

Social contacts in the UK from the CoMix social contact survey

Report for survey week 65

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*Report for SPI-M-O and SAGE, 29 June 2021
Data up to 23 June 2021*

Summary

- The decrease in adult contacts in the home seen in reports for survey week 62, 63, and 64 was due to a data error. An increasing proportion of participants were not asked about their household contacts. We are collecting additional data to rectify this but for this report we have made the assumption that participants who reported zero household member contacts were in contact with all household members during this period.
- Under this assumption, adult contacts have been steady since mid-May, contacts are at levels higher than those seen after the lifting of the second lockdown but lower than those seen in August last year.
- Leisure contacts appear to still be increasing for those aged 70+, and is now highest in that age group with a mean of 1.5 people per day.
- Mean contact rates reported for school-aged (5-17 years) children remain consistent with those seen when schools are open. Leisure contacts for children have continued to increase for 5-11 year olds but have reduced slightly for 12-17 though these are proxy reports from parents.

Main

In the previous three reports (Survey week 62, 63, and 64), we saw a reduction in contacts amongst adults. This reduction was in most part due to a data error with participants not being asked about contact with household members for those weeks. This did not affect contacts that were not household members. We are conducting an additional survey to recover information about the household members. However, in the interest of providing timely information we have produced this report under the assumption that participants that report no household contacts actually had contact with all household members. This is a plausible assumption, with over 80% of participants reporting contact with all their household members in previous rounds of the survey. Figure 1 from last week's report is included as Figure S1 for reference.

Overall, mean contacts have remained steady for adults, with fluctuations for adult and children contacts combined due to half term (Figure 1). Mean levels of contact appear slightly higher than after the lifting of the second lockdown. This overall figure masks differences by age groups, where mean rates of contact reported for school-aged children (5-17 years) are consistent with those seen during previous periods when schools were open (Figure 2). Mean adult contacts appear flat with a slight incline for working age adults (18-69) but are consistently increasing in those age 70+ which is driven by an increase in their leisure contacts (Figure 3 S2).

Figures 4 and 5 compare the mean rates of contact reported by children and adults during Step 3 of the Roadmap, excluding the week of half-term, with other periods during the pandemic (see table 1 for details). Reported rates of childhood contacts are equivalent or higher than any other period during the last year (Figure 4). However, rates of adult contact appear to be lower now than during the summer 2020 peak (Figure 5).

Discerning clear trends in regional contact patterns is difficult, particularly with wide uncertainty around Northern Ireland due to low sample size. However, for the regions of England there appears to be a flat to increasing trend over the last two months. (Figure 6).

