

Social contacts in the UK from the CoMix social contact survey

Report for survey week 60

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Data up to 20th May 2021*

Summary

- Very early indications suggest that contacts amongst adults have increased since the 17th of May. Mean daily contacts reported by adults is now similar to those observed during August 2020. Though this is based on data from four weekdays, it does consist of 1,753 of the 4,000 participants usually surveyed every two weeks.
- Physical (skin-to-skin) contacts do not appear to have increased since the 17th of May.
- Children's contact levels are slightly higher than those seen in previous periods when schools were open. The increase in contacts outside of school settings for school-aged children has been sustained over the previous four weeks.
- There is variability of patterns across the regions of England and nations of the UK, though discerning differences by region is difficult due to small sample sizes.

Main

Estimates of the mean contact rates for adults have remained relatively stable over the last month, however these estimates combine contacts made prior to and after the 17th of May where restrictions in England were further relaxed (Figure 1). We provide preliminary early indications of changes in contacts based on a sample of 1,753 participants for data between the 17th and the 20th of May. These contacts are only measured during weekdays and therefore we have restricted previous data to weekdays only as well to improve comparison. In the following week we will be able to return to the full week comparison as further data will be collected. Note that mean contacts are typically higher on weekdays versus weekends and thus increases in contacts compared to previous reports may be due to these different data sources rather than actual changes in contacts.

Early indications suggest that mean adult contacts have risen since the relaxation of restrictions on the 17th of May with mean levels of contact now consistent with those last seen during August 2020, when few restrictions were in place (Figure 2). The level of reported physical contacts appears similar, however, with levels seen over the last year (Figure 3). These apparent changes in the pattern of contacts are not consistent across age groups with respondents aged (18-50) reporting an increase in contacts since the 17th of May but still reporting lower mean contacts compared to August 2020, and respondents age 50+ reporting similar levels of contact to August last year, though group sizes become much smaller when categorised by age (Figure 4). The pattern for physical contacts appears consistent across ages similar to the rest of the prior year (Figure 5). It is worth stressing that the contact levels that have been recorded are still relatively small and the overall level of contacts is low compared with pre-pandemic levels [1].

Since the 17th of May school-aged childrens' contacts appear to have risen sharply (Figure 6). The gradual increase in "other" contacts (mostly social and leisure contacts) for children that has been occurring over the last few weeks appears to have continued (Figure S4) and there is some evidence of a small increase in "School" contacts as well, though such early indicators need to be treated with caution.

Discerning clear trends in regional contact patterns is difficult due to the smaller sample sizes. The English regions and the UK nations continued upward trend appears to have levelled off over the past few weeks (Figure 7).

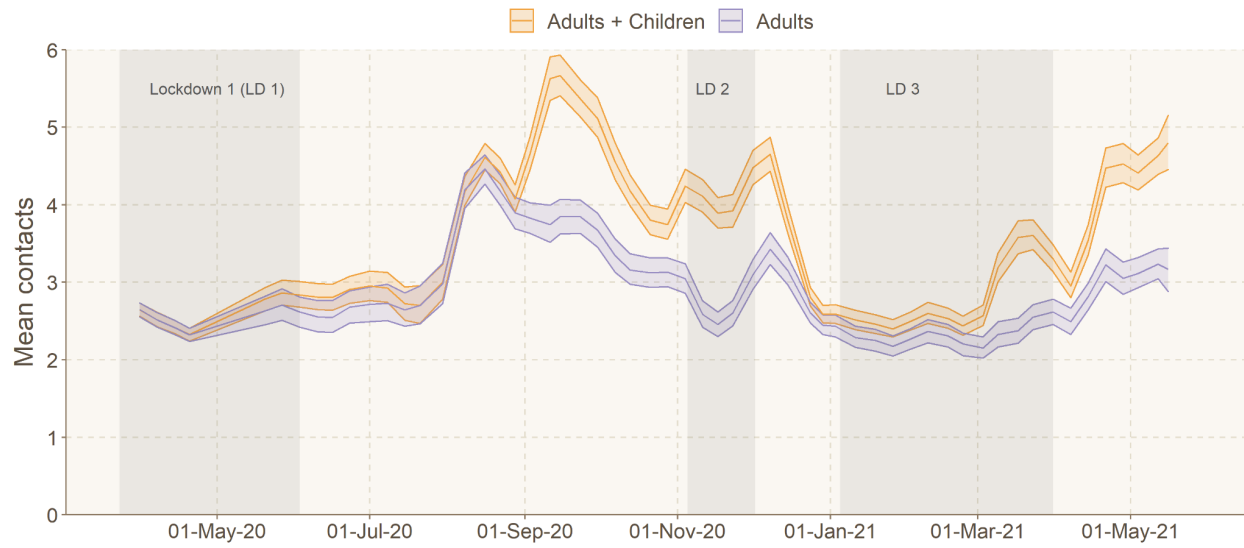


Figure 1: Mean contacts in the UK since the 23rd March 2020 for adults and children (all participants) and adults only (18 year +). Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date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

