
Not currently employed	0.83	0.71, 0.97	0.82	0.68, 0.99	0.98	0.82, 1.18
Self-rated health						
Excellent/very good	1.00		1.00		1.00	
Good	0.88	0.80, 0.98	0.88	0.77, 1.01	0.91	0.78, 1.05
Fair/poor	0.78	0.66, 0.91	0.85	0.73, 0.99	0.91	0.74, 1.10
Income quintile						
1	1.00		1.00		1.00	
2	1.06	0.90, 1.24	0.96	0.79, 1.17	0.98	0.81, 1.19
3	1.19	1.01, 1.40	1.06	0.77, 1.44	0.86	0.70, 1.06

	Wave 1		Wave 2		Wave 3	
	OR	95% CI	OR	95% CI	OR	95% CI
4	1.25	1.08, 1.46	1.22	0.99, 1.50	0.91	0.72, 1.14
5	1.36	1.11, 1.66	1.39	1.06, 1.82	0.89	0.67, 1.18
Parental social class						
Professional/managerial	1.00		1.00		1.00	
Intermediate	0.94	0.84, 1.04	0.91	0.81, 1.04	0.88	0.74, 1.06
Partly-/unskilled	0.87	0.76, 1.00	0.94	0.80, 1.10	0.85	0.71, 1.02
Educational qualifications						
None	1.00		1.00		1.00	
NQV Level 1-3	1.13	0.96, 1.33	1.20	1.01, 1.43	1.17	0.97, 1.41
NVQ Level 4-5	1.52	1.27, 1.83	1.68	1.38, 2.06	1.20	0.96, 1.49
Partnership status						
Single & never married	1.00		1.00		1.00	
Married/civil partner	1.29	1.11, 1.50	1.19	0.99, 1.42	1.14	0.83, 1.58
Separated/divorced/widowed	1.09	0.91, 1.30	1.11	0.92, 1.34	0.99	0.71, 1.38
Smoking status						
Never	1.00		1.00		1.00	
Former	1.01	0.91, 1.12	0.93	0.83, 1.05	1.14	0.98, 1.33
Current	0.78	0.69, 0.89	0.73	0.64, 0.85	0.84	0.71, 1.00
Social capital/social support: How often visit friends/have friends visit						
Never	1.00		1.00		1.00	
Fairly frequently	0.94	0.83, 1.06	0.93	0.78, 1.10	1.02	0.86, 1.20
Very frequently	0.84	0.73, 0.95	0.93	0.78, 1.10	0.98	0.82, 1.16
Social capital/social support: Have people around to listen to problems and feelings						
A little/not at all	1.00		1.00		1.00	
Somewhat	1.01	0.84, 1.21	0.99	0.80, 1.24	0.98	0.75, 1.27
A great deal	1.00	0.85, 1.18	1.04	0.86, 1.27	1.02	0.81, 1.28
Social capital/social support: Whether most people can be trusted						
Most people can be trusted	1.00		1.00		1.00	
Can't be too careful	0.88	0.80, 0.96	0.96	0.85, 1.09	0.87	0.76, 1.00

	Wave 1		Wave 2		Wave 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Other/depends	0.80	0.68, 0.95	1.03	0.85, 1.25	0.80	0.63, 1.01
Number of persons per room (per person)	0.91	0.86, 0.96	0.95	0.89, 1.00	0.95	0.90, 1.01
Cognitive ability	1.43	1.34, 1.52	1.09	1.01, 1.18	1.03	0.95, 1.12
Early life mental health (int)	0.92	0.85, 0.98	0.96	0.89, 1.03	0.99	0.91, 1.07
Early life mental health (ext)	1.19	0.97, 1.46	1.03	0.81, 1.30	1.07	0.81, 1.42
Psychological distress	1.02	1.00, 1.05	0.98	0.95, 1.01	1.02	0.99, 1.06
Body mass index (kg/m ²)	1.00	0.99, 1.01	1.00	0.99, 1.01	1.00	0.99, 1.01
Number of non-responses across all previous sweeps	0.62	0.61, 0.64	0.67	0.66, 0.69	0.70	0.68, 0.72
Response to COVID-19 Wave 1 survey						
Non-respondent	-	-	1.00		1.00	
Respondent	-	-	14.99	13.46, 16.69	4.57	4.01, 5.21
Response to COVID-19 Wave 2 survey						
Non-respondent	-	-	-	-	1.00	
Respondent	-	-	-	-	15.56	13.8, 17.55

Table A3. Estimated COVID-19 Wave 1, 2 and 3 survey response models in BCS70 (n = 17,486).

	Wave 1		Wave 2		Wave 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Sex						
Male	1.00		1.00		1.00	
Female	1.69	1.55, 1.85	1.37	1.25, 1.51	1.33	1.19, 1.48
Voting						
Didn't vote	1.00		1.00		1.00	
Voted	1.30	1.12, 1.50	1.30	1.15, 1.47	1.23	1.09, 1.39
Consent for biomarkers						
No to one/both	1.00		1.00		1.00	
Yes to both	1.17	1.00, 1.36	1.17	0.88, 1.54	1.20	0.82, 1.75
Economic activity						
Currently employed	1.00		1.00		1.00	
Not currently employed	0.83	0.71, 0.97	0.96	0.79, 1.18	0.93	0.79, 1.1
Self-rated health						
Excellent/very good	1.00		1.00		1.00	
Good	0.87	0.77, 0.99	0.98	0.87, 1.10	0.99	0.86, 1.13
Fair/poor	0.81	0.71, 0.93	0.96	0.83, 1.12	1.02	0.86, 1.22
Income quintile						
1	1.00		1.00		1.00	
2	1.16	0.99, 1.36	1.20	1.00, 1.45	1.14	0.95, 1.37
3	1.30	1.12, 1.50	1.21	0.95, 1.54	1.14	0.96, 1.36
4	1.45	1.21, 1.75	1.32	1.11, 1.57	1.24	1.03, 1.48
5	1.43	1.13, 1.80	1.32	1.08, 1.61	1.14	0.95, 1.37
Parental social class						
Professional/managerial	1.00		1.00		1.00	
Intermediate	0.95	0.84, 1.06	0.90	0.81, 1.00	0.84	0.74, 0.97
Partly-/unskilled	0.96	0.85, 1.10	1.02	0.89, 1.17	0.92	0.79, 1.08
Membership in organisations						
No organisations	1.00		1.00		1.00	
1 organisation	1.23	1.08, 1.40	1.08	0.95, 1.23	1.22	1.03, 1.45

	Wave 1		Wave 2		Wave 3	
	OR	95% CI	OR	95% CI	OR	95% CI
2+ organisations	1.21	1.02, 1.44	1.20	1.02, 1.41	1.24	1.06, 1.44
Internet access prior to web survey						
None/little	1.00		1.00		1.00	
Medium	1.22	1.09, 1.38	0.99	0.86, 1.14	1.12	0.97, 1.28
Lots	1.30	1.14, 1.48	1.04	0.91, 1.18	1.09	0.95, 1.24
Educational qualifications						
None	1.00		1.00		1.00	
NQV Level 1-3	1.30	1.09, 1.55	1.00	0.85, 1.18	1.21	1.02, 1.43
NVQ Level 4-5	1.44	1.19, 1.74	1.03	0.86, 1.23	1.16	0.96, 1.41
Partnership status						
Never married/in CP	1.00		1.00		1.00	
Married/CP	1.07	0.95, 1.21	1.18	1.03, 1.35	1.18	1.04, 1.35
Separated/divorced/widowed	0.96	0.81, 1.13	1.04	0.88, 1.22	0.97	0.82, 1.14
Smoking status						
Never	1.00		1.00		1.00	
Former	0.93	0.84, 1.03	1.00	0.88, 1.13	1.11	0.98, 1.26
Current	0.78	0.66, 0.93	0.85	0.70, 1.04	0.90	0.74, 1.08
Social capital/social support: Frequency of meeting family and friends						
Never/rarely	1.00		1.00		1.00	
Fairly frequently	0.88	0.79, 0.99	1.05	0.92, 1.21	0.97	0.82, 1.15
Very frequently	0.77	0.68, 0.86	0.87	0.76, 0.99	0.93	0.78, 1.11
Social capital/social support: Have people around to listen to problems						
A little/not at all	1.00		1.00		1.00	
Somewhat	1.09	0.87, 1.38	1.00	0.78, 1.27	1.05	0.82, 1.34
A great deal	1.04	0.81, 1.34	1.12	0.90, 1.38	0.99	0.77, 1.27
Number of rooms at home (per room)	1.01	0.98, 1.04	1.01	0.98, 1.03	1.02	0.99, 1.05
Cognitive ability	1.36	1.26, 1.46	1.14	1.07, 1.20	1.04	0.97, 1.11
Early life mental health	1.01	0.99, 1.02	1.01	0.99, 1.03	1.00	0.99, 1.02
Psychological distress	0.97	0.94, 0.99	1.00	0.97, 1.03	0.98	0.94, 1.01

	Wave 1		Wave 2		Wave 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Body mass index (kg/m ²)	1.01	1.01, 1.02	1.00	0.99, 1.01	1.01	0.99, 1.02
Number of non-responses across all previous sweeps	0.66	0.64, 0.67	0.68	0.66, 0.69	0.73	0.71, 0.75
Response to COVID-19 Wave 1 survey						
Non-respondent	-	-	1.00		1.00	
Respondent	-	-	12.37	11.2, 13.65	4.52	4.03, 5.06
Response to COVID-19 Wave 2 survey						
Non-respondent	-	-	-	-	1.00	
Respondent	-	-	-	-	9.86	8.9, 10.92

Table A4. Estimated COVID-19 Wave 1, 2 and 3 survey response models in Next Steps (n =15,770).

	Wave 1		Wave 2		Wave 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Sex						
Male	1.00		1.00		1.00	
Female	2.12	1.90, 2.38	2.04	1.85, 2.25	1.43	1.27, 1.6
Voting						
Didn't vote	1.00		1.00		1.00	
Voted	0.76	0.67, 0.86	0.80	0.71, 0.90	0.82	0.73, 0.93
Membership in organisations						
Yes	1.00		1.00		1.00	
No	0.91	0.80, 1.03	0.95	0.85, 1.06	0.92	0.81, 1.04
Economic activity						
Currently employed	1.00		1.00		1.00	
Not currently employed	0.79	0.67, 0.94	0.93	0.79, 1.09	0.73	0.61, 0.88
Self-rated health						
Excellent/very good	1.00		1.00		1.00	
Good	0.88	0.77, 1.01	0.90	0.80, 1.01	1.05	0.92, 1.21
Fair/poor	0.84	0.69, 1.04	0.87	0.70, 1.07	1.10	0.85, 1.42
Income quintile						
1	1.00		1.00		1.00	
2	1.13	0.92, 1.38	1.04	0.88, 1.22	1.07	0.84, 1.36
3	1.20	1.00, 1.45	0.99	0.84, 1.16	1.10	0.89, 1.36
4	1.31	1.05, 1.64	1.07	0.90, 1.28	1.09	0.83, 1.44
5	1.68	1.34, 2.10	1.06	0.88, 1.27	1.11	0.85, 1.45
Parental social class						
Managerial	1.00		1.00		1.00	
Intermediate	0.90	0.78, 1.03	1.02	0.90, 1.15	0.91	0.79, 1.05
Routine/semi-routine	0.77	0.66, 0.90	0.98	0.86, 1.11	0.78	0.67, 0.89
Never worked	0.65	0.49, 0.86	0.92	0.76, 1.12	0.87	0.69, 1.09
Internet access prior to web survey						
None	1.00		1.00		1.00	

	Wave 1		Wave 2		Wave 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Little	1.07	0.86, 1.32	1.06	0.91, 1.23	1.27	1.00, 1.60
Lot	1.29	1.04, 1.59	1.12	0.94, 1.33	1.45	1.14, 1.85
Consent for linkages						
None	1.00		1.00		1.00	
Some	1.39	1.18, 1.63	1.15	1.01, 1.31	1.10	0.92, 1.32
All	1.66	1.44, 1.92	1.08	0.94, 1.25	1.30	1.12, 1.51
Educational qualifications						
None	1.00		1.00		1.00	
NQV Level 1-3	1.62	1.12, 2.34	1.13	0.84, 1.53	0.81	0.58, 1.14
NVQ Level 4-5	2.10	1.46, 3.04	1.47	1.10, 1.96	1.05	0.74, 1.50
Partnership status						
None	1.00		1.00		1.00	
Spouse/civil partner	1.01	0.83, 1.24	1.08	0.90, 1.28	0.92	0.72, 1.17
Cohabiting partner	1.05	0.92, 1.21	1.05	0.91, 1.21	1.16	0.97, 1.40
Smoking status						
Never	1.00		1.00		1.00	
Former	0.79	0.67, 0.93	0.83	0.7, 0.99	0.89	0.75, 1.05
Current	0.73	0.63, 0.86	0.80	0.7, 0.91	0.83	0.70, 0.99
Social capital/social support: How often meet up with family and friends						
Very frequently	1.00		1.00		1.00	
Fairly frequently	1.42	1.26, 1.60	1.24	1.10, 1.39	1.08	0.94, 1.24
Rarely/never	1.44	1.17, 1.78	1.25	1.03, 1.51	1.16	0.95, 1.41
Social capital/social support: Have people around to listen to problems						
A little/not at all	1.00		1.00		1.00	
Somewhat	0.84	0.63, 1.11	1.03	0.80, 1.33	0.89	0.71, 1.12
A great deal	0.70	0.54, 0.90	0.86	0.68, 1.09	0.90	0.74, 1.09
Ethnicity						
White	1.00		1.00		1.00	
Indian/Pakistani/Bangladeshi	0.55	0.45, 0.68	0.88	0.74, 1.03	1.06	0.89, 1.26
Black Caribbean/Black African	0.36	0.27, 0.48	0.64	0.51, 0.79	0.77	0.61, 0.97

	Wave 1		Wave 2		Wave 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Mixed/Other	0.68	0.55, 0.85	0.86	0.71, 1.03	0.99	0.80, 1.21
Early life mental health	1.02	1.00, 1.05	0.99	0.97, 1.01	1.01	0.99, 1.03
Psychological distress	1.01	0.99, 1.04	1.02	1.00, 1.05	1.01	0.99, 1.03
Body mass index (kg/m ²)	1.01	1.00, 1.03	1.01	1.00, 1.02	1.01	1.00, 1.02
Social capital/social support: Trust scale	0.99	0.97, 1.02	1.02	0.99, 1.05	1.01	0.98, 1.04
Number of non-responses across all previous sweeps	0.67	0.64, 0.70	0.67	0.65, 0.69	0.75	0.72, 0.77
Response to COVID-19 Wave 1 survey						
Non-respondent	-	-	1.00		1.00	
Respondent	-	-	13.92	12.16, 15.93	5.07	4.29, 5.99
Response to COVID-19 Wave 2 survey						
Non-respondent	-	-	-	-	1.00	
Respondent	-	-	-	-	18.67	16.64, 20.95

Table A5. Estimated COVID-19 Wave 1, 2 and 3 survey response models in MCS (n = 19,243).

	Wave 1		Wave 2		Wave 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Sex						
Male	1.00		1.00		1.00	
Female	2.93	2.66, 3.24	1.64	1.48, 1.81	1.21	1.10, 1.34
Membership in organisations						
At least once a month	1.00		1.00		1.00	
Less than once a month	0.86	0.78, 0.95	0.98	0.88, 1.07	0.88	0.80, 0.97
Economic activity						
Currently employed	1.00		1.00		1.00	
Not currently employed	1.01	0.88, 1.15	1.01	0.88, 1.15	1.08	0.91, 1.28
Smoking status						
Never smoked	1.00		1.00		1.00	
Current/former/tried	0.61	0.53, 0.71	0.68	0.57, 0.80	0.71	0.61, 0.83
Social capital/social support: Family and friends who help me feel safe, secure and happy						
Very true	1.00		1.00		1.00	
Partly true/not true at all	1.14	0.99, 1.32	0.83	0.70, 0.97	0.91	0.77, 1.08
Social capital/social support: Someone I trust whom I would turn to if I had problems						
Very true	1.00		1.00		1.00	
Partly true/not true at all	1.02	0.89, 1.17	1.18	1.04, 1.35	0.97	0.82, 1.13
Social capital/social support: No one I feel close to						
Very/partly true	1.00		1.00		1.00	
Not true at all	1.23	1.02, 1.47	0.94	0.79, 1.11	0.98	0.82, 1.16
Self-rated health						
Excellent/very good	1.00		1.00		1.00	
Good	1.00	0.90, 1.11	1.01	0.90, 1.14	0.97	0.87, 1.09
Fair/poor	0.97	0.82, 1.13	1.08	0.92, 1.26	0.85	0.72, 1.01
Income quintile						

	Wave 1		Wave 2		Wave 3	
	OR	95% CI	OR	95% CI	OR	95% CI
1	1.00		1.00		1.00	
2	1.29	1.09, 1.54	1.10	0.89, 1.36	1.29	1.09, 1.53
3	1.27	1.05, 1.55	1.04	0.83, 1.30	1.25	1.03, 1.51
4	1.41	1.17, 1.71	1.05	0.87, 1.27	1.42	1.17, 1.72
5	1.40	1.15, 1.69	1.06	0.87, 1.28	1.62	1.32, 1.98
Parental social class (9 months)						
Managerial	1.00		1.00		1.00	
Intermediate	0.88	0.76, 1.02	0.83	0.71, 0.97	0.86	0.75, 0.99
Routine/semi-routine	0.89	0.76, 1.03	0.72	0.61, 0.85	0.79	0.67, 0.93
Parental social class (age 11)						
Managerial	1.00		1.00		1.00	
Intermediate	0.95	0.84, 1.07	1.00	0.87, 1.15	0.96	0.84, 1.09
Routine/semi-routine	0.84	0.70, 1.00	1.05	0.84, 1.32	0.92	0.77, 1.10
Internet access prior to web survey						
Little/none	1.00		1.00		1.00	
Medium	1.00	0.89, 1.14	0.94	0.84, 1.06	1.03	0.91, 1.17
Lots	1.01	0.89, 1.15	0.88	0.77, 1.00	0.97	0.85, 1.11
Educational qualifications						
None	1.00		1.00		1.00	
NQV Level 1-3	1.19	1.00, 1.42	1.20	1.01, 1.42	1.10	0.92, 1.33
NVQ Level 4-5	1.38	1.13, 1.69	1.35	1.11, 1.64	1.20	0.98, 1.47
Partnership status						
None	1.00		1.00		1.00	
Spouse/civil partner	1.18	1.01, 1.37	1.27	1.09, 1.47	1.21	1.04, 1.40
Separated/divorced/widowed	1.26	1.05, 1.51	1.12	0.94, 1.34	1.13	0.93, 1.39
Ethnicity						
White	1.00		1.00		1.00	
Indian/Pakistani/Bangladeshi/Other Asian/Chinese	1.17	0.99, 1.39	1.08	0.90, 1.29	1.67	1.42, 1.97
Black Caribbean/Black African/Other Black	1.05	0.79, 1.41	1.13	0.85, 1.51	1.51	1.17, 1.95
Mixed/Other ethnic group	0.89	0.68, 1.16	0.98	0.75, 1.29	1.41	1.10, 1.81

