

Social contacts in the UK from the CoMix social contact survey

Report for survey week 69

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*Report for SPI-M-O and SAGE, 27 July 2021
Data up to 19 July 2021*

Summary

- Contacts amongst adults remain stable, whereas contacts for children have been decreasing over the previous 5 weeks.
- Children's contacts have decreased corresponding to summer holiday school closure dates across the Devolved Administrations.
- Mean recorded contact rates amongst secondary school-aged children is lower than was reported during half-term, despite the majority of children still being in school. Reported contact rates for primary-school aged children are at a similar level to that reported during half term.
- The proportion of participating children isolating in England has sharply increased since the start of June.
- Reported mean contacts for those children isolating were considerably lower than for those who were not. However, there has also been a decline in reported mean contacts for children who were attending school (not isolating) presumably as many of their friends and classmates were absent due to isolation. In addition, increasing numbers of secondary school-aged children (particularly years 11 to 13) are not expected to attend school having taken their exams.
- Fewer adults are isolating than children and the absolute difference in recorded mean contacts for adults who are isolating or not is much smaller than for children.

Main

Mean contacts amongst adults has remained stable since mid-April (Figure 1 & 2), with the possible exception of the oldest age group (70+) who have reported a gradual, but modest increase in mean daily contacts (Figure 2). Looking at overall mean contact rates (including children's) there has been a reduction in recent weeks that has been sustained since half term (Figure 1). The reduction in children's contact patterns is most prominent in 12-17 year olds though is present in ages 5-11 (Figure 3). At the time of the latest survey, mean recorded contact rates amongst secondary school-aged children is lower than was reported during half-term, despite the majority of children still being in school. Reported contact rates for primary-school aged children are at a similar level to that reported during half term (Figures 3 and S2).

Mean contacts by age across the four nations reflect to some extent the different school holidays, with contacts for 5-17 years old reducing earlier in Northern Ireland and Scotland than England and Wales (Figure 4).

The proportion of participants in isolation or quarantining has increased considerably from around 5% to 17% in children since the beginning of June. This estimate is very consistent with the 12.1% for primary- and 17.9% for secondary-school COVID-related absences estimated by ONS on July 15th [1]. The increase in adults self-isolating has been more modest (Figure 5), though this will likely mask patterns in different age groups amongst the adults. In England, individuals who are isolating appear to have fewer contacts than those who are not, particularly amongst children of 5-17 who would be expected to be attending school during this period (Figure 6).

