Social contacts in the UK from the CoMix social contact survey
Report for survey week 80

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Summary

- Mean contacts for children increased when schools opened and have been stable at this increased level ever since.
- The overall reported contact rate for adults is very consistent with the levels seen in the previous two months.
- There has been a sharp decline in reported use of facemasks in Wales this week, but this is likely due to a smaller sample size. We will continue to monitor this in the following weeks.
- Reported contact rates for those attending work continue to be more than twice that of those workers who did not attend their workplace.
- The number of participants with workplaces open in our sample is now similar to those seen from August to December 2020 at above 80%.
- Attendance in person remains low - but gradually increasing - with about half of employed participants attending work in person when their workplace is open.

Main

Contacts for adults have been similar for the last few months, with greater fluctuations seen in the 18-29 year olds, mostly driven by changes in contacts in work and educational settings (Figure 1, 2, 3). Mean reported contacts for adults and children this week are similar to those seen in the last three weeks (Figure 1), reflecting that children's contacts have settled after schools reopened (Figure 1, Figure 4, Figure 5). Contacts remain quite consistent across the regions of England (Figure S1). As expected the largest driver of children's contacts is the pattern of school terms, which mostly affects contacts in the educational setting, but also results in higher contacts in other settings (mostly social and leisure), as shown in Figure 5.

There has been a small increase in children isolating since the return to school in early September, but the overall fraction is much lower than in July, when contacts, as well as cases were expected to quarantine or isolate. The fraction of adults in isolation/quarantine has remained steady at less than 5% (Figure 6). The increase in children isolating was more prominent amongst 5-11 year olds, which has increased from 5% to 10% since the end of August (Figure 7). The level of 12-17 year olds isolating also increased from mid-September onwards but this followed a dip and they are now consistent with the 5% level seen during the summer break (Figure 7).

Last week, we reported that participants from England were less likely to report wearing face coverings (<70%) than those from Wales or Scotland (85%+). The data this week suggests a sharp decline in reported face-covering use for participants from Wales (Figure 8) which is now consistent with England at below 70%. This may be due to a small sample size from Wales, with associated variability in reporting, and is unlikely to be a real change. We will continue to present this chart over the coming weeks to assess further. Scotland remains at the same level as prior weeks. Differences in reported mask-wearing by age group persists, with the decline in reported mask-wearing in the elderly (60+ years) stopping around 7 weeks ago, whereas younger adults have continued to reduce mask-wearing (Figure 9).