	Wave 1		Wave 2		Wave 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Number of rooms at home (per room)	0.97	0.94, 1.00	1.01	0.98, 1.05	0.99	0.96, 1.02
Cognitive ability	1.37	1.27, 1.46	1.24	1.15, 1.35	1.16	1.08, 1.24
Early life mental health	0.98	0.97, 0.99	1.00	0.99, 1.01	1.00	0.99, 1.01
Psychological distress	1.01	1.00, 1.02	1.01	1.00, 1.02	1.01	1.00, 1.02
Body mass index (kg/m ²)	1.00	0.99, 1.02	0.99	0.97, 1.00	1.01	0.99, 1.02
Maternal mental health	0.98	0.95, 1.00	0.98	0.95, 1.00	0.99	0.96, 1.02
Number of non-responses across all previous sweeps	0.42	0.39, 0.44	0.49	0.46, 0.52	0.51	0.48, 0.53
Response to COVID-19 Wave 1 survey						
Non-respondent	-	-	1.00		1.00	
Respondent	-	-	10.72	9.66, 11.90	4.93	4.37, 5.57
Response to COVID-19 Wave 2 survey						
Non-respondent	-	-	-	-	1.00	
Respondent	-	-	-	-	9.01	8.09, 10.04

APPENDIX 2 – Restoring sample representativeness – further examples

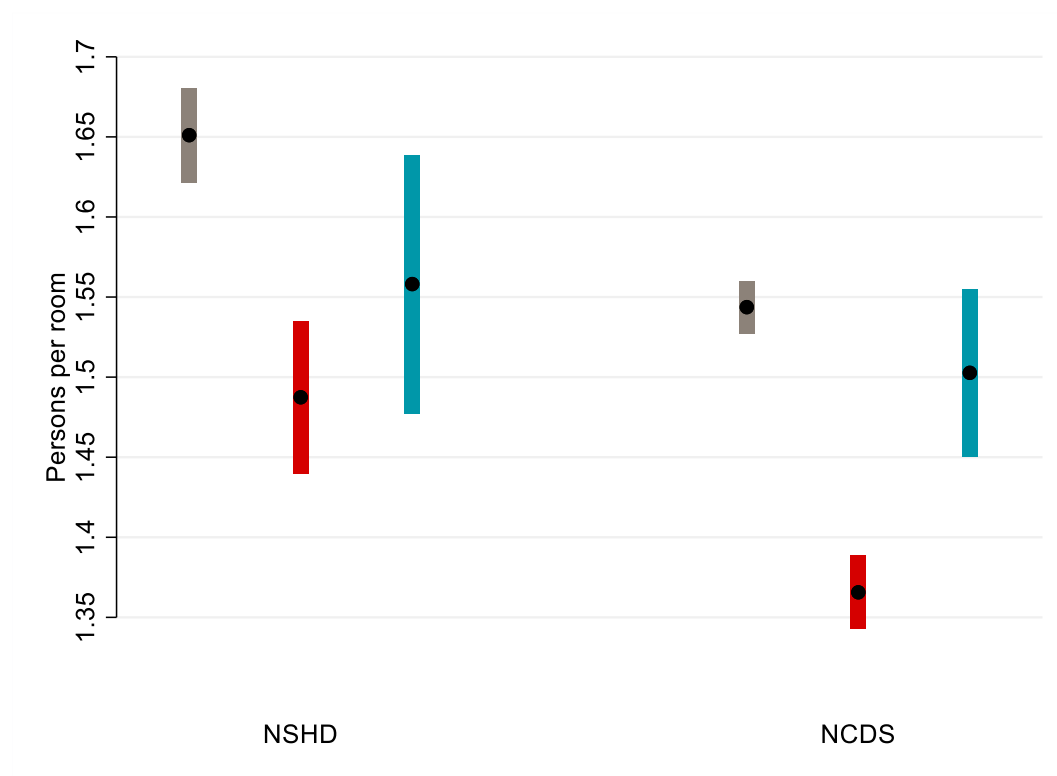


Fig. A1. Percentage of persons per room in NSHD and NCDS under different estimation approaches. **Grey:** using observed baseline data from the whole cohort; **red:** using observed baseline data from COVID-19 Wave 1 survey respondents only – unweighted (NCDS) or using design weight only (NSHD); **blue:** using observed baseline data from COVID-19 Wave 1 survey respondents only – weighted using non-response weights (in addition to design weights as appropriate).

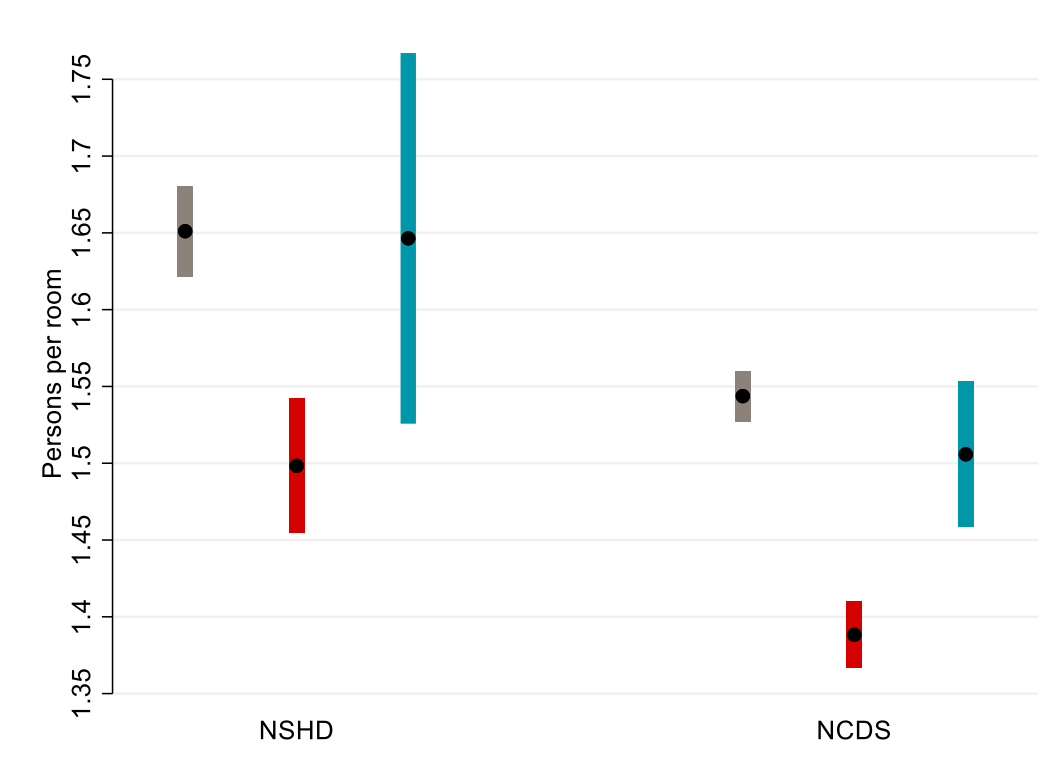


Fig. A2. Persons per room in NSHD and NCDS under different estimation approaches. **Grey:** using observed baseline data from the whole cohort; **red:** using observed baseline data from COVID-19 Wave 2 survey respondents only – unweighted (NCDS) or using design weight only (NSHD); **blue:** using observed baseline data from COVID-19 Wave 2 survey respondents only – weighted using non-response weights (in addition to design weights as appropriate).

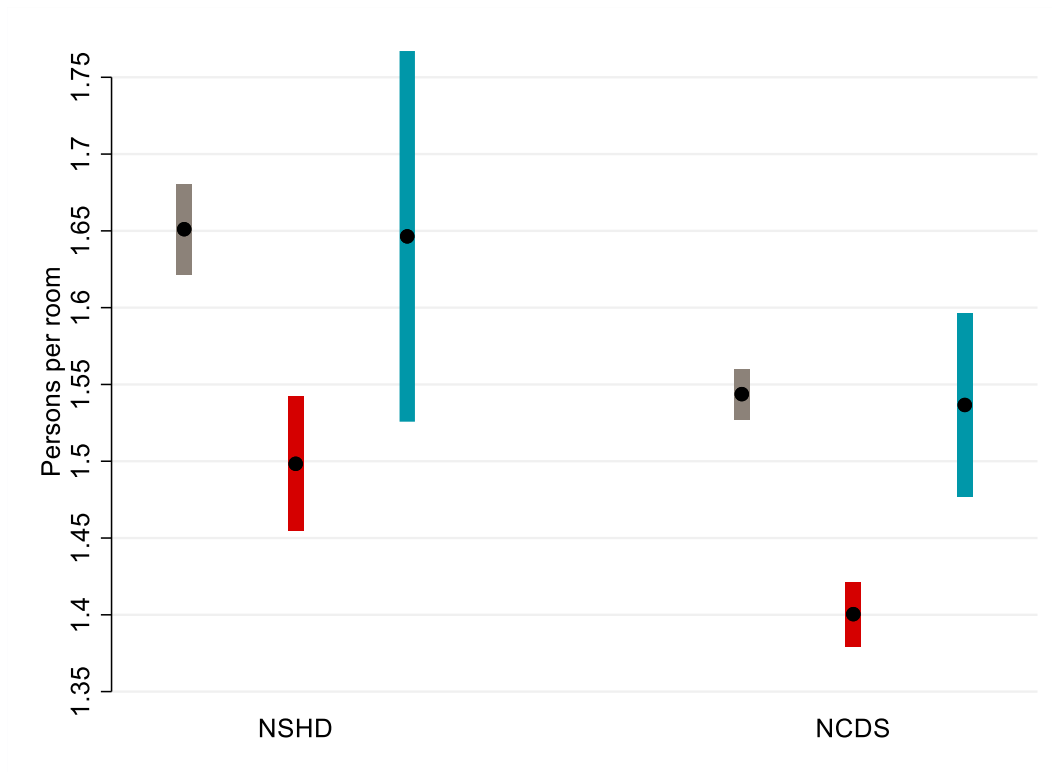


Fig. A3. Persons per room in NSHD and NCDS under different estimation approaches. **Grey:** using observed baseline data from the whole cohort; **red:** using observed baseline data from COVID-19 Wave 3 survey respondents only – unweighted (NCDS) or using design weight only (NSHD); **blue:** using observed baseline data from COVID-19 Wave 3 survey respondents only – weighted using non-response weights (in addition to design weights as appropriate).

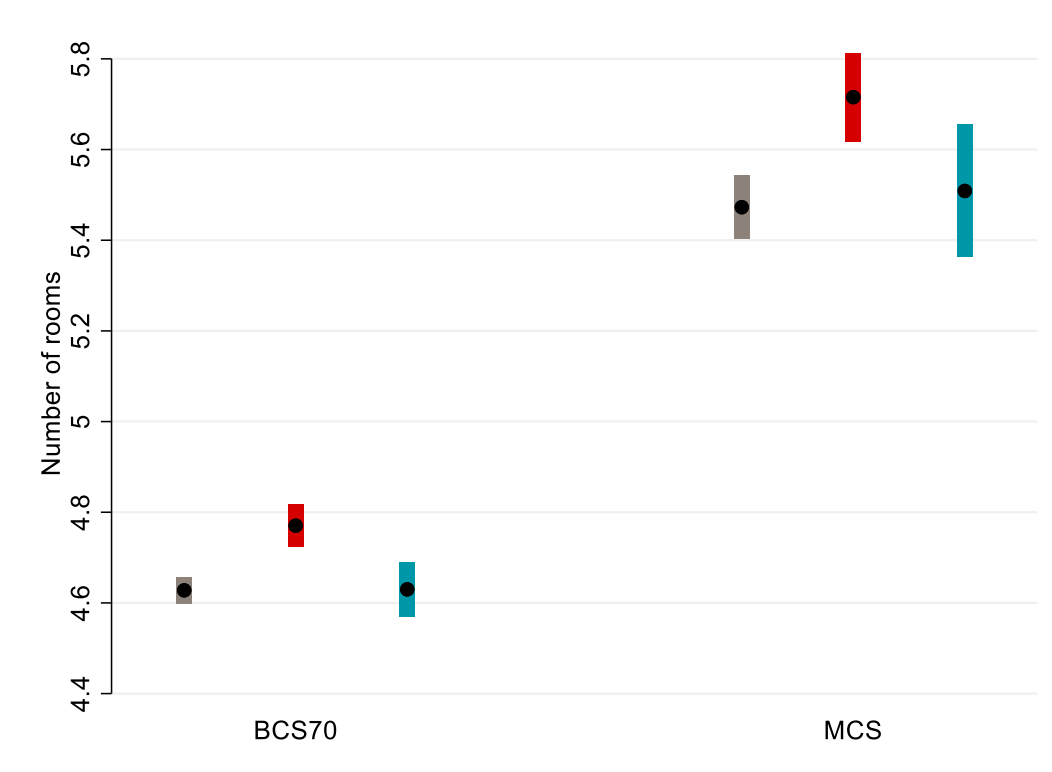


Fig. A4. Percentage of number of rooms in BCS70 and MCS under different estimation approaches. **Grey:** using observed baseline data from the whole cohort; **red:** using observed baseline data from COVID-19 Wave 1 survey respondents only – unweighted (BCS70) or using design weight only (MCS); **blue:** using observed baseline data from COVID-19 Wave 1 survey respondents only – weighted using non-response weights (in addition to design weights as appropriate).

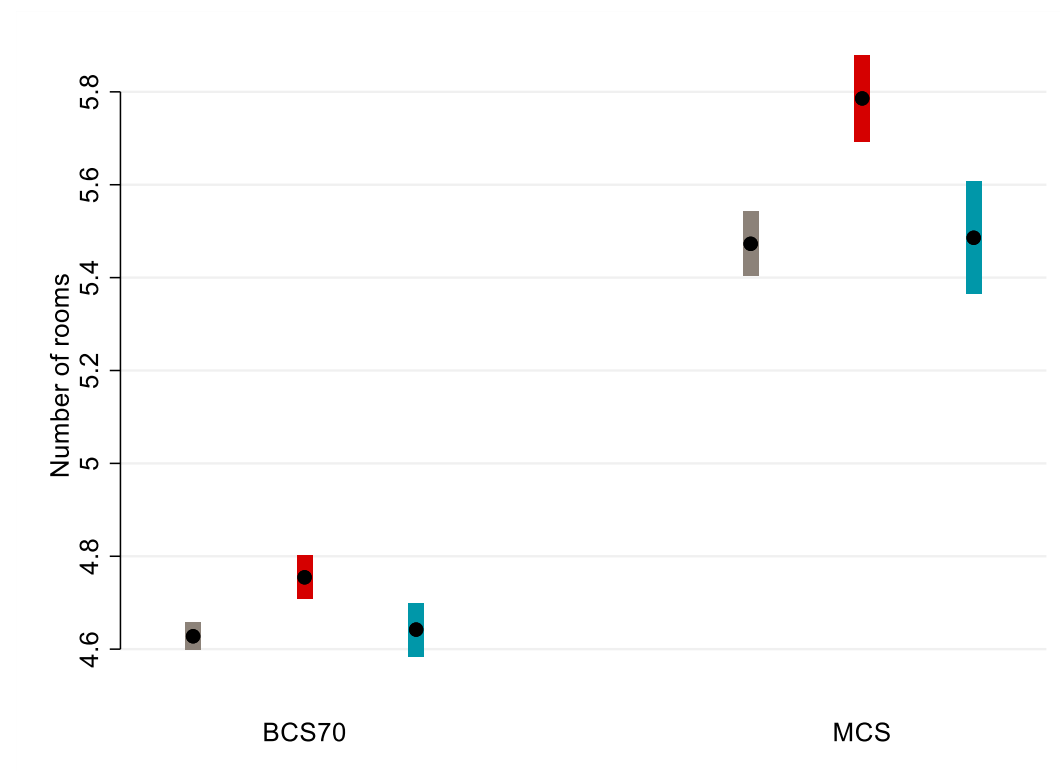


Fig. A5. Number of rooms in BCS70 and MCS under different estimation approaches. **Grey:** using observed baseline data from the whole cohort; **red:** using observed baseline data from COVID-19 Wave 2 survey respondents only – unweighted (BCS70) or using design weight only (MCS); **blue:** using observed baseline data from COVID-19 Wave 2 survey respondents only – weighted using non-response weights (in addition to design weights as appropriate).

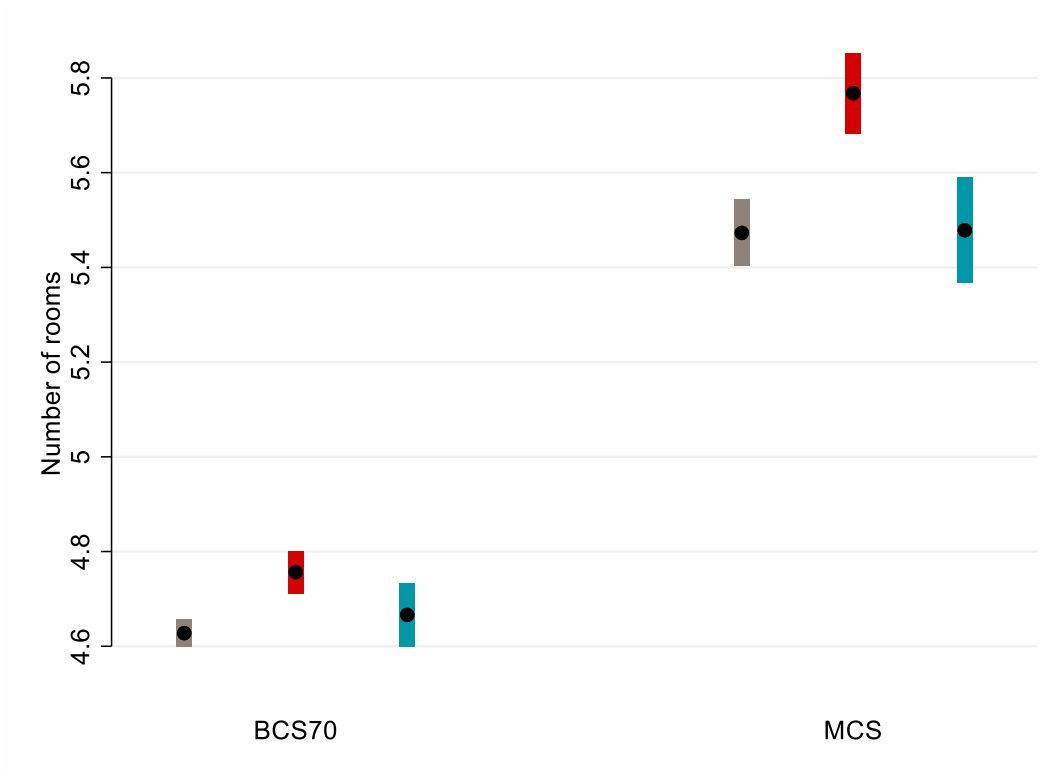


Fig. A6. Number of rooms in BCS70 and MCS under different estimation approaches. **Grey:** using observed baseline data from the whole cohort; **red:** using observed baseline data from COVID-19 Wave 3 survey respondents only – unweighted (BCS70) or using design weight only (MCS); **blue:** using observed baseline data from COVID-19 Wave 3 survey respondents only – weighted using non-response weights (in addition to design weights as appropriate).

