

Impacts of the first COVID-19 lockdown on learning, health behaviours and mental wellbeing in young people aged 11-15 years



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Acknowledgements

We thank all the young people who gave up their time to take part in this study (CONTRAST). We acknowledge Dr Samantha Husbands, Dr Charlotte Hall and Mr David Alexander for their contributions to this study.

This study has received funding from the UKRI Economic and Social Research Council Impact Acceleration Account programme.

Date of publication

April 2021

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Feedback

We would like to know if this report has been of use to organisations involved in supporting secondary school-aged young people. If you or your organisation find this report informative, or use the report to inform policy or practice, please feedback to us by emailing contraststudy@contacts.bham.ac.uk.

Summary and key findings

What we did

We recruited 687 young people aged 11-15 years in secondary education in the UK to participate in an online survey in June-July 2020. We asked them questions to explore the impact of the first lockdown on learning and education, physical activity, eating behaviours, sleep and mental wellbeing. We explored the effects of the lockdown on all participants and then looked at differences according to participants' level of family affluence.

Key findings

- Almost all participants spent some time on schoolwork during the first lockdown, but 96% reported that they were not learning at their usual level. The average rating of their learning level (as a percentage of their usual learning) was 61%.
- Participants from less affluent families reported greater reductions in their level of learning and were less likely to have access to their own computer or tablet for online schoolwork.
- Participants spent low amounts of time on physically active activities and high amounts of time on screen-based sedentary leisure activity. Sixty percent of participants reported doing less physical activity during the lockdown, compared with beforehand.
- Participants from less affluent families had lower physical activity levels during the lockdown, but reported similar changes to their physical activity levels as those from more affluent families.
- Compared with before the lockdown, participants were more likely to eat family meals together and to help prepare meals, but over half reported snacking more.
- Pre-existing differences in eating behaviours and diet between participants from less and more affluent families persisted during the lockdown.
- Food insecurity increased with the greatest increases seen in participants from the least affluent families.
- Average weekday sleep duration increased by one hour, and sleep-related difficulties reduced.
- The majority of participants felt as or more safe, and as able to or more able to seek support, but less able to do enjoyable things and to achieve things during the lockdown, compared with beforehand.
- Mental wellbeing was lower in participants from less affluent families, but compared with participants from more affluent families, they were more likely to report feeling safer and being more able to seek support, have fun and achieve things during the lockdown than beforehand.
- Overall, the lockdown had a more positive effect on the closeness of relationships with household members, but a more negative effect on the closeness of relationships with friends and family members outside of the household.

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1 Background

The Covid-19 (lockdown 1) restrictions introduced in March 2020 across the UK resulted in big changes to all our lives. A major change for most school-aged children was that they did not physically attend school for several months and their school learning activities took place within the home environment. The restrictions did not only affect school life, but also affected the home lives and social networks of children with likely broad-ranging impacts across informal and extracurricular learning activities, social interactions and daily behaviours related to health, such as physical activity and exercise, sleep and eating behaviours.

Adolescence is a key developmental period in life when children go through rapid physical, social, emotional and mental change. Early adolescence is also a time when children are gaining more independence and autonomy over their daily lives and activities. Therefore, it is particularly important to explore and understand the impacts of the COVID-19 restrictions in this age group, as this will inform strategies in the medium and longer term to support them to overcome the impacts of the pandemic on their lives as they move into later adolescence and adulthood.

2 Aims of the study

We conducted the ‘Short and long term impacts of Covid-19 restrictions on Older children’s health-Related behaviours, learning and wellbeing Study’ (CONTRAST). We focused on the early adolescent period, in particular those engaged in ongoing secondary-level education (young people aged 11-15 years). Through an online survey we aimed to explore the impacts of lockdown on the learning and education, physical activity, eating behaviours, sleep, and mental wellbeing in this age group.

Given the marked socioeconomic inequalities in health, health behaviours (e.g. eating and physical activity) and wider health determinants (e.g. education) that already existed across children in the UK before the COVID-19 pandemic(1), there are widespread concerns that the impacts of COVID-19 have widened these inequalities(2). We therefore also aimed to explore the differences in impacts of the pandemic restrictions across socioeconomic position.

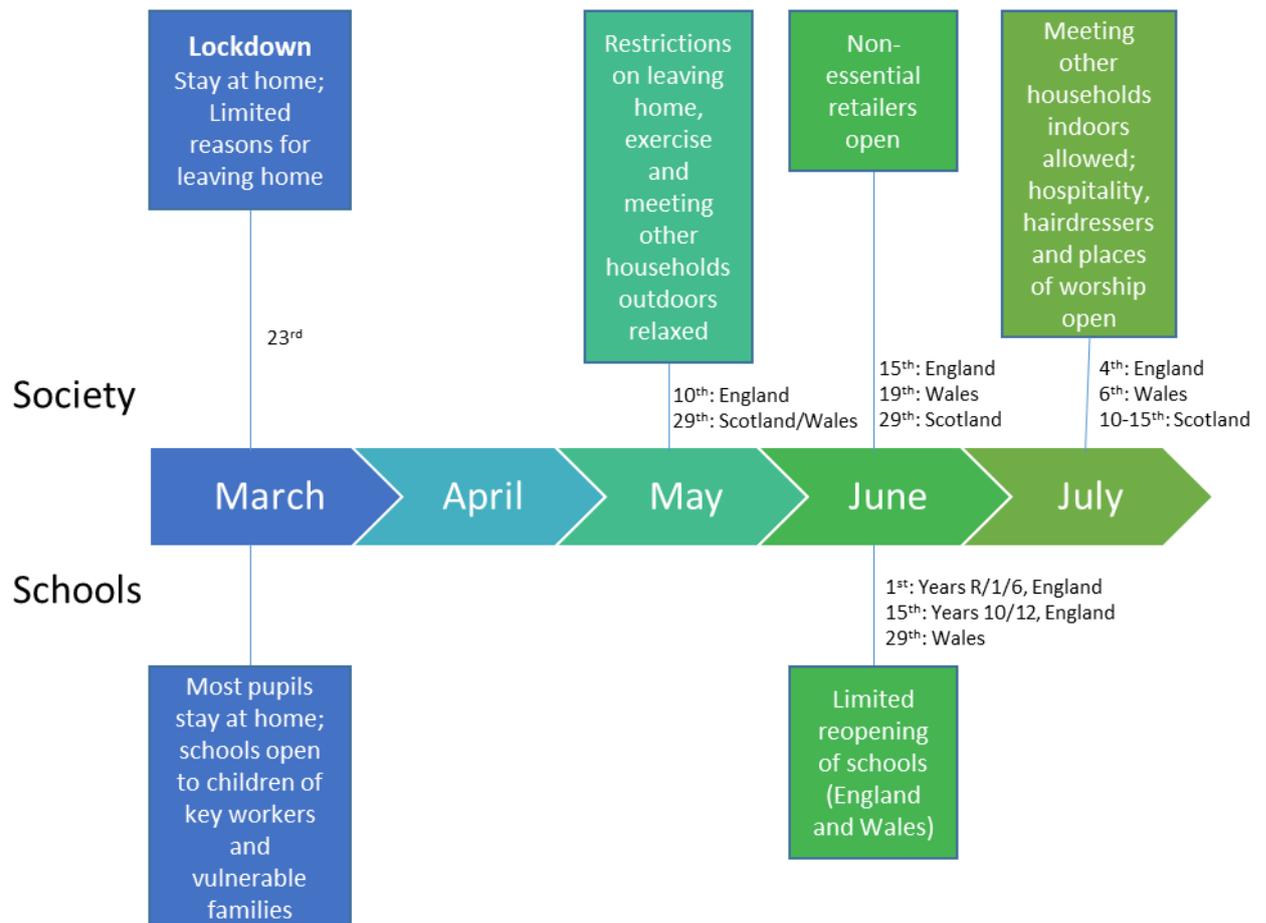
We plan to conduct follow up surveys with participants to explore the sustained impacts of the ongoing pandemic restrictions on this age group.

3 This report

In this report we present findings from the CONTRAST survey that we conducted in June-July 2020. The report provides information on the effects of lockdown on young people of secondary school age to individuals, organisations and policy makers concerned with the health and education of this age group in the UK.

The COVID-19 restrictions in place from March to July 2020 in England, Scotland and Wales are shown in the timeline in Figure 1.

Figure 1: Timeline of COVID-19 restrictions in England, Wales and Scotland from March to July 2020



4 Participant recruitment and respondents

We asked young people living in the UK, who were enrolled in secondary school education in the 2019-20 academic year, to participate in an online survey. This included questions about the participant’s individual, family and household, and school characteristics, school learning and time undertaking other activities, eating and physical activity habits, mental wellbeing, sleep, and relationships with family and friends. The survey questions can be accessed through the study webpage (www.birmingham.ac.uk/contrast-study). The survey was open to be completed from 1st June to 31st July 2020.

We approached young people to take part in the survey in several ways. We asked schools and other young people’s networks (e.g. Girl Guides and Scouts Associations) to advertise and distribute the survey. We also advertised the survey on a variety of social media platforms (Twitter, Facebook, Instagram, Snapchat and TikTok).

In total, 687 young people took part in the survey, 94% from England, 5% from Scotland, and 1% from Wales (no participants from Northern Ireland). Fifty-three percent were female and 80% were of white ethnicity. The average age of participants was 13.8 years. Eighty-one percent of participants

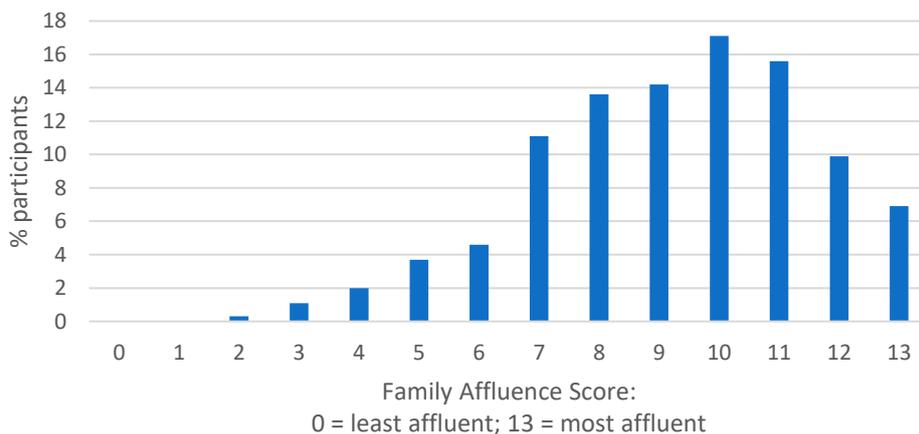
attended state-funded schools. More detailed information on participant characteristics is presented in Appendix 1.

Not all participants answered every question, therefore in each of the analyses presented in this report, participants who did not provide an answer to the relevant question are excluded from the denominator. Information on the number of participants included in each of the analyses is presented in Appendix 2.

Socioeconomic position of participants

We used the 6-item Family Affluence Score (FAS) questionnaire(3) to derive a score between 0-13 (0 = lowest affluence, 13 = highest affluence). Figure 2 shows the Family affluence scores of the participants. There was representation of participants from across the spectrum of socioeconomic position, but those from more affluent families were over-represented. We used the Family Affluence Score to assign participants to one of three groups: low, medium and high family affluenceⁱ.

Figure 2: Socioeconomic position of participants measured by Family Affluence Score



5 Learning and education

Educational activities during lockdown 1

We asked participants to estimate the time they spent on a variety of school-related and more informal learning activities on an average weekday in term time during the lockdown (Figure 3). Approximately 90% of participants reported spending at least one hour on schoolwork on an average day, but a small proportion (1.4%) reported spending no time on this activity. Ten percent of participants reported spending more than 6 hours on schoolwork (set by their school) on an average day. Time spent on live, online school lessons was much less, with 55% reporting no time, and a further 25% reporting an hour or less time on this activity on an average weekday.