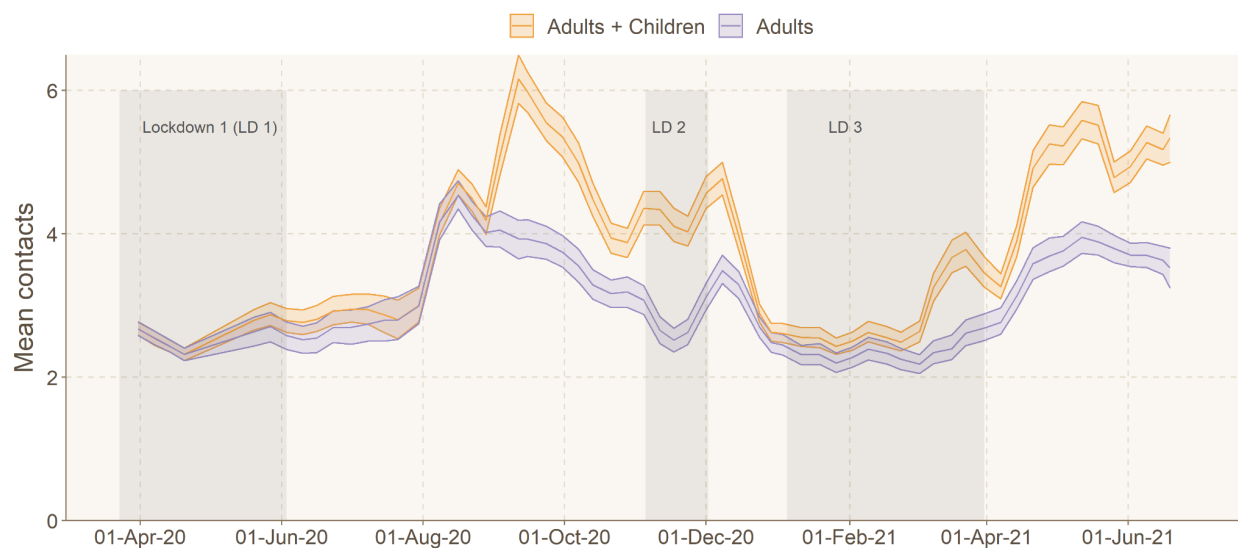


Figure 1: Mean contacts in the UK since the 23rd March 2020 for adults and children (all participants) and adults only (18 year +). Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

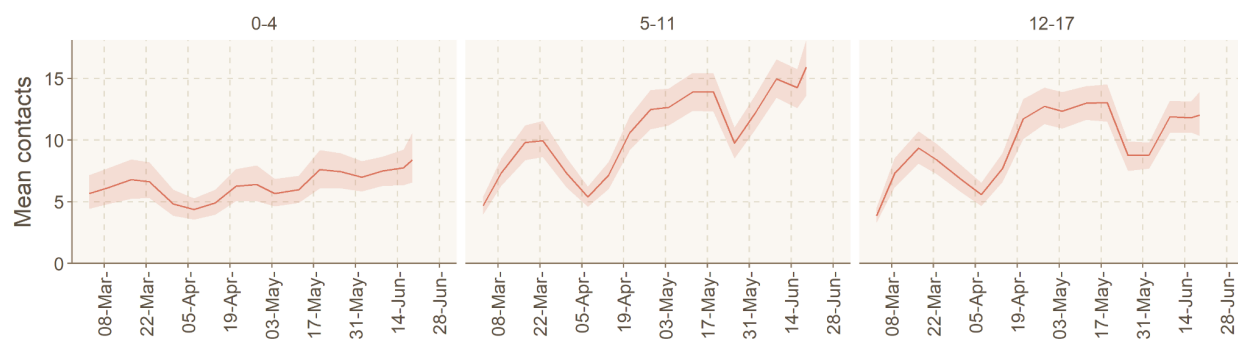


Figure 2: Mean contacts in all settings by age-group for children over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