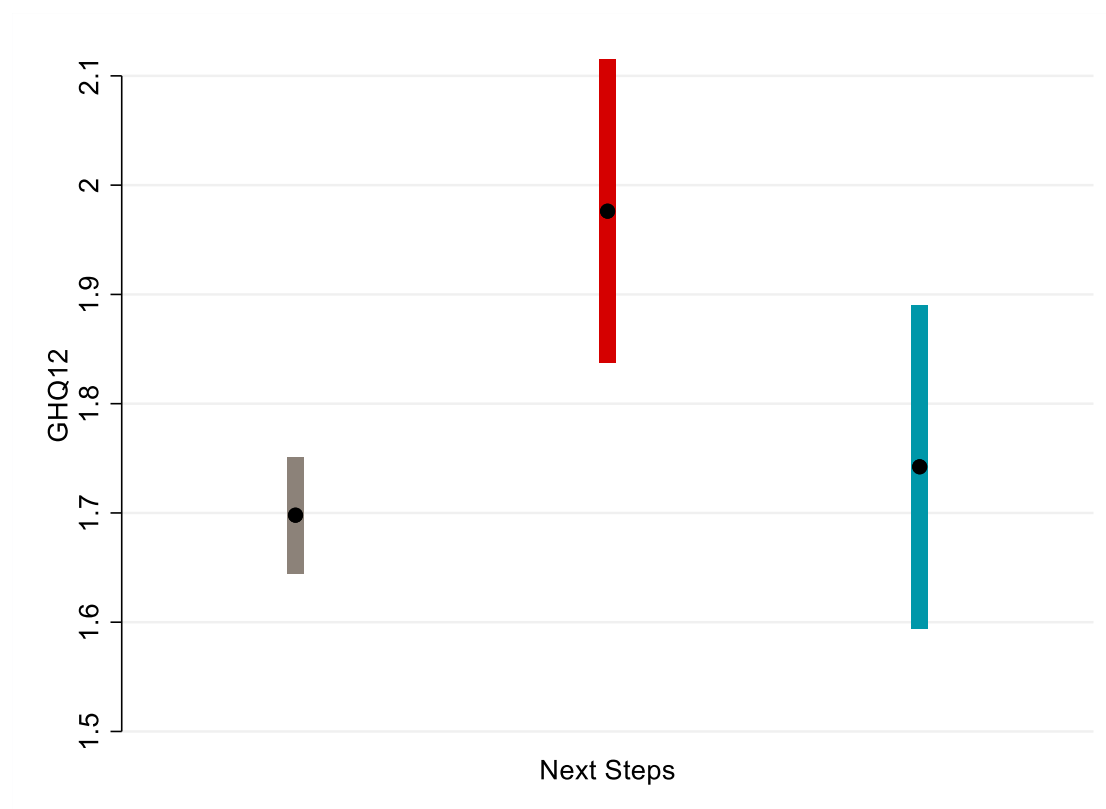


Fig. A7. GHQ12 psychological distress score in Next Steps under different estimation approaches. **Grey:** using observed baseline data from the whole cohort; **red:** using observed baseline data from COVID-19 Wave 1 survey respondents using design weight only; **blue:** using observed baseline data from COVID-19 Wave 1 survey respondents only – weighted using non-response weights in addition to design weights.

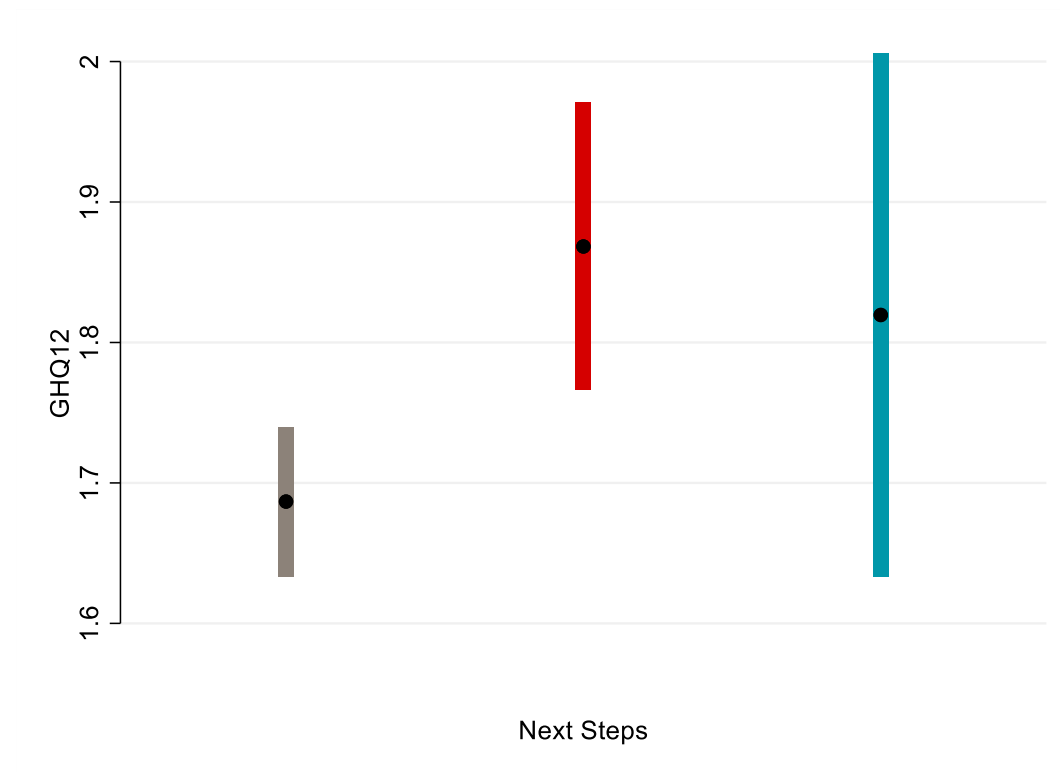


Fig. A8. GHQ12 psychological distress score in Next Steps under different estimation approaches. **Grey:** using observed baseline data from the whole cohort; **red:** using observed baseline data from COVID-19 Wave 2 survey respondents using design weight only; **blue:** using observed baseline data from COVID-19 Wave 2 survey respondents only – weighted using non-response weights in addition to design weights.

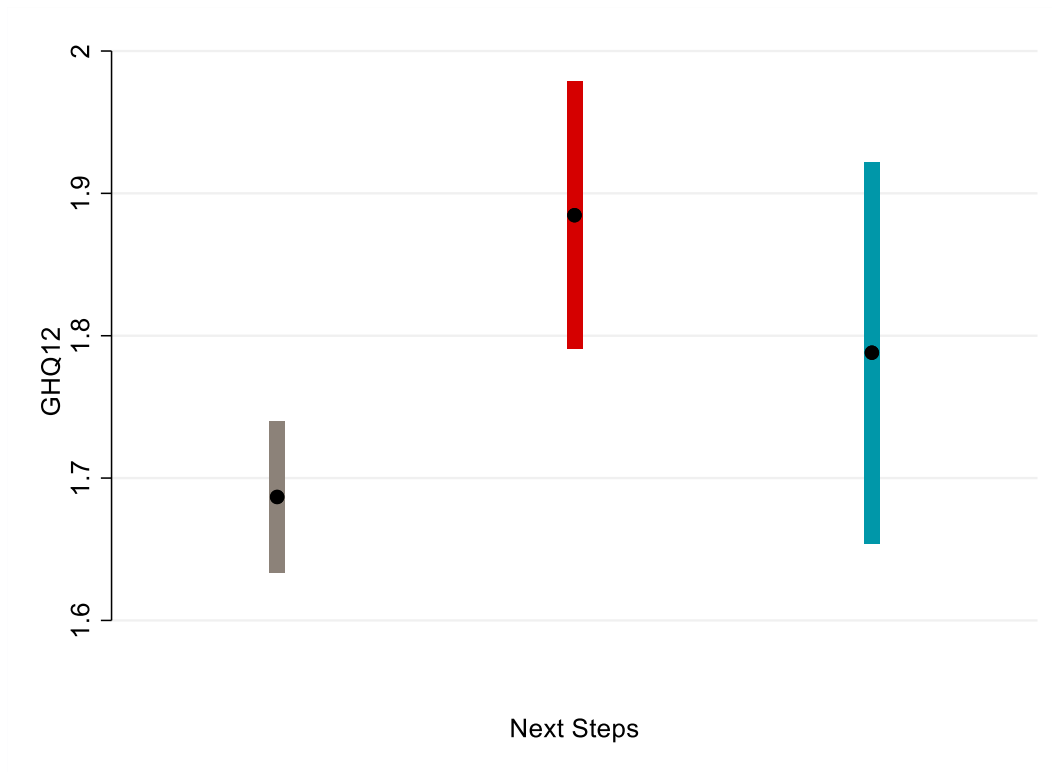


Fig. A9. GHQ12 psychological distress score in Next Steps under different estimation approaches. **Grey:** using observed baseline data from the whole cohort; **red:** using observed baseline data from COVID-19 Wave 3 survey respondents using design weight only; **blue:** using observed baseline data from COVID-19 Wave 3 survey respondents only – weighted using non-response weights in addition to design weights.

APPENDIX 3 – Mode effects

Table A6. Between-mode differences for binary variables in the COVID-19 Wave 3 survey.

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value
CW3_EMIGRANT	Recorded as Emigrant based on COUNTRES	3.7	1.0	0.016	3.5	0.0	0.007	1.9	0.3	0.053	0.6	0.2	0.151
CW3_PSEX	Sex of respondent	46.5	46.4	0.984	42.2	53.5	0.001	36.3	53.7	0.000	35.2	54.9	0.000
CW3_OUTCOME	Outcome for Covid19 wave 3 survey	96.7	95.3	0.162	94.5	92.6	0.243	96.2	94.3	0.117	95.1	94.5	0.442
CW3_COVIDADV_1	Past 2 weeks whether discussed COVID19 symptoms: with doctor/practice nurse	18.6	20.4	0.757	15.7	10.0	0.323	14.3	14.3	0.994	9.3	5.6	0.041
CW3_COVIDADV_2	Past 2 weeks whether discussed COVID19 symptoms: with NHS 111 or NHS 24	8.4	12.2	0.339	8.6	0.0	0.052	12.1	12.9	0.858	9.7	9.6	0.956
CW3_COVIDADV_3	Past 2 weeks whether accessed online advice about COVID19 at NHS 111 or NHS 24	5.6	4.1	0.648	5.6	2.5	0.391	11.0	11.4	0.913	8.3	6.0	0.177
CW3_COVIDADV_4	Past 2 weeks whether discussed COVID19 symptoms: visited pharmacist	1.3	2.0	0.659	0.7	0.0	0.596	1.0	0.0	0.405	1.1	1.3	0.713
CW3_COVIDADV_5	Past 2 weeks whether discussed COVID19 symptoms: visited A&E/walk-in centre	2.7	8.2	0.025	3.2	0.0	0.252	3.1	5.7	0.226	2.0	2.6	0.487
CW3_COVIDADV_6	Past 2 weeks not discussed COVID19 symptoms with healthcare professionals	69.1	63.3	0.389	71.7	90.0	0.011	65.5	67.1	0.783	73.4	80.8	0.007
CW3_COVID_HOSPAD	Whether been admitted to hospital with COVID19	2.6	10.0	0.002	2.6	5.0	0.338	1.6	4.3	0.103	0.4	1.3	0.066
CW3_COVIDTEST_1	Whether been tested for Coronavirus: throat/nasal swab or saliva/nasal mucus tes	36.2	35.7	0.855	45.3	49.8	0.209	57.2	62.3	0.081	58.9	61.3	0.176
CW3_COVIDTEST_2	Whether been tested for Coronavirus: finger stick/blood test/serology test/antib	4.8	1.7	0.014	6.8	10.9	0.022	7.9	6.0	0.240	3.6	3.2	0.537
CW3_COVIDTEST_3	Whether been tested for Coronavirus: don't know which type	2.1	1.7	0.672	1.5	0.0	0.085	0.9	1.0	0.808	1.0	0.3	0.037
CW3_COVIDTEST_4	Never been tested for Coronavirus	59.4	61.9	0.384	50.4	45.8	0.194	39.2	35.3	0.180	39.1	36.9	0.240
CW3_COVNEWILL	Have been told by a doctor that may have a new condition, illness, or disability	5.8	7.5	0.660	4.4	0.0	0.266	2.4	0.0	0.242	2.2	1.9	0.777
CW3_COVNEWILT_1	New condition doctor has linked to coronavirus- Post-viral fatigue	46.2	33.3	0.667	.	.	.	.	.	.	33.3	60.0	0.280
CW3_COVNEWILT_2	New condition doctor has linked to coronavirus- A blood clot in the leg, heart,	2.6	33.3	0.016	.	.	.	.	.	.	5.6	0.0	0.590
CW3_COVNEWILT_3	New condition doctor has linked to coronavirus- A heart condition	10.3	33.3	0.234	.	.	.	.	.	.	11.1	0.0	0.435
CW3_COVNEWILT_4	New condition doctor has linked to coronavirus- A lung condition	30.8	33.3	0.926	.	.	.	.	.	.	27.8	0.0	0.183

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value
CW3_COVNEWILT_5	New condition doctor has linked to coronavirus- A condition affecting the mind o	.	.	.	.	.	.	.	.	.	5.6	20.0	0.311
CW3_COVNEWILT_6	New condition doctor has linked to coronavirus- A condition affecting the nervou	2.6	0.0	0.779	.	.	.	.	.	.	5.6	0.0	0.590
CW3_COVNEWILT_7	New condition doctor has linked to coronavirus- Thyroid disease	.	.	.	.	.	.	.	.	.	5.6	0.0	0.590
CW3_COVNEWILT_8	New condition doctor has linked to coronavirus- Other specify	33.3	66.7	0.246	.	.	.	.	.	.	33.3	60.0	0.280
CW3_SKIN	Over the past two months, have you experienced strange, unpleasant sensations in	13.4	15.8	0.762	13.6	0.0	0.233	10.7	11.8	0.888	14.3	3.6	0.105
CW3_COVIDSYMPT_1	Past 2 weeks COVID19 symptoms: Fever	0.8	1.4	0.337	1.3	1.5	0.779	2.0	1.0	0.240	2.1	2.3	0.835
CW3_COVIDSYMPT_2	Past 2 weeks COVID19 symptoms: Cough - dry	6.8	9.8	0.047	6.9	7.9	0.573	5.6	1.7	0.003	6.0	3.6	0.004
CW3_COVIDSYMPT_3	Past 2 weeks COVID19 symptoms: Cough - mucus or phlegm	10.6	7.8	0.123	7.2	5.4	0.346	6.1	2.3	0.007	7.5	2.9	0.000
CW3_COVIDSYMPT_4	Past 2 weeks COVID19 symptoms: Sore throat	7.4	5.1	0.133	9.0	3.0	0.003	9.7	1.7	0.000	10.7	3.6	0.000
CW3_COVIDSYMPT_5	Past 2 weeks COVID19 symptoms: Chest tightness	4.8	5.8	0.434	6.3	3.0	0.053	6.8	2.0	0.001	7.9	4.2	0.000
CW3_COVIDSYMPT_6	Past 2 weeks COVID19 symptoms: Shortness of breath	10.5	11.9	0.472	9.3	6.4	0.161	7.3	3.0	0.005	7.2	4.6	0.006
CW3_COVIDSYMPT_7	Past 2 weeks COVID19 symptoms: Runny nose	19.8	8.5	0.000	18.5	13.4	0.065	18.2	7.0	0.000	23.3	9.3	0.000
CW3_COVIDSYMPT_8	Past 2 weeks COVID19 symptoms: Nasal congestion	12.6	6.1	0.001	12.2	6.9	0.025	11.3	5.0	0.001	10.1	4.1	0.000
CW3_COVIDSYMPT_18	Past 2 weeks COVID19 symptoms: Sneezing	19.5	11.2	0.000	16.9	10.4	0.014	16.9	8.0	0.000	20.2	8.8	0.000
CW3_COVIDSYMPT_10	Past 2 weeks COVID19 symptoms: Muscle or body aches	17.2	16.3	0.682	18.6	13.4	0.058	14.6	7.0	0.000	12.6	7.4	0.000
CW3_COVIDSYMPT_11	Past 2 weeks COVID19 symptoms: Fatigue	17.7	16.9	0.747	23.6	11.9	0.000	27.9	9.3	0.000	25.1	8.1	0.000
CW3_COVIDSYMPT_12	Past 2 weeks COVID19 symptoms: Unusual loose motions or diarrhoea	5.6	3.1	0.057	6.2	3.0	0.059	7.0	3.0	0.008	5.7	1.7	0.000
CW3_COVIDSYMPT_16	Past 2 weeks COVID19 symptoms: Vomiting	0.8	0.7	0.883	1.0	0.5	0.469	1.3	0.7	0.344	1.9	1.3	0.197
CW3_COVIDSYMPT_13	Past 2 weeks COVID19 symptoms: Loss of smell	1.6	3.1	0.068	1.9	0.0	0.045	1.7	1.7	0.935	1.3	1.1	0.630
CW3_COVIDSYMPT_14	Past 2 weeks COVID19 symptoms: Loss of taste	1.7	2.4	0.418	1.8	0.5	0.169	1.5	1.3	0.817	1.1	0.9	0.567
CW3_COVIDSYMPT_17	Past 2 weeks COVID19 symptoms: Skin rash	3.0	3.7	0.443	3.2	2.5	0.545	3.5	1.7	0.095	4.4	2.4	0.004
CW3_COVIDSYMPT_19	Past 2 weeks COVID19 symptoms: Headaches	18.3	8.8	0.000	24.3	12.4	0.000	29.6	12.3	0.000	32.4	11.5	0.000
CW3_COVIDSYMPT_20	Past 2 weeks COVID19 symptoms: Other	1.9	1.0	0.283	1.8	0.5	0.173	1.3	1.0	0.683	0.8	0.8	0.840
CW3_COVIDSYMPT_23	Past 2 weeks no COVID19 symptoms experienced	42.3	60.3	0.000	41.5	63.4	0.000	41.6	71.3	0.000	37.9	68.4	0.000
CW3_OFFVAC	Offered a vaccination for COVID-19	26.6	68.7	0.000	22.3	46.4	0.000	19.1	27.4	0.001	12.0	18.3	0.000
CW3_VACDATDK	Date got vaccinated- DK/REF	0.0	100.0	0.003	50.0	100.0	0.102	0.0	100.0	0.014	.	.	.
CW3_NOVAC_1	Why chosen not to get vaccinated: Covid-19 vaccine safety not proven yet	82.6	60.0	0.264	.	.	.	59.0	80.0	0.356	60.6	40.0	0.250