Those who attended work (over the last year) have reported consistently higher contacts compared to those whose work is open, but they did not attend (Figure 10). The proportion of people whose work is open has increased moderately since the end of the third lockdown and is now at levels seen consistently during the Autumn of 2020 (Figure 11A). Despite this, only around half of the employed participants reported attending work in person when it was open (Figure 11B).
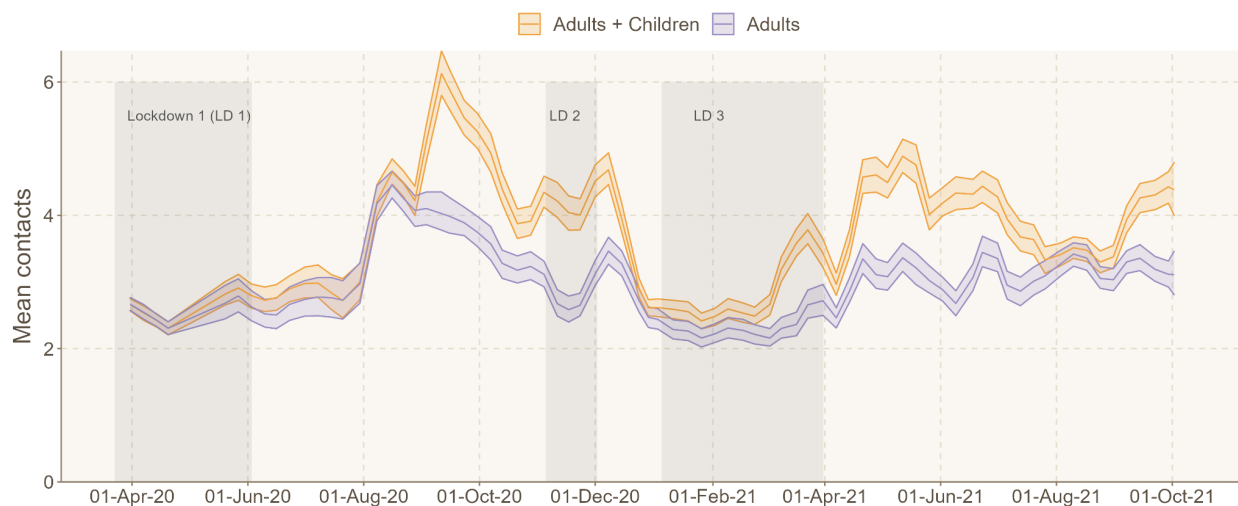
Figure 1: Mean contacts in the UK since the 23rd March 2020 for adults and children (all participants) and adults only (18 year +). Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.
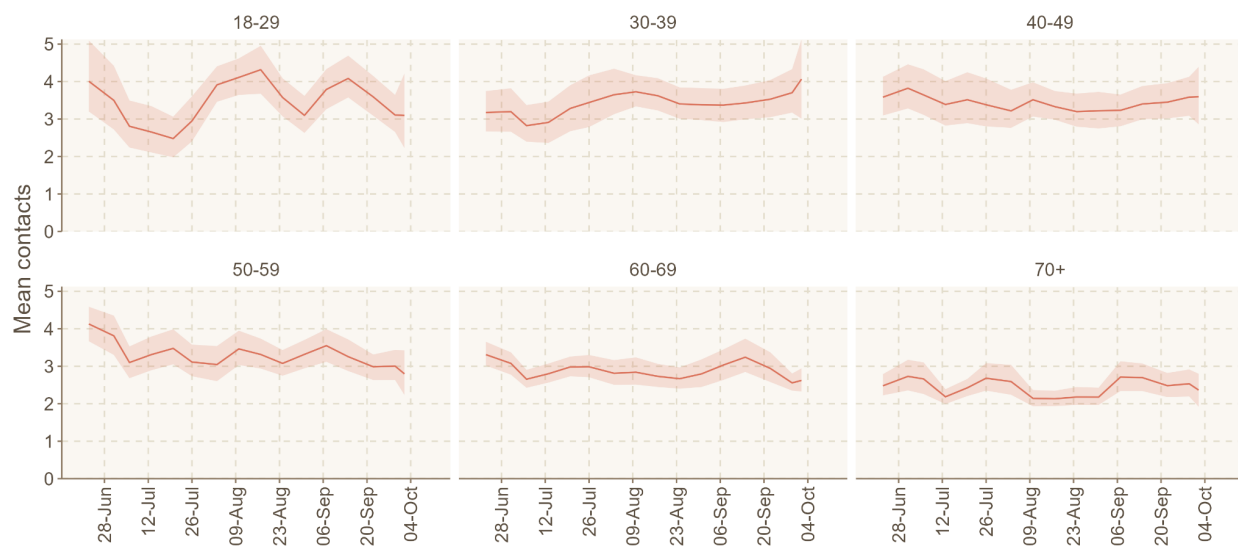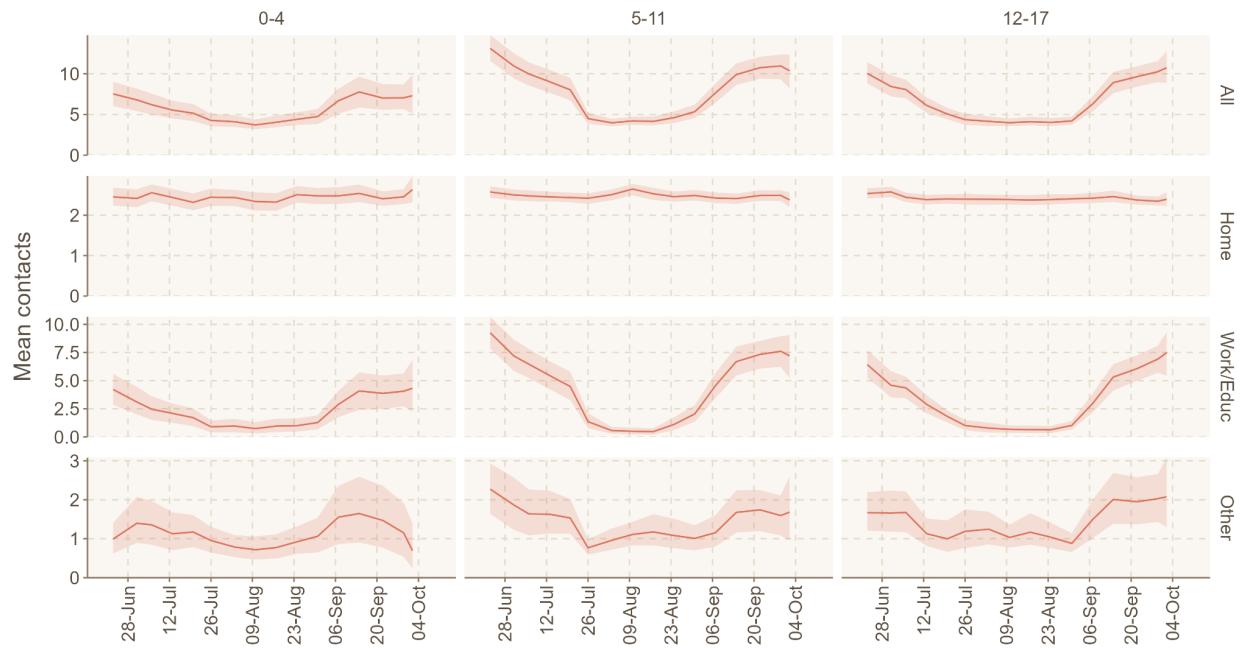