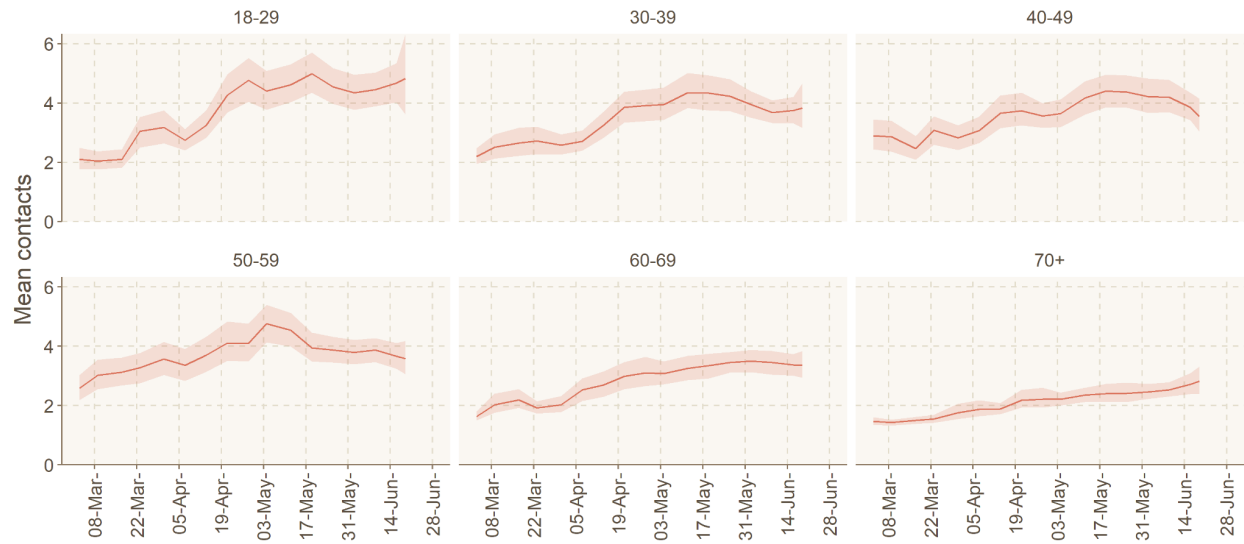


Figure 3: Mean contacts in all settings by age-group for adults over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

Table 1. Time periods based on different level of lockdowns and restrictions in England over the previous year

Period	Date	Period	Date
1. Lockdown 1 (LD 1)	24 Mar 2020 - 03 Jun 2020	6. Lockdown 2 easing	03 Dec 2020 - 19 Dec 2020
2. Lockdown 1 easing	04 Jun 2020 - 29 Jul 2020	7. Lockdown 3	05 Jan 2021 - 07 Mar 2021
3. Relaxed restrictions	30 Jul 2020 - 03 Sep 2020	8. Lockdown 3 + schools	08 Mar 2021 - 31 Mar 2021
4. School reopening	04 Sep 2020 - 24 Oct 2020	9. Step 2 + schools	16 Apr 2021 - 16 May 2021
5. Lockdown 2	05 Nov 2020 - 02 Dec 2020	10. Step 3 + schools	17 May 2021 - 23 June 2021 Excludes 31 May to 4 June for half term.

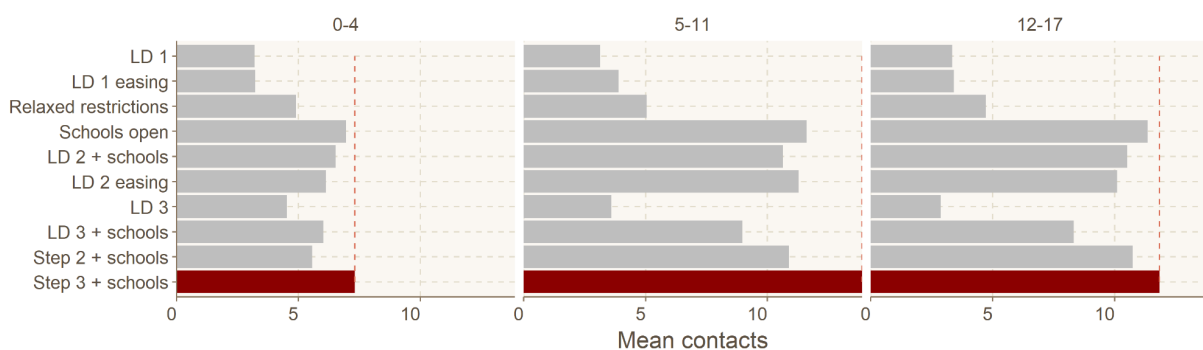


Figure 4: Comparison of mean weekday contacts from the 17 of May to 23 June, (excludes half term) to nine previous time periods of different restrictions by age for children. Current period highlighted in red with dashed line for easier comparison to previous periods.