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value
CW3_NOVAC_2	Why chosen not to get vaccinated: Covid-19 vaccine effectiveness not proven yet	56.5	40.0	0.502	.	.	.	39.3	20.0	0.391	33.3	30.0	0.844
CW3_NOVAC_3	Why chosen not to get vaccinated: Have had Coronavirus, so may be immune	17.4	20.0	0.890	.	.	.	9.8	20.0	0.478	12.1	0.0	0.248
CW3_NOVAC_4	Why chosen not to get vaccinated: Not worried about catching Coronavirus	26.1	20.0	0.776	.	.	.	14.8	0.0	0.355	15.2	10.0	0.680
CW3_NOVAC_5	Why chosen not to get vaccinated: Distrust officials	43.5	0.0	0.066	.	.	.	19.7	0.0	0.273	24.2	20.0	0.781
CW3_NOVAC_6	Why chosen not to get vaccinated: Vaccines are not safe in general	17.4	40.0	0.264	.	.	.	6.6	0.0	0.555	12.1	40.0	0.047
CW3_NOTVAC_1	Why might choose not to get vaccinated: Covid-19 vaccine safety not proven yet	69.2	100.0	0.186	67.8	25.0	0.071	65.0	71.4	0.621	55.8	65.7	0.133
CW3_NOTVAC_2	Why might choose not to get vaccinated: Covid-19 vaccine effectiveness not prove	41.3	25.0	0.514	38.5	50.0	0.639	40.1	57.1	0.201	35.5	43.3	0.224
CW3_NOTVAC_3	Why might choose not to get vaccinated: Have had Coronavirus, so may be immune	9.6	25.0	0.318	9.6	0.0	0.515	7.8	0.0	0.277	4.8	14.9	0.002
CW3_NOTVAC_4	Why might choose not to get vaccinated: Not worried about catching Coronavirus	26.0	25.0	0.966	19.2	25.0	0.772	18.0	28.6	0.316	23.1	26.9	0.502
CW3_NOTVAC_5	Why might choose not to get vaccinated: Distrust officials	22.1	25.0	0.892	21.6	50.0	0.176	22.3	21.4	0.940	24.1	25.4	0.824
CW3_NOTVAC_6	Why might choose not to get vaccinated: Vaccines are not safe in general	8.7	50.0	0.007	12.0	25.0	0.433	12.7	14.3	0.860	11.9	10.4	0.727
CW3_LLI1_1	Respondent has long-standing illness 1: Cancer	2.4	5.4	0.001	0.7	2.6	0.003	0.1	0.0	0.582	0.0	0.1	0.311
CW3_LLI1_2	Respondent has long-standing illness 1: Cystic fibrosis	0.0	0.0	0.831	0.0	0.0	0.851	0.1	0.3	0.075	0.0	0.0	0.607
CW3_LLI1_3	Respondent has long-standing illness 1: Asthma	9.5	12.6	0.082	11.4	10.7	0.779	11.3	13.2	0.325	12.1	14.4	0.066
CW3_LLI1_4	Respondent has long-standing illness 1: Chronic Obstructive Pulmonary Disease	2.7	5.8	0.002	0.9	2.0	0.097	0.1	0.0	0.582	0.1	0.3	0.031
CW3_LLI1_5	Respondent has long-standing illness 1: Wheezy bronchitis	0.8	2.7	0.001	0.3	1.5	0.003	0.1	0.0	0.634	0.1	0.1	0.799
CW3_LLI1_6	Respondent has long-standing illness 1: Diabetes	8.6	15.3	0.000	4.8	6.1	0.380	1.3	2.0	0.257	0.6	1.0	0.263
CW3_LLI1_7	Respondent has long-standing illness 1: Recurrent backache/prolapsed disc/sciati	15.9	23.5	0.001	13.8	25.5	0.000	7.0	12.2	0.001	4.2	3.8	0.576
CW3_LLI1_8	Respondent has long-standing illness 1: Problems with hearing	11.7	17.7	0.002	6.0	7.1	0.512	2.0	1.7	0.718	1.7	2.6	0.092
CW3_LLI1_9	Respondent has long-standing illness 1: High blood pressure	23.7	28.6	0.058	11.7	18.4	0.005	1.6	1.0	0.410	0.6	1.2	0.077
CW3_LLI1_10	Respondent has long-standing illness 1: Heart disease, congenital or acquired	4.7	10.2	0.000	1.5	4.6	0.001	0.3	0.3	0.987	0.3	0.8	0.086
CW3_LLI1_11	Respondent has long-standing illness 1: None of these	46.2	38.1	0.007	61.5	52.0	0.008	79.1	72.6	0.009	82.1	79.4	0.067

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value
CW3_LLI2_1	Respondent has long-standing illness 2: Depression or other emotional/nervous/ps	12.1	19.0	0.000	15.7	23.5	0.004	20.0	17.7	0.342	28.0	19.6	0.000
CW3_LLI2_2	Respondent has long-standing illness 2: Obesity	14.4	15.6	0.553	15.1	14.8	0.911	12.2	8.8	0.084	4.1	3.0	0.148
CW3_LLI2_3	Respondent has long-standing illness 2: Infection	0.9	3.1	0.000	0.6	2.0	0.011	0.6	0.0	0.178	0.7	1.0	0.322
CW3_LLI2_4	Respondent has long-standing illness 2: HIV / Immunodeficiency	0.4	1.0	0.085	0.7	1.5	0.142	0.5	0.3	0.725	0.3	0.1	0.392
CW3_LLI2_5	Respondent has long-standing illness 2: Condition affecting the brain and nerves	1.4	2.0	0.346	1.4	4.1	0.002	0.8	1.4	0.275	0.5	1.1	0.040
CW3_LLI2_6	Respondent has long-standing illness 2: None of these	74.8	70.2	0.072	71.7	66.3	0.105	71.6	75.2	0.192	69.5	77.9	0.000
CW3_LLI_17	Respondent suffering from a long-standing illness	38.4	32.5	0.043	49.1	42.9	0.083	59.4	58.2	0.687	58.7	64.4	0.002
CW3_PMED	At the time of the Coronavirus outbreak in March, Respondent was taking prescrib	64.1	59.3	0.095	47.6	49.2	0.643	28.0	31.5	0.196	32.1	30.1	0.238
CW3_PMEDDIF	Post-C19: Respondent had difficulty obtaining prescribed medication	3.3	4.0	0.633	7.1	4.1	0.264	12.1	4.3	0.025	19.2	17.3	0.471
CW3_PMEDDIFW_1	Post-C19: Why had difficulty obtaining prescribed medication: Shortage of supply	53.2	42.9	0.591	60.5	50.0	0.670	50.0	50.0	1.000	23.0	29.8	0.328
CW3_PMEDDIFW_2	Post-C19: Why had difficulty obtaining prescribed medication: Nobody was able to	5.8	28.6	0.020	9.7	0.0	0.512	14.9	50.0	0.059	30.0	17.0	0.072
CW3_PMEDDIFW_3	Post-C19: Why had difficulty obtaining prescribed medication: Other reason	42.4	28.6	0.468	33.0	50.0	0.475	42.5	0.0	0.089	56.2	63.8	0.339
CW3_APPMED_1	Post-C19: Medical appointments booked: Hospital appointment for consultation, in	31.7	33.0	0.635	27.1	33.5	0.048	21.9	19.3	0.292	15.7	18.8	0.022
CW3_APPMED_2	Post-C19: Medical appointments booked: Hospital appointment for surgery	5.9	9.2	0.021	4.3	5.1	0.608	3.5	4.4	0.401	2.5	3.7	0.034
CW3_APPMED_3	Post-C19: Medical appointments booked: GP appointment	35.1	30.6	0.117	35.4	33.0	0.497	36.3	33.2	0.289	37.0	31.2	0.001
CW3_APPMED_4	Post-C19: Medical appointments booked: Appointment for CBT, counselling or psych	1.5	1.7	0.775	3.1	3.6	0.712	6.0	5.8	0.856	8.2	4.8	0.001
CW3_APPMED_5	Post-C19: Medical appointments booked: Any other medical appointment	14.9	11.9	0.153	13.5	13.2	0.911	15.3	9.8	0.011	9.8	9.5	0.758
CW3_APPMED_6	Post-C19: Medical appointments booked: No medical appointments booked	38.3	42.5	0.147	42.6	41.6	0.795	43.7	51.5	0.009	47.9	52.3	0.017
CW3_APPCAND	Post-C19: Any medical appointments cancelled or delayed	29.2	31.8	0.480	29.6	33.9	0.321	30.2	29.4	0.824	30.4	32.8	0.344
CW3_APPCANT_1	Post-C19: Type of medical appointment cancelled or delayed: Hospital appointment	76.9	69.6	0.415	75.5	81.0	0.567	68.8	66.7	0.853	59.3	53.1	0.373
CW3_APPCANT_2	Post-C19: Type of medical appointment cancelled or delayed: Hospital appointment	14.3	39.1	0.001	16.0	9.5	0.427	13.8	16.7	0.735	11.0	14.1	0.501
CW3_APPCANT_3	Post-C19: Type of medical appointment cancelled or delayed: Appointment for CBT,	11.0	8.7	0.730	14.6	9.5	0.518	18.1	16.7	0.878	26.3	25.0	0.837

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value
CW3_APPCANT_4	Post-C19: Type of medical appointment cancelled or delayed: Any other medical ap	2.0	0.0	0.488	3.7	4.8	0.803	11.2	11.1	0.992	18.6	12.5	0.249
CW3_SHIELD	Whether Respondent received shield letter identifying them as at risk from Coron	7.5	14.9	0.000	5.8	5.6	0.904	3.7	6.1	0.037	2.7	3.1	0.560
CW3_HHNUMWH_1	Household member- Husband/Wife/Cohabiting Partner	92.9	86.7	0.001	88.1	79.7	0.001	71.0	56.9	0.000	7.9	5.0	0.003
CW3_HHNUMWH_2	Household member- Children including adult children, step-children, adopted chi	29.2	34.1	0.123	73.2	72.1	0.751	41.6	37.7	0.223	1.7	2.3	0.251
CW3_HHNUMWH_3	Household member- Parent or Parent-in-law including step-parent or adoptive par	2.6	6.2	0.002	4.2	12.8	0.000	23.4	36.9	0.000	69.4	72.0	0.138
CW3_HHNUMWH_4	Household member- Grandparent	0.0	0.0	0.769	0.1	0.0	0.739	1.0	2.3	0.057	2.9	3.8	0.147
CW3_HHNUMWH_5	Household member- Grandchild	2.9	4.7	0.136	0.9	3.5	0.001	0.0	0.0	0.780	.	.	.
CW3_HHNUMWH_6	Household member- Sibling	1.4	2.4	0.255	1.7	2.3	0.501	11.6	20.0	0.000	50.3	53.1	0.130
CW3_HHNUMWH_7	Household member- Other relative	1.1	1.4	0.669	0.6	3.5	0.000	2.1	2.7	0.549	2.0	2.8	0.155
CW3_HHNUMWH_8	Household member- Friend / unrelated sharer	1.5	3.3	0.034	2.1	2.3	0.812	5.5	6.2	0.637	24.7	21.7	0.059
CW3_HHNUMWH_9	Household member- Other	1.3	0.5	0.281	1.3	0.6	0.394	1.3	0.8	0.488	3.4	2.1	0.053
CW3_ANYCHNL	Whether Respondent has any children not living in HH	74.6	69.5	0.049	40.8	37.9	0.426	4.8	4.4	0.763	0.9	0.8	0.673
CW3_COVCHAN	Post-C19: Whether HH composition changed since outbreak	11.5	2.9	0.000	15.8	11.3	0.190	18.9	17.6	0.724	40.2	31.4	0.002
CW3_COVPART	Post-C19: Whether started living with partner	4.2	20.0	0.145	11.3	0.0	0.239	41.2	25.0	0.371	78.4	71.4	0.602
CW3_COVCHIL_1	Post-C19: Whether at least one of Respondent's children has moved in	38.5	16.7	0.289	27.0	38.5	0.381	19.3	20.0	0.959	20.0	50.0	0.226
CW3_COVCHIL_2	Post-C19: Whether at least one of Respondent's children has moved out	35.4	66.7	0.131	57.1	46.2	0.447	1.8	0.0	0.673	.	.	.
CW3_COVCHIL_3	Post-C19: Whether Respondent has moved into one of their children's homes	.	.	.	0.8	0.0	0.747	5.3	10.0	0.560	.	.	.
CW3_COVCHIL_4	Post-C19: Whether other living arrangement change involving Respondent's childre	30.8	33.3	0.897	22.2	30.8	0.486	73.7	70.0	0.808	80.0	50.0	0.226
CW3_COVPER_2	Post-C19: Whether Respondent has moved into one of their parents's homes	.	.	.	.	.	.	42.1	33.3	0.685	32.6	33.3	0.918
CW3_COVPER_3	Post-C19: Whether other living arrangement change involving Respondent's parents	.	.	.	66.7	50.0	0.673	55.3	66.7	0.600	66.3	66.7	0.959
CW3_COVOTH_1	Post-C19: Someone other than a partner, parent or child has moved into Responden	.	.	.	.	.	.	30.8	0.0	0.110	11.5	16.2	0.210
CW3_COVOTH_2	Post-C19: Whether Respondent has moved into one of their parents's homes	.	.	.	.	.	.	19.2	33.3	0.419	34.4	42.3	0.146
CW3_COVOTH_3	Post-C19: Whether other living arrangement change involving Respondent's parents	.	.	.	.	.	.	53.8	66.7	0.550	54.8	45.0	0.083
CW3_OTHRELA	Whether Respondent in a non-cohabiting relationship	43.5	27.0	0.001	41.2	23.7	0.007	38.3	42.9	0.281	38.8	28.1	0.000

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value
CW3_CURPREG	Whether Respondent or partner is currently pregnant	.	.	.	0.2	1.3	0.090	8.0	7.0	0.592	0.9	1.1	0.715
CW3_CHILSEX_1	Sex of Child 1 in hh	56.0	53.5	0.685	53.3	52.1	0.783	50.4	35.5	0.005	55.3	33.3	0.113
CW3_CHILSEX_2	Sex of Child 2 in hh	55.7	56.3	0.963	51.5	61.1	0.108	46.9	53.5	0.398	40.0	100.0	0.067
CW3_CHILSEX_3	Sex of Child 3 in hh	50.0	60.0	0.669	53.6	60.0	0.573	48.7	55.6	0.688	.	.	.
CW3_CHILSEX_4	Sex of Child 4 in hh	50.0	100.0	0.338	53.9	75.0	0.409	44.1	100.0	0.124	.	.	.
CW3_CHILSEX_5	Sex of Child 5 in hh	50.0	0.0	0.386	64.3	100.0	0.464	.	.	.	.	.	.
CW3_CHILSEX_6	Sex of Child 6 in hh	100.0	0.0	0.157	.	.	.	.	.	.	.	.	.
CW3_CHILSEX_7	Sex of Child 7 in hh	.	.	.	.	.	.	.	.	.	.	.	.
CW3_CAREA_1	Post-C19: Whether needed help caring for self	5.6	0.0	0.419	4.6	0.0	0.592	5.3	0.0	0.411	3.3	5.6	0.595
CW3_CAREA_2	Post-C19: Whether needed help caring for others in hh	7.1	0.0	0.360	6.3	33.3	0.007	8.9	16.7	0.350	8.7	11.1	0.719
CW3_CAREA_3	Post-C19: No help needed caring for self or others in hh	87.8	100.0	0.216	89.5	66.7	0.069	86.4	83.3	0.758	88.8	83.3	0.460
CW3_CAREWHOA_1	Post-C19: Who provided care for self - Nobody - needs were not met	.	.	.	.	.	.	.	.	.	3.5	0.0	0.848
CW3_CAREWHOA_2	Post-C19: Who provided care for self - Husband/ wife/ partner	.	.	.	.	.	.	.	.	.	31.8	100.0	0.148
CW3_CAREWHOA_3	Post-C19: Who provided care for self - Son or daughter or other family member i	.	.	.	.	.	.	.	.	.	45.9	0.0	0.360
CW3_CAREWHOA_4	Post-C19: Who provided care for self - Friend or neighbour	.	.	.	.	.	.	.	.	.	22.4	0.0	0.592
CW3_CAREWHOA_5	Post-C19: Who provided care for self - Voluntary helper	.	.	.	.	.	.	.	.	.	.	.	.
CW3_CAREWHOA_6	Post-C19: Who provided care for self - Paid/ professional help	.	.	.	.	.	.	.	.	.	2.4	0.0	0.877
CW3_CAREWHOA_7	Post-C19: Who provided care for self - Other	.	.	.	.	.	.	.	.	.	16.5	100.0	0.029
CW3_CAREWHOAP_1	Post-C19: Who provided care for other hh member - Nobody - needs were not met	.	.	.	0.3	0.0	0.934	1.4	0.0	0.866	4.3	0.0	0.764
CW3_CAREWHOAP_2	Post-C19: Who provided care for other hh member - Me	.	.	.	88.8	100.0	0.615	83.5	50.0	0.207	78.9	100.0	0.465
CW3_CAREWHOAP_3	Post-C19: Who provided care for other hh member - My husband/ wife/ partner	.	.	.	32.3	0.0	0.329	29.6	50.0	0.529	8.2	50.0	0.035
CW3_CAREWHOAP_4	Post-C19: Who provided care for other hh member - Son or daughter or other famil	.	.	.	16.7	0.0	0.527	23.6	50.0	0.382	31.5	50.0	0.575
CW3_CAREWHOAP_5	Post-C19: Who provided care for other hh member - Friend or neighbour	.	.	.	3.4	0.0	0.791	4.9	0.0	0.747	10.3	0.0	0.631
CW3_CAREWHOAP_6	Post-C19: Who provided care for other hh member - Voluntary helper	.	.	.	0.7	0.0	0.907	1.1	0.0	0.884	0.4	0.0	0.926
CW3_CAREWHOAP_7	Post-C19: Who provided care for other hh member - Paid/ professional help	.	.	.	9.5	0.0	0.646	2.8	0.0	0.810	2.6	0.0	0.818