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	17 May 2021 - 20 May 2021

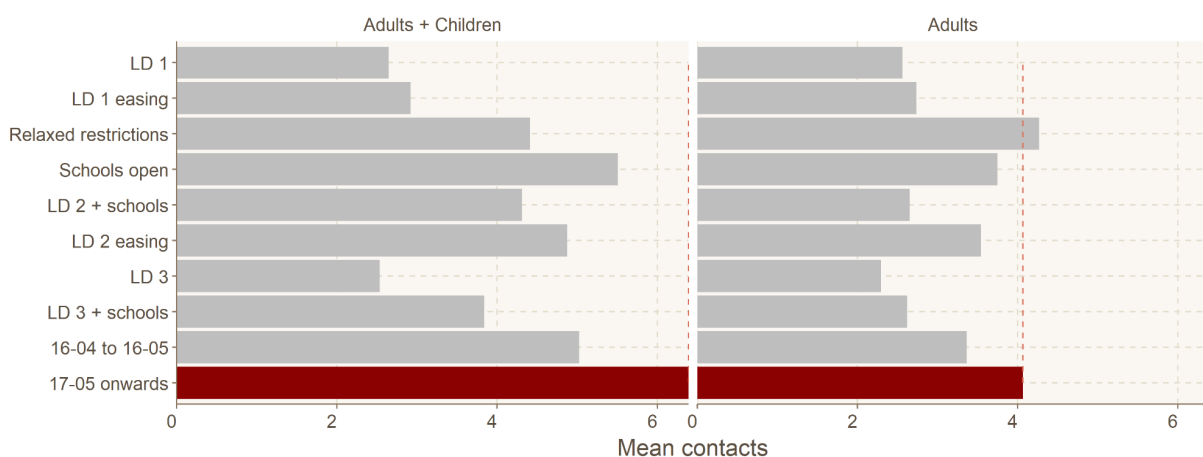


Figure 2: Comparison of mean weekday contacts from the 17th of May to 20th of May to nine previous time periods of different restrictions for adults and children (all participants) and adults only (18 year +). Current period highlighted in red with dashed line for easier comparison to previous periods.

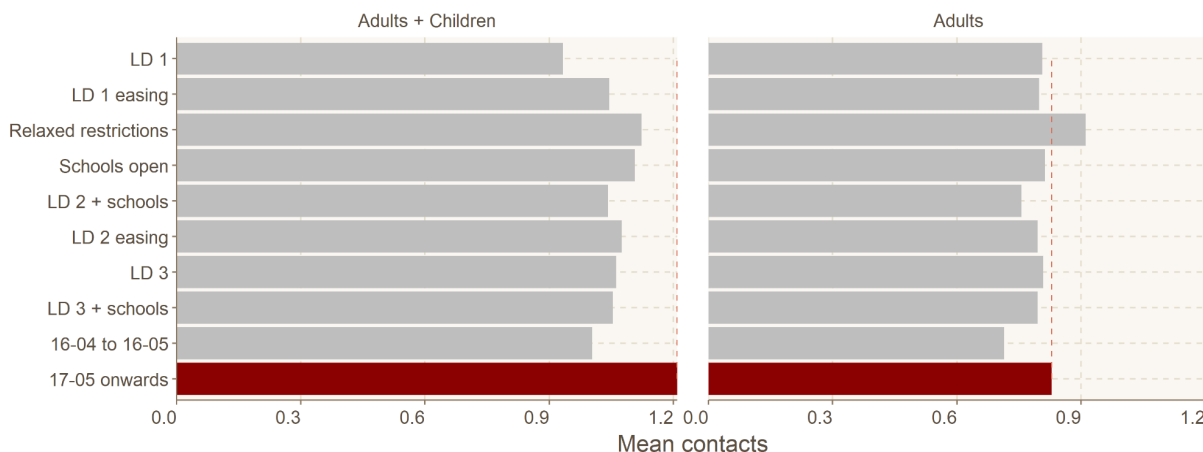


Figure 3: Comparison of mean weekday physical contacts from the 17th of May to 20th of May to nine previous time periods of different restrictions for adults and children (all participants) and adults only (18 year +). Current period highlighted in red with dashed line for easier comparison to previous periods.