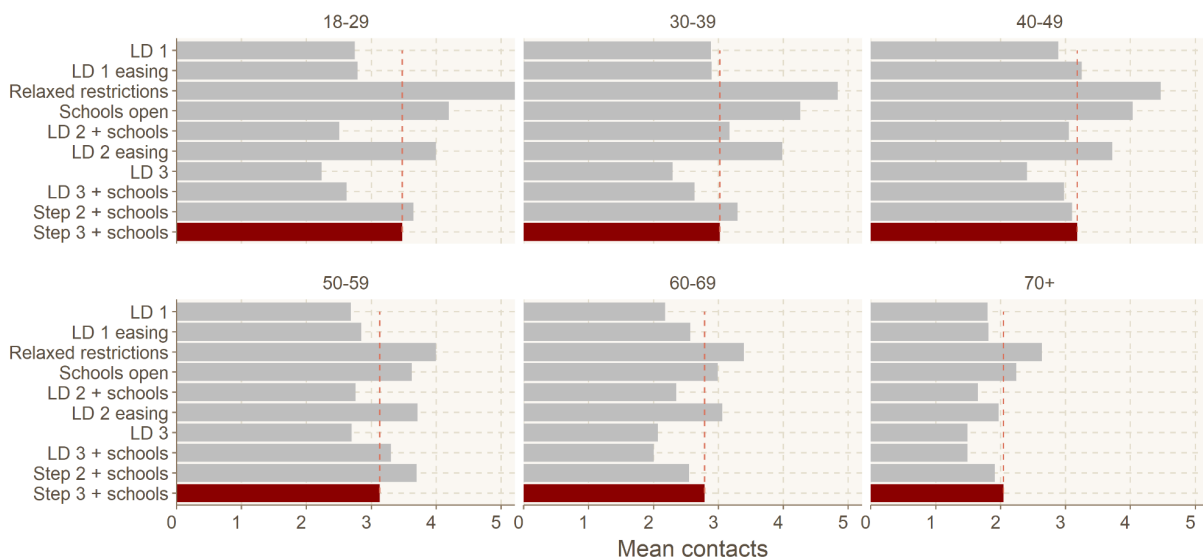


Figure 5: Comparison of mean weekday contacts from the 17 of May to 23 June, (excludes half term) to nine previous time periods of different restrictions by age for adults. Current period highlighted in red with dashed line for easier comparison to previous periods.

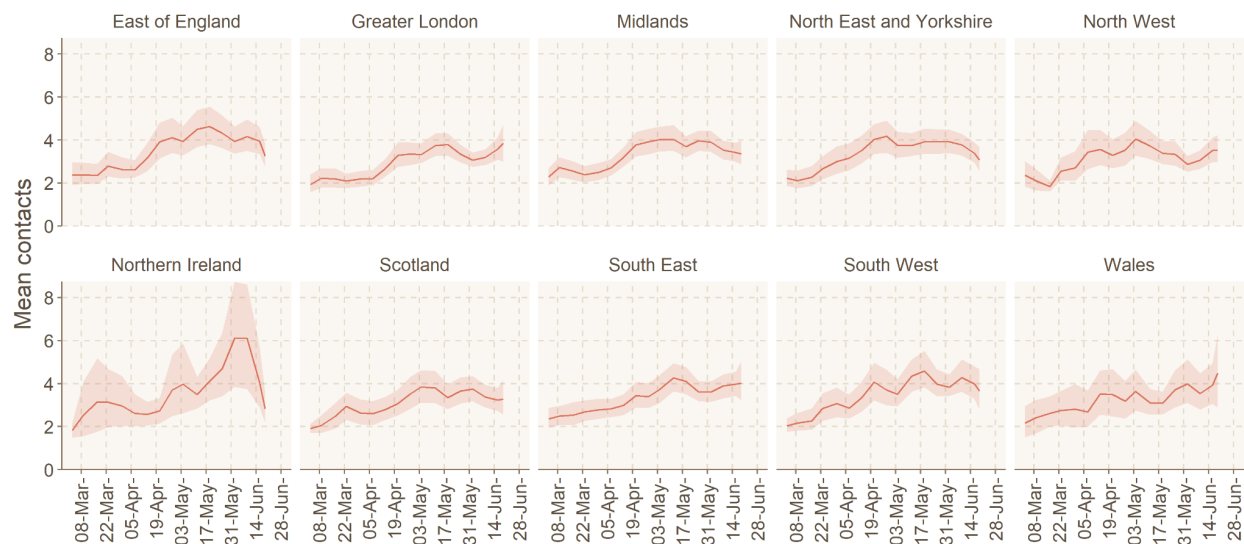


Figure 6: Mean contacts in all settings in adults for UK nations and English regions over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

Methods

CoMix is a behavioural survey, launched on 24th of March 2020. The sample is broadly representative of the UK adult population. Participant's are invited to respond to the survey once every two weeks. We collect weekly data by running two alternating panels. Parents complete the survey on behalf of children (17 years old or younger). Participants record direct, face-to-face contacts made on the previous day, specifying certain characteristics for each contact including the age and sex of the contact, whether contact was physical (skin-to-skin contact), and where contact occurred (e.g. at home, work, while undertaking leisure activities, etc). Further details have been published elsewhere [2]. The contact survey is based on the POLYMOD contact survey [1].