Figure 2: Mean contacts in all settings by age-group for adults over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.
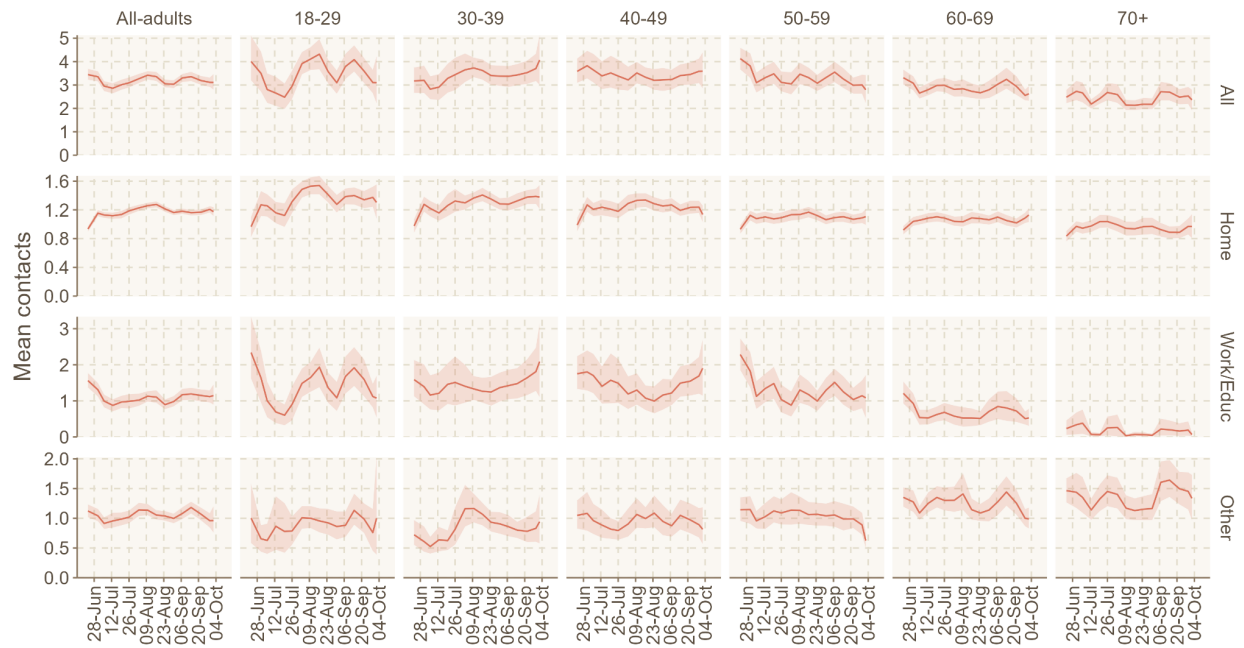
Figure 3: Mean contacts by settings and by age-group over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.
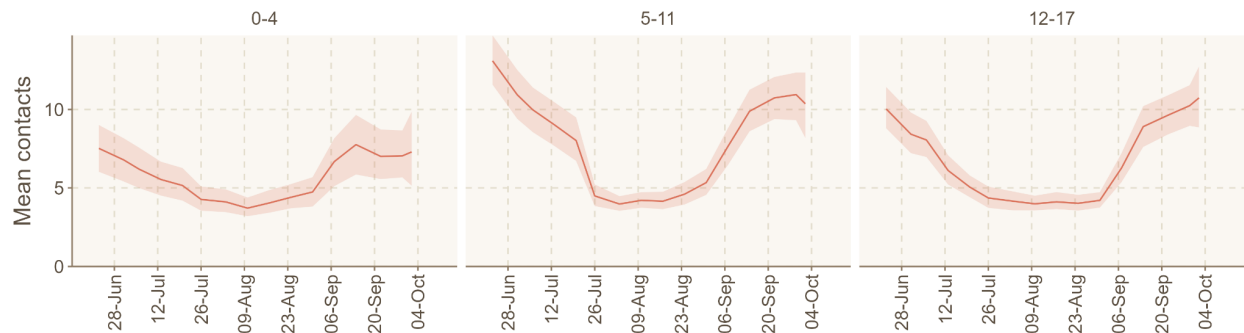