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value
CW3_CAREWHOAP_8	Post-C19: Who provided care for other hh member - Other	.	.	.	2.4	0.0	0.825	3.9	0.0	0.777	6.9	0.0	0.700
CW3_MOVE	Whether has moved home since the beginning of June	5.9	0.0	0.290	4.0	18.2	0.023	22.7	23.1	0.961	30.4	31.3	0.863
CW3_MOVE2	Whether has moved home since the beginning of October	2.7	1.5	0.543	2.7	1.7	0.620	9.0	10.2	0.626	18.5	11.8	0.003
CW3_OUTDOORS_1	Whether home has a garden	88.7	89.8	0.642	87.3	90.5	0.302	74.0	76.6	0.480	66.8	72.4	0.018
CW3_OUTDOORS_2	Whether home has a patio or yard	22.2	35.0	0.000	23.5	40.5	0.000	19.3	24.7	0.113	28.0	29.5	0.522
CW3_OUTDOORS_3	Whether home has a roof terrace or large balcony	4.1	4.4	0.851	3.3	4.0	0.713	4.9	9.5	0.017	3.7	6.2	0.016
CW3_OUTDOORS_4	Home has no outdoor spaces	4.2	4.4	0.917	4.9	4.0	0.660	14.0	13.3	0.818	19.5	18.3	0.554
CW3_TENCHANGE	Whether tenure changed since start of outbreak in March 2020	14.1	2.9	0.000	10.6	4.8	0.045	20.5	10.9	0.004	18.7	15.6	0.128
CW3_SAMEJOB	Post-C19: Same job/work at the time of the outbreak in March 2020	94.4	93.0	0.480	92.3	94.5	0.319	85.7	82.3	0.140	67.2	65.8	0.654
CW3_GROCHAN	Post-C19: Respondent GROSS pay changed since the outbreak in March 2020	23.5	23.8	0.950	24.8	32.3	0.088	34.1	38.9	0.215	43.1	47.2	0.325
CW3_GROAWB	Pre-C19: Respondent Main job banded GROSS pay per week	.	.	.	.	.	.	.	.	.	.	.	.
CW3_SEPAC	Post-C19: Self employed Respondent, take home income in the last 12 months chang	64.0	73.1	0.341	66.6	68.4	0.869	75.1	64.7	0.344	78.6	88.9	0.524
CW3_HOURSCHAN	Post-C19: Usual weekly working hours changed since outbreak in March 2020	23.4	30.4	0.227	26.0	40.0	0.011	29.7	36.6	0.233	34.8	31.0	0.582
CW3_KEYWORKERD	Post-C19: Whether a key worker	53.5	54.5	0.843	54.7	61.8	0.107	54.3	55.3	0.779	64.9	62.8	0.568
CW3_STUDYHRSB	Post-C19: Whether study full or part time	.	.	.	.	.	.	90.5	72.7	0.097	98.3	97.7	0.419
CW3_EDUOFFER2	Any time, Respondent formally accept an offer for a place on a new college/unive	.	.	.	.	.	.	.	.	.	10.2	13.8	0.053
CW3_GROAWB2	Pre-C19: Respondent job banded GROSS pay per week	.	.	.	.	.	.	.	.	.	.	.	.
CW3_GROAMB2	Pre-C19: Respondent job banded GROSS pay per month	.	.	.	.	.	.	.	.	.	.	.	.
CW3_ZEROHB	Pre-C19: Whether was on zero hours contract	8.2	14.3	0.480	5.4	0.0	0.503	6.3	10.0	0.548	33.6	44.3	0.135
CW3_PHOURSCHAN	Post-C19: Partner's usual weekly working hours changed since outbreak in march 2	18.7	28.2	0.190	23.6	28.6	0.444	22.0	25.0	0.687	45.5	20.0	0.330
CW3_PKEYWORKERD	Post-C19: Whether partner is a key worker	49.2	58.7	0.138	50.0	65.7	0.002	50.7	51.3	0.896	63.2	43.8	0.134
CW3_PZEROHB	Pre-C19: Whether partner had a zero hours contract	4.5	25.0	0.077	2.9	14.3	0.204	4.8	25.0	0.117	.	.	.
CW3_FINHTY_1	Post-C19: Financial help- Reduced spending	63.2	76.3	0.040	69.9	81.4	0.105	71.5	62.7	0.123	66.6	68.2	0.645
CW3_FINHTY_2	Post-C19: Financial help- Used savings	49.8	47.5	0.720	47.5	53.5	0.440	51.3	43.3	0.204	49.5	47.1	0.509
CW3_FINHTY_3	Post-C19: Financial help- New borrowing from bank or credit card	7.2	8.5	0.712	15.3	18.6	0.549	16.8	17.9	0.810	7.7	8.3	0.753

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value
CW3_FINHTY_4	Post-C19: Financial help- New borrowing from family and friends	3.5	6.8	0.177	9.8	16.3	0.166	19.8	26.9	0.165	19.5	28.1	0.003
CW3_FINHTY_5	Post-C19: Financial help- None of these	14.8	10.2	0.321	10.9	4.7	0.191	9.5	17.9	0.027	11.5	15.3	0.110
CW3_BENEFITB_1	Pre-C19: Benefit claims 3 months prior- Free school meals for children	0.3	0.0	0.412	1.6	3.3	0.203	5.8	6.7	0.694	0.9	2.7	0.013
CW3_BENEFITB_2	Pre-C19: Benefit claims 3 months prior- Universal credit	4.0	9.2	0.004	4.1	4.9	0.679	10.0	11.1	0.702	7.9	9.4	0.330
CW3_BENEFITB_3	Pre-C19: Benefit claims 3 months prior- Pension credit	0.9	1.5	0.416	0.1	1.6	0.006	.	.	.	0.1	0.0	0.473
CW3_BENEFITB_4	Pre-C19: Benefit claims 3 months prior- Income support or Job Seeker's Allowan	1.5	5.6	0.002	1.5	10.7	0.000	2.4	0.7	0.216	0.2	0.9	0.090
CW3_BENEFITB_5	Pre-C19: Benefit claims 3 months prior- Working Tax Credit or Child Tax credit	1.4	2.1	0.507	5.6	10.7	0.032	8.2	9.6	0.585	0.8	0.7	0.790
CW3_BENEFITB_6	Pre-C19: Benefit claims 3 months prior- Employment and Support Allowance	5.5	7.7	0.266	4.1	10.7	0.002	1.9	3.0	0.438	0.3	0.7	0.406
CW3_BENEFITB_8	Pre-C19: Benefit claims 3 months prior- Statutory sick pay	1.5	3.1	0.179	1.2	0.8	0.686	1.3	2.2	0.422	1.3	2.2	0.183
CW3_BENEFITB_14	Pre-C19: Benefit claims 3 months prior- Housing benefit	2.9	10.8	0.000	2.7	12.3	0.000	4.2	4.4	0.910	0.5	0.4	0.974
CW3_BENEFITB_9	Pre-C19: Benefit claims 3 months prior- Council tax support or reduction	4.6	15.4	0.000	3.6	11.5	0.000	3.9	6.7	0.136	0.7	1.3	0.239
CW3_BENEFITB_12	Pre-C19: Benefit claims 3 months prior- Carers allowance, Personal independence	8.8	17.4	0.001	6.4	21.3	0.000	4.0	3.7	0.874	3.2	3.1	0.929
CW3_BENEFITB_13	Pre-C19: Whether CM had benefit claims 3 months prior	79.7	64.1	0.000	80.7	61.5	0.000	76.9	74.8	0.595	86.2	82.9	0.110
CW3_BENEFITD_1	Post-C19: New benefit claims- Free school meals for children	0.1	0.0	0.634	0.5	0.0	0.329	1.5	1.4	0.922	0.2	0.3	0.589
CW3_BENEFITD_2	Post-C19: New benefit claims- Universal credit	2.5	2.5	0.981	3.7	3.1	0.678	8.3	11.2	0.084	8.4	10.7	0.034
CW3_BENEFITD_4	Post-C19: New benefit claims- Employment and Support Allowance	1.6	1.1	0.485	1.8	1.6	0.792	1.8	2.1	0.676	0.6	0.2	0.206
CW3_BENEFITD_5	Post-C19: New benefit claims- Statutory sick pay	1.3	2.1	0.250	1.1	2.1	0.182	1.4	1.4	0.992	2.0	1.8	0.709
CW3_BENEFITD_6	Post-C19: New benefit claims- Council tax support or reduction	1.5	3.6	0.006	1.8	2.1	0.790	2.4	2.8	0.687	1.2	1.2	0.875
CW3_BENEFITD_9	Post-C19: New benefit claims- Carers allowance, Personal independence payments,	2.4	5.7	0.001	1.6	3.7	0.034	1.0	1.4	0.516	0.9	2.0	0.007
CW3_BENEFITD_7	Post-C19: New benefit claims- Coronavirus Self-Employment Income Support Scheme	5.5	3.6	0.159	6.8	6.3	0.770	4.4	4.9	0.702	0.2	0.0	0.148
CW3_BENEFITD_8	Post-C19: Whether CM had new benefit claims since outbreak	87.2	84.3	0.162	85.4	83.8	0.543	83.5	78.9	0.047	87.6	84.6	0.018
CW3_BENEFITD_10	Post-C19: New benefit claims- Test and trace support payment for those instructe	0.2	0.4	0.439	0.2	0.0	0.567	0.8	0.7	0.834	0.5	0.3	0.530

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value
CW3_BENEFITOTH_1	Post-C19: Other benefits used- Mortgage or rent payment holidays	3.2	2.8	0.709	10.4	5.8	0.037	8.3	5.9	0.154	0.6	0.7	0.759
CW3_BENEFITOTH_5	Post-C19: Other benefits used- Council tax payment holiday	0.7	0.7	0.951	1.7	0.5	0.203	1.2	0.7	0.479	0.2	0.0	0.211
CW3_BENEFITOTH_2	Post-C19: Other benefits used- Other debt repayment or interest payment holidays	2.0	0.7	0.119	3.5	1.6	0.153	4.7	4.5	0.931	0.8	0.7	0.664
CW3_BENEFITOTH_4	Post-C19: Whether other benefits used	95.0	96.5	0.277	87.2	93.2	0.014	87.7	90.2	0.217	98.6	98.8	0.655
CW3_FINGIVD_1	Post-C19: Financial help to family/others since outbreak - Adult children, inclu	25.6	19.0	0.013	17.6	14.1	0.212	0.9	2.1	0.043	0.6	1.8	0.000
CW3_FINGIVD_2	Post-C19: Financial help to family/others since outbreak - Parents or grandparen	2.1	2.1	0.999	6.4	5.2	0.521	10.4	14.0	0.059	16.3	16.6	0.815
CW3_FINGIVD_3	Post-C19: Financial help to family/others since outbreak - Siblings	3.9	3.9	0.994	3.8	5.2	0.316	8.0	10.8	0.088	7.1	7.9	0.447
CW3_FINGIVD_4	Post-C19: Financial help to family/others since outbreak - Former spouse or part	0.5	0.0	0.255	1.1	1.0	0.898	1.8	3.1	0.096	2.3	2.6	0.613
CW3_FINGIVD_5	Post-C19: Financial help to family/others since outbreak - Friends or Neighbours	3.0	3.9	0.424	4.8	7.9	0.058	6.6	9.1	0.110	5.8	7.8	0.034
CW3_FINGIVD_6	Post-C19: Financial help to family/others since outbreak - Someone else	5.3	1.8	0.009	4.2	5.8	0.282	3.1	2.4	0.541	2.0	1.2	0.119
CW3_FINGIVD_7	Post-C19: No financial help given to family/others since outbreak	64.8	74.3	0.001	69.8	72.8	0.382	77.4	74.8	0.322	74.7	73.5	0.451
CW3_FINRECD_1	Post-C19: Financial help from family/others since outbreak - Adult children, inc	1.6	1.1	0.506	1.4	0.0	0.099	0.5	0.7	0.637	0.4	0.7	0.384
CW3_FINRECD_2	Post-C19: Financial help from family/others since outbreak - Parents or grandpar	1.4	0.4	0.136	5.5	9.4	0.021	12.9	15.7	0.186	32.0	31.9	0.954
CW3_FINRECD_3	Post-C19: Financial help from family/others since outbreak - Siblings	0.6	0.7	0.888	1.0	2.6	0.034	2.6	3.5	0.379	3.3	3.9	0.373
CW3_FINRECD_4	Post-C19: Financial help from family/others since outbreak - Former spouse or pa	0.2	1.1	0.009	0.5	0.5	0.901	1.1	1.0	0.979	1.8	2.4	0.316
CW3_FINRECD_5	Post-C19: Financial help from family/others since outbreak - Friends or Neighbou	0.5	0.7	0.536	0.8	1.0	0.699	1.8	2.4	0.405	2.5	3.0	0.365
CW3_FINRECD_6	Post-C19: Financial help from family/others since outbreak - Someone else	0.7	1.4	0.182	1.0	1.6	0.399	1.1	0.3	0.244	1.2	0.7	0.211
CW3_FINRECD_7	Post-C19: Financial help from family/others since outbreak - No - did not receiv	95.6	95.1	0.666	91.2	88.0	0.119	83.7	82.6	0.616	65.1	65.5	0.840
CW3_HHINCCHAN	Pre-C19: Total Respondent & partner income after tax per changed since outbreak	31.3	28.3	0.409	37.6	35.8	0.674	41.8	43.4	0.631	34.2	37.6	0.094
CW3_CONTRL	Perceived control	93.4	90.0	0.662	92.5	100.0	0.525	89.2	100.0	0.326	85.3	87.5	0.801
CW3_MALAISE_1	Post-C19: MALAISE- Do you feel tired most of the time?	21.6	33.1	0.000	33.4	34.8	0.692	.	.	.	.	.	.

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value
CW3_MALAISE_2	Post-C19: MALAISE- Do you often feel miserable or depressed?	17.3	24.2	0.003	21.3	22.7	0.646	.	.	.	.	.	.
CW3_MALAISE_3	Post-C19: MALAISE- Do you often get worried about things?	42.6	45.0	0.428	49.1	42.0	0.057	.	.	.	.	.	.
CW3_MALAISE_4	Post-C19: MALAISE- Do you often get in a violent rage?	1.4	3.2	0.013	3.0	3.2	0.860	.	.	.	.	.	.
CW3_MALAISE_5	Post-C19: MALAISE- Do you often suddenly become scared for no good reason?	9.8	9.6	0.934	11.6	10.6	0.663	.	.	.	.	.	.
CW3_MALAISE_6	Post-C19: MALAISE- Are you easily upset or irritated?	27.3	24.3	0.264	35.0	23.8	0.001	.	.	.	.	.	.
CW3_MALAISE_7	Post-C19: MALAISE- Are you constantly keyed up and jittery?	7.1	11.1	0.012	9.1	10.6	0.484	.	.	.	.	.	.
CW3_MALAISE_8	Post-C19: MALAISE- Does every little thing get on your nerves and wear you out?	9.4	13.3	0.033	14.3	14.9	0.812	.	.	.	.	.	.
CW3_MALAISE_9	Post-C19: MALAISE- Does your heart often race like mad?	7.1	10.4	0.038	10.0	14.4	0.048	.	.	.	.	.	.
CW3_LIFEEVENTS1_1_1	Pre-C19: Life events- Any immediate family died in the 12 months before outbreak	1.3	10.0	0.000	1.6	4.3	0.005	1.3	2.8	0.038	2.5	3.4	0.134
CW3_LIFEEVENTS1_1_2	Post-C19: Life events- Any immediate family died since the outbreak	13.3	12.5	0.688	11.2	14.5	0.156	11.4	12.4	0.629	9.9	11.8	0.092
CW3_LIFEEVENTS1_1_3	Life events- No immediate family died since 12 months before outbreak	85.5	77.6	0.000	87.4	82.3	0.038	87.6	86.2	0.511	87.9	85.7	0.087
CW3_LIFEEVENTS1_2_1	Pre-C19: Life events- Any other close relatives/friends died in the 12 months be	1.7	5.7	0.000	1.7	4.9	0.001	1.9	6.0	0.000	2.8	4.4	0.015
CW3_LIFEEVENTS1_2_2	Post-C19: Life events- Any other close relatives/friends died since the outbreak	26.8	26.0	0.750	24.2	21.1	0.335	22.8	23.3	0.846	20.4	19.2	0.428
CW3_LIFEEVENTS1_2_3	Life events- No other close relatives/friends died since 12 months before outbre	71.8	69.4	0.384	74.5	77.3	0.390	75.9	73.9	0.440	77.8	77.6	0.887
CW3_LIFEEVENTS1_3_1	Pre-C19: Life events- Separated from partner not incl death in the 12 months b	0.3	1.8	0.000	0.4	2.2	0.001	1.1	2.5	0.041	1.9	2.7	0.108
CW3_LIFEEVENTS1_3_2	Post-C19: Life events- Separated from your partner not incl death since the ou	1.0	0.7	0.595	2.1	1.6	0.640	4.3	6.7	0.063	10.5	11.7	0.289
CW3_LIFEEVENTS1_3_3	Life events- Not separated from your partner not incl death since 12 months be	98.7	97.5	0.093	97.5	96.2	0.304	94.6	90.8	0.008	87.9	85.8	0.097
CW3_LIFEEVENTS1_4_1	Pre-C19: Life events- Respondent or partner been sacked from job/made redundant	0.1	1.4	0.000	0.4	1.1	0.202	0.5	0.7	0.637	0.5	1.0	0.058
CW3_LIFEEVENTS1_4_2	Post-C19: Life events- Respondent or partner been sacked from job/made redundant	5.2	3.6	0.224	6.8	4.8	0.284	8.8	13.4	0.009	11.5	8.6	0.014
CW3_LIFEEVENTS1_4_3	Life events- Neither Respondent or partner been sacked from job/made redundant s	94.7	95.0	0.797	92.8	94.1	0.490	90.8	85.9	0.006	88.1	90.4	0.057