Note that for the past three reports, the contacts for household members had been decreasing; this has turned out to be a data issue with participants not being asked about this in the survey. For this week's analysis, we replaced the number of household contacts with the reported household size minus one for individuals who reported zero household contacts.

We calculated the mean contacts using 1000 bootstrap samples. Bootstrap samples were calculated at the participant level, then all observations for those participants are included in a sample to respect the correlation structure of the data. We collect data in two panels which alternate weekly, therefore we calculated the mean smoothed over the 2 week intervals to give a larger number of participants per estimate and account for panel effects. We calculated the mean number of contacts in the settings home, work and school (including all educational establishments, including childcare, nurseries and universities and colleges), and “other” (mostly leisure and social contacts, but includes shopping). We look at the mean contacts by age, country, and region of England. The mean number of contacts is influenced by a few individuals who report very high numbers of contacts (often in a work context). The means shown here are calculated based on truncating the maximum number of contacts recorded at 50 per individual per day.

We compared the mean reported contacts for the most recent data of the survey to the mean contacts reported during nine time periods over the previous year which represent different levels of restrictions.

Funding

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References

1. Mossong J, Hens N, Jit M, Beutels P, Auranen K, Mikolajczyk R, et al. Social contacts and mixing patterns relevant to the spread of infectious diseases. *PLoS Med.* 2008;5: e74.
2. Jarvis CI, Van Zandvoort K, Gimma A, Prem K, CMMID COVID-19 working group, Klepac P, et al. Quantifying the impact of physical distance measures on the transmission of COVID-19 in the UK. *BMC Med.* 2020;18: 124.

Appendix

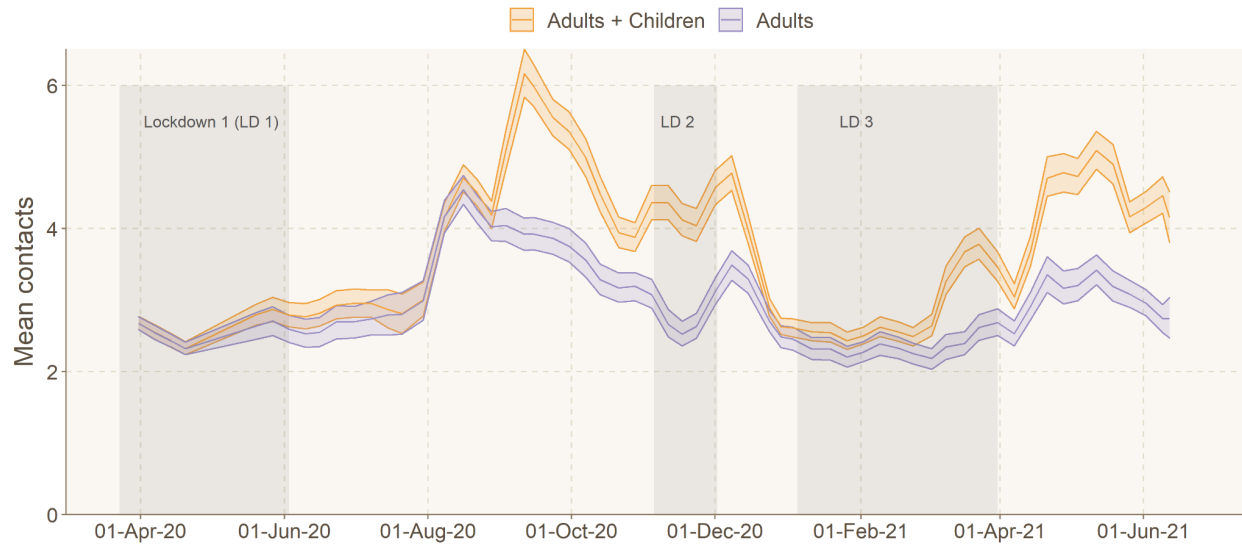


Figure S1: Mean contacts in the UK since the 23rd March 2020 for adults and children (all participants) and adults only (18 year +) from Report Survey week 64. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