Figure 4: Mean contacts in all settings by age-group for children over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

Figure 5: Mean contacts by setting and 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.
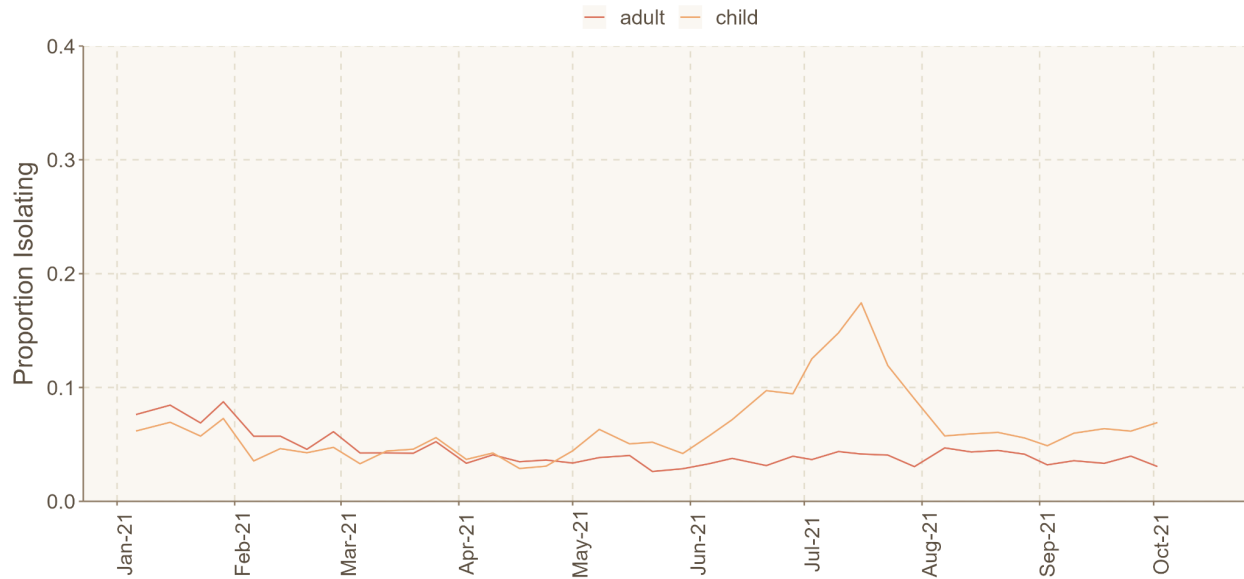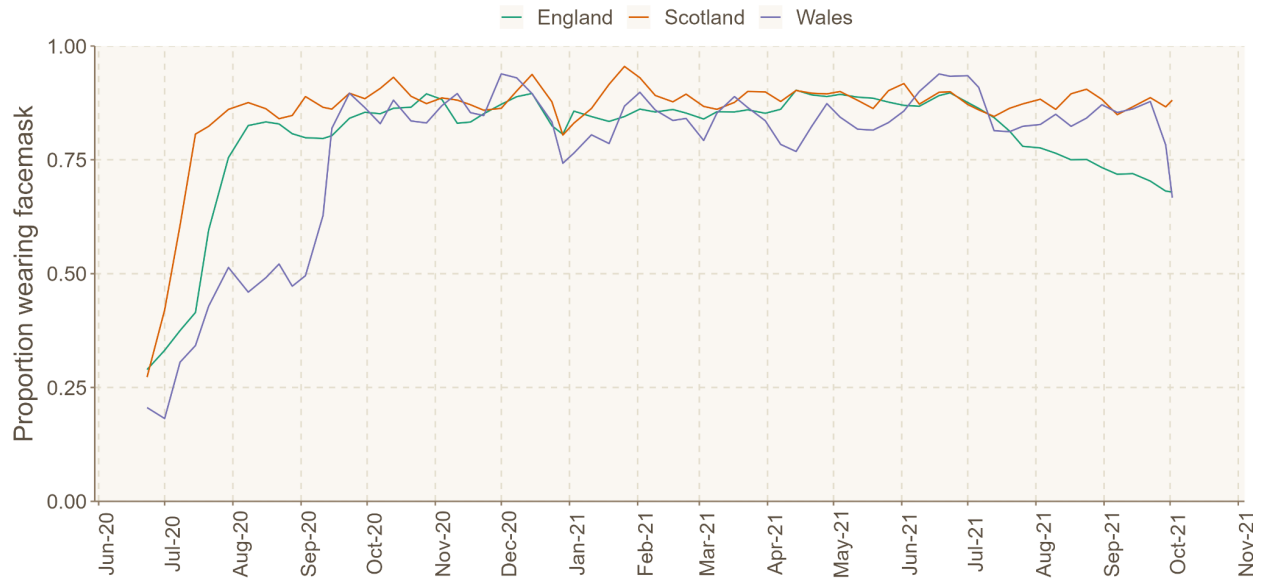
Figure 6: Proportion of adults or children in isolation or quarantine. Observations are smoothed over two weeks to account for panel effects apart from the most recent week of data. Date on x axis refers to the midpoint of the survey period.
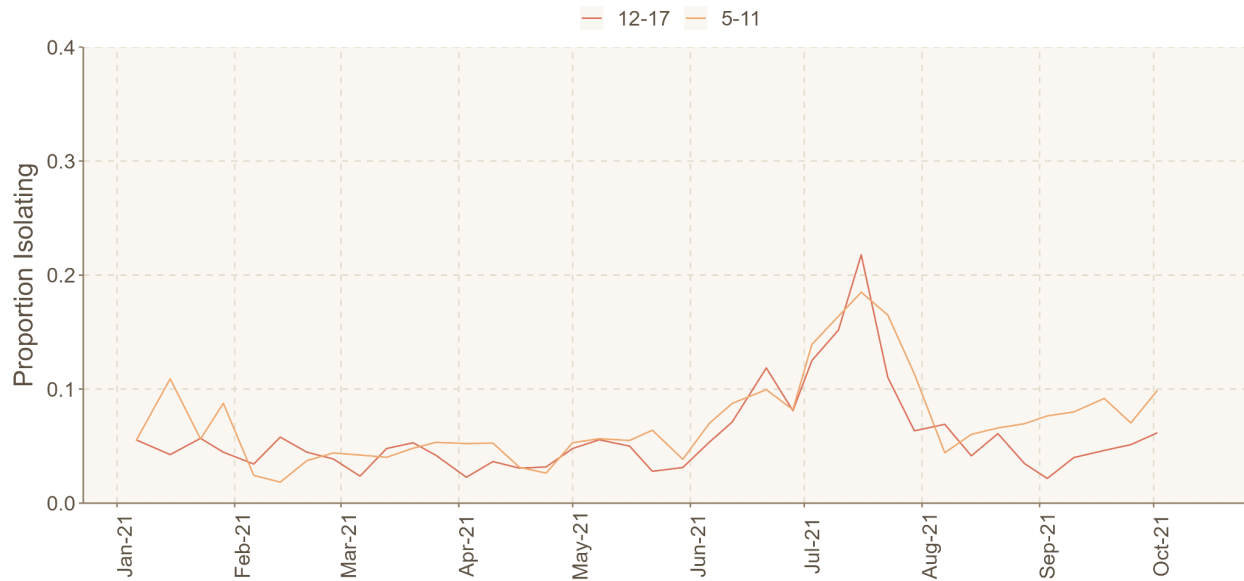