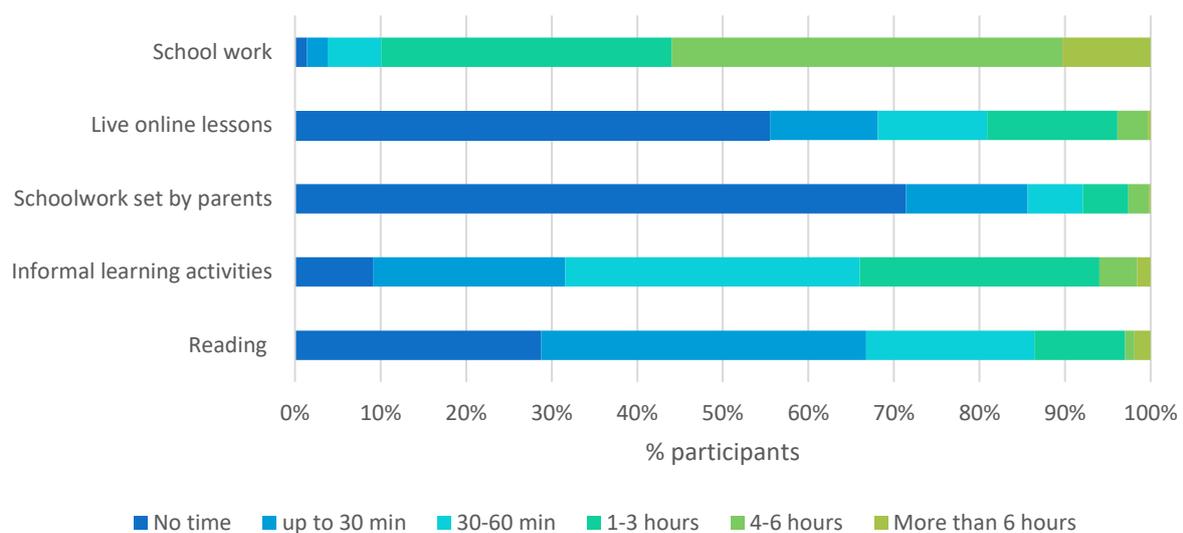
Most participants (72%) reported spending no time on school work set by their parents, but 91% reported spending some time on informal learning activities (e.g. watching an educational

ⁱ Family affluence group boundaries were determined by tercile cut offs across the study sample: Family Affluence Scores ranges for the three groups are: low = 0-8; medium = 9-10; high = 11-13.

documentary, home craft, cooking, learning a musical instrument) on an average weekday. Less time was spent on reading for pleasure, with 29% reporting spending no time, and a further 38% spending 30 minutes or less on reading on an average weekday.

We asked participants if they were receiving any private tuition for either academic (school-based) subjects or other skills (e.g. music, drama) both during and before the lockdown. Only a small proportion (11%) were receiving any private academic tuition, but 26% reported receiving private tuition for other skills during lockdown. More participants were receiving tuition before the lockdown with 13% receiving academic tuition and 33% receiving tuition for other skills

Figure 3: Time participants spent on learning activities on an average weekday during lockdown 1



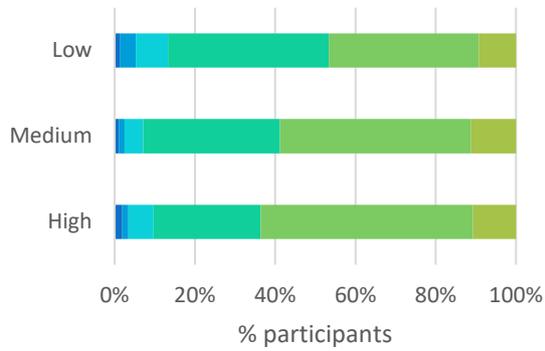
We explored differences in time spent on educational activities across low, medium and high family affluence groups (Figure 4). There are clear trends across affluence groups for time spent on work set by school and live, online school lessons, with participants from more affluent families more likely to spend higher amounts of time on these learning activities on an average weekday.

Conversely, participants from less affluent families were more likely to spend time on school work set by parents, although overall, most participants spent little or no time on this educational activity. There were no clear trends across family affluence groups for the amount of time spent on informal learning activities and reading for pleasure.

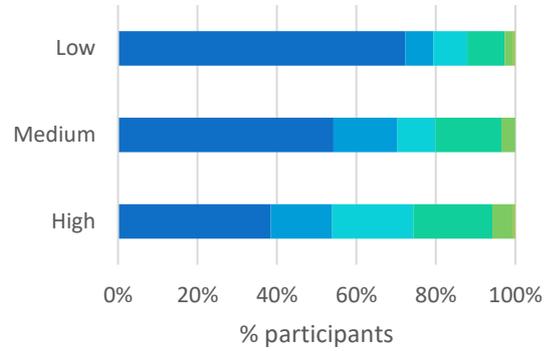
Figure 5 shows the proportion of participants in each family affluence group who received private academic tuition and private tuition to enhance skills, both before and during lockdown 1. The proportion of participants receiving private academic or other tuition reduced during the lockdown, compared with beforehand, across all family affluence groups. Larger reductions are seen in the lower affluence groups.

Figure 4: Time spent on educational activities on an average weekday during lockdown 1 by low, medium and high family affluence group

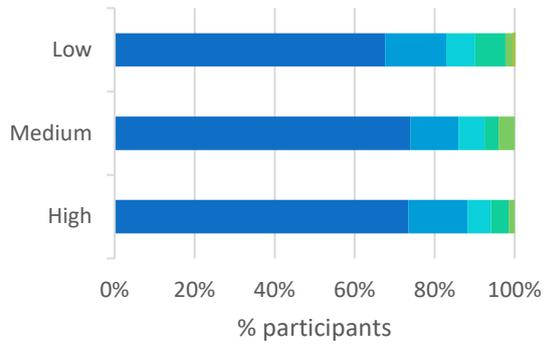
A: School work set by school



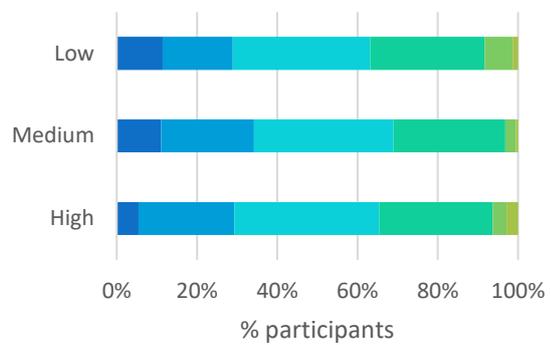
B: Live online school lessons



C: School work set by parents



D: Informal learning activities



E: Reading for pleasure

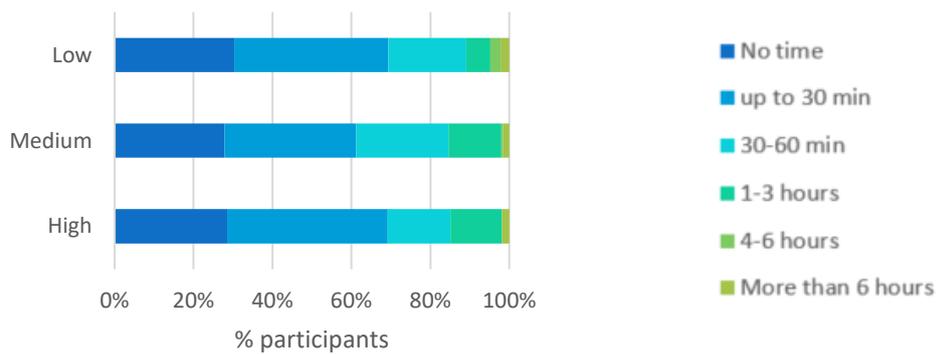
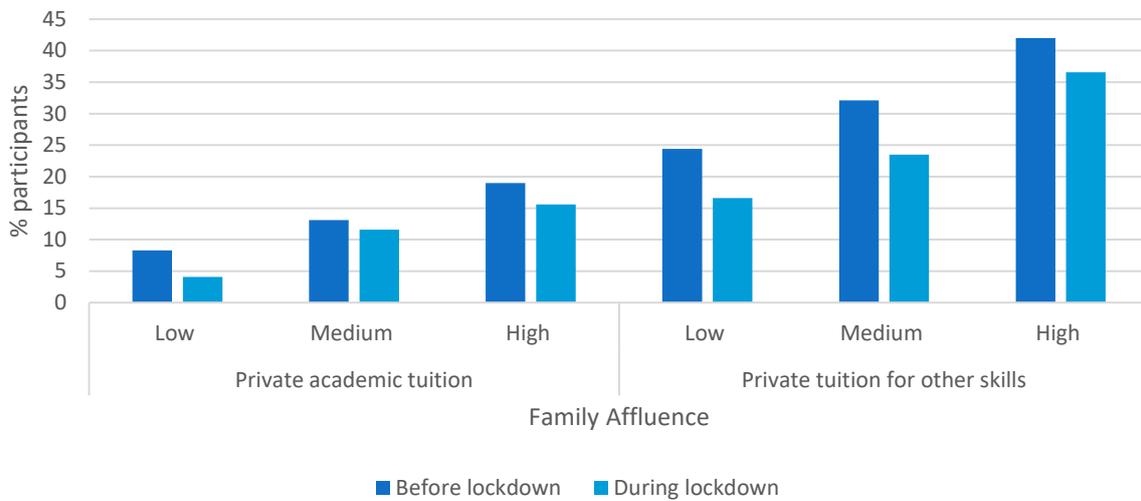


Figure 5: Participants receiving private academic and other (skills) tuition before and during lockdown 1 by family affluence group

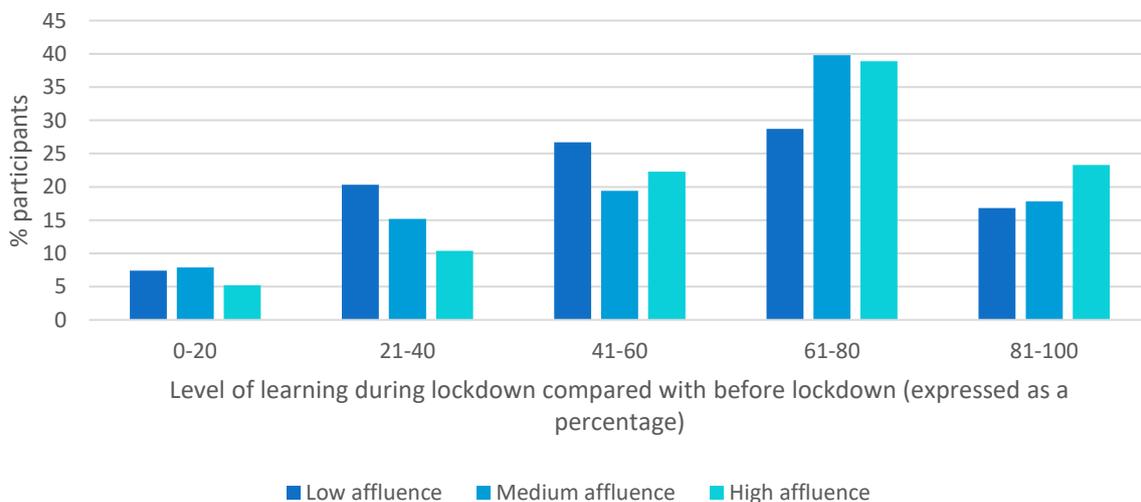


Perception of learning during lockdown 1

We asked participants to rate their level of learning during the lockdown by comparing it to their usual learning level, using a scale from zero to 100. Ninety-six percent of participants rated their learning level as less than 100% during the lockdown. The mean learning rating across all participants was 61% (standard deviation 24%). This varied across year groups, with the mean learning rating for year groups 7, 8, 9 and 10 being 66%, 57%, 61% and 58%, respectively.

Learning rating varied across socioeconomic position, with participants from less affluent families less likely to give a high rating to their learning during the lockdown (Figure 6). The mean learning ratings for the low, medium and high family affluence groups were 57%, 61% and 65%, respectively.