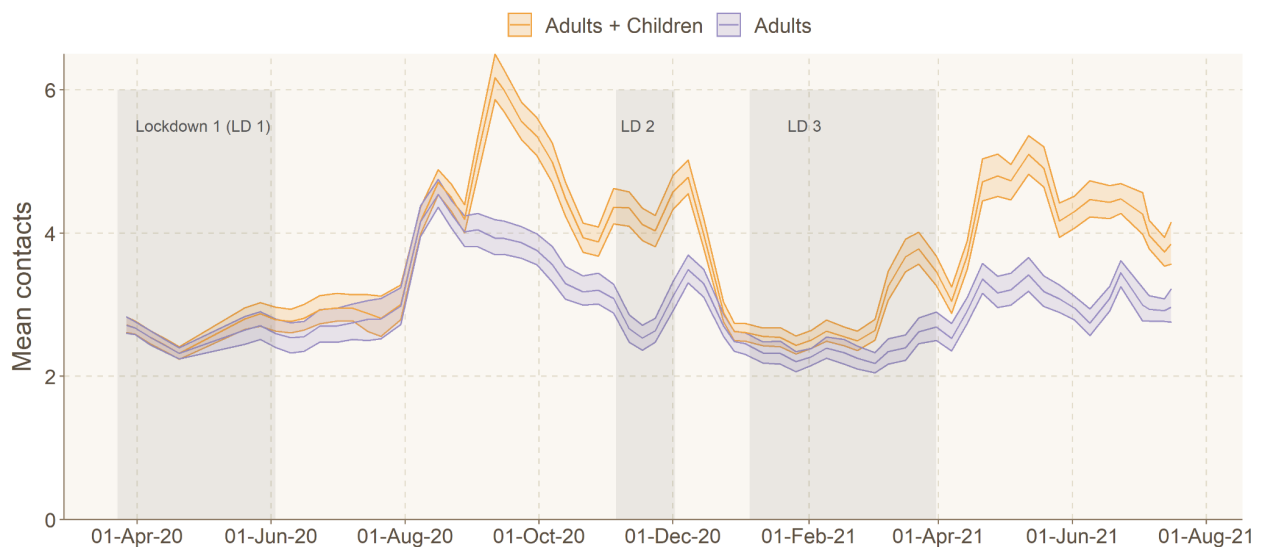


Figure 1: Mean contacts in the UK since the 23rd March 2020 for adults and children (all participants) and adults only (18 year +). Uncertainty calculated using bootstrapping.

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.

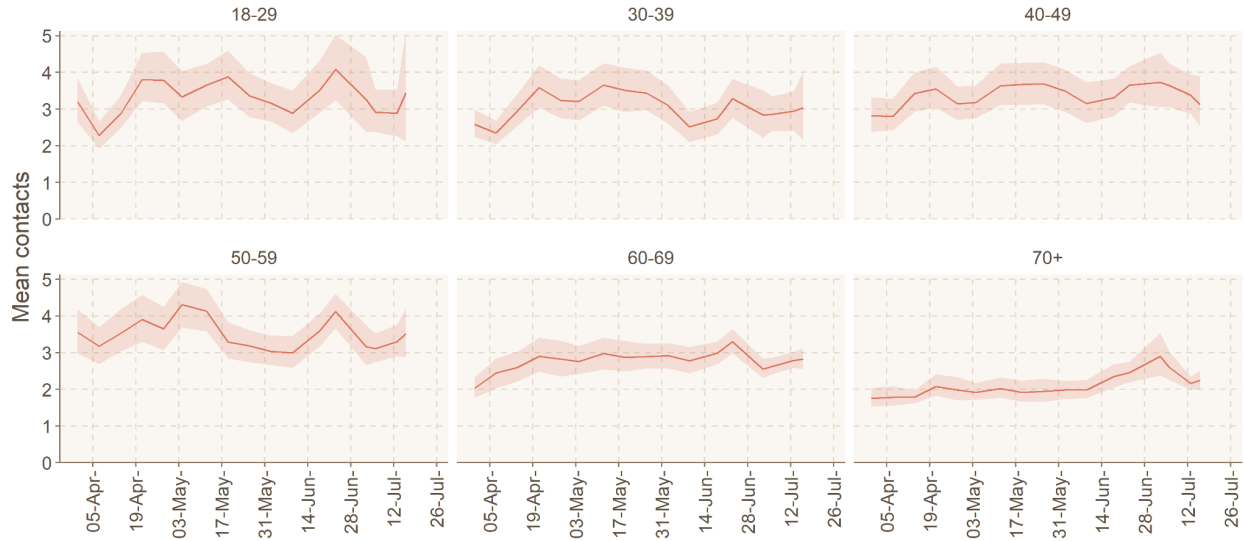


Figure 2: Mean contacts in all settings by age-group for adults over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

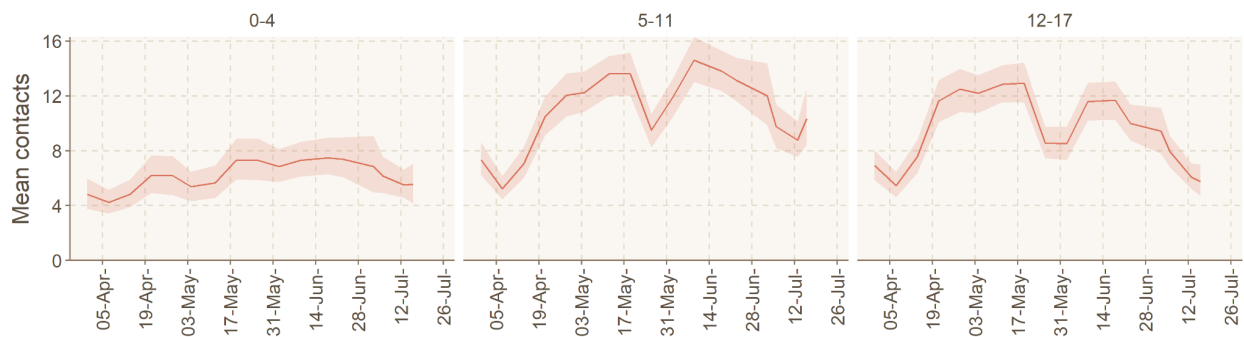


Figure 3: Mean contacts in all settings by age-group for children over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