Figure 7: Proportion of school-aged children in isolation or quarantine. Observations are smoothed over two weeks to account for panel effects apart from the most recent week of data. Date on x axis refers to the midpoint of the survey period.

Figure 8: Proportion of adults wearing a face mask over time by country (with at least one contact outside of the home). Observations are smoothed over two weeks to account for panel effects apart from the most recent week of data. Date on x axis refers to midpoint of the survey period.
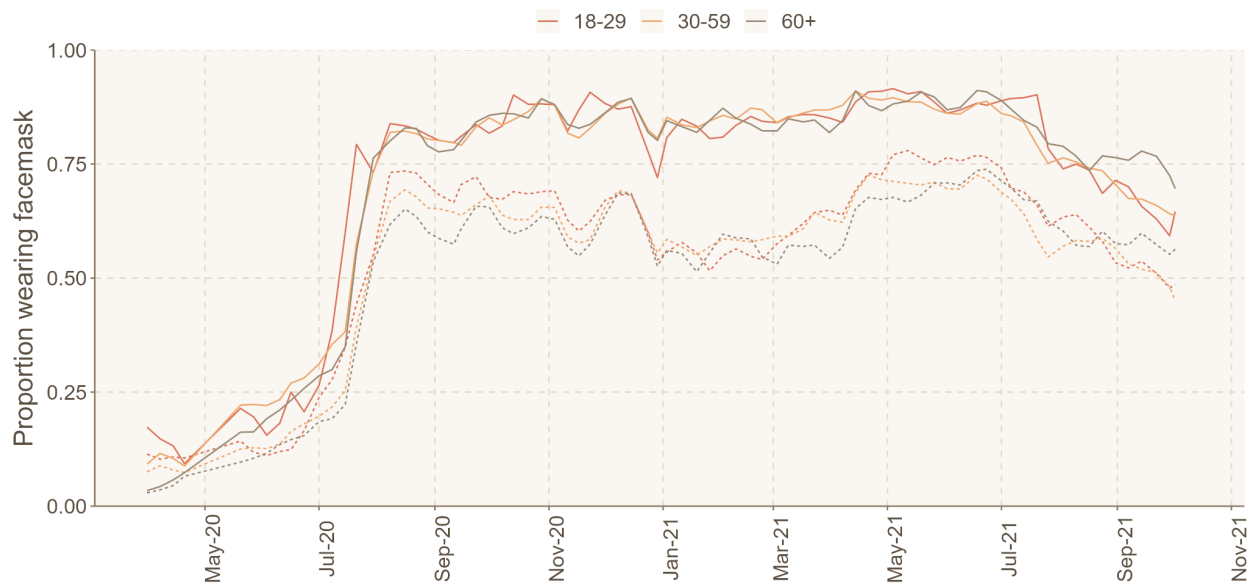