Figure 6: Perception of level of educational learning during lockdown 1 (expressed as a percentage of usual level of learning) by family affluence group



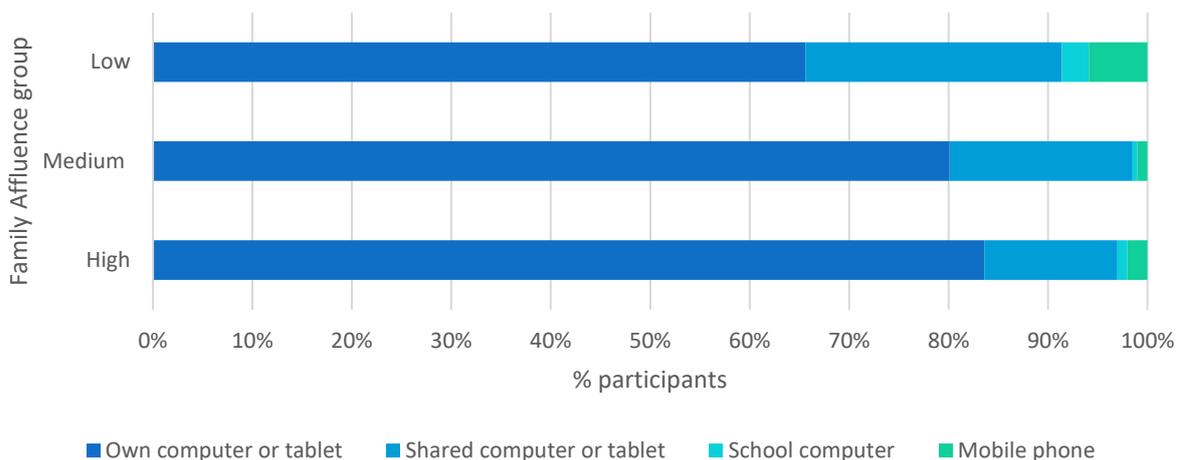
Access to devices for online learning during lockdown 1

We asked participants which devices they were using for online schoolwork. One percent (6 of the 628 participants who responded to this question) reported doing no online schoolwork. Only one of these 6 participants was physically attending school during the lockdown.

Of the participants who were learning online, 76% used their own computer or tablet (68% had their own computer). A further 18% had access to a shared computer or tablet. Only 2% had access to a school computer, and 3% of participants only had access to their mobile phone for online schoolwork.

Variation in access to devices for online learning was seen across the family affluence groups (Figure 7), with those in the lowest family affluence group less likely to have access to their own or shared computer or tablet.

Figure 7: Access to own or shared devices for online learning during lockdown 1 by family affluence group



6 Physical and sedentary activity

Physically active and sedentary behaviours during lockdown 1

As with learning activities, we asked participants to estimate the time they spent on physically active behaviours (exercise/sport and household chores) and sedentary behaviours (including screen-based behaviours but not including learning activities) on an average weekday in term time during the lockdown (Figure 8). Overall, less time was spent on physically active behaviours compared with screen-based and sedentary behaviours. Around 7% of participants reported doing no exercise or sport on an average weekday, and a further 23% reported doing 30 minutes or less. The majority (65%) reported doing less than an hour on an average weekday. Most participants (86%) spent less than an hour doing household chores.

In contrast, 67% of participants spent an hour or more, and 24% spent four or more hours watching TV or videos on an average day. Similarly, communicating with friends via social media was a frequent pass time, with 48% of participants spending an hour or more, and 18% spending 4 or more hours engaged in this activity on an average weekday.

Figure 8: Time participants spent on physically active and sedentary behaviours on an average weekday during lockdown 1

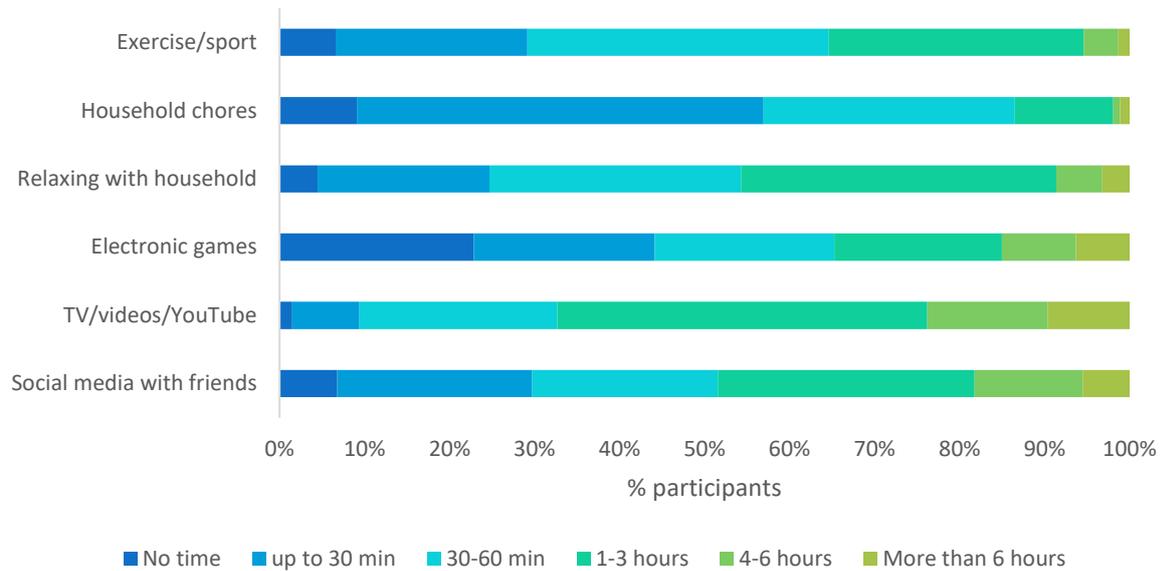
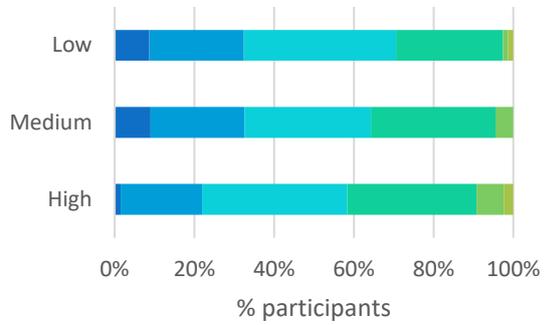


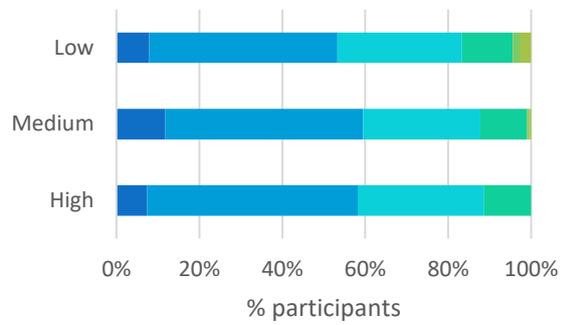
Figure 9 shows the time spent on physically active and sedentary behaviours on an average weekday in the lockdown by low, medium and high family affluence group. A trend across family affluence is seen in some activities. Notably, a greater proportion of participants in the higher affluence groups spent more time doing exercise or sport, and a greater proportion of participants in lower affluence groups spent more time playing electronic games and watching TV or videos. Trends across family affluence for the other behaviours are less clear.

Figure 9: Time spent on physically active and sedentary behaviours on an average weekday during lockdown 1 by low, medium and high family affluence group

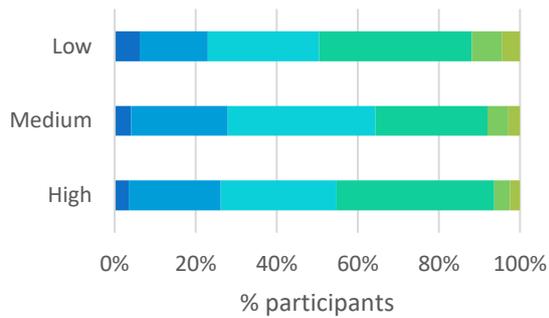
A: Exercise or sport



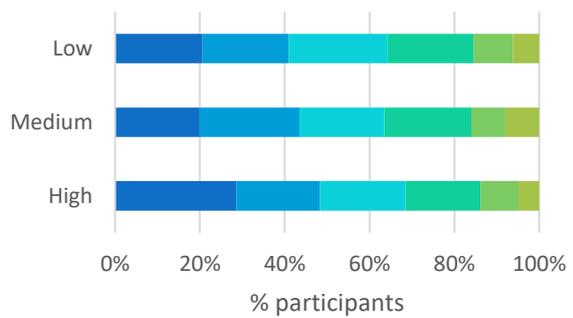
B: Household chores



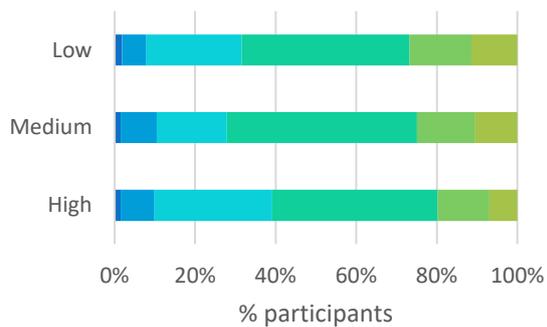
C: Relaxing with household members



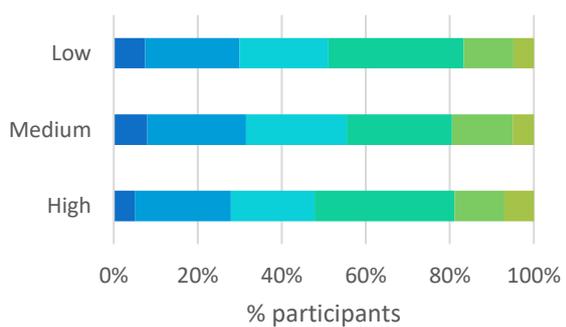
D: Playing electronic games



E: Watching TV and videos



F: Communicating with friends on social media



■ No time
 ■ up to 30 min
 ■ 30-60 min
 ■ 1-3 hours
 ■ 4-6 hours
 ■ More than 6 hours

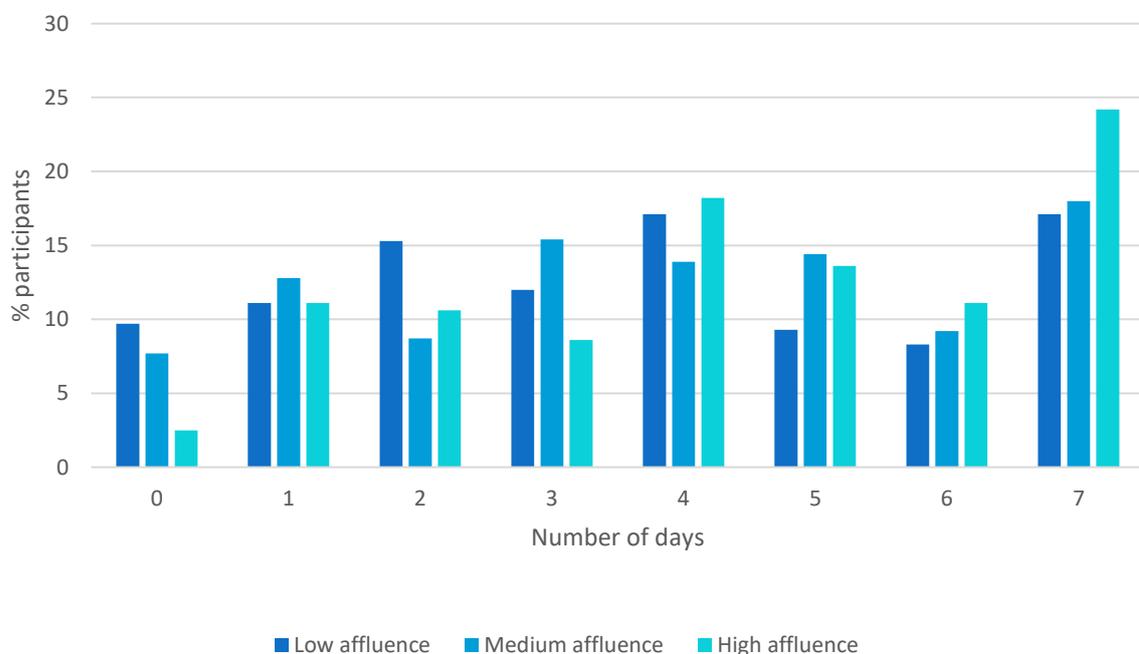
Physical activity – meeting the UK physical activity guidelines for children and young people during lockdown 1

Current UK Chief Medical Officers' guidelines state that children and young people should engage in an average of at least 60 minutes of moderate to vigorous physical activity per day across the week(4). We therefore asked participants to think about any physical activity that made their heart rate go up or made them breathe faster and estimate on how many days in an average week during the lockdown they were physically active to this level for at least 60 minutes.

Across all participants, 20% reported that they were physically active for at least 60 minutes every day on an average week during the lockdown. A further 22% reported they were physically active for at least 60 minutes per day on 5 or 6 days on an average week, but 7% reported that they did not do 60 minutes of physical activity on any day on an average week during the lockdown.

