Social contacts in the UK from the CoMix social contact survey
Report for survey week 54

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Summary

- Mean contacts for adults rose towards the end of the third lockdown and have stayed steady since the lockdown has been partially lifted. This has been particularly true in the 18-29 year old age group, who have reported an increase in contacts in the educational and work settings. Older adults have also seen modest increases in contacts, which are mainly attributable to work or "other" settings (the latter being predominantly social and leisure).
- Contacts in children have decreased in the last few weeks consistent with the easter break of schools.
- There are small increases in the reported number of contacts made outside across all age groups.

Main

Overall mean contacts have reduced somewhat during the Easter holiday period (Figure 1) though this masks a number of trends. Adult contacts have increased slightly. The increase in contacts in the 18-30 age group first noticed a few weeks ago appears to have been sustained, and seems to be attributable to an increase in contacts in all settings, though the largest changes appear to be in education and work (Figure S1). Other adult age groups have reported roughly steady or a gradual increase in contacts over recent weeks (including the 70+ age group) (Figure 2). The latest data (up to 7th April) suggests a small increase in mean household contacts in all adult age groups (Figure S1). This increase is very small and may just reflect sample size issues, but it does appear to be consistent across the age groups. Note that the increase in "work/education" contacts in adults aged 30-49 has reversed recently, coinciding with the Easter break. Also note the increase in "other" contacts in the 70+ age group over recent weeks (the "other" category largely reflects social and leisure contacts). These changes are small and the number of contacts remains low, but there does appear to be a consistent pattern of increasing social contacts in the elderly. The increases in adult contacts has been counterbalanced by a reduction in contacts in children (including pre-school children) during the Easter holiday period (Figure 3).

There has been an increase in contacts outside in recent weeks across all age groups, though this is small and data for whether a contact is inside or outside is only recorded for individually reported contacts (Figures 4 and 5).

Discerning clear trends in regional contact patterns is difficult due to the smaller sample sizes. However, it appears that adult CoMix respondents in London and the Midlands have not reported increases in contacts over recent weeks, whereas mean adult contacts reported by adults in other English regions and UK nations may have increased somewhat (Figure 6). Again, it should be stressed that any geographical variation in mean recorded contacts remains small, with values all lying between 2 and 3 contacts per person per day (Figure 6).
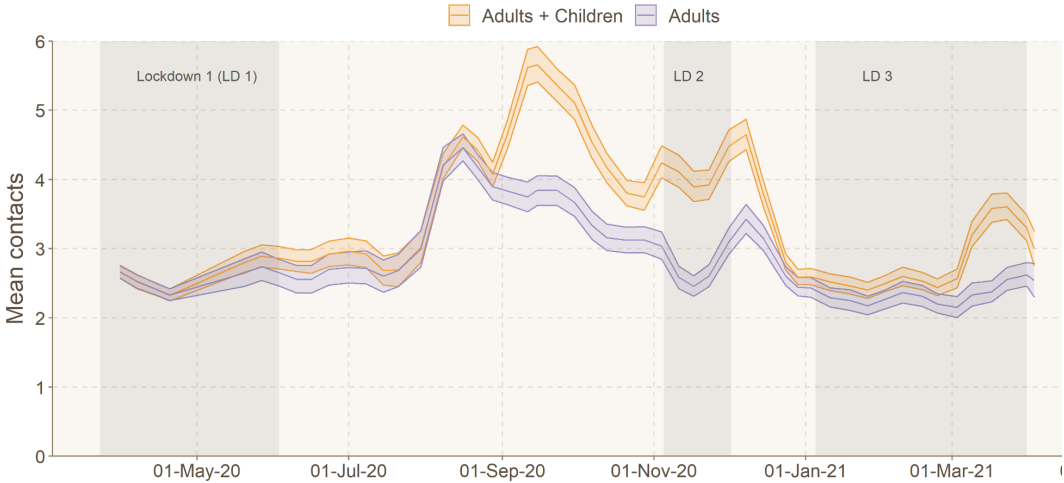