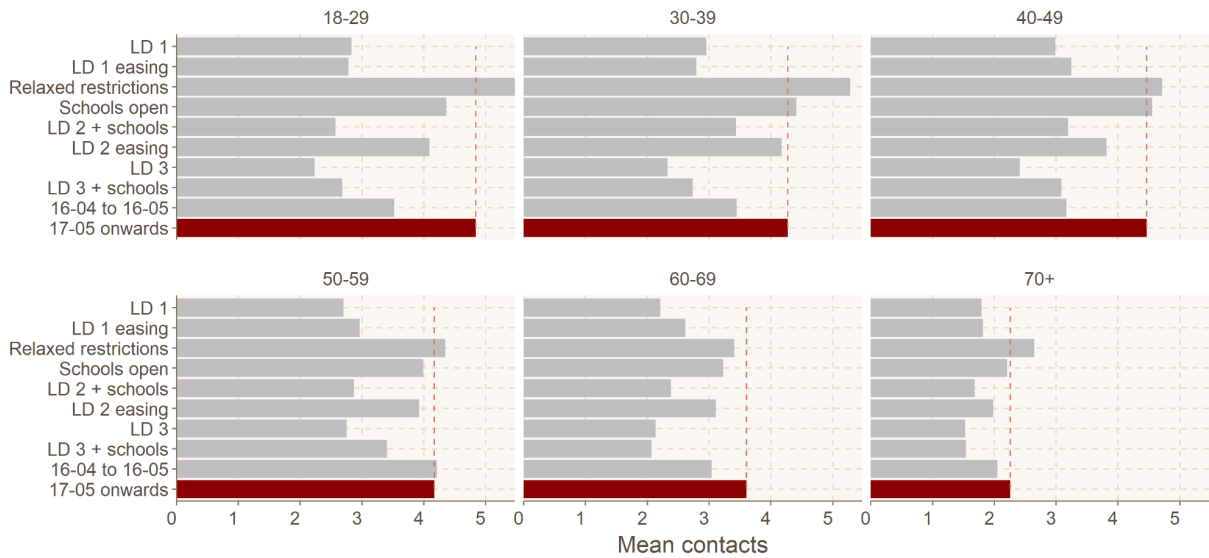


Figure 4: Comparison of mean weekday contacts from the 17th of May to 20th of May to nine previous time periods of different restrictions by age for adults. Current period highlighted in red with dashed line for easier comparison to previous periods.