Figure 10 shows the number of days on which participants were physically active for at least 60 minutes on an average week by family affluence group. Participants from more affluent families were more likely to report a higher number of days on which they had been physically active for at least 60 minutes. Twenty-four percent from the high family affluence group reported at least 60 minutes of physical activity every day, compared with 18% and 17% in the medium and low family affluence groups, respectively. Conversely, only 3% from high family affluence group reported doing at least 60 minutes of physical activity on no days, compared with 8% and 10% in the medium and low family affluence groups, respectively.

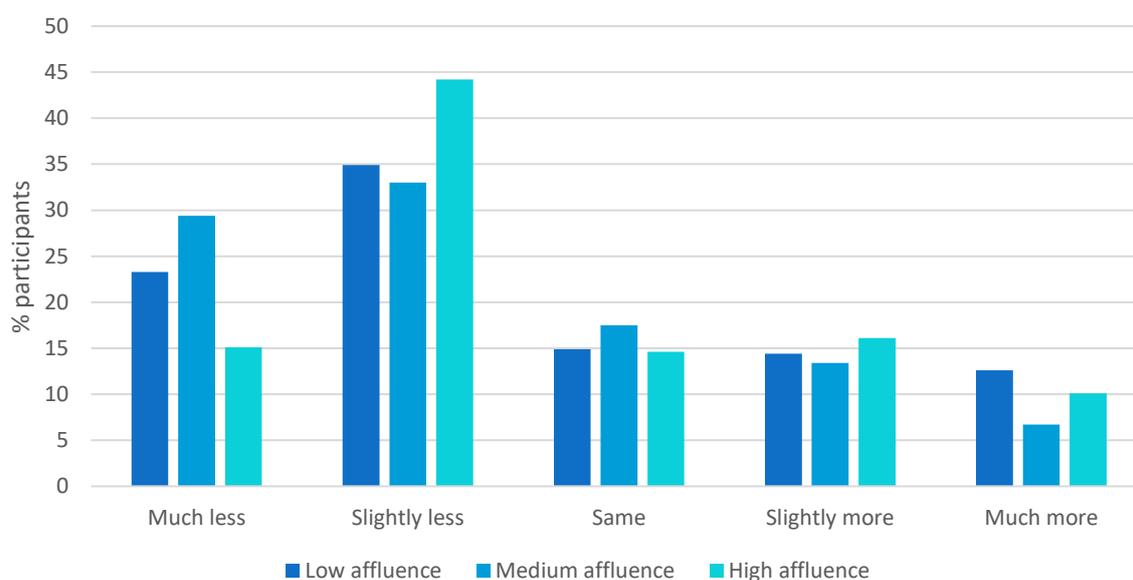
Figure 10: Number of days participants engaged in moderate to vigorous physical activity for at least 60 minutes on an average week during lockdown 1 by family affluence group



Change in physical activity levels as a result of lockdown 1

We asked participants whether they perceived they were doing more, less or the same amount of physical activity during the lockdown, compared with before the lockdown. The majority of participants (60%) reported doing less physical activity in the lockdown period, and 30% reported doing more. Across the family affluence groups there was no clear pattern relating to reporting more or less physical activity during the lockdown (Figure 11).

Figure 11: Amount of physical activity during lockdown 1 compared with before lockdown 1 by family affluence group



Common types of physical activity during lockdown

We asked participants to list the three most common types of physical activity that they did during the lockdown. The most frequently reported activity was walking, often undertaken with family members and/or pets. Other frequently reported activities included running, cycling and football. Some participants reported using online platforms to follow set physical activity workouts such as Joe Wicks on YouTube, and others reported organised activities such as dance lessons via an online video platform. A variety of other informal activities were also reported, for example, trampolining, skipping and playing in the garden.

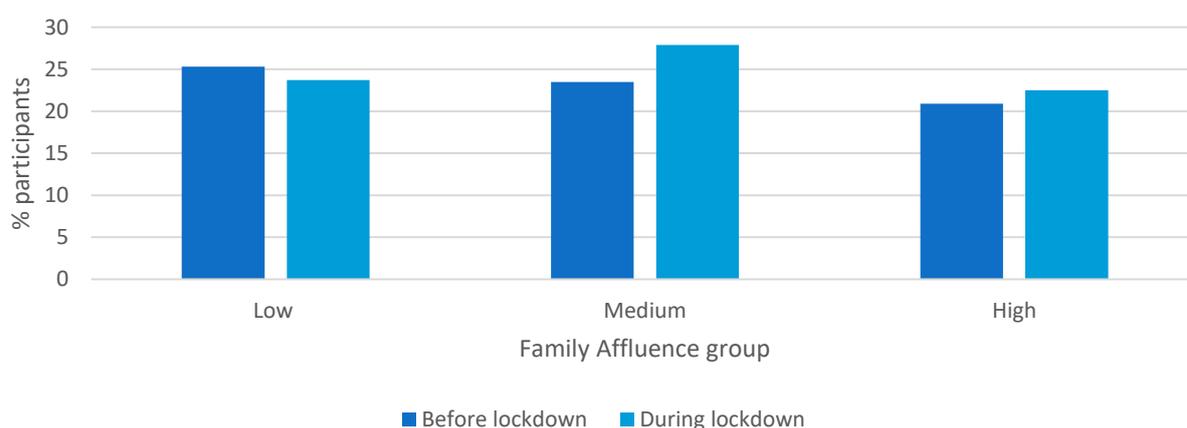
7 Eating behaviours and diet

Breakfast consumption

Regular consumption of breakfast is known to have a variety of health benefits and may also contribute to academic achievement(5). As school children’s routines changed dramatically during the first lockdown, we asked about participants’ breakfast consumption habits both during and before the lockdown to explore whether there had been changes.

During lockdown, 76% reported having breakfast every day on an average week, compared with 77% before lockdown. The proportion of participants in each family affluence group who reported skipping breakfast on one or more days on an average week, both before and during the lockdown, is shown in Figure 12. Before the lockdown those from less affluent families were more likely to skip breakfast. However, during the lockdown, breakfast skipping reduced slightly in the lowest family affluence group, but increased in the medium and high family affluence groups.

Figure 12: Proportion of participants skipping breakfast some or all of the time before and during lockdown 1 by family affluence group



Meals at home

We asked participants to think about the types of meals they were having, both during and before the lockdown. Overall, the frequency of having home cooked meals was higher during the lockdown, with 87% of participants reporting at least 5 home cooked meals per week, compared with 84% before the lockdown. On the other hand, the frequency of having ready meals and takeaways was slightly less during the lockdown, with only 7% reporting two or more ready meals per week and 2% reporting two or more takeaways per week during lockdown. This compares with 12% reporting two or more ready meals and 4% reporting two or more takeaways per week prior to the lockdown.

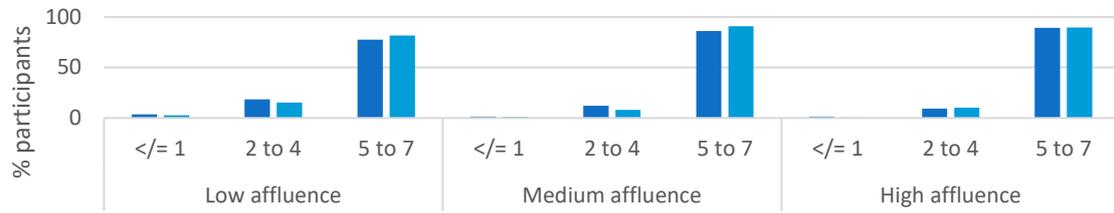
We also asked about the frequency of having family meals together and how often participants helped to prepare meals. Both of these activities were more frequent during the lockdown compared with beforehand. In total, 76% of participants reported having at least 5 family meals together per week during the lockdown, compared with 67% before the lockdown. Forty percent of participants reported helping to prepare at least 2 meals per week during the lockdown, compared with 31% before the lockdown.

Frequency of meal types across the family affluence groups before and during lockdown 1 are shown in Figure 13. Before the lockdown, the frequency of having home cooked meals was more in the higher family affluence groups. During the lockdown, the frequency of home cooked meals increased in the low and medium family affluence group and remained high in the highest family affluence group. The frequency of ready meal consumption before the lockdown was higher in the lower family affluence groups and reduced slightly during the lockdown across all groups. The frequency of takeaways was similar across family affluence before lockdown and slight reductions were seen in all three groups.

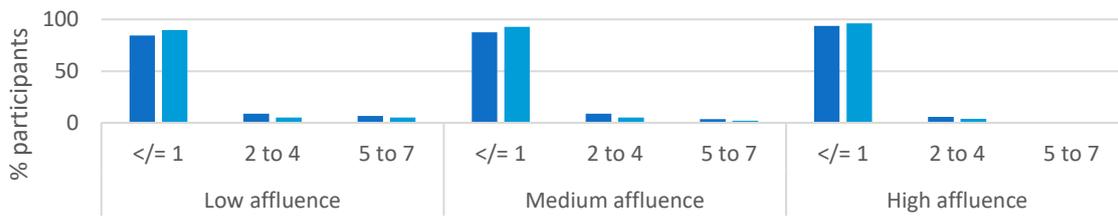
Similar frequencies of having family meals together were seen across family affluence before the lockdown and this increased during lockdown in all three groups. There were slightly larger increases in higher affluence groups. Participants in lower family affluence groups more frequently helped to prepare meals before the lockdown, but during lockdown, the frequency increased across all groups to similar levels (Figure 13).

Figure 13: Frequency of mealtime characteristics during and before lockdown 1 by family affluence group