Figure 1: Mean contacts since the 23rd March 2020 for adults and adults and children. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.
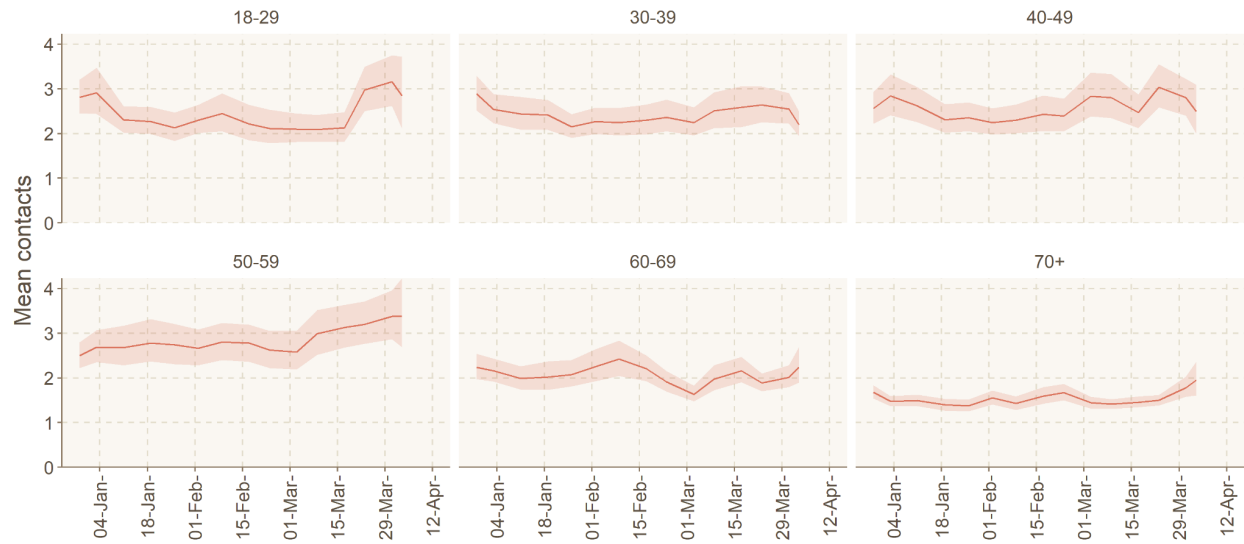
Figure 2: Mean contacts in all settings by age-group for adults over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.
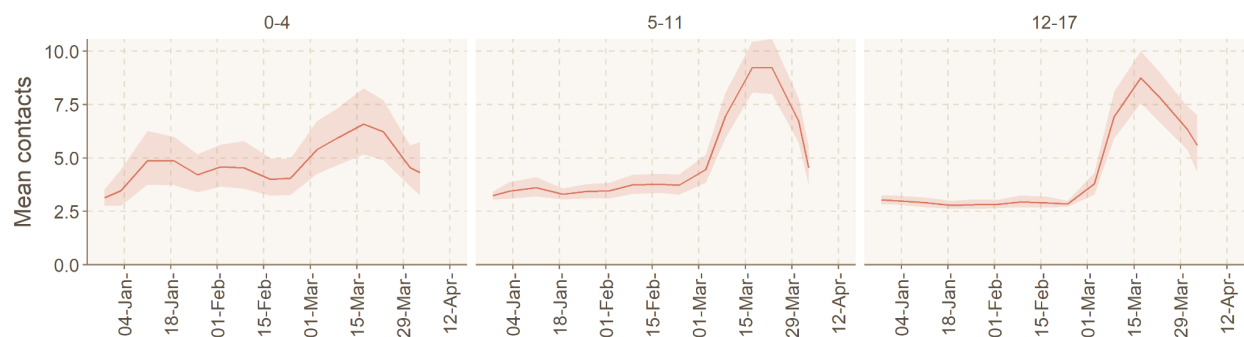