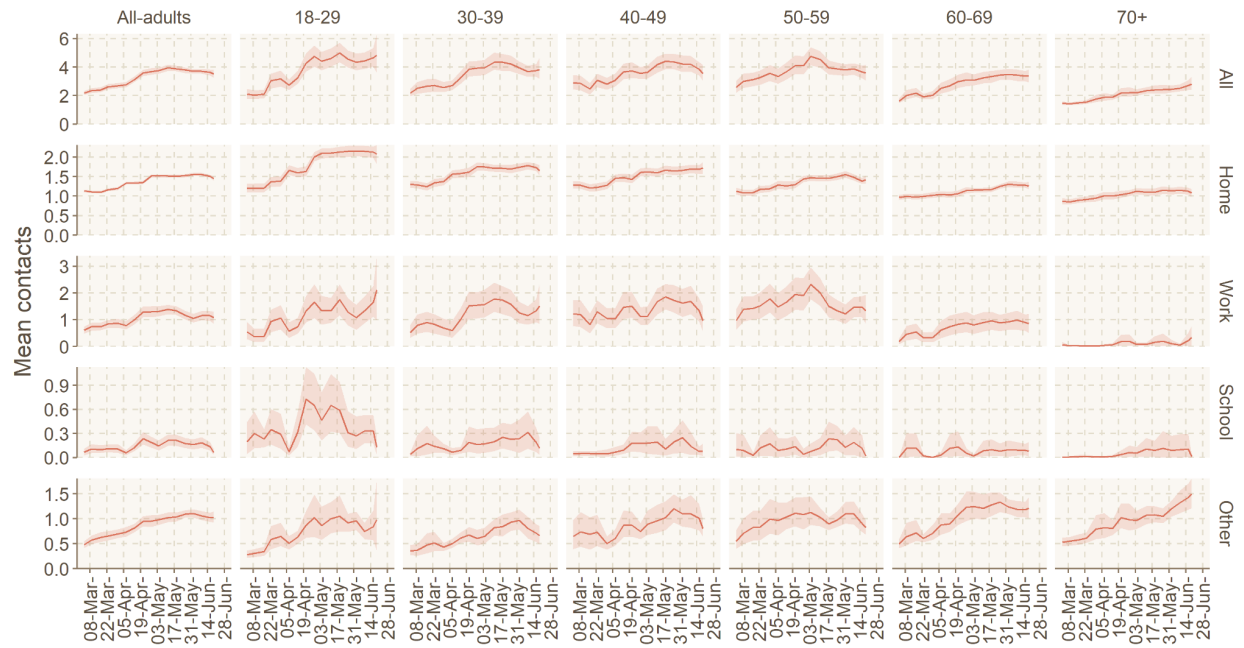


Figure S2: Setting-specific mean contacts by age-group for adults over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