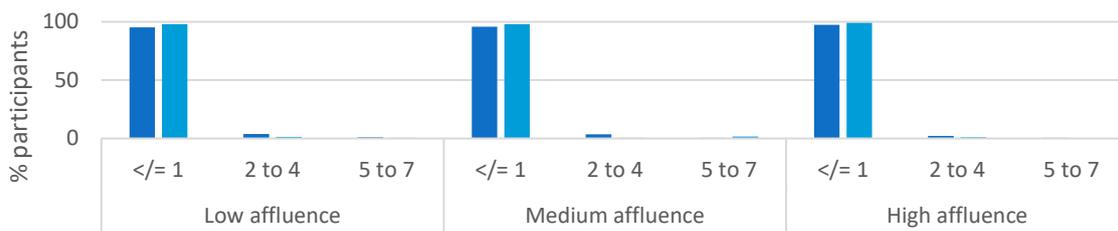
A: Freshly cooked meals per week



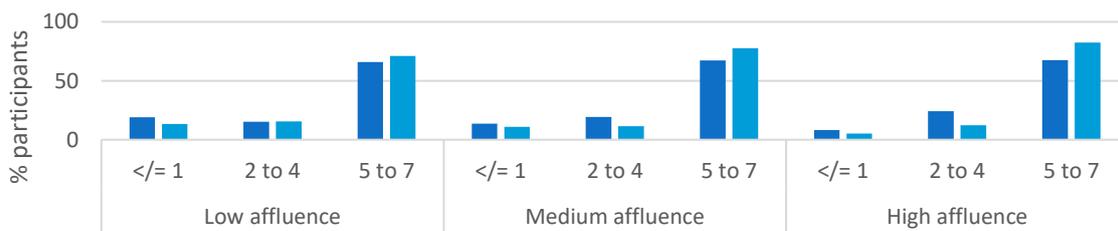
B: Ready meals per week



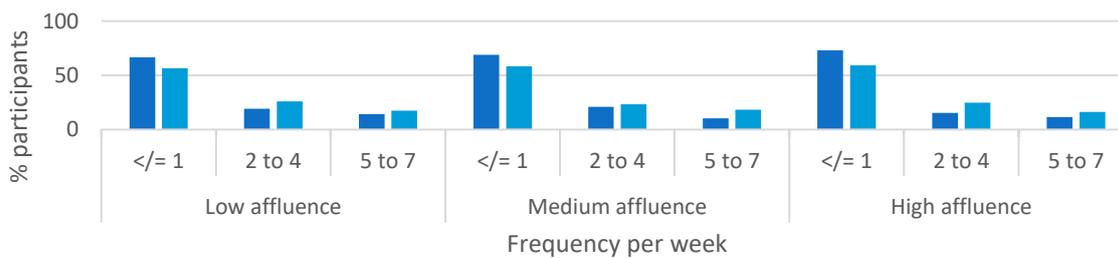
C: Takeaways per week



D: Family meals together per week



E: Help prepare meals per week



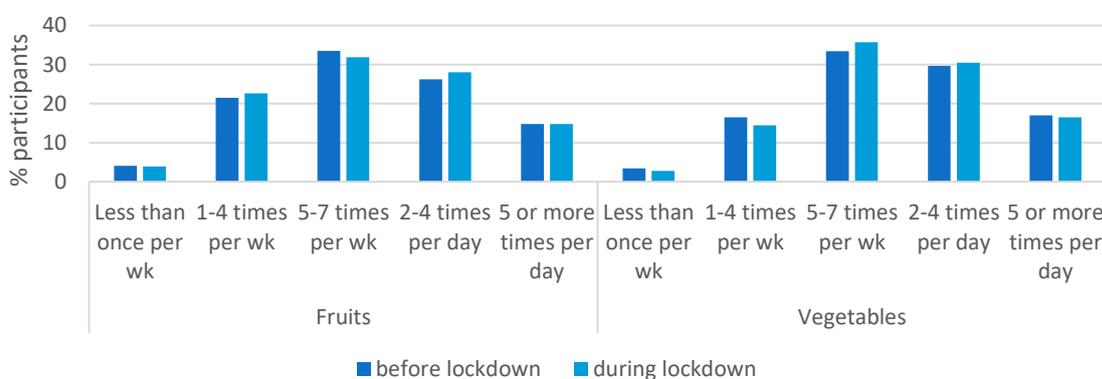
■ Before lockdown ■ During lockdown

Dietary intake

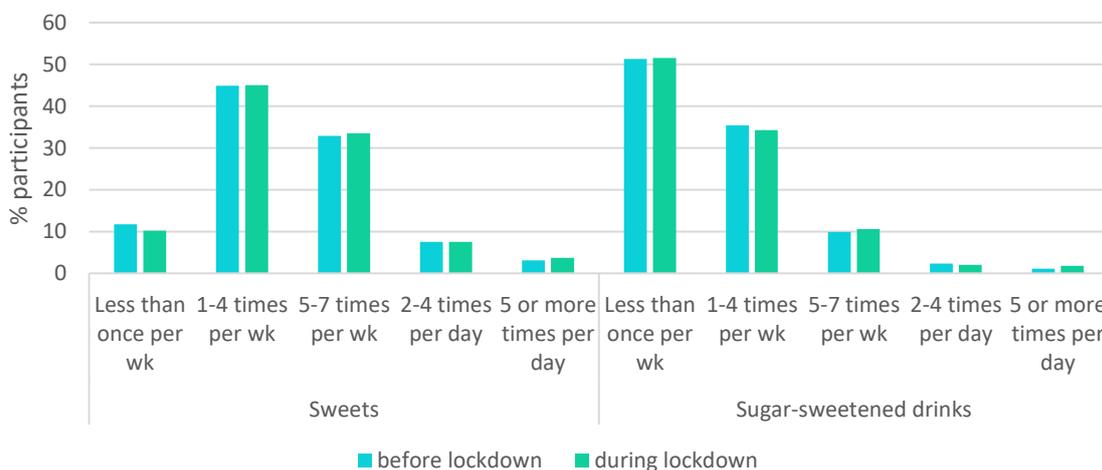
We asked participants how often across an average week during the lockdown, and an average week before the lockdown, they consumed fruits, vegetables, sweets and sugar-sweetened drinks. Overall, the frequency of consuming fruits and vegetables was similar across the two time periods with marginal increases seen during the lockdown (Figure 14A). The frequency of consumption of sweets and sugar-sweetened drinks also did not differ overall during the lockdown, compared with beforehand (Figure 14B).

Figure 14: Frequency of consumption of fruits, vegetables, sweets and sugar-sweetened drinks before and during lockdown 1

A: Fruits and vegetables

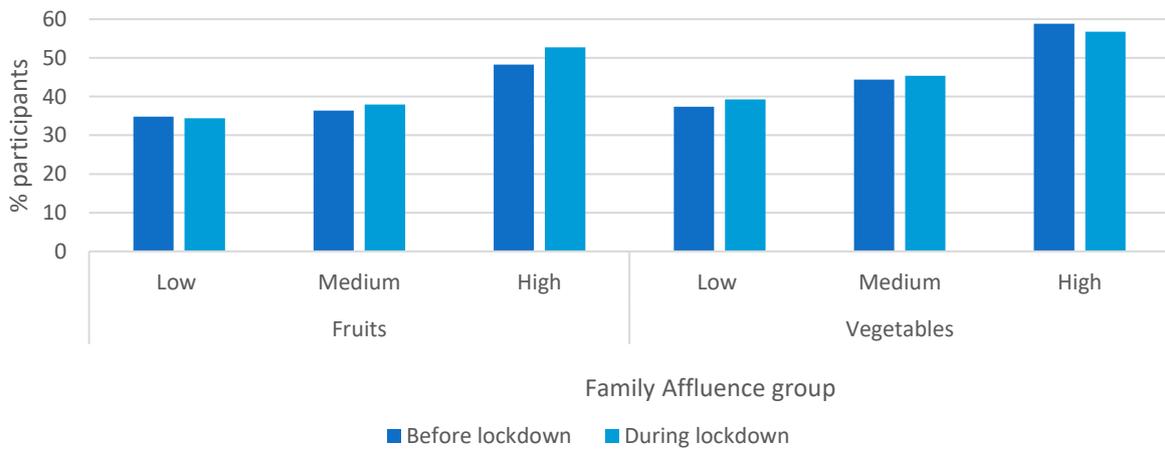


B: Sweets and sugar-sweetened drinks



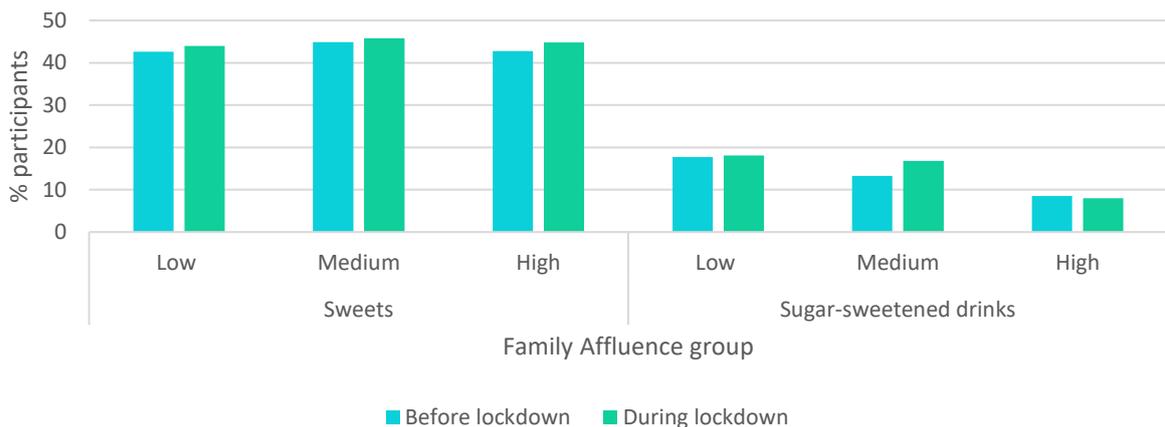
Differences in consumption of fruit and vegetables were seen across family affluence, with a higher likelihood of consuming two or more fruits and two or more vegetables per day in the higher family affluence groups both before and during the lockdown. (Figure 15). Changes in the consumption of fruits and vegetables after the introduction of the lockdown were marginal in all family affluence groups, but the largest changes were seen in the highest affluence group. More participants in this group reported eating two or more fruits per day, but less reported consumption of two or more vegetables per day, during the lockdown, compared with beforehand (Figure 15).

Figure 15: Consumption of two or more fruits/vegetables per day before and during lockdown 1 by family affluence group



The percentage of participants consuming sweets five or more times per week before the lockdown was similar across the three family affluence groups. During the lockdown, this percentage increased very slightly in all groups (Figure 16). In contrast to consumption of sweets, there was a difference in the percentage of participants consuming five or more sugar-sweetened drinks per week before lockdown, with higher percentages in the lower family affluence groups. During the lockdown, this percentage increased slightly in the lower and middle affluence groups, but decreased slightly in the highest affluence group (Figure 16).

Figure 16: Consumption of sweets/sugar-sweetened drinks on five or more occasions per week before and during lockdown 1 by family affluence group

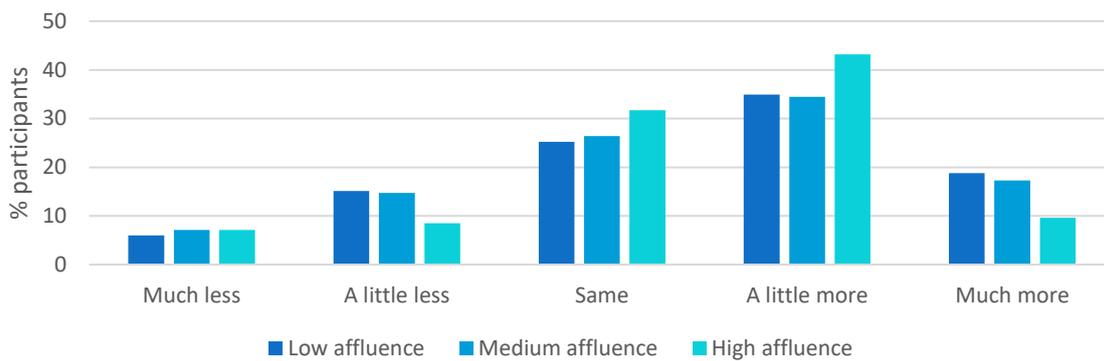


Snacking

We asked participants whether they perceived that they were snacking more, less or the same amount during the lockdown, compared with before the lockdown. Overall, 53% reported snacking more during the lockdown, with 28% reporting snacking the same amount and 19% reporting

snacking less. Figure 17 shows the change in snacking behaviour during the lockdown by family affluence group. The percentage of participants in each group reporting that they were snacking more was similar overall (54%, 52% and 53% in the low, medium and high family affluence groups, respectively), however, participants were less likely to report snacking much more in the high affluence group, compared with the other groups. A lower percentage of participants reported snacking less in the highest affluence group (16%), compared with the medium and low affluence groups (22% and 21% respectively).

Figure 17: Amount of snacking during lockdown 1 compared with before lockdown 1 by family affluence group

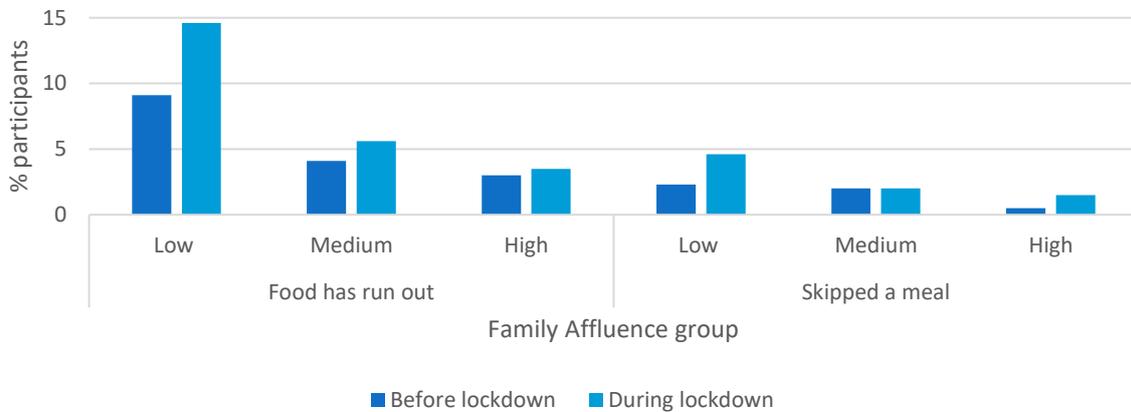


Food insecurity

We asked participants whether they had experienced food running out at home because of their family being unable to afford to buy more, and whether they had ever skipped a meal because their family could not afford to buy more food. We asked them about both during and before the lockdown. Food insecurity was uncommon among the study participants, however, there were slight increases in participants experiencing both food running out and skipping a meal during the lockdown, compared with beforehand. Eight percent of participants reported experiencing running out of food during the lockdown, compared with 5% experiencing this before the lockdown. Three percent reported meal skipping during the lockdown, compared with 2% before the lockdown.