Figure 9: Proportion of adults wearing a face mask over time in England (Solid line = with at least one contact outside of the home, dotted line = all participants). Date on x axis refers to midpoint of the survey period.

A: All contacts

Attend work yesterday — no — yes
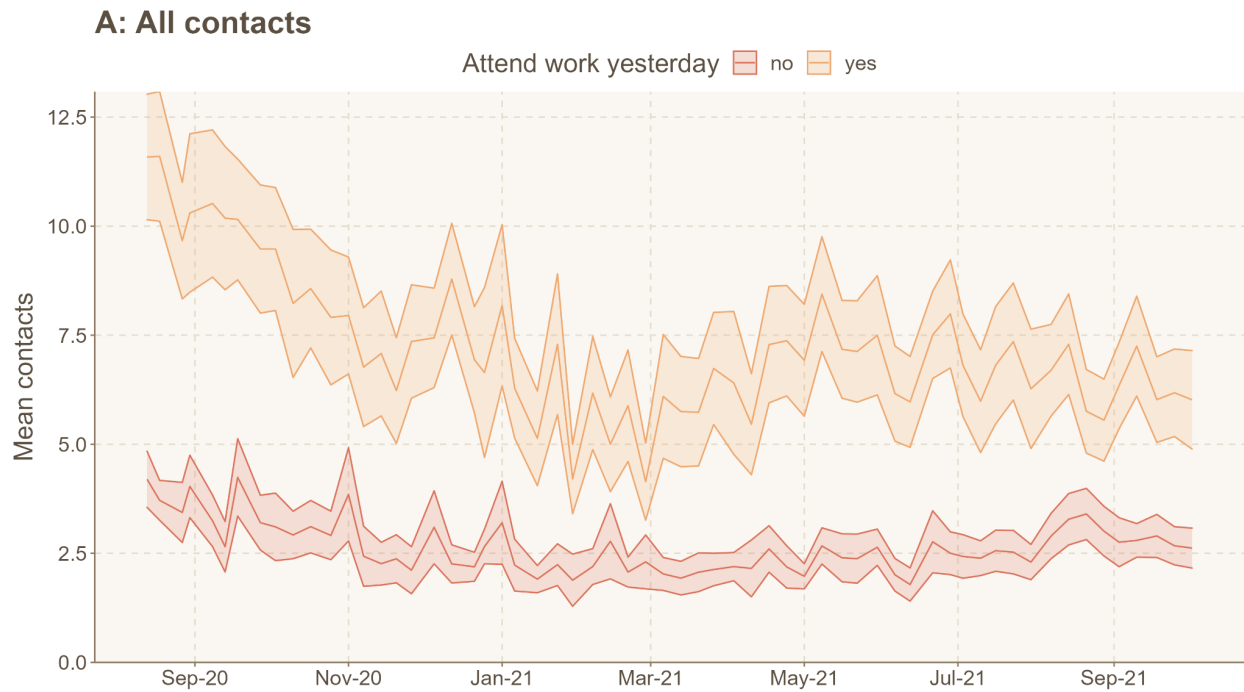
Figure 10: Mean contacts in the UK since August 2020 for individuals attending or not attending work on the day of the survey for people that are employed and their work is open. 95% Uncertainty interval calculated assuming a standard normal mean of two times the standard error of the mean. Contacts 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.
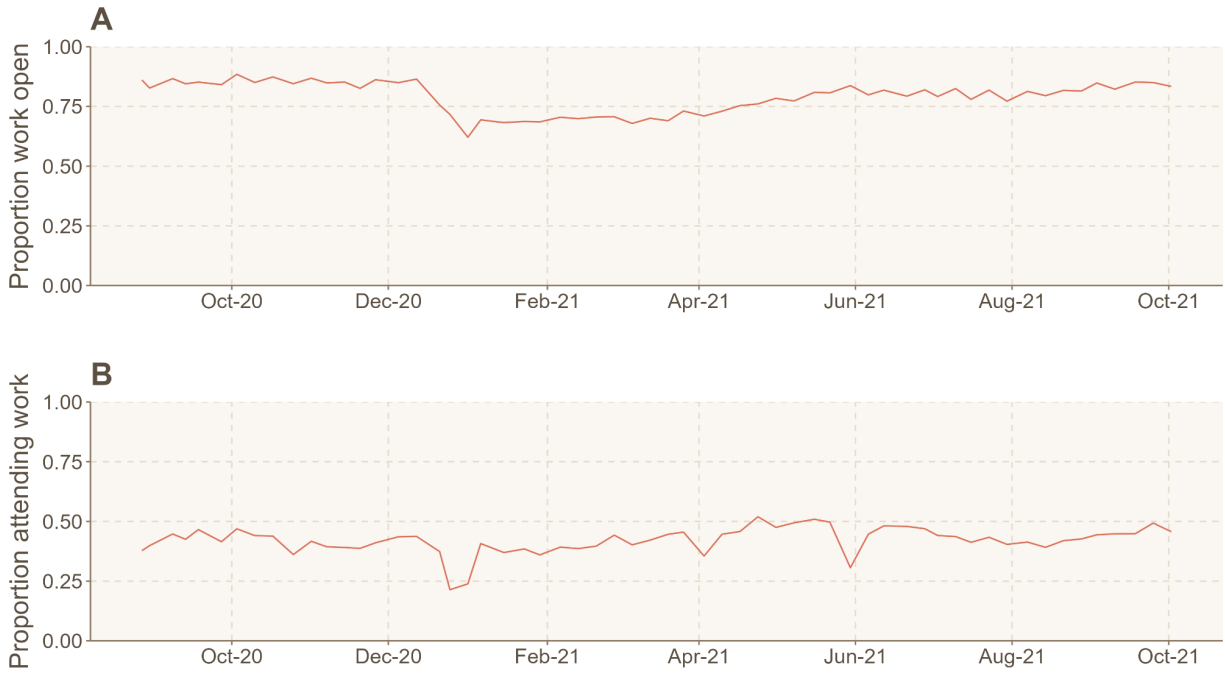
Figure 11: Proportion of adults A: With their work place open B: attending work in person. Date on x axis refers to midpoint of the survey period.

