Social contacts in the UK from the CoMix social contact survey
Report for survey week 79

Christopher Jarvis, Amy Gimma, Kerry Wong, John Edmunds on behalf of CMMID COVID-19 Working Group, London School of Hygiene and Tropical Medicine.

Report for SPI-M-O and SAGE, 05 October 2021
Data up to 29 September 2021

Summary

- Mean contacts for children remain similar to previous weeks.
- The overall reported contact rate for adults is similar to levels seen over the last month
- Self-reported facemask wearing for those who have at least one non-home contact appears to have reduced below 70% in England, though this overall figure masks differences by age. Reported face-covering wearing has stabilised in the over 60s but continues to fall in younger age groups.
- The use of face-coverings has remained high in both Wales and Scotland (> 85% of participants), where use in certain social settings has remained mandatory.
- Reported contact rates for those attending work continue to be more than twice that of those workers who did not attend their workplace.

Main

Mean reported contacts this week are similar to those seen in the last two weeks (Figure 1). Contacts for adults have been similar for the last several weeks, with greater fluctuations seen in the ages 18-29, mostly driven by work and educational settings (Figure 1, 2, 3). Reported contacts for children, increased with schools opening and have remained roughly stable since then (Figure 1, Figure 4). 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 increases in other settings (mostly social and leisure), as shown in Figure 5.

When split out by country there is a clear delineation of the proportion of people reporting wearing facemasks with England being much lower than Scotland and Wales (Figure 6). Fewer than 70% of participants in England who reported a contact outside the home reported wearing a face covering, whereas in Scotland and Wales more than 85% did. As previously reported, the wearing of face-coverings (masks) has fallen steadily in young and middle-aged adults since the easing of restrictions in England on July 19th (Figure 7). There also continues to be differences by age group. The decline in reported mask-wearing in the elderly (60+ years) stopped around 6 weeks ago, whereas younger adults have continued to reduce mask-wearing.

Those who attended work report consistently higher contacts compared to those whose work is open, but they did not attend (Figure 8).

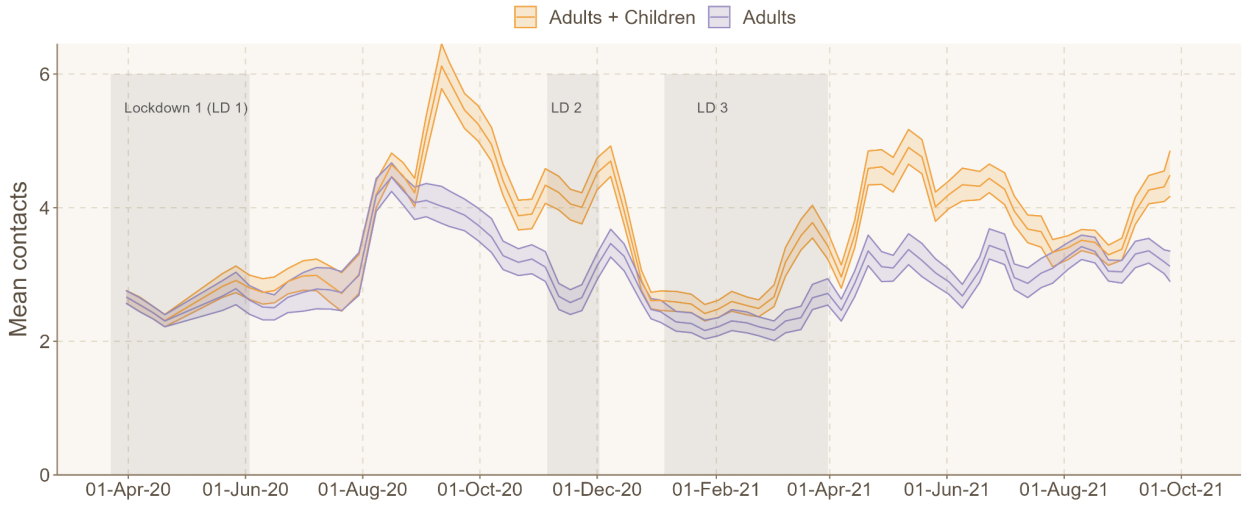

Figure 1: Mean contacts in the UK since the 23rd March 2020 for adults and children (all participants) and adults only (18 year +). Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date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