Figure 18 shows the percentage of participants reporting food running out or skipping meals due to the family unable to afford more food across the family affluence groups. Somewhat surprisingly, there were some participants across all three groups that reported food insecurity before the lockdown, and this proportion increased across all groups during the lockdown. However, as would be expected, the highest levels of participants experiencing food running out or having to skip a meal before the lockdown was seen in the lowest affluence group. The largest increases in food insecurity were also seen in the lowest affluence group with the proportion of participants experiencing food running out rising from 9% beforehand to 15% during the lockdown, and the proportion of participants skipping meals due to being unable to afford more rising from 2% beforehand to 5% during the lockdown.

Figure 18: Percentage of participants with experiences of food running out or having to skip a meal because their family could not afford more food before and during lockdown 1, by family affluence group



8 Sleep

We asked participants about their usual sleep and wake times both before and during lockdown 1. Across all participants, mean sleep duration at weekends was the same before and during the lockdown (Table 1). In contrast, mean weekday sleep duration was an hour more during the lockdown, compared with beforehand.

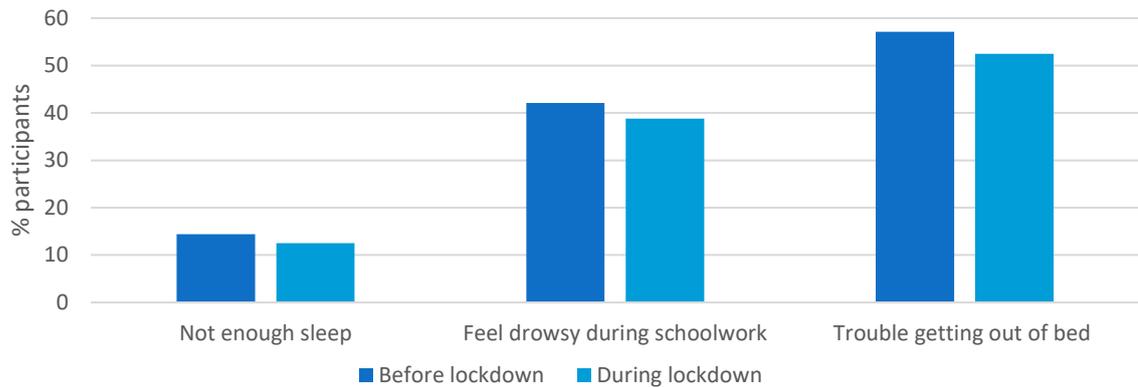
Table 1: Mean sleep duration before and during lockdown 1 by family affluence group

		Before lockdown Mean (SD ^a)	During lockdown Mean (SD ^a)
Weekday sleep duration (hours)	All participants	9.2 (1.1)	10.2 (1.4)
	Low family affluence	9.3 (1.0)	10.4 (1.5)
	Medium family affluence	9.1 (1.2)	10.0 (1.3)
	High family affluence	9.3 (1.0)	10.1 (1.1)
Weekend sleep duration (hours)	All participants	10.4 (1.3)	10.4 (1.5)
	Low family affluence	10.5 (1.3)	10.5 (1.6)
	Medium family affluence	10.2 (1.5)	10.3 (1.5)
	High family affluence	10.4 (1.3)	10.5 (1.5)

^aSD=standard deviation

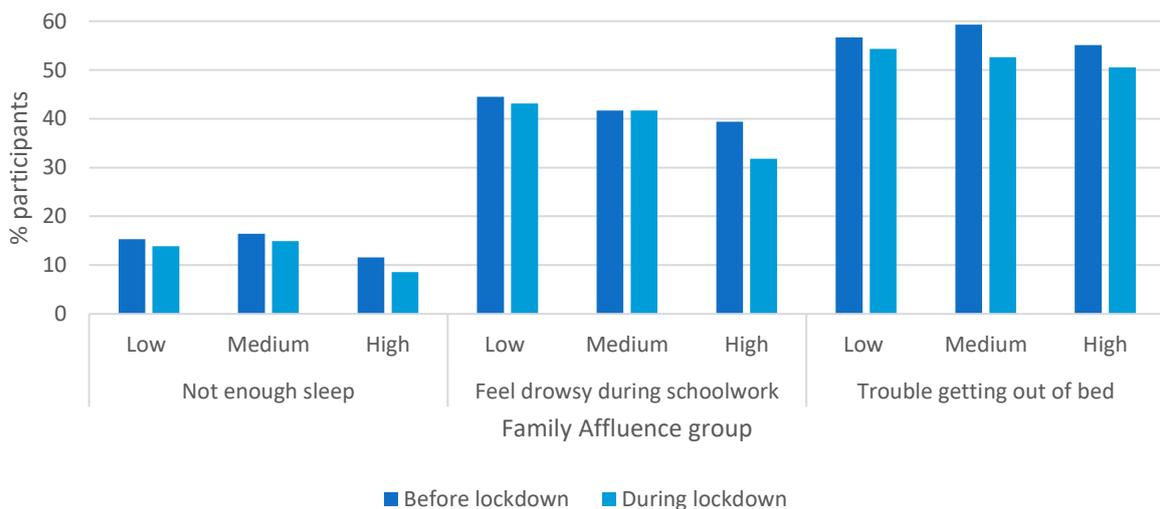
To further assess whether participants were getting adequate sleep before and during the lockdown, we asked them whether they felt they had enough sleep, whether they ever felt drowsy when doing schoolwork and whether they ever had trouble getting out of bed in the morning. Figure 19 shows that a lower proportion of participants reported these sleep-related difficulties during the lockdown, compared with beforehand.

Figure 19: Proportion of participants reporting not having enough sleep, feeling drowsy when doing schoolwork or having difficulty getting out of bed in the mornings before and during lockdown 1



Sleep duration across family affluence groups, both before and during the lockdown were very similar (Table 1). Slight reductions were seen across all affluence groups in the percentage of participants reporting not having enough sleep and having trouble getting out of bed in the mornings (Figure 20). In the low and medium family affluence groups, marginal/no reduction was seen in the proportion of participants reporting feeling drowsy doing schoolwork during the lockdown, compared with beforehand, but a larger reduction (from 39% to 32%) was seen in the highest affluence group (Figure 20).

Figure 20: Proportion of participants reporting not having enough sleep, feeling drowsy when doing school work or having difficulty getting out of bed in the mornings before and during lockdown 1, by family affluence group

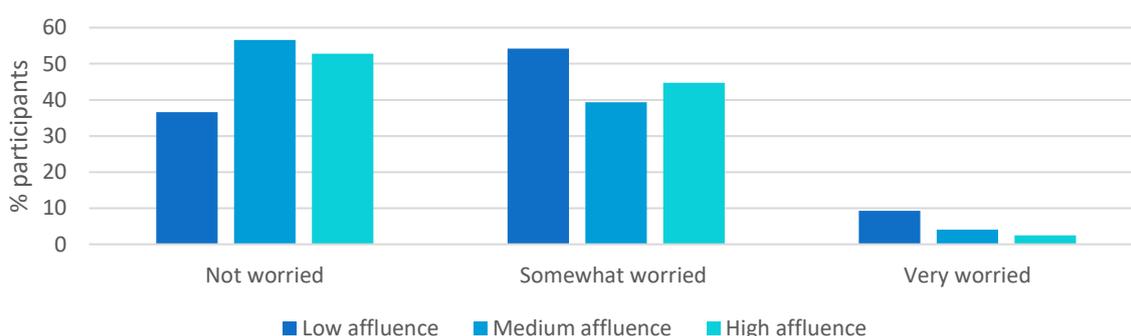


9 Mental wellbeing

Worry about COVID-19 infection

We asked participants whether they were worried about catching the COVID-19 virus. Over half reported some degree of concern, with 56% stating they were somewhat worried and 5% stating they were very worried. Higher levels of concern about catching COVID-19 were seen in the lowest family affluence group (Figure 21). At the time of the survey, only 2% of participants reported that a member of their household had tested positive for COVID-19 infection.

Figure 21: Worry about catching the COVID-19 virus by family affluence group



General mental wellbeing

We asked participants to complete a validated measure of mental wellbeing (the Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS)(6)), which assesses mental wellbeing in the previous two weeks. From this scale a mental wellbeing score is derived which can range from a minimum of 7 to a maximum of 35. Across all participants, the mean score was 21.8, but scores ranged from the minimum to the maximum possible. Average wellbeing scores increased slightly with increasing family affluence (Table 2).

Table 2: Mental wellbeing scores using the Short Warwick-Edinburgh Mental Wellbeing Scale by family affluence group

	Mean score (SD)	Median score (IQR)	Range
All participants	21.8 (4.1)	21.5 (19.3-24.1)	7-35
Low family affluence	21.3 (4.1)	20.7 (18.6-23.2)	7-35
Medium family affluence	21.7 (4.3)	21.5 (18.6-24.1)	7-35
High family affluence	22.3 (4.1)	22.4 (19.3-25.0)	11.3-35

The scores derived from SWEMWBS are useful to give a snapshot of mental wellbeing, but they do not enable us to explore the effect of the lockdown restrictions on participants' mental wellbeing. To more specifically explore the impact of the lockdown on wellbeing, we asked questions related to how the lockdown impacted on what they were able to do during the lockdown, compared with

beforehand (based on the capabilities approach to wellbeing(7)). We asked them whether during the lockdown (compared to beforehand) they felt more or less: safe and at ease; able to talk to and seek support from someone; able to do things they enjoy and have fun; and able to achieve the things that are important to them. The percentage of participants reporting less, the same or more in response to these questions is shown in Figure 22. Overall, the majority of participants felt as safe and at ease, and as able to seek support from someone during the lockdown, compared with beforehand. In contrast, the majority reported being less able to do the things they enjoy and achieve things that are important to them during the lockdown, compared with beforehand. Notably, over a fifth of participants responded that they felt more safe and at ease, and that they were more able to seek support, have fun and achieve things during the lockdown, compared with beforehand.

Figure 22: Perception of feeling safe and at ease, ability to seek support from people, having fun and being able to achieve things that are important to them during lockdown 1, compared with before lockdown 1

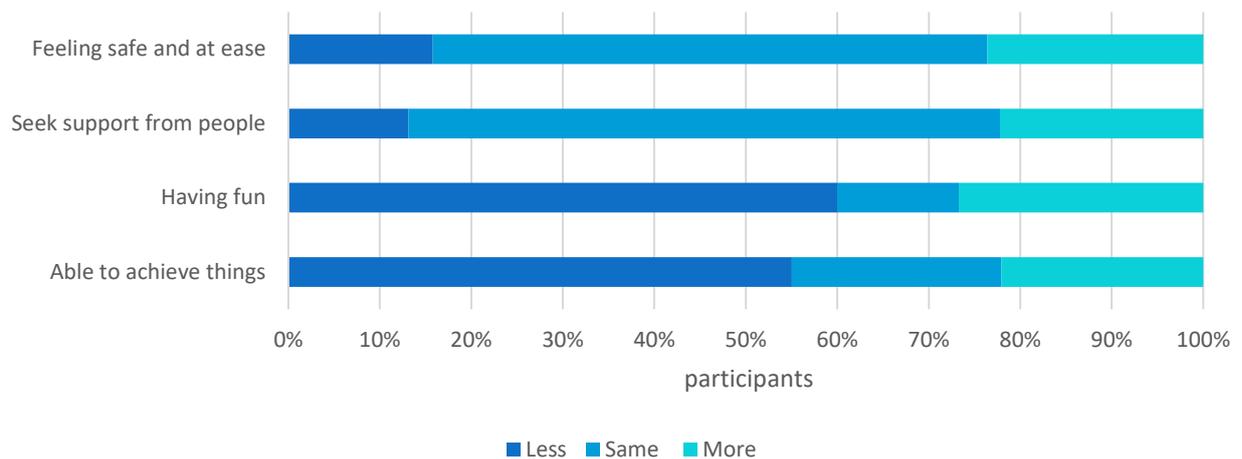
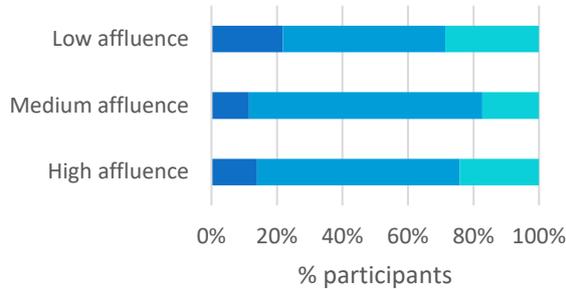


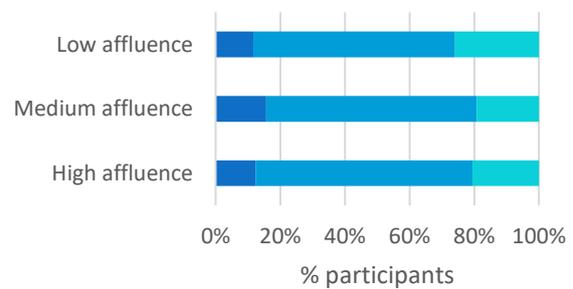
Figure 23 shows the responses regarding feeling safe, seeking support, having fun and ability to achieve things by family affluence group. Whilst there are no clear trends across family affluence, there was a higher percentage of participants in the lowest affluence group that reported they felt more safe, and that they were more able to seek support, have fun and achieve things, compared with the medium and high affluence groups.