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 [1]. The contact survey is based on the POLYMOD contact survey [2].

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 used a post-stratification method to assign weights, based on the World Population Prospect population estimates for the UK by age and gender, when calculating the mean number of contacts. 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 ten 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. They were also asked whether they wore a facemask on the day of reported contacts, we filtered to participants who had at least one contact outside of the home. We calculated the proportion who said yes for both these categories over those who responded.

References

1. 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.

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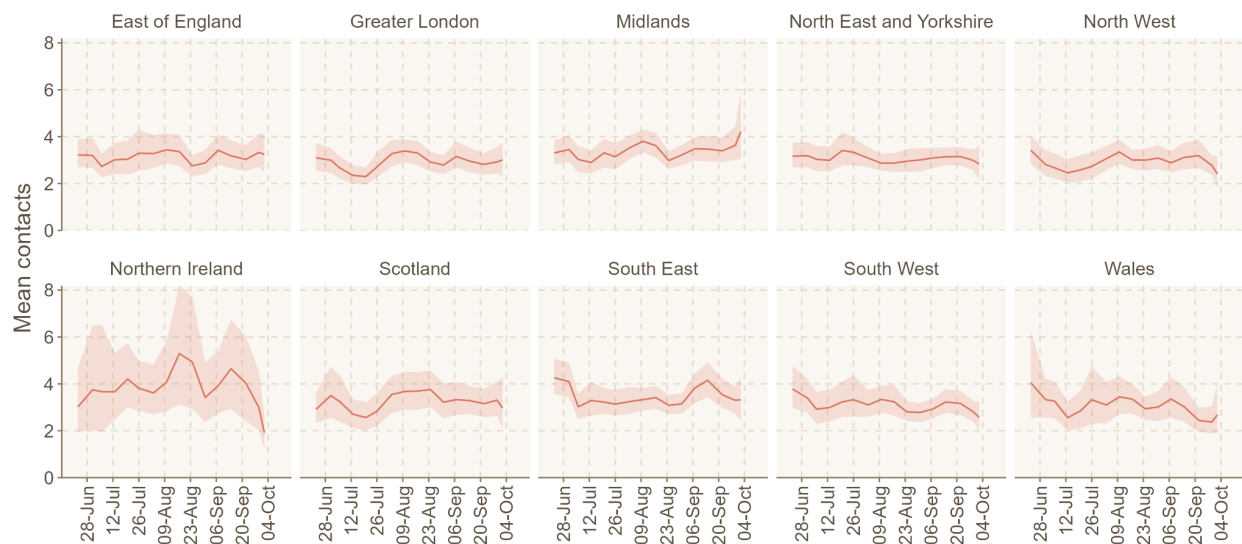
Figure S1: Mean contacts in all settings in adults for UK nations and English regions over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint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