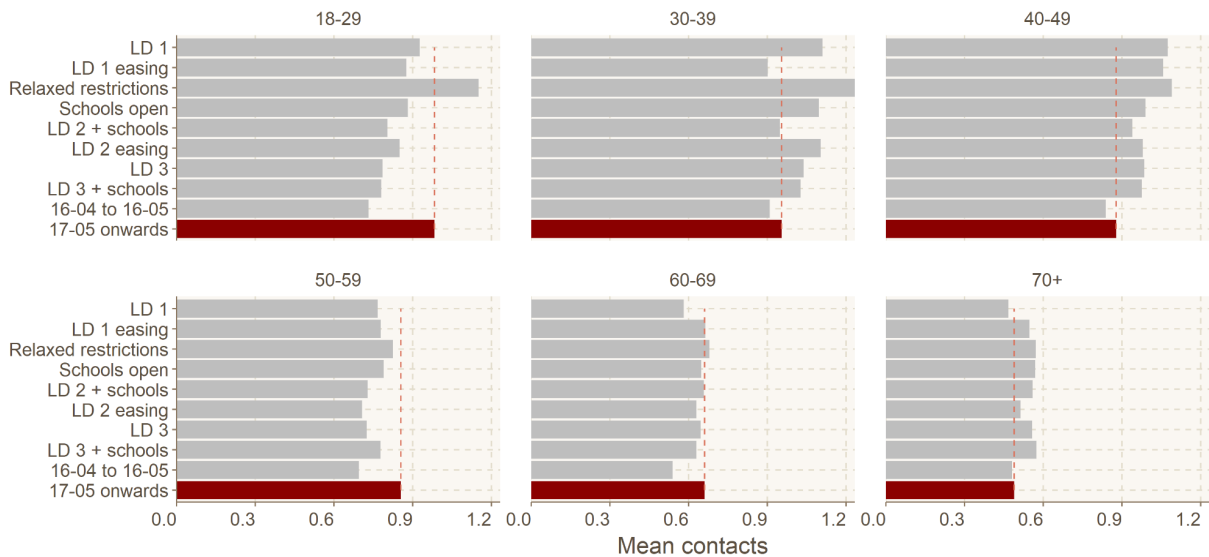


Figure 5: Comparison of mean weekday physical contacts from the 17th of May to 20th of May to nine previous time periods of different restrictions by age for adults. Current period highlighted in red with dashed line for easier comparison to previous periods.

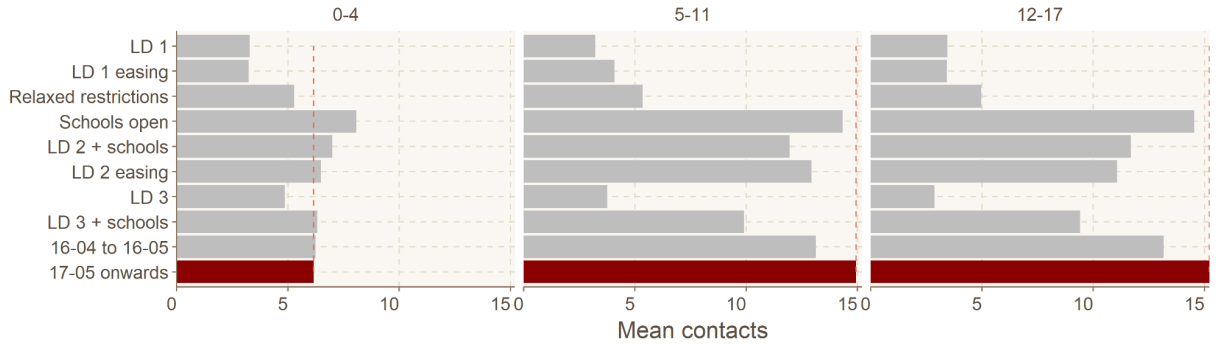


Figure 6: Comparison of mean weekday contacts from the 17th of May to 20th of May to nine previous time periods of different restrictions by age for children. Current period highlighted in red with dashed line for easier comparison to previous periods.

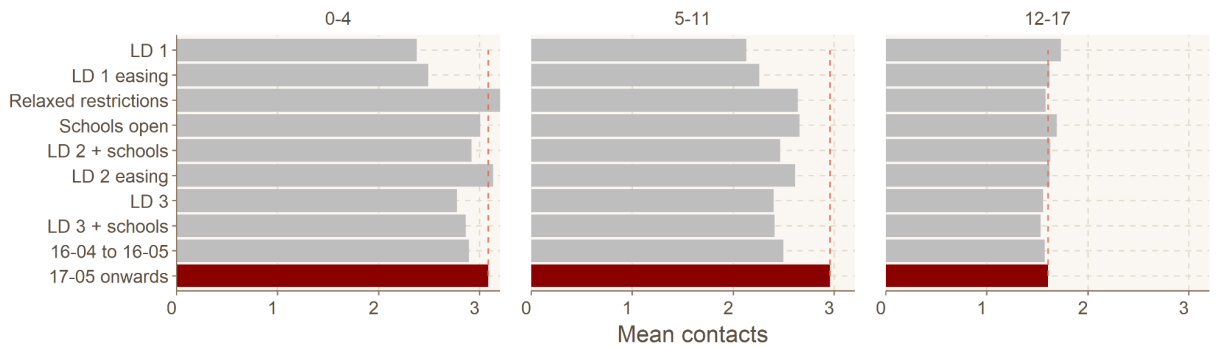


Figure 7: Comparison of mean weekday physical contacts from the 17th of May to 20th of May to nine previous time periods of different restrictions by age for children. Current period highlighted in red with dashed line for easier comparison to previous periods.