Figure 23: Perception of feeling safe and at ease, ability to seek support from people, having fun and being able to achieve things that are important to them during lockdown 1, compared with before lockdown 1 by family affluence group

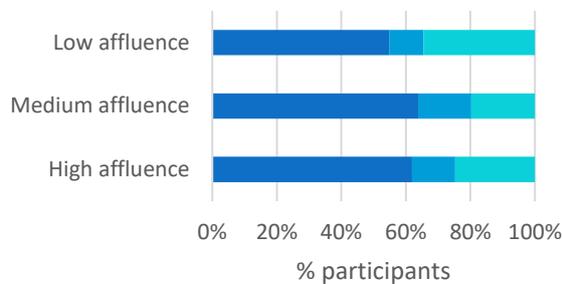
A: Feeling safe and at ease during lockdown



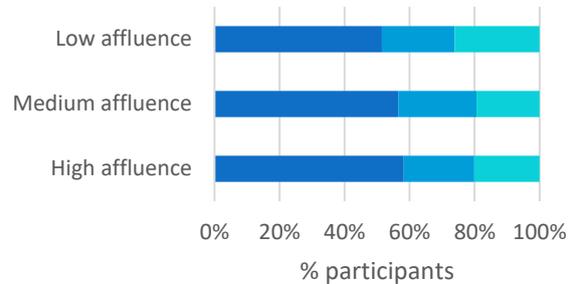
B: Able to seek support during lockdown



C: Having fun during lockdown



D: Able to achieve things during lockdown



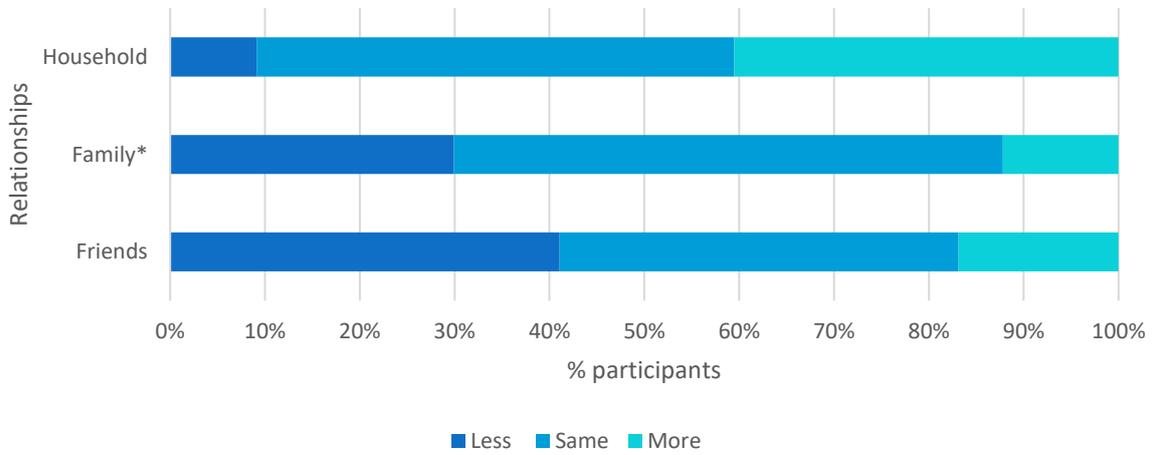
■ Less ■ Same ■ More

Relationships with family and friends

We asked participants about their relationships with members of their household, family members who they did not live with, and friends. We asked them to state whether they felt more, less or as close to these groups of people during the lockdown, compared with beforehand. Figure 24 shows the responses to these questions across all participants. Just over 40% reported feeling closer to household members with only 9% reporting feeling less close. Around 30% of participants reported feeling less close to family members outside of the household, and 42% reported feeling less close to their friends.

There were no major differences in the percentages of participants reporting feeling more, less or as close to these groups across family affluence (Figure 25). Participants in the lowest affluence group were slightly more likely to report a change in the closeness of their relationships with household members and with friends in both directions. Participants in the highest affluence groups were slightly less likely to report feeling less close to friends during the lockdown.

Figure 24: Perception of the closeness of relationships with household, family and friends during lockdown 1, compared with before lockdown 1

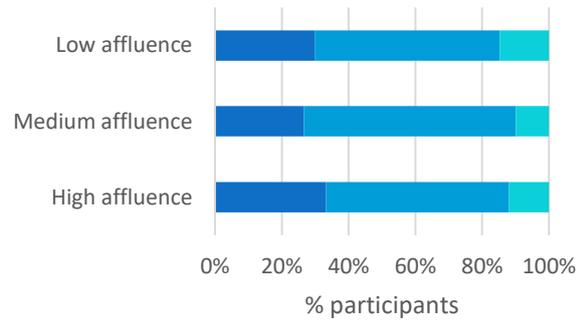
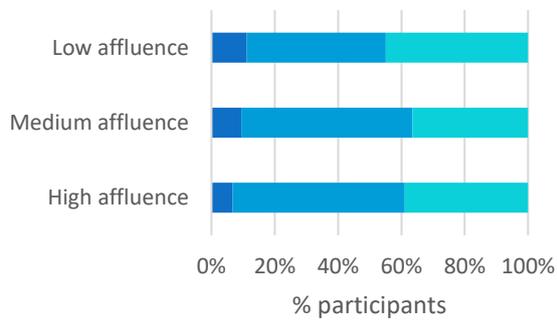


*Family members outside of the household

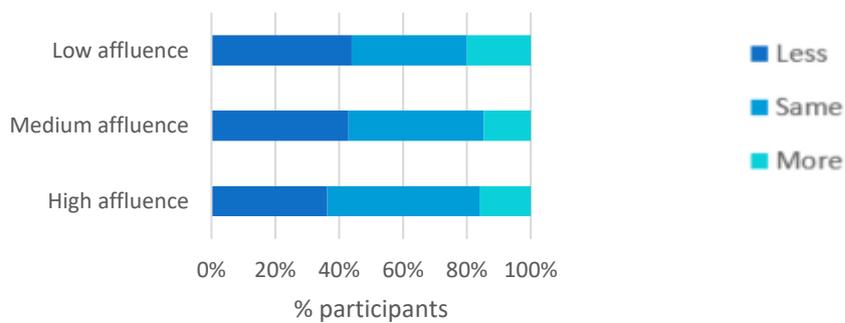
Figure 25: Perception of the closeness of relationships with household, family and friends during lockdown 1, compared with before lockdown 1, by family affluence group

A: Feeling close to people in my household

B: Feeling close to family outside of household



C: Feeling close to friends



Positive and negative impacts of lockdown 1

We asked participants to write down what the most positive and negative impacts of the lockdown had been on them. Positive impacts commonly related to spending more time with family (and pets) and having more time to spend engaging in activities that they enjoyed or commencing new activities that they had wanted to try, for example, baking, gaming, art, cycling and watching television. Some felt that the lockdown had provided them with more opportunity to do physical activity.

Positive impacts for some participants were a result of not being at school, as this had enabled them to avoid some of the stresses they experience at school, for example stresses related to friendships, the busy environment and the timetable. Positive impacts for some participants related to schooling in the lockdown, for example, developing closer relationships with teachers or being able to improve their schoolwork. Some participants reported that they valued their school and the environment more since the lockdown.

Negative impacts commonly related to not being able to see friends or family in person or participate in regular sports and physical activities. Some participants reported that they felt their physical and mental health had suffered during the lockdown. Another reported impact was boredom associated with having usual activities restricted and not being able to leave the house.

Negative impacts also related to missing school and undertaking schoolwork at home, with participants reporting difficulties in completing work set by their school. These either related to internal factors such as motivation or finding it hard to concentrate, or external factors, such as too much work set by their school on some days or Wi-Fi issues. A few participants expressed concerns relating to COVID-19 infection.

Quotations from participants on the positive and negative impacts of the lockdown are presented in Table 3; participant gender, school year group and family affluence group are stated in brackets.

Table 3: Themes and quotations relating to the positive and negative impacts of lockdown 1 on participants

Theme	Participant quotations
Positive impacts of lockdown 1	
Spending time with family and pets	<p><i>"I spend a lot more time with my family and we can do the little things like watch a film together more often because we don't normally have time for that."</i> (female, year 9, highest family affluence group)</p> <p><i>"All of my immediate family being together every day and eating meals together every day."</i> (female, year 8, highest family affluence group)</p> <p><i>"Getting to spend more time with my pets and getting to know them better."</i> (female, year 7, lowest family affluence group)</p>
Time to engage in activities	<p><i>"I have been able to spend way more time learning new skills and improving on skills that I already had."</i> (male, year 10, lowest family affluence group)</p> <p><i>"Time to do things that I wanted to do before lockdown but couldn't."</i> (male, year 10, highest family affluence group)</p>

Theme	Participant quotations
	<p><i>"Much more time to think, not feel hassled or pressured, much more time to do other stuff/activities that you don't normally do/new."</i> (male, year 9, medium family affluence group)</p> <p><i>"I have enjoyed spending more time at home as it has enabled me to get involved with different activities as I have more time."</i> (female, year 9, lowest family affluence group)</p>
Physical activity	<p><i>"Been able to exercise more frequently"</i> (female, year 10, highest family affluence group)</p> <p><i>"I have gotten out with parents on bike rides much more"</i> (male, year 10, medium affluence group)</p>
Reduced school-related stress	<p><i>"Not seeing certain people [from school]."</i> (male, year 10, medium affluence group)</p> <p><i>"I was a lot more worried at school about other people in my year group and school work and now it's a lot calmer and I don't need to worry about that as much."</i> (female, year 8, medium family affluence group)</p> <p><i>"Less anxiety and stress than when I'm at school."</i> (female, year 10, highest family affluence group)</p> <p><i>"Not having the stress of being at school. I don't have to worry about being picked on in class or having to be in social situations everyday."</i> (female, year 9, medium affluence group)</p>
Improved aspects of school	<p><i>"Actually getting on with teachers."</i> (male, year 10, medium family affluence group)</p> <p><i>"I have been able to get to know some of my teachers more."</i> (female, year 7, lowest family affluence group)</p> <p><i>"Being able to challenge myself with school work more"</i> (female, year 9, highest family affluence group)</p>
The value of school	<p><i>"Before lockdown, I thought school is boring but now I really feel school is great and miss it a lot!"</i> (male, year 9, medium family affluence group)</p>
Negative impacts of lockdown 1	
Seeing friends and family	<p><i>"Not having face to face contact with family and friends"</i> (female, year 7, medium family affluence group)</p> <p><i>"Not being able to see my friends after seeing them every day at school to not at all for 2 months."</i> (female, year 10, lowest family affluence group)</p>
Sport and physical activity	<p><i>"The most negative impact for me so far (during lockdown) is that I don't do as much physical exercise as I did before lockdown."</i> (male, year 10, lowest family affluence group)</p> <p><i>"Not being able to play sport"</i> (male, year 7, medium family affluence group)</p>
Physical and mental health	<p><i>"It has ruined my mental health and motivation to do anything."</i> (female, year 10, lowest family affluence group)</p> <p><i>"Mentally and physically. I feel isolated."</i> (male, year 10, lowest family affluence group)</p>