A: Work/Education

B: Public transport

C: Supermarket

D: Walking outside

E: Leisure
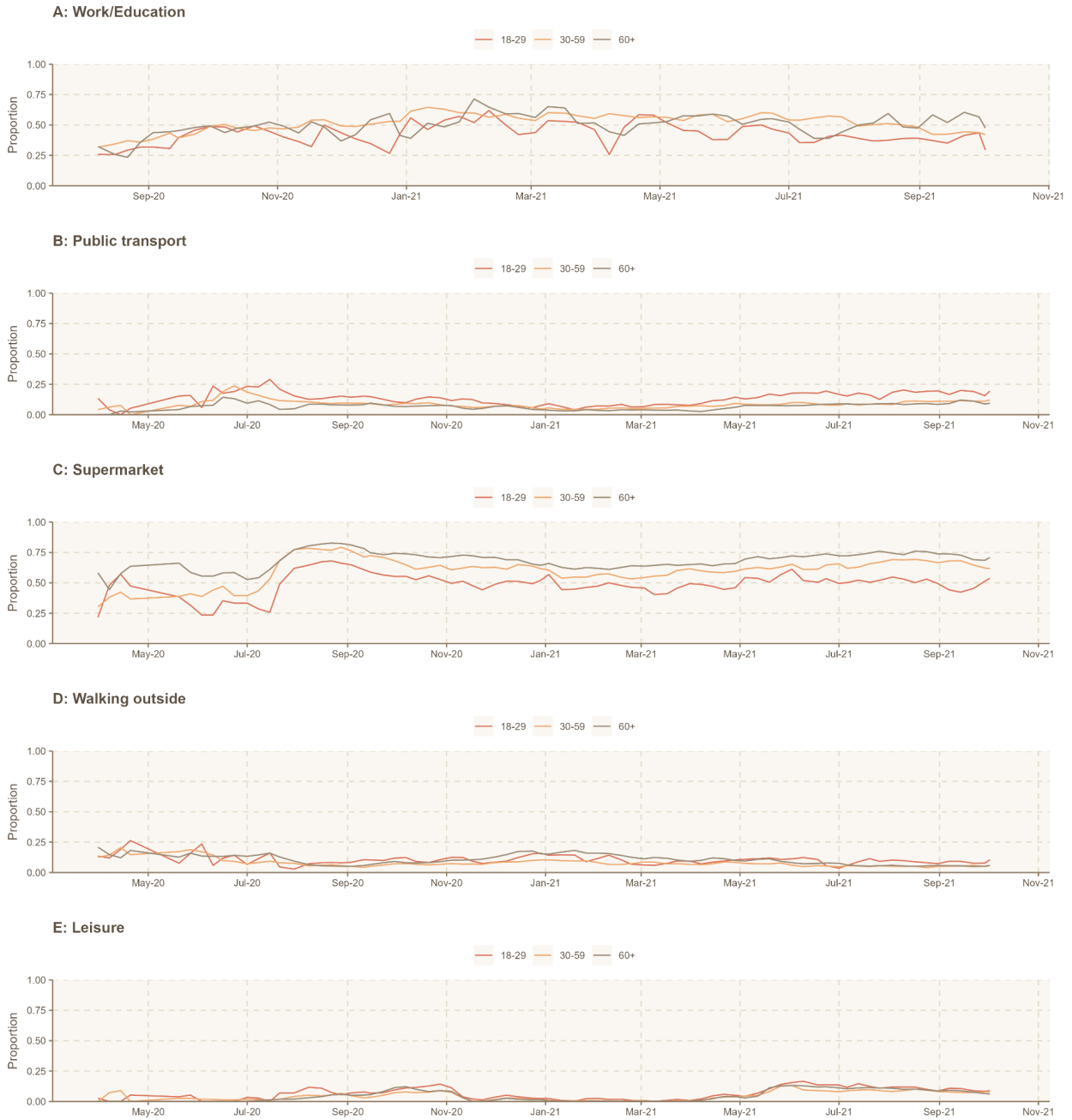
Figure S2: Proportion of adults wearing a face mask over time in different settings for those with at least one contact outside of the home, dotted line = all participants). Date on x axis refers to midpoint of the survey period.