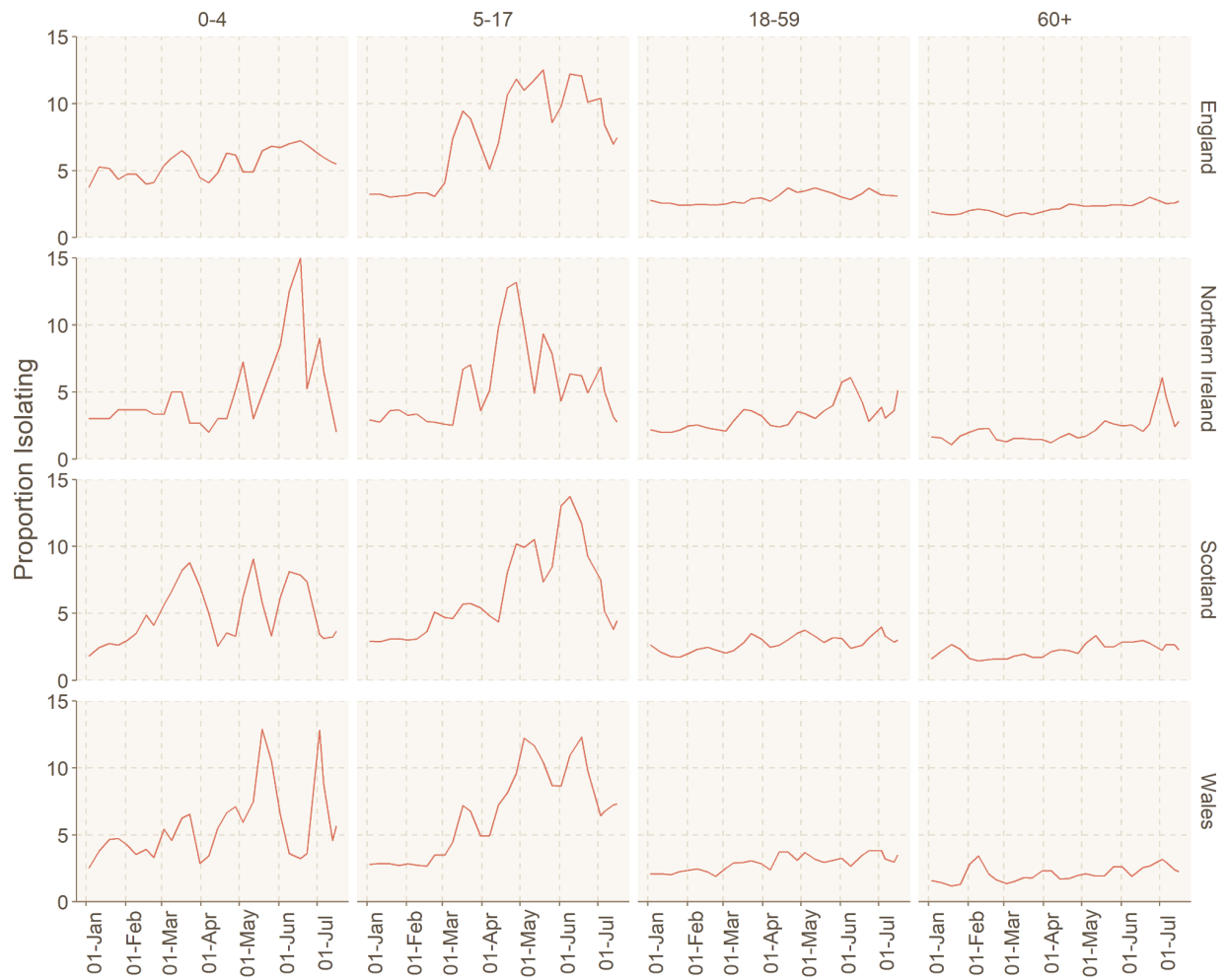


Figure 4: Mean contacts in all settings by age and UK nations since Jan 2021. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