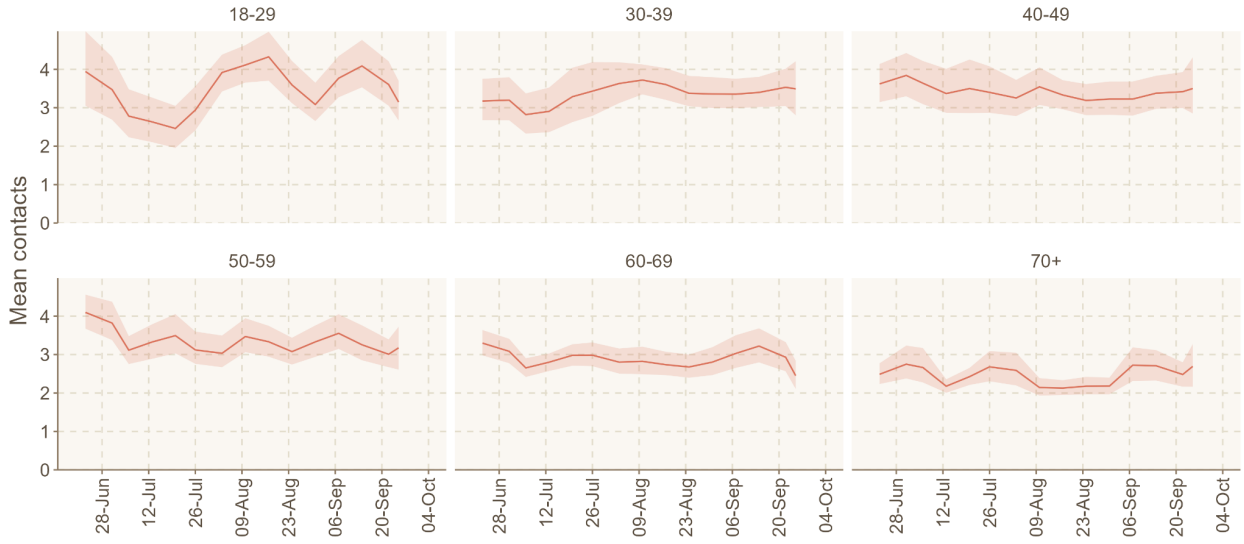

Figure 2: Mean contacts in all settings by age-group for adults over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

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.

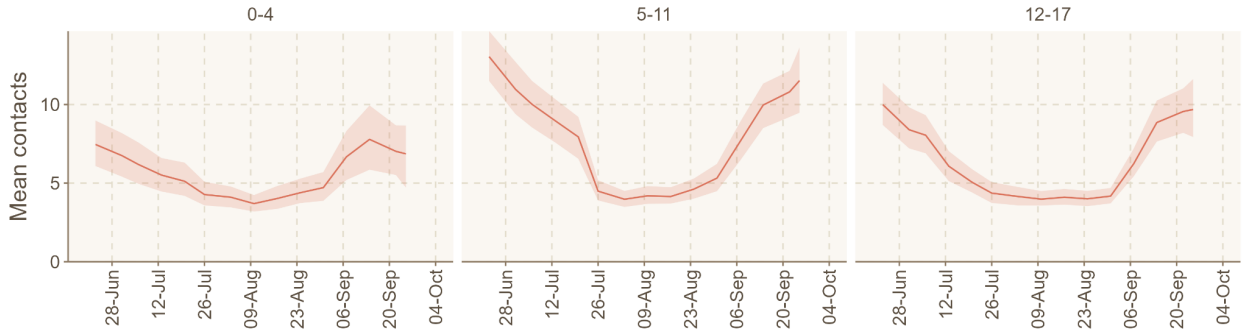

Figure 4: Mean contacts in all settings by age-group for children over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