Figure 3: Mean contacts in all settings by age-group for children over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.
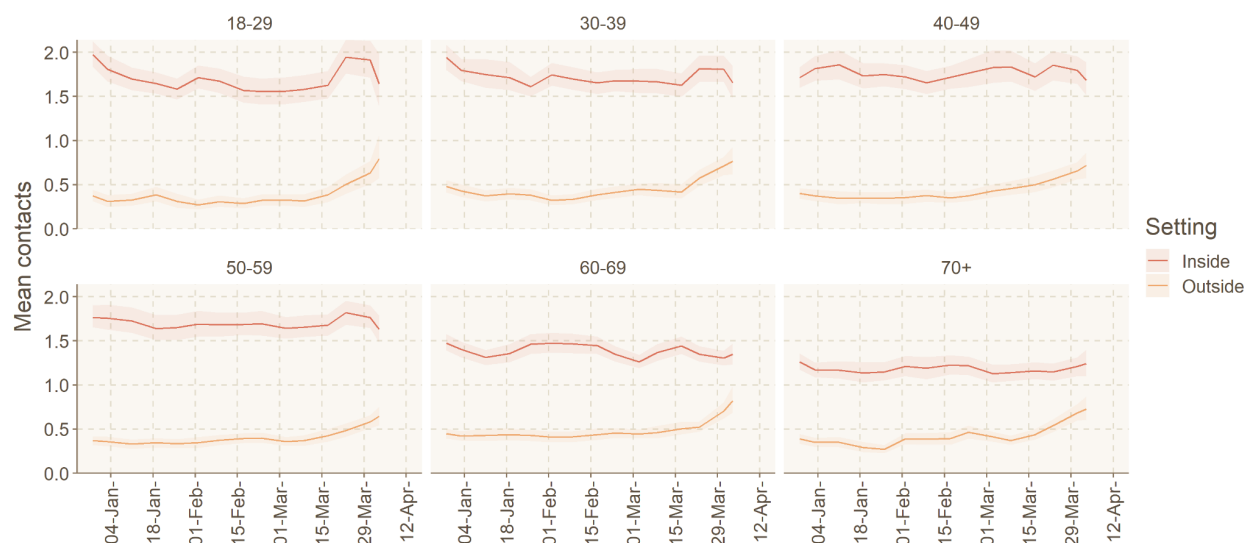
Figure 4: Mean contacts indoors versus outdoors in all settings by age-groups for adults over time Uncertainty calculated using bootstrapped. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period. (Note information on a contact being inside or outside is only available for individually reported contacts, is not present for all contacts, and a contact can be selected as inside and outside.
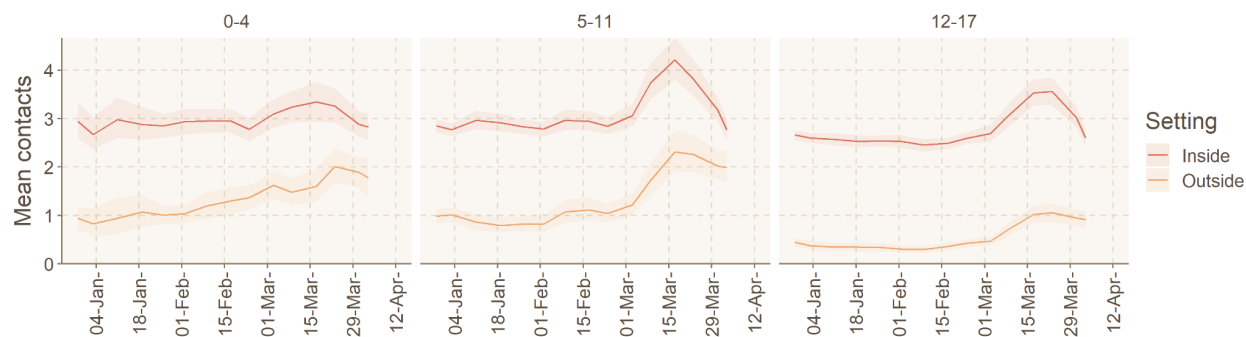