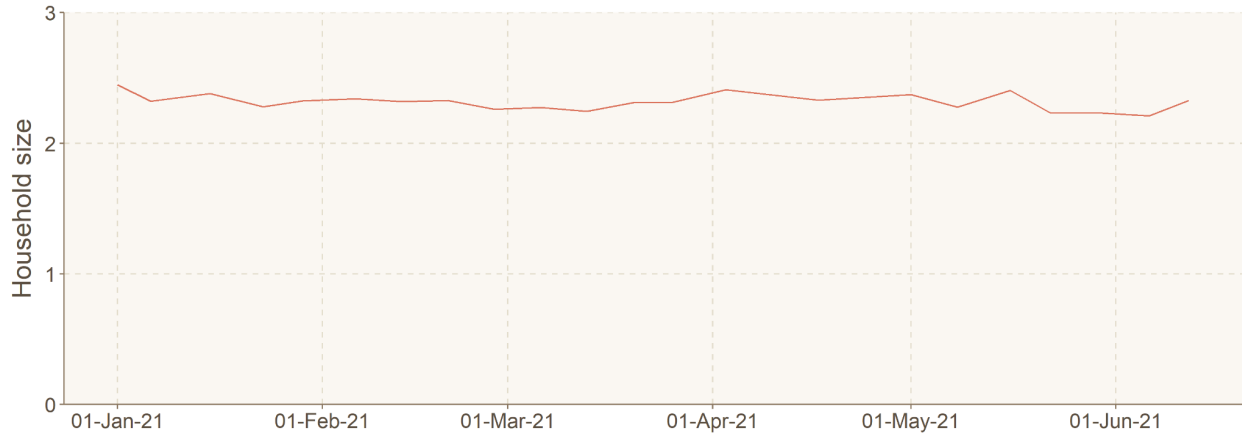


Figure S3: Mean household size for adults over time since January 2021. Date on x axis refers to the midpoint of the survey period.

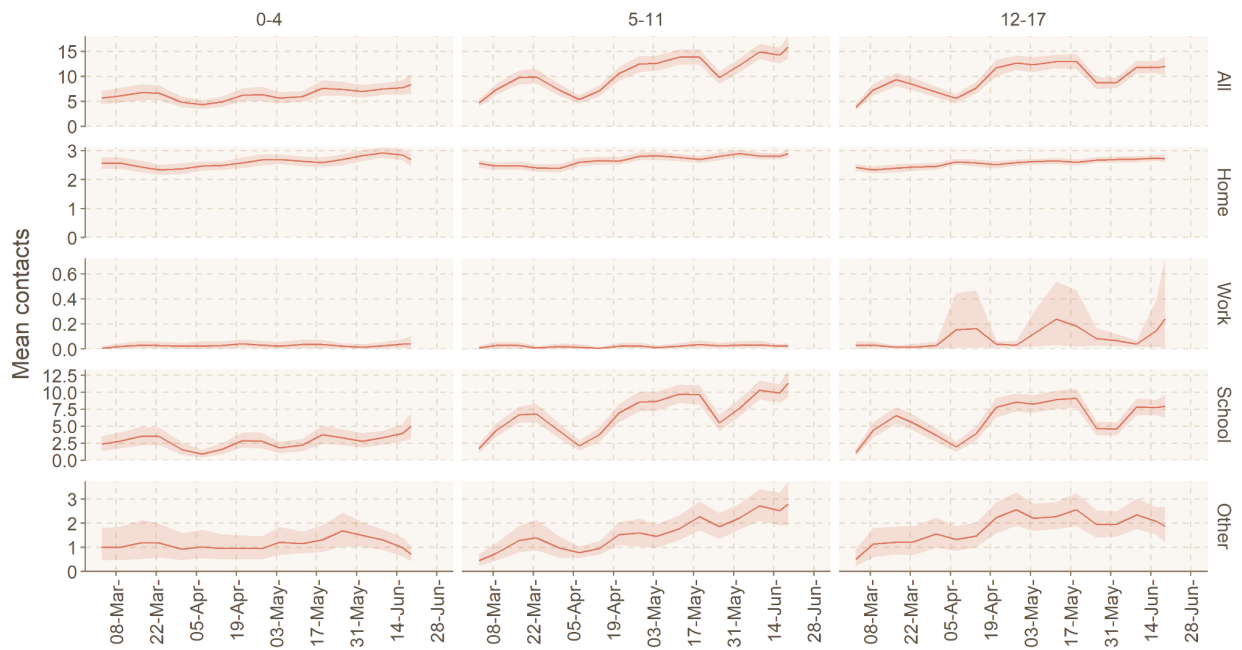


Figure S4: Setting-specific mean contacts by age-group for children over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.