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value
CW3_LIFEEVENTS1_5_1	Pre-C19: Life events- Respondent or partner given birth in the 12 months before	.	.	.	.	.	.	1.5	2.8	0.076	0.1	0.2	0.604
CW3_LIFEEVENTS1_5_2	Post-C19: Life events- Respondent or partner given birth since the outbreak	.	.	.	.	.	.	9.2	5.7	0.044	0.5	1.5	0.003
CW3_LIFEEVENTS1_5_3	Life events- Neither Respondent or partner given birth since 12 months before ou	.	.	.	.	.	.	89.4	91.5	0.254	99.3	98.3	0.004
CW3_LIFEEVENTS1_6_1	Pre-C19: Life events- Any serious housing difficulties such as being evicted in	0.0	0.0	0.766	0.0	0.0	0.791	0.1	0.0	0.585	0.1	0.0	0.307
CW3_LIFEEVENTS1_6_2	Post-C19: Life events- Any serious housing difficulties such as being evicted si	0.2	0.0	0.485	0.5	0.0	0.338	1.7	0.4	0.085	1.4	0.8	0.178
CW3_LIFEEVENTS1_6_3	Life events- No serious housing difficulties such as being evicted since 12 mont	99.8	100.0	0.447	99.5	100.0	0.329	98.2	99.6	0.071	98.6	99.2	0.130
CW3_LIFEEVENTS2_1_1	Pre-C19: Life events- Had a serious illness or been seriously injured in the 12	0.3	0.0	0.857	0.2	0.0	0.896	0.2	0.0	0.902	0.4	0.0	0.779
CW3_LIFEEVENTS2_1_2	Post-C19: Life events- Had a serious illness or been seriously injured since the	4.9	9.1	0.515	3.9	0.0	0.592	2.8	0.0	0.613	3.3	5.6	0.585
CW3_LIFEEVENTS2_1_3	Life events- Not had a serious illness or been seriously injured since 12 months	94.9	90.9	0.548	95.8	100.0	0.581	97.1	100.0	0.604	96.3	94.4	0.677
CW3_LIFEEVENTS2_2_1	Pre-C19: Life events- Any immediate family been seriously ill or injured in the	0.2	0.0	0.875	0.4	0.0	0.860	0.4	0.0	0.849	0.8	0.0	0.697
CW3_LIFEEVENTS2_2_2	Post-C19: Life events- Any immediate family been seriously ill or injured since	11.1	9.1	0.834	11.2	14.3	0.794	10.5	0.0	0.305	14.0	11.1	0.726
CW3_LIFEEVENTS2_2_3	Life events- No immediate family been seriously ill or injured since 12 months b	88.8	90.9	0.822	88.5	85.7	0.820	89.2	100.0	0.297	85.6	88.9	0.691
CW3_LIFEEVENTS2_3_1	Pre-C19: Life events- Any other close relatives/friends been seriously ill or in	0.3	0.0	0.845	0.5	0.0	0.853	0.4	0.0	0.849	0.6	0.0	0.742
CW3_LIFEEVENTS2_3_2	Post-C19: Life events- Any other close relatives/friends been seriously ill or	17.7	18.2	0.964	16.3	14.3	0.884	13.3	11.1	0.847	15.3	27.8	0.145
CW3_LIFEEVENTS2_3_3	Life events- No other close relatives/friends been seriously ill or injured sin	82.0	81.8	0.987	83.3	85.7	0.863	86.5	88.9	0.834	84.4	72.2	0.157
CW3_LIFEEVENTS2_4_1	Pre-C19: Life events- Has Respondent or immediate family member been subject to	.	.	.	0.1	0.0	0.937	0.2	0.0	0.902	0.4	0.0	0.799
CW3_LIFEEVENTS2_4_2	Post-C19: Life events- Has Respondent or immediate family member been subject to	0.4	0.0	0.830	0.7	0.0	0.823	1.6	11.1	0.026	1.8	0.0	0.567
CW3_LIFEEVENTS2_4_3	Life events- Neither Respondent or immediate family member been subject to racis	99.6	100.0	0.830	99.2	100.0	0.818	98.3	88.9	0.028	98.0	100.0	0.542
CW3_LIFEEVENTS2_5_1	Pre-C19: Life events- Has Respondent or immediate family member been subject to	0.0	0.0	0.951	0.1	0.0	0.937	0.1	0.0	0.918	0.4	0.0	0.778
CW3_LIFEEVENTS2_5_2	Post-C19: Life events- Has Respondent or immediate family member been subject to	2.3	9.1	0.131	3.2	0.0	0.630	3.7	0.0	0.579	4.5	16.7	0.015

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value
CW3_LIFEEVENTS2_5_3	Life events- Neither Respondent or immediate family member been subject to abuse	97.7	90.9	0.135	96.7	100.0	0.626	96.2	100.0	0.574	95.3	83.3	0.018
CW3_LIFEEVENTS2_6_1	Pre-C19: Life events- Has Respondent or partner been unemployed or seeking work	0.2	0.0	0.885	0.1	0.0	0.930	0.2	0.0	0.899	1.2	5.6	0.102
CW3_LIFEEVENTS2_6_2	Post-C19: Life events- Has Respondent or partner been unemployed or seeking work	6.9	0.0	0.368	8.8	0.0	0.410	12.3	0.0	0.289	20.5	22.2	0.860
CW3_LIFEEVENTS2_6_3	Life events- Neither Respondent or partner been unemployed or seeking work for m	93.0	100.0	0.362	91.1	100.0	0.410	87.6	100.0	0.287	78.9	72.2	0.486
CW3_LIFEEVENTS2_7_1	Pre-C19: Life events- Any major financial difficulties e.g. debts, difficulty p	0.1	0.0	0.908	0.4	0.0	0.867	0.2	0.0	0.908	0.6	5.6	0.008
CW3_LIFEEVENTS2_7_2	Post-C19: Life events- Any major financial difficulties e.g. debts, difficulty	3.4	0.0	0.537	6.9	14.3	0.440	10.4	0.0	0.337	7.7	11.1	0.592
CW3_LIFEEVENTS2_7_3	Life events- No major financial difficulties e.g. debts, difficulty paying bill	96.6	100.0	0.531	92.8	85.7	0.469	89.6	100.0	0.336	92.1	83.3	0.172
CW3_LIFEEVENTS2_8_1	Pre-C19: Life events- Has Respondent or immediate family member been a victim of	0.1	0.0	0.930	0.2	0.0	0.911	0.3	0.0	0.884	0.3	0.0	0.816
CW3_LIFEEVENTS2_8_2	Post-C19: Life events- Has Respondent or immediate family member been a victim o	2.6	9.1	0.180	4.0	0.0	0.588	4.6	0.0	0.536	3.7	5.9	0.634
CW3_LIFEEVENTS2_8_3	Life events- Neither Respondent or immediate family member been a victim of crim	97.3	90.9	0.191	95.8	100.0	0.581	95.2	100.0	0.525	96.1	94.1	0.673
CW3_LIFEEVENTS2_9_1	Pre-C19: Life events- Has Respondent or partner suffered from a miscarriage or h	.	.	.	.	.	.	0.0	0.0	0.959	0.1	0.0	0.907
CW3_LIFEEVENTS2_9_2	Post-C19: Life events- Has Respondent or partner suffered from a miscarriage or	.	.	.	.	.	.	1.9	12.5	0.031	0.4	0.0	0.785
CW3_LIFEEVENTS2_9_3	Life events- Neither Respondent or partner suffered from a miscarriage or had a	.	.	.	.	.	.	98.0	87.5	0.033	99.5	100.0	0.766
CW3_LIFEEVENTS2_10_1	Pre-C19: Life events- Has Respondent or partner had a termination in the 12 mont	.	.	.	.	.	.	0.0	0.0	0.959	.	.	.
CW3_LIFEEVENTS2_10_2	Post-C19: Life events- Has Respondent or partner had a termination since the out	.	.	.	.	.	.	0.7	0.0	0.817	0.6	0.0	0.749
CW3_LIFEEVENTS2_10_3	Life events- Neither Respondent or partner had a termination since 12 months bef	.	.	.	.	.	.	99.3	100.0	0.812	99.4	100.0	0.749
CW3_MAJIMP	Post-C19: Any other events that have had a major impact on life	13.9	0.0	0.097	12.8	0.0	0.311	15.3	11.1	0.729	13.7	4.8	0.233
CW3_SCENROL_1	Child 1 enrolled in school or college	.	.	.	96.3	100.0	0.734	77.4	100.0	0.589	.	.	.
CW3_SCENROL_2	Child 2 enrolled in school or college	.	.	.	97.2	100.0	0.769	.	.	.	.	.	.
CW3_SCENROL_3	Child 3 enrolled in school or college	.	.	.	96.9	100.0	0.857	.	.	.	.	.	.
CW3_SCENROL_4	Child 4 enrolled in school or college	.	.	.	.	.	.	.	.	.	.	.	.
CW3_SCYAREW_6	Child 6 school Year - E & W	.	.	.	.	.	.	.	.	.	.	.	.

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value
CW3_SCYEARNI_1	Child 1 school Year - NI	.	.	.	.	.	.	.	.	.	.	.	.
CW3_SCTYPE2_4	Child 4 school type - Primary	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUHSR_6	Child 6 hours spent on school work on typical day when not attending school	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUONL_6	Child 6 hours spent having online lessons on typical day when not attending scho	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUHELP_5	Child 5 hours partner spent helping child with school work on typical day	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUHELP_6	Child 6 hours partner spent helping child with school work on typical day	.	.	.	.	.	.	.	.	.	.	.	.
CW3_LEARNR_1_1	Child 1 learning resources available - Yes, they used freely available resources	.	.	.	34.8	0.0	0.206	52.2	0.0	0.297	.	.	.
CW3_LEARNR_1_2	Child 1 learning resources available - Yes, we paid for additional resources	.	.	.	19.2	0.0	0.398	15.4	100.0	0.020	.	.	.
CW3_LEARNR_1_3	Child 1 learning resources available - No	.	.	.	49.5	100.0	0.080	36.5	0.0	0.449	.	.	.
CW3_LEARNR_2_1	Child 2 learning resources available - Yes, they used freely available resources	.	.	.	37.8	0.0	0.177	.	.	.	.	.	.
CW3_LEARNR_2_2	Child 2 learning resources available - Yes, we paid for additional resources	.	.	.	14.6	0.0	0.475	.	.	.	.	.	.
CW3_LEARNR_2_3	Child 2 learning resources available - No	.	.	.	51.2	100.0	0.091	.	.	.	.	.	.
CW3_LEARNR_3_1	Child 3 learning resources available - Yes, they used freely available resources	.	.	.	39.2	0.0	0.423	.	.	.	.	.	.
CW3_LEARNR_3_2	Child 3 learning resources available - Yes, we paid for additional resources	.	.	.	12.5	0.0	0.706	.	.	.	.	.	.
CW3_LEARNR_3_3	Child 3 learning resources available - No	.	.	.	50.8	100.0	0.326	.	.	.	.	.	.
CW3_LEARNR_4_1	Child 4 learning resources available - Yes, they used freely available resources	.	.	.	.	.	.	.	.	.	.	.	.
CW3_LEARNR_4_2	Child 4 learning resources available - Yes, we paid for additional resources	.	.	.	.	.	.	.	.	.	.	.	.
CW3_LEARNR_4_3	Child 4 learning resources available - No	.	.	.	.	.	.	.	.	.	.	.	.
CW3_LEARNR_5_1	Child 5 learning resources available - Yes, they used freely available resources	.	.	.	.	.	.	.	.	.	.	.	.
CW3_LEARNR_5_3	Child 5 learning resources available - No	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUSPA_1_1	Child 1 study space and resources - Exclusive use of a PC/Laptop/Tablet	.	.	.	90.8	100.0	0.581	63.5	100.0	0.449	.	.	.
CW3_STUSPA_1_2	Child 1 study space and resources - Shared PC/Laptop/Tablet	.	.	.	11.1	0.0	0.541	29.7	0.0	0.516	.	.	.
CW3_STUSPA_1_3	Child 1 study space and resources - Desk/table in bedroom	.	.	.	57.9	66.7	0.759	23.9	100.0	0.076	.	.	.

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value
CW3_STUSPA_1_4	Child 1 study space and resources - Desk/table in communal area of home e.g. di	.	.	.	36.2	66.7	0.274	51.9	0.0	0.300	.	.	.
CW3_STUSPA_1_6	Child 1 study space and resources - Reliable internet connection	.	.	.	81.6	100.0	0.411	70.6	100.0	0.520	.	.	.
CW3_STUSPA_1_5	Child 1 study space and resources - None of these	.	.	.	0.5	0.0	0.898	4.8	0.0	0.823	.	.	.
CW3_STUSPA_2_1	Child 2 study space and resources - Exclusive use of a PC/Laptop/Tablet	.	.	.	89.7	100.0	0.557	.	.	.	.	.	.
CW3_STUSPA_2_2	Child 2 study space and resources - Shared PC/Laptop/Tablet	.	.	.	13.0	0.0	0.502	.	.	.	.	.	.
CW3_STUSPA_2_3	Child 2 study space and resources - Desk/table in bedroom	.	.	.	58.1	33.3	0.385	.	.	.	.	.	.
CW3_STUSPA_2_4	Child 2 study space and resources - Desk/table in communal area of home e.g. di	.	.	.	39.2	100.0	0.032	.	.	.	.	.	.
CW3_STUSPA_2_6	Child 2 study space and resources - Reliable internet connection	.	.	.	81.1	100.0	0.403	.	.	.	.	.	.
CW3_STUSPA_2_5	Child 2 study space and resources - None of these	.	.	.	0.6	0.0	0.892	.	.	.	.	.	.
CW3_STUSPA_3_1	Child 3 study space and resources - Exclusive use of a PC/Laptop/Tablet	.	.	.	84.2	100.0	0.665	.	.	.	.	.	.
CW3_STUSPA_3_2	Child 3 study space and resources - Shared PC/Laptop/Tablet	.	.	.	21.3	0.0	0.604	.	.	.	.	.	.
CW3_STUSPA_3_3	Child 3 study space and resources - Desk/table in bedroom	.	.	.	53.8	100.0	0.354	.	.	.	.	.	.
CW3_STUSPA_3_4	Child 3 study space and resources - Desk/table in communal area of home e.g. di	.	.	.	42.1	100.0	0.242	.	.	.	.	.	.
CW3_STUSPA_3_6	Child 3 study space and resources - Reliable internet connection	.	.	.	77.9	100.0	0.595	.	.	.	.	.	.
CW3_STUSPA_3_5	Child 3 study space and resources - None of these	.	.	.	0.8	0.0	0.927	.	.	.	.	.	.
CW3_STUSPA_4_1	Child 4 study space and resources - Exclusive use of a PC/Laptop/Tablet	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUSPA_4_2	Child 4 study space and resources - Shared PC/Laptop/Tablet	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUSPA_4_3	Child 4 study space and resources - Desk/table in bedroom	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUSPA_4_4	Child 4 study space and resources - Desk/table in communal area of home e.g. di	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUSPA_4_6	Child 4 study space and resources - Reliable internet connection	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUSPA_4_5	Child 4 study space and resources - None of these	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUSPA_5_1	Child 5 study space and resources - Exclusive use of a PC/Laptop/Tablet	.	.	.	.	.	.	.	.	.	.	.	.

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value
CW3_STUSPA_5_2	Child 5 study space and resources - Shared PC/Laptop/Tablet	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUSPA_5_3	Child 5 study space and resources - Desk/table in bedroom	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUSPA_5_4	Child 5 study space and resources - Desk/table in communal area of home e.g. di	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUSPA_5_6	Child 5 study space and resources - Reliable internet connection	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUSPA_6_1	Child 6 study space and resources - Exclusive use of a PC/Laptop/Tablet	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUSPA_6_2	Child 6 study space and resources - Shared PC/Laptop/Tablet	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUSPA_6_4	Child 6 study space and resources - Desk/table in communal area of home e.g. di	.	.	.	.	.	.	.	.	.	.	.	.
CW3_STUSPA_6_6	Child 6 study space and resources - Reliable internet connection	.	.	.	.	.	.	.	.	.	.	.	.
CW3_NOSCHL_1	Child 1 unable to attend school in autumn term	.	.	.	35.0	0.0	0.204	30.0	0.0	0.513	.	.	.
CW3_NOSCHL_2	Child 2 unable to attend school in autumn term	.	.	.	36.5	33.3	0.909	.	.	.	.	.	.
CW3_NOSCHL_3	Child 3 unable to attend school in autumn term	.	.	.	35.1	0.0	0.462	.	.	.	.	.	.
CW3_NOSCHL_4	Child 4 unable to attend school in autumn term	.	.	.	.	.	.	.	.	.	.	.	.
CW3_NOSCHL_5	Child 5 unable to attend school in autumn term	.	.	.	.	.	.	.	.	.	.	.	.
CW3_NOSCHL_6	Child 6 unable to attend school in autumn term	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_1_1	Child 1 reason why unable to attend - School or college was completely closed fo	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_1_2	Child 1 reason why unable to attend - Class or year group were instructed not to	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_1_3	Child 1 reason why unable to attend - Child had COVID-19 and needed to self-isol	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_1_4	Child 1 reason why unable to attend - Child had contact with someone who had COV	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_1_5	Child 1 reason why unable to attend - Child was ill not with COVID-19	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_1_6	Child 1 reason why unable to attend - Other reason	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_2_1	Child 2 reason why unable to attend - School or college was completely closed fo	.	.	.	23.5	0.0	0.580	.	.	.	.	.	.
CW3_WHYNOSCHL_2_2	Child 2 reason why unable to attend - Class or year group were instructed not to	.	.	.	43.7	0.0	0.379	.	.	.	.	.	.
CW3_WHYNOSCHL_2_3	Child 2 reason why unable to attend - Child had COVID-19 and needed to self-isol	.	.	.	5.9	0.0	0.802	.	.	.	.	.	.

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value	CAWI %	CATI %	p-value
CW3_WHYNOSCHL_2_4	Child 2 reason why unable to attend - Child had contact with someone who had COV	.	.	.	44.0	100.0	0.260	.	.	.	.	.	.
CW3_WHYNOSCHL_2_5	Child 2 reason why unable to attend - Child was ill not with COVID-19	.	.	.	13.8	0.0	0.689	.	.	.	.	.	.
CW3_WHYNOSCHL_2_6	Child 2 reason why unable to attend - Other reason	.	.	.	5.9	0.0	0.802	.	.	.	.	.	.
CW3_WHYNOSCHL_3_1	Child 3 reason why unable to attend - School or college was completely closed fo	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_3_2	Child 3 reason why unable to attend - Class or year group were instructed not to	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_3_3	Child 3 reason why unable to attend - Child had COVID-19 and needed to self-isol	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_3_4	Child 3 reason why unable to attend - Child had contact with someone who had COV	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_3_5	Child 3 reason why unable to attend - Child was ill not with COVID-19	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_3_6	Child 3 reason why unable to attend - Other reason	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_4_1	Child 4 reason why unable to attend - School or college was completely closed fo	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_4_2	Child 4 reason why unable to attend - Class or year group were instructed not to	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_4_3	Child 4 reason why unable to attend - Child had COVID-19 and needed to self-isol	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_4_4	Child 4 reason why unable to attend - Child had contact with someone who had COV	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_4_5	Child 4 reason why unable to attend - Child was ill not with COVID-19	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_5_1	Child 5 reason why unable to attend - School or college was completely closed fo	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_5_4	Child 5 reason why unable to attend - Child had contact with someone who had COV	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_5_5	Child 5 reason why unable to attend - Child was ill not with COVID-19	.	.	.	.	.	.	.	.	.	.	.	.
CW3_WHYNOSCHL_5_6	Child 5 reason why unable to attend - Other reason	.	.	.	.	.	.	.	.	.	.	.	.

Table A7. Between-mode differences for categorical variables in the COVID-19 Wave 3 survey.