Theme	Participant quotations
	<i>"I think that my mental health had declined rapidly due to limited social contact and still be forced to do activities that I didn't enjoy before lockdown."</i> (male, year 10, highest family affluence group)
Boredom	<p><i>"I feel bored and on my own."</i> (female, year 10, lowest family affluence group)</p> <p><i>"Being strained inside and almost constantly doing the same things over and over again am not even remembering what day it is as everyday feels the same."</i> (female, year 9, lowest family affluence group)</p> <p><i>"Being very bored and nowhere to go."</i> (male, year 7, medium affluence group)</p>
Schoolwork – motivation and concentration	<p><i>"I have been so demotivated in doing schoolwork. I am so behind but just can't get myself to get up and do it."</i> (female, year 10, lowest family affluence group)</p> <p><i>"Lack of motivation to do work and therefore I am overwhelmed with all of the overdue work as well as pressure put on me by my parents and teachers."</i> (other gender, year 10, highest family affluence group)</p>
Schoolwork – external factors	<p><i>"Overwhelming amount of work set at once."</i> (male, year 9, lowest family affluence group)</p> <p><i>"The most negative impact of lockdown for me has been the fact that sometimes my timetable gets messed up because of the fact that the teachers are not setting the work for the right date so one day I do less work and the next day there is an overload. I find it a bit harder to concentrate when my brother is being noisy and nosy and the Wi-Fi suddenly stops."</i> (female, year 7, medium family affluence group)</p>
Concerns about COVID-19	<p><i>"I am scared for my Dad to catch the virus because he has a heart condition."</i> (female, year 9, highest family affluence group)</p> <p><i>"Because of me being high risk, I am really, really worried about catching coronavirus."</i> (female, year 8, lowest family affluence group)</p>

10 Overview of the findings

The survey findings show that there has been a significant impact on learning and educational activities, with almost all participants reporting that they were not able to learn at their usual level. Most participants spent some time on schoolwork on weekdays during the first lockdown, but for the majority, this did not include time in live lessons. There was also less engagement in tuition outside of school for academic or other purposes during the lockdown, compared with beforehand, which is unsurprising, given the restrictions that were in place at the time. Again, somewhat expectedly, given the restrictions in place, much less time was spent engaging in physically active behaviours, compared with sedentary activities, and more time was spent on screen-based leisure activities. The majority of our participants reported doing less physical activity than they had before the lockdown. This is consistent with the findings Sport England's Active lives Children and Young People Survey from summer 2020(8), which reported a drop in the proportion of young people meeting the recommended physical activity guidelines.

In general, the lockdown does not appear to have had a substantial influence on most eating and dietary behaviours although some positive impacts were seen, such as participants being more likely to have family meals together and to help to prepare meals during the lockdown. A more negative impact was that over half of the participants reported snacking more during the lockdown, which may possibly contribute to increased energy intake and poorer dietary quality. More participants reported experiencing food insecurity during the lockdown, with a 3% increase (from 5% to 8%) in one indicator of food insecurity. This finding mirrors research undertaken by the Food Foundation, which estimated that within the first five weeks of the pandemic restrictions, 5 million people in households with children in the UK have not been able to access enough food(9).

The lockdown restrictions appear to have had a positive effect on sleep, with participants having a higher weekday sleep duration and fewer sleep-related difficulties during the lockdown. This may be a result of not having to physically attend school.

Finally, aspects of mental wellbeing were both positively and negatively impacted on during the first lockdown. Overall, participants felt as or more safe, and as able to or more able to seek support during the lockdown, compared with beforehand. In contrast, the majority felt less able to do enjoyable things and to achieve things that were important to them during the lockdown. Regarding relationships, the lockdown was more likely to have a positive impact on the closeness of relationships with household members, but also more likely to have a negative impact on the closeness of relationships with other family members and friends. There has been much concern about the impact of the COVID-19 pandemic restrictions on mental wellbeing in young people, and there is evidence from other studies to suggest there have been detrimental impacts from the first lockdown(10-13). However, as with this study, the broader picture is more mixed, with evidence of beneficial, as well as detrimental effects. Several studies, particularly in the younger adolescent age group, have reported positive effects on mental wellbeing from the restrictions, such as reduced anxiety and stress, improvement in general wellbeing, and enjoyment at being at home and spending time with family members(10, 14, 15).

Socioeconomic position

Our survey findings show some evidence of a differential impact on learning from the lockdown across socioeconomic position, using the measure of family affluence. Participants from less affluent families were more likely to report a greater reduction in their level of learning and less likely to have access to their own computer or tablet for online schoolwork. This is in line with findings from a parental survey conducted by the Institute of Fiscal Studies, which reported that secondary school children from higher income families were spending more time on learning, and were more likely to have unrestricted access to a computer than those from lower income families(16).

Participants from less affluent families reported lower levels of physical activity during the lockdown, but our findings do not provide clear evidence that this is a specific impact of the lockdown restrictions, as there is evidence to show that pre-pandemic physical activity levels are lower with lower socioeconomic position in this age group(17). Nonetheless, our findings suggest that these pre-existing inequalities in physical activity levels persisted into the lockdown period, which is consistent with findings from a national survey of 7-16 year olds conducted in May 2020(18).

With eating behaviours, meals and dietary intake, our survey showed pre-existing differences across family affluence. For example, those from the lower family affluence groups had higher levels of breakfast skipping, ready meal consumption, and sugar-sweetened drinks consumption, and lower levels of consumption of fruits and vegetables before the lockdown. During the lockdown, the changes seen in eating and diet were broadly similar across family affluence, although there were

some differences. Breakfast skipping reduced in the lowest affluence group and increased in the higher affluence groups during lockdown. In contrast, sugar-sweetened drink consumption increased in the low and medium affluence groups but decreased in the highest affluence group during the lockdown. As with physical activity, our findings indicate that broadly, pre-existing inequalities relating to eating and diet persisted during the lockdown, but there is little evidence that these had worsened. However, some studies conducted over the first lockdown period suggest that the diets of children from low income families may have worsened during the lockdown. A small study of 9-12 year old children in receipt of free school meal vouchers during the lockdown showed that on average, their vegetable intake reduced by half a portion a day, compared with pre-lockdown. An increase in consumption in sugar-sweetened drinks (consistent with our findings) and unhealthy snacks was also reported(19). In addition, qualitative research with families suggests that those who were financially secure were able to improve dietary intake during the lockdown, but families in more precarious financial positions reported that their dietary intake had worsened(20). The lack of evidence of widening inequality relating to food and dietary intake in this study may in part be due to the relative affluence of our study participants.

Food insecurity, as expected, was highest in participants in the lowest family affluence group, both before and during the lockdown. The greatest increases in food insecurity were also seen in this group during the lockdown, although there were increases across all family affluence groups.

Finally, there were differences in mental wellbeing seen across family affluence. Global mental wellbeing scores (measured by SWEMWBS) were lower in those from less affluent families. However, this does not give information about the differential impact of the pandemic on mental wellbeing across socioeconomic position, as we do not have this measure of wellbeing before the pandemic for comparison. There is pre-existing evidence to show that mental wellbeing (using a very similar measure) is associated with family affluence in this age group(21), and so the findings in this survey may reflect the pre-pandemic differences in global mental wellbeing. Other questions used to explore the impact of the lockdown on aspects of life related to wellbeing (feeling safe, seeking support, having fun and achieving things) showed that participants from the lowest affluence families were slightly more likely report an increase in these in lockdown, compared with participants in the higher affluence groups. Therefore, it maybe that whilst differences in mental wellbeing across socioeconomic position persisted during the first lockdown, there may have been some positive aspects, particularly for those in lower socioeconomic positions.

Conclusions

In this report, we have presented a snapshot of the learning, health and wellbeing impacts on young people of secondary school age during the first few months of the COVID-19 pandemic in 2020. This helps to provide an understanding of the experiences of this age group to all those involved with the health and education of young people. Whilst there is evidence of some positive experiences arising from the pandemic restrictions, there have also been detrimental effects across several of the areas that we have explored. The survey findings highlight pre-existing inequalities in wellbeing, eating and physical activity across socioeconomic position, although there is no compelling evidence from this study that these inequalities substantially widened during the lockdown. However, in terms of the impact on learning and access to devices for schoolwork, there is clearer evidence of differences across socioeconomic position.

Since this survey was conducted, the pandemic has continued to evolve and as a result, there have been further substantial and prolonged disruptions across the whole of our society. These findings

relating to the impact of the first lockdown provide us with a foundation for exploring the longer term impacts of the ongoing disruptions to the lives of secondary school aged young people.

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Appendix 1: Summary of participant characteristics

Characteristic		Number (%) ^a or mean (SD) ^b
Demographic characteristics		
Gender Missing data = 8	Male	310 (45.7)
	Female	362 (53.3)
	Other	2 (0.3)
	Prefer not to say	5 (0.7)
Age (years) Missing data = 23		13.8 (1.2)
Year group^c Missing data = 48	7	183 (28.6)
	8	144 (22.5)
	9	158 (24.7)
	10	154 (24.1)
Ethnicity Missing data = 12	White	541 (80.1)
	Asian	57 (8.4)
	Black	30 (4.4)
	Mixed	36 (5.3)
	Other	11 (1.6)
Languages spoken at home Missing data = 1	English/Welsh only	566 (82.5)
	Other language	120 (17.5)
Country of residence Missing data = 26	England	624 (94.4)
	Scotland	32 (4.8)
	Wales	5 (0.8)
Socioeconomic indicators		
Deprivation group^d Missing data = 27	1 (most deprived)	86 (13.0)
	2	95 (14.4)
	3	137 (20.8)
	4	142 (21.5)
	5 (least deprived)	200 (30.3)
Family affluence group^e Missing data = 38	Lowest (FAS score 0-8)	236 (36.4)
	Middle (FAS score 9-10)	203 (31.3)
	Highest (FAS score 11-13)	210 (32.4)
Receiving free school meals Missing data = 42	No	542 (84.0)
	Yes	55 (8.5)
	Don't know	48 (7.4)
Household and environmental characteristics (during lockdown 1)		
Living at same address during lockdown Missing data = 30		652 (99.2)
Number of parents/carers in household during lockdown Missing data = 37	1	99 (15.2)
	2	551 (84.8)
Own bedroom Missing data = 24	Yes	585 (88.2)
	No	78 (11.8)
Type of home Missing data = 24	House	632 (95.3)
	Flat/Maisonette	29 (4.4)
	Other	2 (0.3)
Private garden/outdoor space Missing data = 33	Yes	619 (94.7)
	No	35 (5.4)
Own mobile phone Missing data = 2	Yes	669 (97.7)
	No	16 (2.3)

School characteristics and attendance

School type Missing data = 41	State (non-selective)	412 (63.8)
	State (grammar)	108 (16.7)
	Private/Independent	124 (19.2)
	Pupil Behavioural Unit	2 (0.3)
Spending some time in school	Year 7 ^c	72 (11.2)
	Year 8 ^c	16 (8.7)
	Year 9 ^c	5 (3.2)
	Year 10 ^{c,f}	39 (25.3)

^aMissing data not included in percentage calculation; ^bSD=standard deviation; ^cEquivalent year groups used for participants attending school in Scotland; ^dGroups based on Index of Multiple Deprivation (IMD) 2019 scores(22), derived from postcodes and using national quintile cut-offs to define group boundaries; ^eGroups derived from participant Family Affluence Scores (FAS)(3) using study sample tercile cut-offs to define group boundaries; ^fSchools were open to Year 10 pupils in England from 15th June 2020

Appendix 2: Number of participant answers included in each analysis

Analysis	Number of participants included (denominator)
Time spent on learning activities	
Schoolwork	632
Live online lessons	633
Schoolwork set by parents	628
Informal learning activities	636
Reading	640
Private academic tuition	621
Private tuition for other skills	618
Perception of learning during lockdown	590
Access to devices for online schoolwork	628
Time spent on physical and sedentary activities	
Exercise/sport	637
Household chores	629
Relaxing with household	628
Electronic games	634
TV/videos/You Tube	635
Social media with friends	632
Number of days doing ≥ 60 minutes physical activity	613
Change to physical activity levels in lockdown 1	612
Breakfast consumption	576
Meals	
Freshly cooked meals per week	609
Ready meals per week	599
Takeaways per week	598
Family meals together per week	601
Help prepare meals per week	601
Dietary intake	
Fruits	615
Vegetables	613
Sweets	615
Sugar-sweetened drinks	616
Change to amount of snacking in lockdown 1	618
Food insecurity	
Run out of food	619
Skipped a meal	618
Sleep duration	
Weekday	590
Weekend	597
Not having enough sleep	606
Drowsiness during schoolwork	603
Trouble getting out of bed in the morning	604
Worry about catching COVID-19	615
Mental wellbeing (measured by SWEMWBS)	597
Feeling safe and at ease	594
Ability to seek support from people	594
Able to enjoy things and have fun	595
Able to achieve things that are important to them	594
Relationships	
With household members	593
With family outside of the household	592
With friends	592