Figure 5: Mean contacts indoors versus outdoors in all settings by age-groups for children over time Uncertainty calculated using bootstrapped. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period. (Note information on a contact being inside or outside is only available for individually reported contacts, is not present for all contacts, and a contact can be selected as inside and outside.
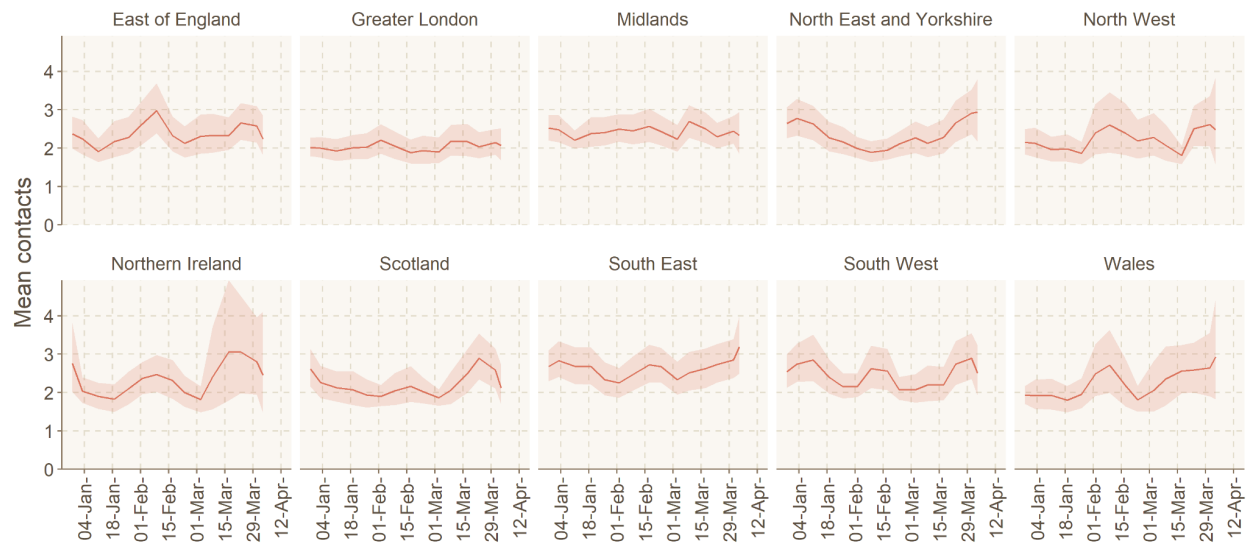
Figure 6: Mean contacts in all settings in adults for UK nations and English regions over time. Uncertainty calculated using bootstrapped. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of 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. 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 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.

Funding

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.
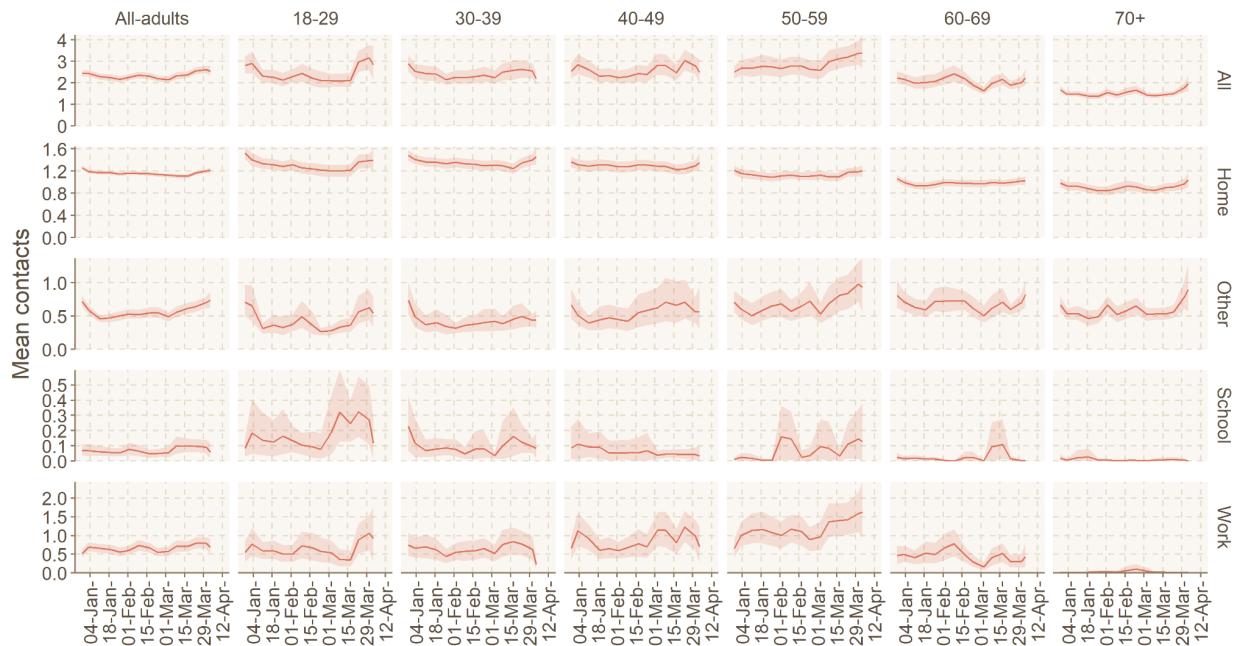
Appendix