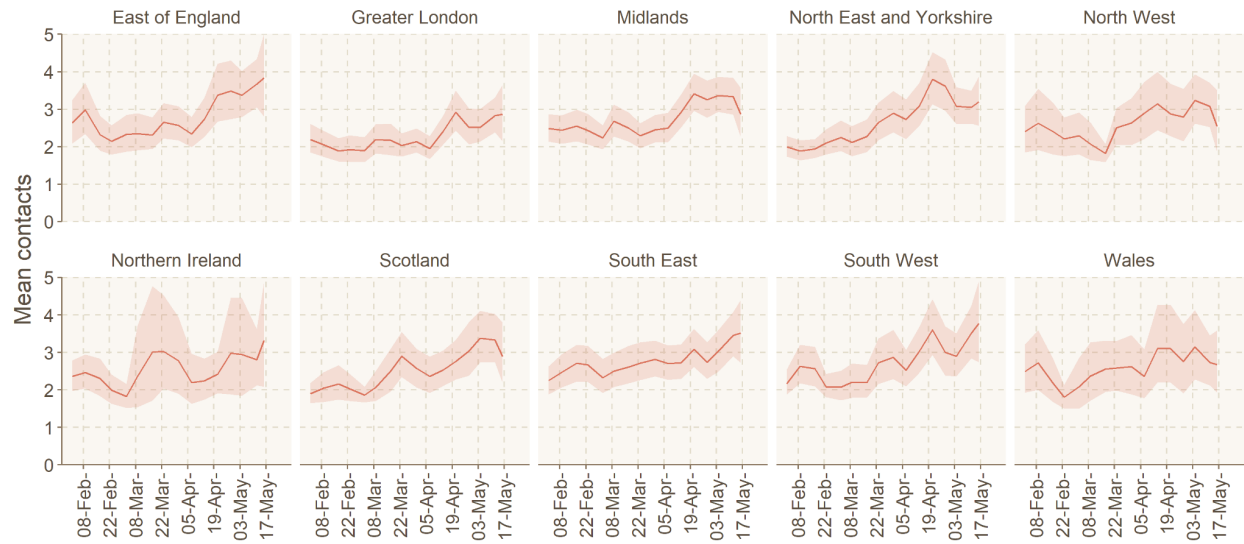


Figure 8: Mean contacts in all settings in adults for UK nations and English regions over time. Uncertainty calculated using bootstrapped. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of 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. Participants 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].

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

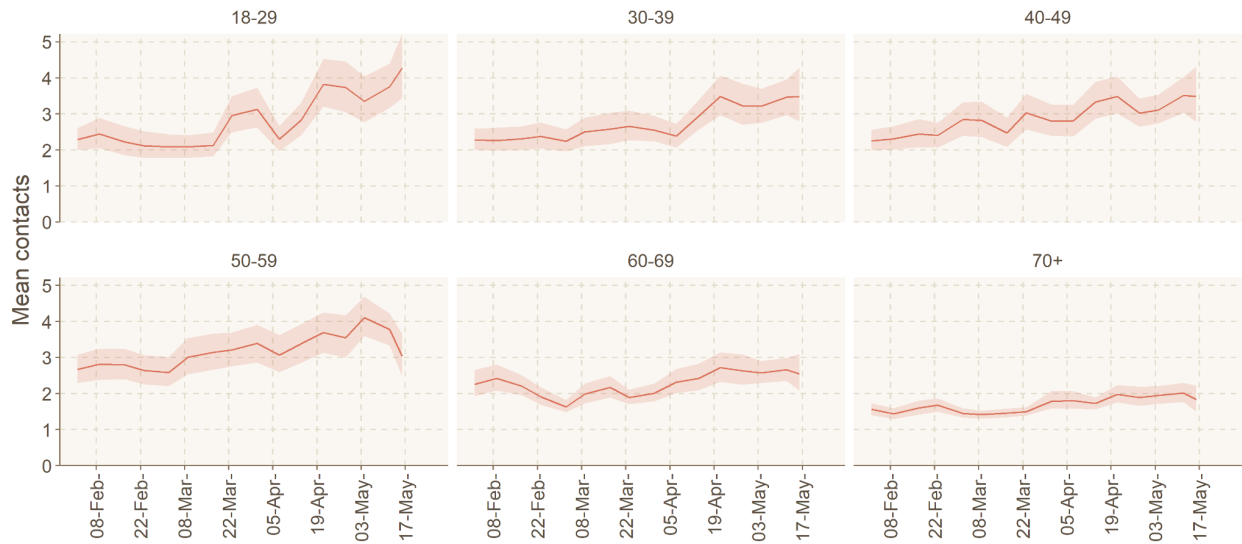


Figure S1: Mean contacts in all settings by age-group for adults over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