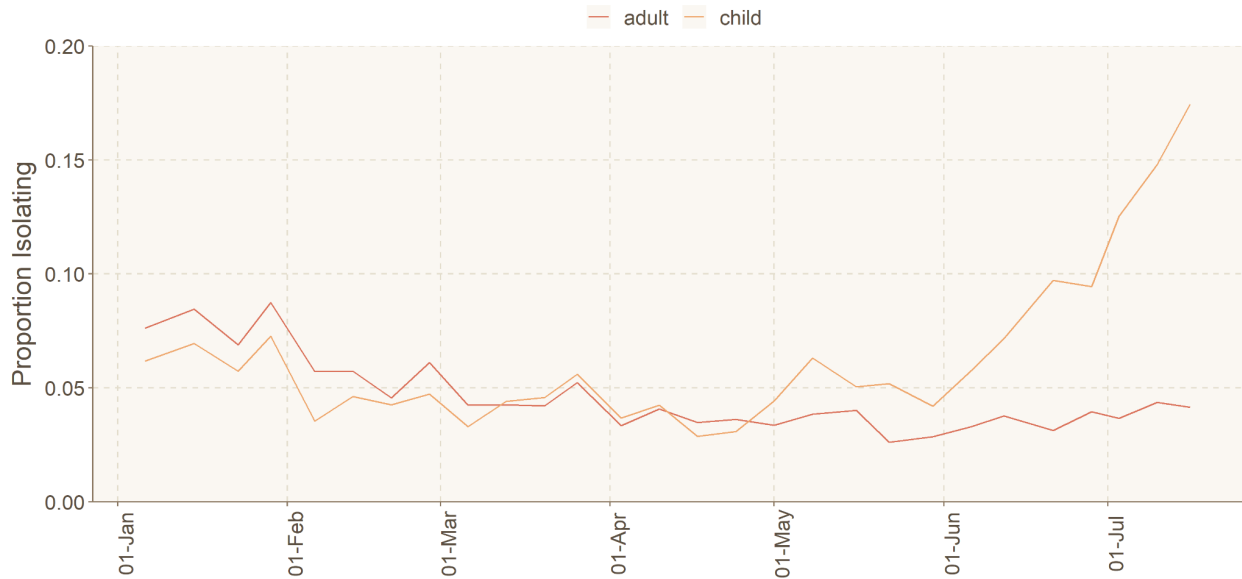


Figure 5: Proportion of sample isolating by adults and children over time in England since Jan 2021.