Variable name	Variable label	NCDS	BCS70	NS	MCS
		p-value	p-value	p-value	p-value
CW3_COVID19	Whether Respondent has had Coronavirus	.001	.014	.000	.000
CW3_COVIDCURRESULT	Result of throat swab or nasal swab or saliva test or nasal mucus test	.598	.707	.963	.014
CW3_COVIDPASRESULT	Result of finger stick or blood test or serology test or antibody test for past	.768	.759	.333	.135
CW3_COVIDINCRESULT	Result of Coronavirus test	.132	.	.917	.195
CW3_COVIDINCWHEN	When was positive Coronavirus test	.172	.	.	.157
CW3_COVFUNC	Length of time Respondent unable to function as normal due to Coronavirus sympto	.272	.326	.339	.229
CW3_COVBED	Length of time so unwell that Respondent stayed in bed or on the sofa due to Cor	.890	.342	.700	.275
CW3_TIREDGRID_1	In the past few weeks Respondent been troubled by- Waking up tired	.	.684	.384	.290
CW3_TIREDGRID_2	In the past few weeks Respondent been troubled by- Feeling tired after rest or r	.	.622	.881	.245
CW3_TIREDGRID_3	In the past few weeks Respondent been troubled by- Needing to sleep longer	.	.584	.390	.152
CW3_TIREDGRID_4	In the past few weeks Respondent been troubled by- Prolonged tiredness after act	.	.747	.894	.507
CW3_TIREDGRID_5	In the past few weeks Respondent been troubled by- Poor sleep	.	.701	.791	.329
CW3_TIREDGRID_6	In the past few weeks Respondent been troubled by- Being excessively tired or ex	.205	.707	.182	.739
CW3_FATGRID_1	In the last month- Have you had problems with tiredness	.	.573	.545	.021
CW3_FATGRID_2	In the last month- Have you needed to rest more	.	.554	.638	.001
CW3_FATGRID_3	In the last month- Have you felt sleepy or drowsy	.	.500	.651	.001
CW3_FATGRID_4	In the last month- Have you had problems starting things	.	.430	.731	.010
CW3_FATGRID_5	In the last month- Have you lacked energy	.	.590	.530	.007
CW3_FATGRID_6	In the last month- Have you had less strength in your muscles	.510	.487	.447	.616
CW3_FATGRID_7	In the last month- Have you felt weak	.854	.226	.163	.506
CW3_FATGRID_8	In the last month- Have you had difficulties concentrating	.809	.593	.305	.218
CW3_FATGRID_9	In the last month- Have you made slips of the tongue when speaking	.	.955	.841	.039
CW3_FATGRID_10	In the last month- Have you found it difficult to find the right word	.	.936	.802	.014
CW3_MEMORY	Memory better or worse	.704	.272	.831	.282
CW3_SHORTTB	Over the past two months, on average, how often has shortness of breath caused y	.643	.852	.519	.000
CW3_PALP	Over the past two months, how often have you experienced your heart racing palp	.929	.719	.893	.495
CW3_ACTIVITY	Over the past two months, how often have you had to restrict your work or normal	.230	.632	.921	.732
CW3_NHSTRACE	Downloaded the NHS COVID 19 Test and Trace App	.000	.000	.148	.000
CW3_BEENVAC	Vaccinated for COVID-19	.118	.001	.738	.972
CW3_VACDATM	Date got vaccinated- Month	.000	.000	.000	.000
CW3_COVIDVAC	How likely Respondent will choose to be vaccinated if offered?	.337	.260	.024	.008
CW3_GHQ	Post-C19: Respondent self-assessment of general health	.000	.044	.003	.000
CW3_GHQPRECOVID	Pre-C19: Respondent self-assessment of general health in 3 months preceding outb	.000	.541	.158	.000
CW3_COVPER_1	Post-C19: Whether at least one of Respondent's parents has moved in	.956	.003	.202	.270
CW3_RELSAT	Relationship satisfaction from 1 Very unhappy to 7 Very happy	.001	.000	.291	.056

Variable name	Variable label	NCDS	BCS70	NS	MCS
		p-value	p-value	p-value	p-value
CW3_RELCONFL1	Relationship conflict since outbreak in March 2020	.357	.840	.880	.780
CW3_FAMCONFL1	Conflict with family members since outbreak in March 2020	.597	.178	.389	.214
CW3_NUMCHIL	Post-C19: Number of children Respondent currently lives with	.001	.918	.986	.866
CW3_CHILAGE_6_1	Age of Child 6 in hh- Years old	.157	.	.	.
CW3_CARECHANA	Post-C19: Whether amount of help needed for self changed	.	.	.	.512
CW3_CAREHOURSAP	Post-C19: How many hours help received for self in a week?	.	.	.	.954
CW3_CARECHANP	Post-C19: Whether amount of help needed for others in hh changed	.	.333	.456	.949
CW3_CAREHOURSAP	Post-C19: How many hours help received for other hh member in a week?	.	.274	.380	.158
CW3_COUNTRES	Country currently living in	.000	.072	.127	.011
CW3_TENURE	Current housing tenure	.012	.225	.000	.474
CW3_TENUREBC	Tenure at start of outbreak in March 2020	.062	.623	.454	.060
CW3_NSSEC2010ANCUR	Derived Post-C19: NSSEC2010AN: NS-SEC 2010 Analytical Classes	.010	.036	.231	.010
CW3_GROP	Post-C19: Respondent Main job GROSS pay period	.002	.779	.540	.711
CW3_GROBAND	Post-C19: Respondent Main job banded GROSS pay period answering for	.169	.034	.559	.475
CW3_GROAH	Post-C19: Respondent Main job banded GROSS pay per hour	.741	.343	.	.733
CW3_GROAW	Post-C19: Respondent Main job banded GROSS pay per week	.670	.	.	.046
CW3_GROAM	Post-C19: Respondent Main job banded GROSS pay per month	.872	.	.851	.867
CW3_GROAY	Post-C19: Respondent Main job banded GROSS pay per year	.538	.775	.272	.136
CW3_GROPB	Pre-C19: Respondent Main job GROSS pay period	.206	.054	.507	.762
CW3_GROBANDB	Pre-C19: Respondent Main job banded GROSS pay period answering for	.	.354	.330	.264
CW3_GROAHB	Pre-C19: Respondent Main job banded GROSS pay per hour	.	.172	.	.
CW3_GROAMB	Pre-C19: Respondent Main job banded GROSS pay per month	.	.	.	.
CW3_GROAYB	Pre-C19: Respondent Main job banded GROSS pay per year	.	.708	.298	.157
CW3_SEPABAND	Post-C19: Self employed Respondent, money took out of the business after taxes i	.277	.878	.661	.552
CW3_SEPABANDB	Pre-C19: Self employed Respondent, money took out of the business after taxes in	.610	.403	.292	.
CW3_WRKLOCATIOND	Post-C19: Work location	.015	.085	.032	.243
CW3_JOBSATIS	Post-C19: Job satisfaction	.087	.011	.000	.012
CW3_STUDYORGN	Post-C19: Institution of study	.	.	.457	.051
CW3_COURSEURN	Post-C19: Duration of the course	.	.	.993	.310
CW3_STUDYYEARN	Post-C19: Current year of study	.	.	.940	.009
CW3_LRNATM	Post-C19: During Autumn term 2020, hoe teaching on Respondent's course was deliv	.	.	.	.002
CW3_LRNFTF	Post-C19: In a typical week since current term started in January, hours of face	.	.	.	.003
CW3_LRNONL	Post-C19: In a typical week since current term started in January, hours of onli	.	.	.	.001
CW3_LRNCHAN	Post-C19: Since the current term started in January has the amount of tuition Re	.	.	.	.094
CW3_LRNOWN	Post-C19: In a typical week since the current term started in January, hours of	.	.	.	.332
CW3_LRNAFFECT	Post-C19: Extent educational progress has been affected by the pandemic	.	.	.	.076
CW3_EDUOFFERB	What happened with the accepted offer	.	.	.	.371

Variable name	Variable label	NCDS	BCS70	NS	MCS
		p-value	p-value	p-value	p-value
CW3_NSSEC2010AN	Derived Pre-C19: NSSEC2010AN: NS-SEC 2010 Analytical Classes	.417	.743	.911	.055
CW3_GROPB2	Pre-C19: Respondent job GROSS pay period	.000	.532	.455	.009
CW3_GROBANDB2	Pre-C19: Respondent job banded GROSS pay period answering for	.	.	.	.195
CW3_GROAHB2	Pre-C19: Respondent job banded GROSS pay per hour	.	.	.	.505
CW3_GROAYB2	Pre-C19: Respondent job banded GROSS pay per year	.	.	.	.
CW3_SEPABANDB2	Pre-C19: Self employed Respondent, money took out of the business after taxes in	.690	.	.140	.
CW3_PSAMEJOB	Post-C19: Partner's in same job/work at the time of the outbreak in March 2020	.223	.817	.241	.256
CW3_PNSSEC2010ANCU R	Derived Post-C19: NSSEC2010AN: NS-SEC 2010 Analytical Classes - Partner	.205	.780	.454	.270
CW3_PECONACTIVITYB2	Pre-C19: Partner's economic activity	.086	.095	.903	.029
CW3_PNSSEC2010AN	Derived Pre-C19: NSSEC2010AN: NS-SEC 2010 Analytical Classes - Partner	.049	.232	.076	.
CW3_FINANCIALMANB	Pre-C19: How Respondent is managing financially	.001	.116	.040	.000
CW3_FINANCIALMAND	Post-C19: How Respondent is managing financially compared to before outbreak	.000	.017	.641	.088
CW3_FINEXP	Post-C19: How Respondent expect to manage financially in 12 months compared to b	.002	.184	.000	.000
CW3_FINAMTGCCHAN	Post-C19: Financial help to adult children different if outbreak had not happene	.001	.589	.	.
CW3_FINAMTGPCHAN	Post-C19: Financial help to parents or grandparents different if outbreak had no	.639	.	.464	.918
CW3_FINAMTRCCHAN	Post-C19: Financial help from adult children different if outbreak had not happe	.	.	.	.
CW3_FINAMTRPCHAN	Post-C19: Financial help from parents or grandparents different if outbreak had	.	.460	.250	.165
CW3_HHINCP	Post-C19: Total Respondent & partner income after tax period	.000	.000	.786	.004
CW3_HHINCBAND	Pre-C19: Total Respondent & partner income after tax period answering for	.008	.606	.452	.942
CW3_HHINCW1	Pre-C19: Total Respondent & partner income after tax per week	.736	.673	.	.784
CW3_HHINCM	Pre-C19: Total Respondent & partner income after tax per month	.328	.144	.035	.264
CW3_HHINCY	Pre-C19: Total Respondent & partner income after tax per year	.	.194	.855	.992
CW3_HHINCPB	Pre-C19: Total Respondent & partner income after tax period	.000	.398	.480	.127
CW3_HHINCBAND2	Pre-C19: Total Respondent & partner income after tax period answering for	.169	.703	.007	.396
CW3_HHINCW2	Pre-C19: Total Respondent & partner income after tax per week	.513	.	.	.431
CW3_HHINCM2	Pre-C19: Total Respondent & partner income after tax per month	.068	.	.	.526
CW3_HHINCY2	Pre-C19: Total Respondent & partner income after tax per year	.242	.368	.080	.
CW3_SMOKING	Smoking behaviour	.730	.603	.168	.023
CW3_VAPE	Vaping behaviour	.812	.853	.591	.006
CW3_VAPESP	Post-C19: Vaping behaviour change since coronavirus outbreak	.	.	.	.319
CW3_ALDRSP	Post-C19: How often drinks alcohol	.781	.612	.477	.522
CW3_AUNDSP	Post-C19: Number of drinks a day	.814	.639	.656	.156
CW3_AUSDSP	Post-C19: No. of times unable to stop drinking	.957	.005	.034	.650
CW3_EXCISESP	Post-C19: No. of days did 30 mins exercise	.811	.499	.119	.317
CW3_Weight	Self-reported weight in kilograms or stones and pounds	.248	.431	.589	.758
CW3_SCREENTIM_1	Post-C19: Time spent in front of screen- For work or study	.012	.842	.456	.022

Variable name	Variable label	NCDS	BCS70	NS	MCS
		p-value	p-value	p-value	p-value
CW3_SCREENIM_2	Post-C19: Time spent in front of screen- Not for work or study	.018	.128	.246	.000
CW3_SCON1	Post-C19: Past 7 days no. of days met people outside hh	.613	.916	.617	.021
CW3_SCON2	Post-C19: Past 7 days no. of days talked to family/friend via phone/video calls	.064	.597	.709	.130
CW3_SCON3	Post-C19: Past 7 days no. of days contact family/friend by electronic msg	.467	.152	.377	.837
CW3_SCON4	Post-C19: Past 7 days no. of days took part in an online community activity	.033	.345	.827	.558
CW3_SCON5	Post-C19: Past 7 days no. of days helped people outside household	.359	.927	.716	.000
CW3_SOCPROV_1	Post-C19: Social Provisions Scale- I Have Family And Friends Who Help Me Feel Sa	.	.	.915	.834
CW3_SOCPROV_2	Post-C19: Social Provisions Scale- There Is Someone I Trust Whom I Would Turn To	.	.	.840	.475
CW3_SOCPROV_3	Post-C19: Social Provisions Scale- There Is No One I Feel Close To	.	.	.776	.490
CW3_SICK	Post-C19: Whether Respondent could count on people to help if sick in bed	.073	.042	.014	.000
CW3_LISTEN	Post-C19: Whether Respondent can rely on people to listen to problems	.000	.000	.000	.000
CW3_LONELY_1	Post-C19: UCLA loneliness scale- How often Respondent feels they lack companions	.001	.129	.014	.000
CW3_LONELY_2	Post-C19: UCLA loneliness scale- How often Respondent feels left out?	.000	.004	.000	.000
CW3_LONELY_3	Post-C19: UCLA loneliness scale- How often Respondent feels isolated from others	.000	.067	.000	.000
CW3_LONELY_4	Post-C19: How often Respondent feels lonely?	.000	.322	.000	.000
CW3_MHBEF	Pre-C19: Mental health self assessment	.706	.	.255	.256
CW3_MHNOW	Current mental health self assessment	.375	.223	.476	.124
CW3_PHDE	Post-C19: Kessler6- Past 30 days whether Respondent has felt depressed	.	.	.	.000
CW3_PHHO	Post-C19: Kessler6- Past 30 days how often Respondent felt hopeless	.	.	.	.000
CW3_PHRF	Post-C19: Kessler6- Past 30 days how often Respondent felt restless	.	.	.	.000
CW3_PHEE	Post-C19: Kessler6- Past 30 days how often Respondent felt everything was an eff	.	.	.	.000
CW3_PHOW	Post-C19: Kessler6- Past 30 days how often Respondent felt worthless	.	.	.	.000
CW3_PHNE	Post-C19: Kessler6- Past 30 days how often Respondent felt nervous	.	.	.	.000
CW3_WEMWBS_1	Post-C19: WEMWBS- I've Been Feeling Optimistic About The Future	.	.	.	.000
CW3_WEMWBS_2	Post-C19: WEMWBS- I've Been Feeling Useful	.	.	.	.000
CW3_WEMWBS_3	Post-C19: WEMWBS- I've Been Feeling Relaxed	.	.	.	.000
CW3_WEMWBS_4	Post-C19: WEMWBS- I've Been Dealing With Problems Well	.	.	.	.000
CW3_WEMWBS_5	Post-C19: WEMWBS- I've Been Thinking Clearly	.	.	.	.000
CW3_WEMWBS_6	Post-C19: WEMWBS- I've Been Feeling Close To Other People	.	.	.	.000
CW3_WEMWBS_7	Post-C19: WEMWBS- I've Been Able To Make Up My Own Mind About Things	.	.	.	.000
CW3_GHQ121	Post-C19: GHQ12- Whether been able to concentrate	.	.	.000	.
CW3_GHQ122	Post-C19: GHQ12- Whether lost much sleep over worry	.	.	.000	.
CW3_GHQ123	Post-C19: GHQ12- Whether felt that playing a useful part in things	.	.	.000	.
CW3_GHQ124	Post-C19: GHQ12- Whether felt capable of making decisions about things	.	.	.000	.
CW3_GHQ125	Post-C19: GHQ12- Whether felt constantly under strain	.	.	.000	.

Variable name	Variable label	NCDS	BCS70	NS	MCS
		p-value	p-value	p-value	p-value
CW3_GHQ126	Post-C19: GHQ12- Whether couldn't overcome difficulties	.	.	.000	.
CW3_GHQ127	Post-C19: GHQ12- Whether been able to enjoy normal day to day activities	.	.	.000	.
CW3_GHQ128	Post-C19: GHQ12- Whether been able to face up to problems	.	.	.000	.
CW3_GHQ129	Post-C19: GHQ12- Whether been feeling unhappy or depressed	.	.	.000	.
CW3_GHQ1210	Post-C19: GHQ12- Whether been losing confidence in self	.	.	.000	.
CW3_GHQ1211	Post-C19: GHQ12- Whether been thinking of self as a worthless person	.	.	.000	.
CW3_GHQ1212	Post-C19: GHQ12- Whether been feeling reasonably happy	.	.	.091	.
CW3_GAD2PHQ2_1	Post-C19: GAD2- Feeling Nervous, Anxious Or On Edge	.005	.000	.000	.000
CW3_GAD2PHQ2_2	Post-C19: GAD2- Not Being Able To Stop Or Control Worrying	.000	.006	.000	.000
CW3_GAD2PHQ2_3	Post-C19: GAD2- Little Interest Or Pleasure In Doing Things	.000	.000	.001	.000
CW3_GAD2PHQ2_4	Post-C19: GAD2- Feeling Down, Depressed Or Hopeless	.002	.098	.000	.000
CW3_OPTMSM_1	In Uncertain Times, I Usually Expect The Best	.475	.818	.143	.406
CW3_OPTMSM_2	I'm Always Optimistic About My Future	.774	.093	.360	.492
CW3_OPTMSM_3	Overall, I Expect More Good Things To Happen To Me Than Bad	.847	.889	.592	.243
CW3_SCYEAREW_5	Child 5 school Year - E & W	.	.	.	.
CW3_SCYEARS_4	Child 4 school Year - Scot	.	.	.	.
CW3_SCTYPE2_1	Child 1 school type - Primary	.	.	.941	.
CW3_SCTYPE2_2	Child 2 school type - Primary	.	.909	.	.
CW3_SCTYPE2_3	Child 3 school type - Primary	.	.	.	.
CW3_SCTYPE_1	Child 1 school type - Secondary/6th form	.	.691	.	.
CW3_SCTYPE_2	Child 2 school type - Secondary/6th form	.	.044	.	.
CW3_SCTYPE_3	Child 3 school type - Secondary/6th form	.	.049	.	.
CW3_SCTYPE_4	Child 4 school type - Secondary/6th form	.	.	.	.
CW3_SCTYPE_5	Child 5 school type - Secondary/6th form	.	.	.	.
CW3_STUHR_4	Child 4 hours spent on school work on typical day when not attending school	.	.	.	.
CW3_STUHR_5	Child 5 hours spent on school work on typical day when not attending school	.	.	.	.
CW3_STUONL_3	Child 3 hours spent having online lessons on typical day when not attending scho	.	.753	.	.
CW3_STUONL_4	Child 4 hours spent having online lessons on typical day when not attending scho	.	.	.	.
CW3_STUONL_5	Child 5 hours spent having online lessons on typical day when not attending scho	.	.	.	.
CW3_STUHEL_1	Child 1 hours spent helping child with school work on typical day	.	.952	.805	.
CW3_STUHEL_2	Child 2 hours spent helping child with school work on typical day	.	1.000	.	.
CW3_STUHEL_3	Child 3 hours spent helping child with school work on typical day	.	.961	.	.
CW3_STUHEL_4	Child 4 hours spent helping child with school work on typical day	.	.	.	.
CW3_STUHEL_5	Child 5 hours spent helping child with school work on typical day	.	.	.	.
CW3_STUHELP_1	Child 1 hours partner spent helping child with school work on typical day	.	.998	.	.
CW3_STUHELP_2	Child 2 hours partner spent helping child with school work on typical day	.	.880	.	.
CW3_STUHELP_3	Child 3 hours partner spent helping child with school work on typical day	.	.	.	.