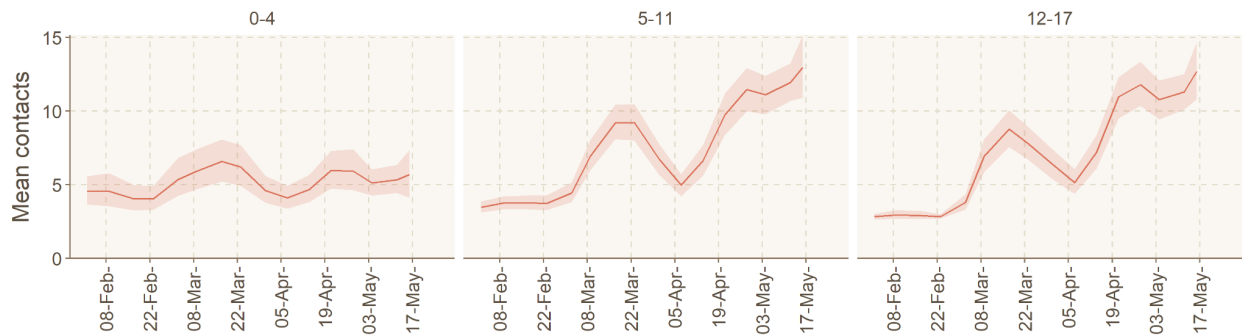


Figure S2: Mean contacts in all settings by age-group for children over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

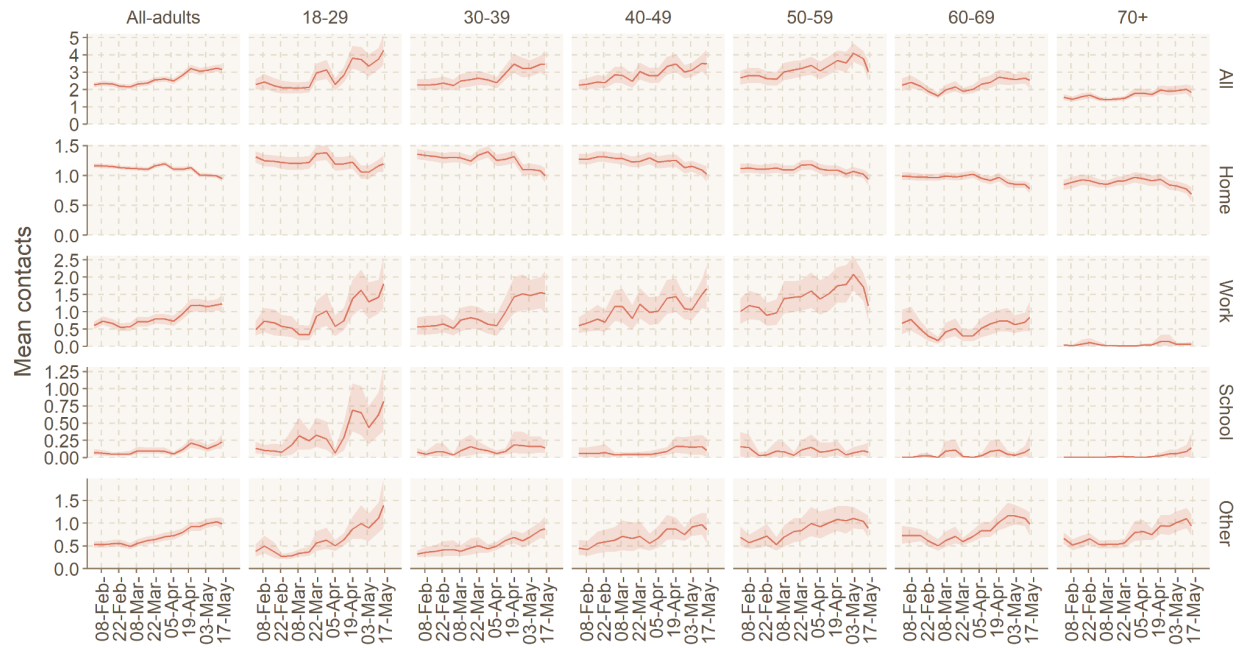


Figure S3: Setting-specific mean contacts by age-group for adults over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.



Figure 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.