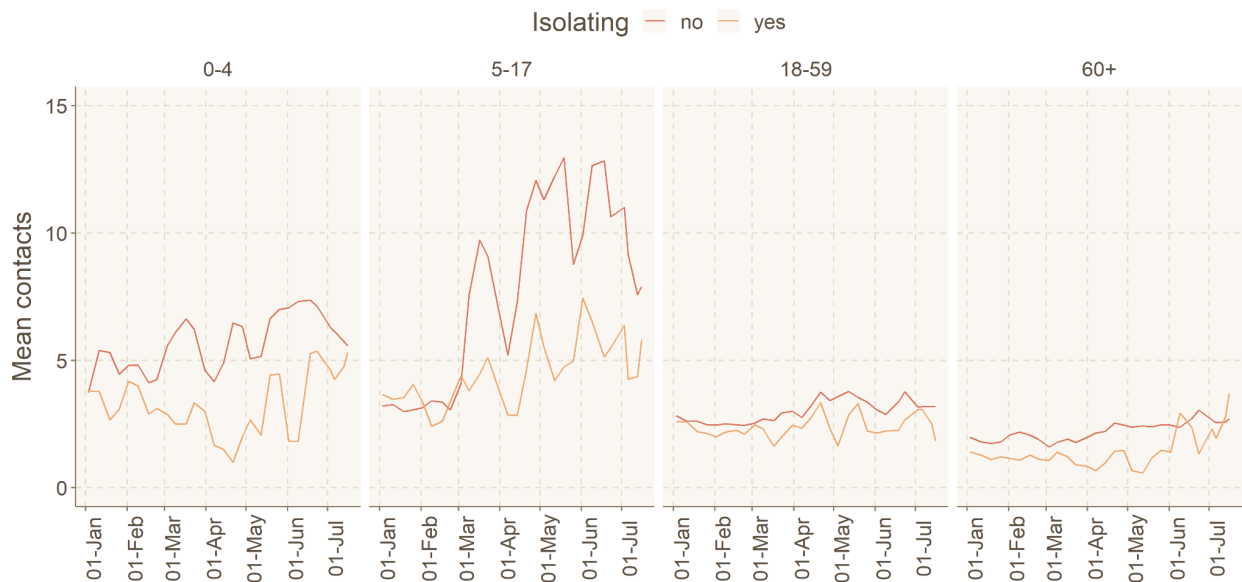


Figure 6: Mean contacts in all settings in England by age and whether participant is in isolation. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

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 [3].

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.

Participants were asked whether they were in isolation or quarantine on the day they reported contacts. We calculated the proportion who said yes over those who responded.

Funding

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References

1. Attendance in education and early years settings during the coronavirus (COVID-19) outbreak. [cited 27 Jul 2021]. Available: <https://explore-education-statistics.service.gov.uk/find-statistics/attendance-in-education-and-early-years-settings-during-the-coronavirus-covid-19-outbreak>
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.
3. 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.

Additional graphs

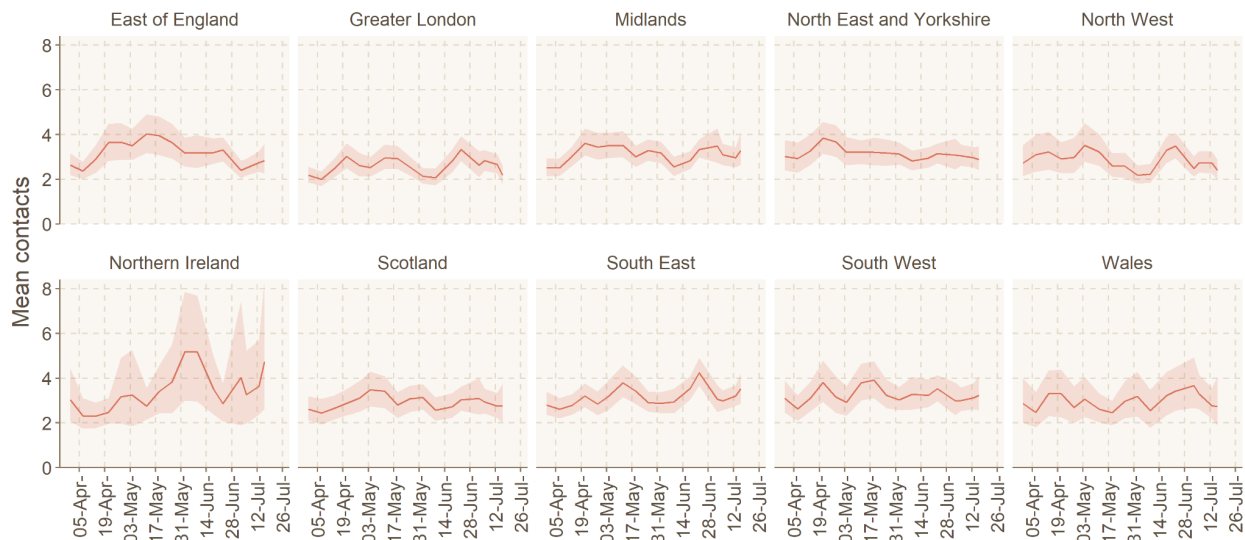


Figure S1: Mean contacts in all settings in adults for UK nations and English regions over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint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

Table S1. Time periods based on different level of lockdowns and restrictions in England over the previous year