Variable name	Variable label	NCDS	BCS70	NS	MCS
		p-value	p-value	p-value	p-value
CW3_STUHELP_4	Child 4 hours partner spent helping child with school work on typical day	.	.	.	.
CW3_AMTNOSCHL_1	Child 1 total time unable to attend in autumn term	.	.	.	.
CW3_AMTNOSCHL_2	Child 2 total time unable to attend in autumn term	.	.104	.	.
CW3_AMTNOSCHL_3	Child 3 total time unable to attend in autumn term	.	.	.	.
CW3_AMTNOSCHL_4	Child 4 total time unable to attend in autumn term	.	.	.	.
CW3_AMTNOSCHL_5	Child 5 total time unable to attend in autumn term	.	.	.	.
CW3_ACAPER_1	Child 1 perceived impact of the Coronavirus outbreak on child's academic perform	.	.737	.000	.
CW3_ACAPER_2	Child 2 perceived impact of the Coronavirus outbreak on child's academic perform	.	.651	.	.
CW3_ACAPER_3	Child 3 perceived impact of the Coronavirus outbreak on child's academic perform	.	.916	.	.
CW3_ACAPER_4	Child 4 perceived impact of the Coronavirus outbreak on child's academic perform	.	.	.	.
CW3_ACAPER_5	Child 5 perceived impact of the Coronavirus outbreak on child's academic perform	.	.	.	.
CW3_CMHBEF_1	Pre-C19: Parent assessment of child 1's mental health	.	.	.	.
CW3_CMHBEF_2	Pre-C19: Parent assessment of child 2's mental health	.	.	.	.
CW3_CMHBEF_3	Pre-C19: Parent assessment of child 3's mental health	.	.	.	.
CW3_CMHBEF_4	Pre-C19: Parent assessment of child 4's mental health	.	.	.	.
CW3_CMHBEF_5	Pre-C19: Parent assessment of child 5's mental health	.	.	.	.
CW3_CMHAFT_1	Post-C19: Parent assessment of child 1's mental health	.	.	.	.
CW3_CMHAFT_2	Post-C19: Parent assessment of child 2's mental health	.	.	.	.
CW3_CMHAFT_3	Post-C19: Parent assessment of child 3's mental health	.	.	.	.
CW3_CMHAFT_4	Post-C19: Parent assessment of child 4's mental health	.	.	.	.
CW3_CMHAFT_5	Post-C19: Parent assessment of child 5's mental health	.	.	.	.
CW3_ECONACTIVITYD	Post-C19: Economic activity	.000	.000	.006	.000
CW3_SIC3CUR	Derived Post-C19: 3 digit SIC code - Respondent	.021	.001	.000	.003
CW3_SOC2010CUR	Derived Post-C19: SOC2010MINOR: SOC 2010 Minor Groups	.003	.024	.014	.020
CW3_SOC2020CUR	Derived Post-C19: SOC2020MINOR: SOC 2020 Minor Groups	.006	.104	.004	.042
CW3_NSSEC2010SBCUR	Derived Post-C19: NSSEC2010SB: NS-SEC 2010 Operational Sub-categories	.014	.037	.015	.005
CW3_NSSEC2010OPCUR	Derived Post-C19: NSSEC2010OP: NS-SEC 2010 Operational Categories	.002	.072	.023	.003
CW3_SIC3	Derived Pre-C19: 3 digit SIC code - Respondent	.671	.115	.156	.243
CW3_SOC2010	Derived Pre-C19: SOC2010MINOR: SOC 2010 Minor Groups	.939	.431	.637	.030
CW3_SOC2020	Derived Pre-C19: SOC2020MINOR: SOC 2020 Minor Groups	.952	.570	.590	.020
CW3_NSSEC2010SB	Derived Pre-C19: NSSEC2010SB: NS-SEC 2010 Operational Sub-categories	.442	.717	.016	.000
CW3_NSSEC2010OP	Derived Pre-C19: NSSEC2010OP: NS-SEC 2010 Operational Categories	.586	.891	.792	.033
CW3_PECONACTIVITYD	Post-C19: Partner's economic activity	.000	.003	.933	.423
CW3_PSIC3CUR	Derived Post-C19: 3 digit SIC code - Partner	.191	.856	.674	.871
CW3_PSOC2010CUR	Derived Post-C19: SOC2010MINOR: SOC 2010 Minor Groups - Partner	.309	.004	.399	.229
CW3_PSOC2020CUR	Derived Post-C19: SOC2020MINOR: SOC 2020 Minor Groups - Partner	.057	.042	.130	.229
CW3_PNSSEC2010SBCUR	Derived Post-C19: NSSEC2010SB: NS-SEC 2010 Operational Sub-categories - Partner	.090	.010	.357	.255
CW3_PNSSEC2010OPCUR	Derived Post-C19: NSSEC2010OP: NS-SEC 2010 Operational Categories - Partner	.023	.000	.692	.281
CW3_PSIC3	Derived Pre-C19: 3 digit SIC code - Partner	.543	.323	.696	.
CW3_PSOC2010	Derived Pre-C19: SOC2010MINOR: SOC 2010 Minor Groups - Partner	.345	.154	.752	.

Variable name	Variable label	NCDS	BCS70	NS	MCS
		p-value	p-value	p-value	p-value
CW3_PSOC2020	Derived Pre-C19: SOC2020MINOR: SOC 2020 Minor Groups - Partner	.345	.207	.752	.
CW3_PNSSEC2010SB	Derived Pre-C19: NSSEC2010SB: NS-SEC 2010 Operational Sub-categories - Partner	.186	.023	.120	.

Table A8. Between-mode differences for continuous variables in the COVID-19 Wave 3 survey.

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI mean	CATI mean	p-value	CAWI mean	CATI mean	p-value	CAWI mean	CATI mean	p-value	CAWI mean	CATI mean	p-value
CW3_ENDDATE	Date in 2021 of survey completion	22323.69	22341.52	0.000	22325.42	22343.57	0.000	22325.63	22350.73	0.000	22327.49	22349.59	0.000
CW3_COVID19POS	When had coronavirus	4.13	5.71	0.009	4.48	4.95	0.511	5.10	6.36	0.019	6.06	7.23	0.000
CW3_COVIDCURWHEN	When was positive throat swab or nasal swab or saliva test or nasal mucus test	9.91	10.50	0.442	10.03	10.25	0.778	10.07	10.13	0.885	9.69	9.57	0.527
CW3_COVIDPASWHEN	When was positive finger stick or blood test or serology test	.	.	.	7.08	11.00	0.134	6.86	5.00	.	9.44	7.38	0.160
CW3_COMPLIANC1	How much complying with social distancing guidelines?	9.41	9.26	0.020	9.22	9.28	0.490	8.83	8.85	0.767	8.12	8.27	0.036
CW3_COMPLIANC2	How much have complied with Government guidelines to reduce the spread of COVID-	9.49	9.47	0.690	9.33	9.44	0.166	8.95	8.97	0.865	8.29	8.57	0.000
CW3_GOVPAN	How well would Respondent say the Government has been handling the Coronavirus c	5.57	6.65	0.000	5.26	5.99	0.000	3.91	4.80	0.000	3.44	4.84	0.000
CW3_HHNUM	How many people in household including Respondent	2.09	2.12	0.669	2.93	3.08	0.127	2.85	3.01	0.120	4.20	4.25	0.420
CW3_PREDUE	How many weeks pregnant Respondent or partner is	.	.	.	25.80	20.00	.	22.25	17.88	0.088	21.52	19.33	0.658
CW3_CHILAGE_1_1	Age of Child 1 in hh- Years old	27.49	29.82	0.019	18.52	18.88	0.481	5.24	5.27	0.946	3.76	2.50	0.303
CW3_CHILAGE_2_1	Age of Child 2 in hh- Years old	22.99	23.24	0.894	15.87	15.97	0.855	4.35	4.55	0.723	8.14	5.00	0.556
CW3_CHILAGE_3_1	Age of Child 3 in hh- Years old	18.98	15.40	0.305	14.04	14.45	0.701	4.21	4.88	0.593	.	.	.
CW3_CHILAGE_4_1	Age of Child 4 in hh- Years old	10.38	14.00	.	11.90	12.50	0.828	3.82	3.00	0.769	.	.	.
CW3_CHILAGE_5_1	Age of Child 5 in hh- Years old	10.00	5.00	.	11.08	19.00	.	.	.	.	.	.	.
CW3_NUMROOMS	Number of rooms in house not incl. kitchens, bathrooms, halls, garages	4.68	4.06	0.000	4.90	4.60	0.211	3.81	3.93	0.505	5.15	4.84	0.039
CW3_GROA	Post-C19: Respondent Main job GROSS pay amount	24092.12	16464.59	0.145	35666.83	41892.42	0.259	27544.17	25919.21	0.393	4581.40	4769.47	0.743
CW3_GROW	Post-C19: Respondent Main job GROSS per week derived	711.31	483.38	0.073	883.97	938.34	0.642	693.50	610.87	0.076	307.12	294.53	0.625
CW3_GROAB	Pre-C19: Respondent Main job GROSS pay amount	25368.81	11726.47	0.285	34371.19	42864.80	0.277	30002.15	28402.28	0.687	4737.72	4026.14	0.458
CW3_GROWB	Pre-C19: Respondent Main job GROSS per week derived	725.61	375.64	0.177	833.34	1102.08	0.125	748.88	639.48	0.407	245.84	242.16	0.852
CW3_SEPA	Post-C19: Self employed Respondent, money took out of the business after taxes i	19334.43	16028.26	0.619	26371.07	25290.00	0.939	18385.61	20778.16	0.693	4552.69	10255.69	0.039

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI mean	CATI mean	p-value	CAWI mean	CATI mean	p-value	CAWI mean	CATI mean	p-value	CAWI mean	CATI mean	p-value
CW3_SEPAB	Pre-C19: Self employed Respondent, money took out of the business after taxes in	23798.81	22121.43	0.859	28862.05	29227.27	0.979	23657.39	27580.67	0.612	8560.00	8188.50	0.930
CW3_WRKHOUSD	Post-C19: Usual weekly working hours	32.31	35.92	0.011	36.76	36.70	0.961	37.08	38.84	0.030	31.94	34.25	0.012
CW3_WRKHOUSB2	Pre-C19: Usual weekly working hours if hours changed	37.08	35.25	0.587	40.61	36.17	0.064	37.41	39.04	0.539	28.02	30.64	0.514
CW3_HWRKSAT	Post-C19: I am able to work effectively whilst being at home	8.16	8.82	0.063	8.04	8.38	0.233	7.57	7.65	0.751	7.30	7.96	0.077
CW3_COURSLEVLB	Post-C19: Level of course studying for	.	.	.	.	.	.	2.35	1.64	0.340	2.62	2.78	0.173
CW3_STUDYORGNAMEN_1	Post-C19: Study location: Institute	.	.	.	.	.	.	613.31	724.40	0.182	621.23	612.91	0.547
CW3_SUBJECT	Post-C19: Subject Respondent currently studying	.	.	.	.	.	.	610.52	652.80	0.819	706.68	734.51	0.282
CW3_LRNQUALITY_1	Post-C19: Satisfaction with: The learning resources provided by my learning esta										5.46	5.97	0.000
CW3_LRNQUALITY_2	Post-C19: Satisfaction with: The quality of teaching provided by my learning est										5.76	6.29	0.000
CW3_LRNQUALITY_3	Post-C19: Satisfaction with: The general experience of being a student at my lea										3.79	4.96	0.000
CW3_ECONACTIVITYB2	Pre-C19: Economic activity	6.93	6.15	0.002	4.06	5.05	0.014	3.42	3.27	0.658	6.63	6.40	0.048
CW3_GROAB2	Pre-C19: Respondent job GROSS pay amount	25758.81	13669.11	0.242	31524.59	20534.67	0.467	22830.19	15307.70	0.026	1737.84	2767.80	0.040
CW3_GROWB2	Pre-C19: Respondent job GROSS per week derived	756.70	428.01	0.144	886.48	507.69	0.469	610.45	486.33	0.221	257.41	254.87	0.937
CW3_SEPAB2	Pre-C19: Self employed Respondent, money took out of the business after taxes in	26453.79	19666.67	0.773	42827.81	55000.00		18448.00	17500.00	0.934	13428.57	4500.00	0.443
CW3_WRKHOUSB	Pre-C19: Usual weekly working hours including overtime	32.87	25.69	0.069	36.97	34.25	0.651	36.05	36.52	0.847	28.85	29.34	0.802
CW3_PWRKHOURSD	Post-C19: Partner's usual weekly working hours including overtime	33.26	30.60	0.128	37.55	35.97	0.174	39.09	39.78	0.484	38.95	33.00	0.044
CW3_PWRKHOURSB2	Pre-C19: Partner's usual weekly working hours if hours changed	34.62	37.90	0.505	38.39	40.08	0.620	37.86	36.67	0.744	46.60	36.00	

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI mean	CATI mean	p-value	CAWI mean	CATI mean	p-value	CAWI mean	CATI mean	p-value	CAWI mean	CATI mean	p-value
CW3_PNSSEC2010OP	Derived Pre-C19: NSSEC2010OP: NS-SEC 2010 Operational Categories - Partner	7.92	11.38	0.002	7.15	9.86	0.097	7.82	8.60	0.693	.	.	.
CW3_FINAMTGC	Post-C19: Total financial help to adult children since outbreak	5551.69	7400.00	0.879	2059.47	1600.00		.	.	.	.	.	.
CW3_FINAMTGP	Post-C19: Total financial help to parents or grandparents since outbreak	4001.26	0.00		.	.	.	1246.00	2750.00	0.293	755.05	300.00	0.515
CW3_FINAMTRC	Post-C19: Total financial help from adult children since outbreak	.	.	.	.	.	.	.	.	.	.	.	.
CW3_FINAMTRP	Post-C19: Total financial help from parents or grandparents since outbreak	.	.	.	3680.48	20000.00		3117.82	1050.00	0.816	1397.79	1375.00	0.987
CW3_HHINCA	Post-C19: Total Respondent & partner income after tax amount	16078.47	10278.56	0.031	23546.72	23925.83	0.925	18807.47	18337.36	0.850	3407.16	3018.97	0.708
CW3_HHINCW	Post-C19: Total Respondent & partner income after tax per week derived	694.64	475.11	0.023	937.16	789.27	0.066	753.56	704.84	0.307	185.04	179.94	0.803
CW3_HHINCAB	Pre-C19: Total Respondent & partner income after tax amount	18197.76	14777.51	0.580	22346.18	26040.49	0.568	19073.68	12453.91	0.055	2333.76	2580.92	0.546
CW3_HHINCBW	Pre-C19: Total Respondent & partner income after tax per week derived	741.64	525.79	0.077	940.73	815.25	0.382	779.61	667.21	0.084	185.18	210.70	0.043
CW3_NUMCIGSSP	Post-C19: Number of cigs smoked a day	.	.	.	.	.	.	9.75	5.00	0.518	6.92	5.83	0.819
CW3_FRTVEGSP	Post-C19: No of portions of fresh fruit & veg a day	4.14	4.33	0.808	3.99	3.80	0.865	3.61	3.75	0.870	3.61	2.67	0.140
CW3_HSLEEPSP	Post-C19: No. hours slept a night	6.96	6.95	0.984	6.84	6.80	0.947	6.98	7.44	0.333	7.48	7.59	0.769
CW3_WGHTKG	Weight in kilograms	81.16	66.00		81.83	74.00	0.549	76.19	68.50	0.571	67.35	79.57	0.035
CW3_WGHTSTP_4	Weight in stones and pounds - Stone	12.03	13.38	0.171	12.36	10.00	0.170	11.89	13.40	0.287	10.32	11.00	0.518
CW3_WGHTSTP_5	Weight in stones and pounds - Pounds	5.58	6.00	0.757	5.24	6.00	0.730	4.98	1.60	0.054	5.00	3.67	0.386
CW3_SATN	Post-C19: Life Satisfaction from 0 Not at all satisfied to 10 completely sati	6.93	7.56	0.000	6.78	7.44	0.000	6.47	7.23	0.000	5.69	6.85	0.000
CW3_RISK	Self-assessment willingness to take risks from 0 Never to 10 Always	5.23	4.86	0.009	5.45	4.74	0.000	5.67	5.91	0.067	5.88	6.46	0.000
CW3_PATIENT	Self-assessment how patient Respondent is from 0 Never to 10 Always	7.08	7.28	0.084	6.61	7.04	0.004	6.44	6.74	0.024	6.29	6.63	0.000

Variable name	Variable label	NCDS			BCS70			NS			MCS		
		CAWI mean	CATI mean	p-value	CAWI mean	CATI mean	p-value	CAWI mean	CATI mean	p-value	CAWI mean	CATI mean	p-value
CW3_TRUST	Self-assessment how trusting of others from 0 Not at all to 10 Extremely	6.38	6.76	0.002	6.17	6.38	0.186	5.97	6.43	0.001	5.87	6.42	0.000
CW3_TRUSTPOLP	Self-assessment how trusting of Govmnt from 0 Not at all to 10 Extremely	4.62	5.15	0.001	4.41	4.85	0.018	3.50	4.15	0.000	3.28	4.39	0.000
CW3_SCYEAREW_1	Child 1 school Year - E & W	.	.	.	10.46	10.67	0.909	4.43	1.00		.	.	.
CW3_SCYEAREW_2	Child 2 school Year - E & W	.	.	.	9.73	8.33	0.418	.	.	.			
CW3_SCYEAREW_3	Child 3 school Year - E & W	.	.	.	9.22	8.00		.	.	.			
CW3_SCYEAREW_4	Child 4 school Year - E & W	.	.	.	.	.	.	.	.	.
CW3_SCYEARSCHO_1	Child 1 school Year - Scot	.	.	.	.	.	.
CW3_SCYEARSCHO_2	Child 2 school Year - Scot	.	.	.	.	.	.
CW3_SCYEARSCHO_3	Child 3 school Year - Scot	.	.	.	.	.	.
CW3_STUHR_1	Child 1 hours spent on school work on typical day when not attending school	.	.	.	4.83	5.67	0.436	3.65	3.00		.	.	.
CW3_STUHR_2	Child 2 hours spent on school work on typical day when not attending school	.	.	.	4.61	5.33	0.494	.	.	.			
CW3_STUHR_3	Child 3 hours spent on school work on typical day when not attending school	.	.	.	4.60	6.00		.	.	.			
CW3_STUONL_1	Child 1 hours spent having online lessons on typical day when not attending scho	.	.	.	3.38	4.00	0.604	1.80	1.00		.	.	.
CW3_STUONL_2	Child 2 hours spent having online lessons on typical day when not attending scho	.	.	.	3.30	3.33	0.977	.	.	.			