Figure S1: 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. Educ = educational setting. Date on x axis refers to the midpoint of the survey period.
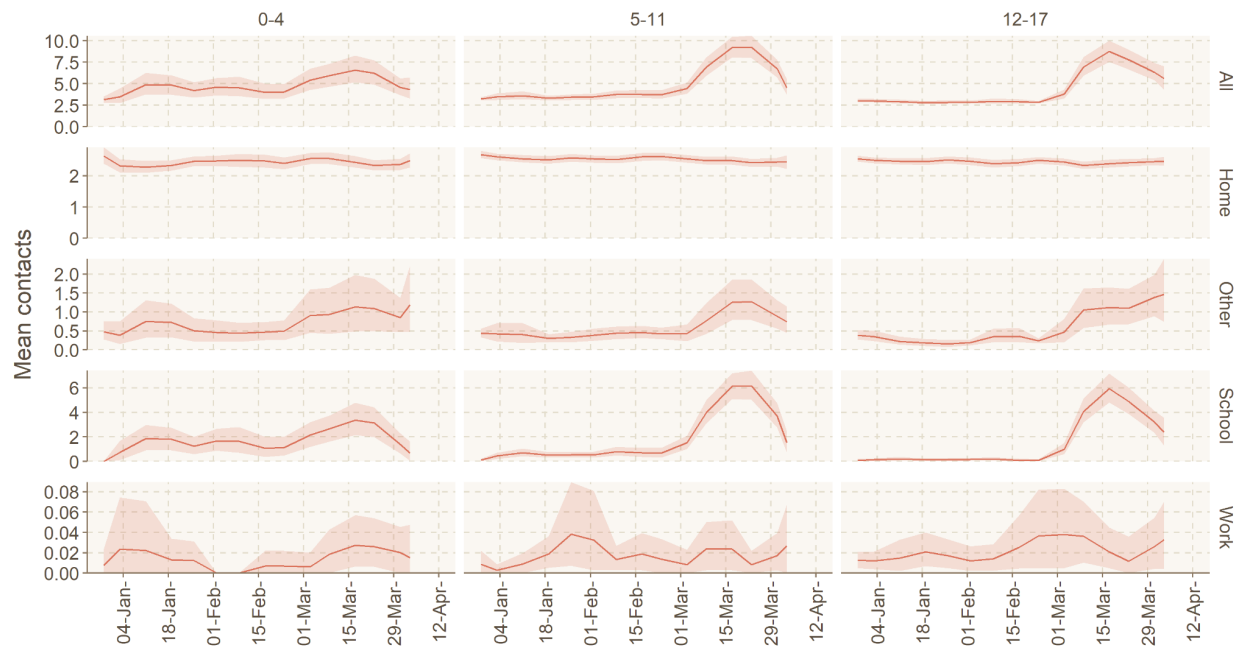
Figure S2: Setting-specific mean contacts by age-group for children over time.
Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Educ = educational setting. Date on x axis refers to the midpoint of the survey period.