Period	Date	Period	Date
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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. 30 June onwards	30 June 2021 - 19 July 2021

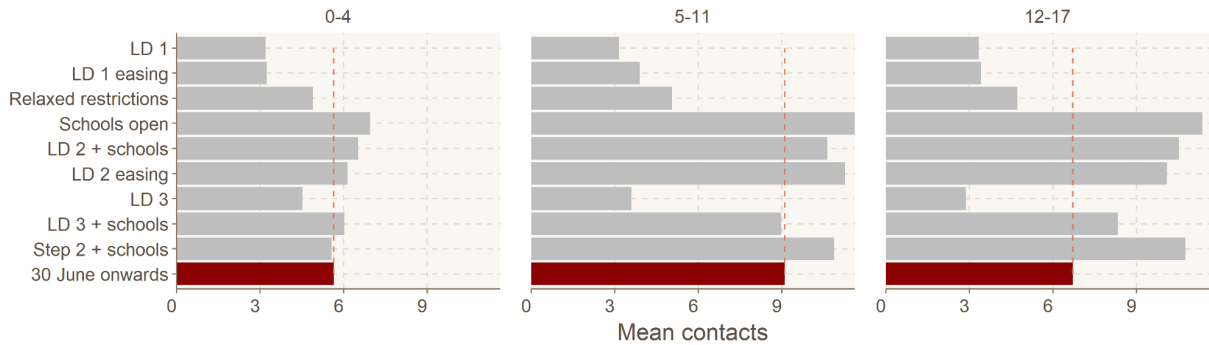


Figure S2: Comparison of mean weekday contacts from the 30 June to 19 July, (excludes half term) to nine previous time periods of different restrictions by age for children. Current period highlighted in red with dashed line for easier comparison to previous periods.

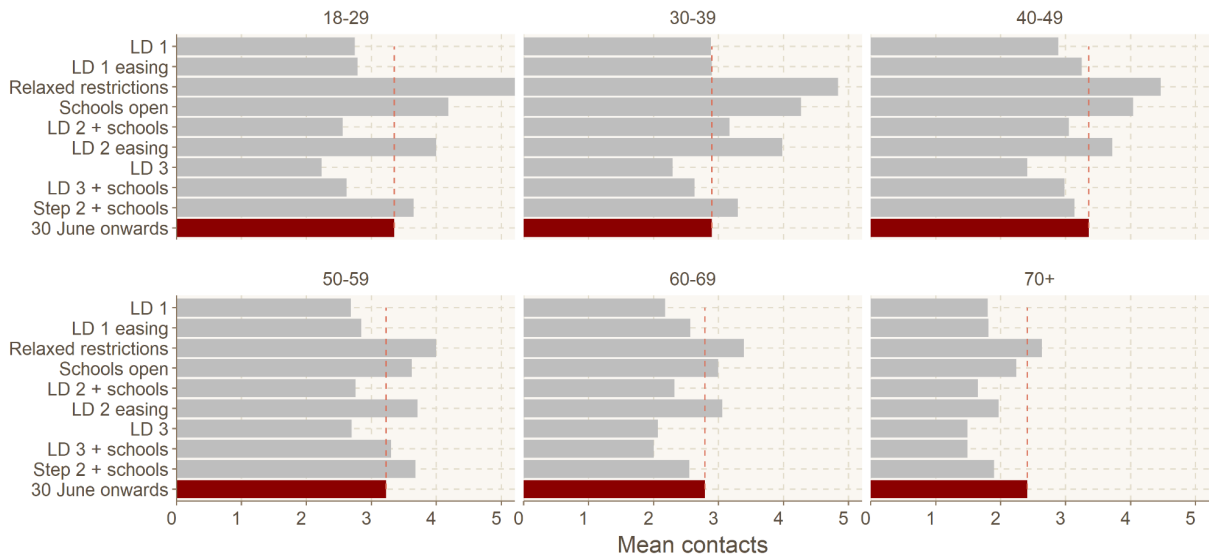


Figure S3: Comparison of mean weekday contacts from the 30 June to 19 July to nine previous time periods of different restrictions by age for adults. Current period highlighted in red with dashed line for easier comparison to previous periods.