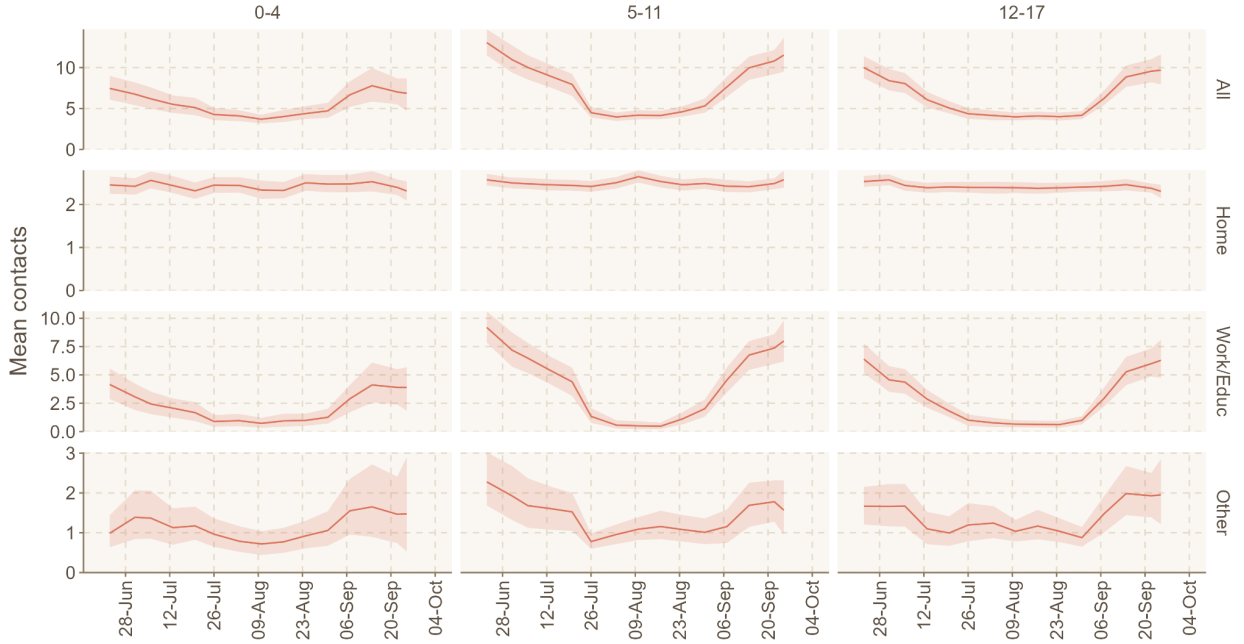

Figure 5: Mean contacts by setting and age-group for children over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint of the survey period.

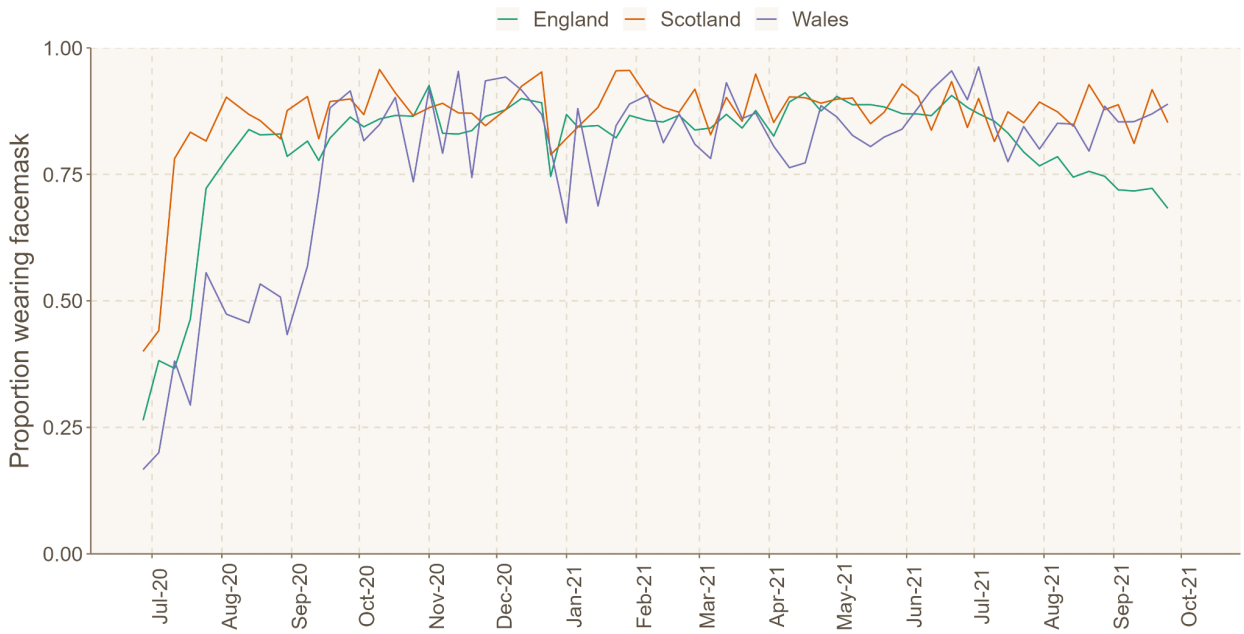

Figure 6: Proportion of adults wearing a face mask over time by country (with at least one contact outside of the home). Date on x axis refers to midpoint of the survey period.

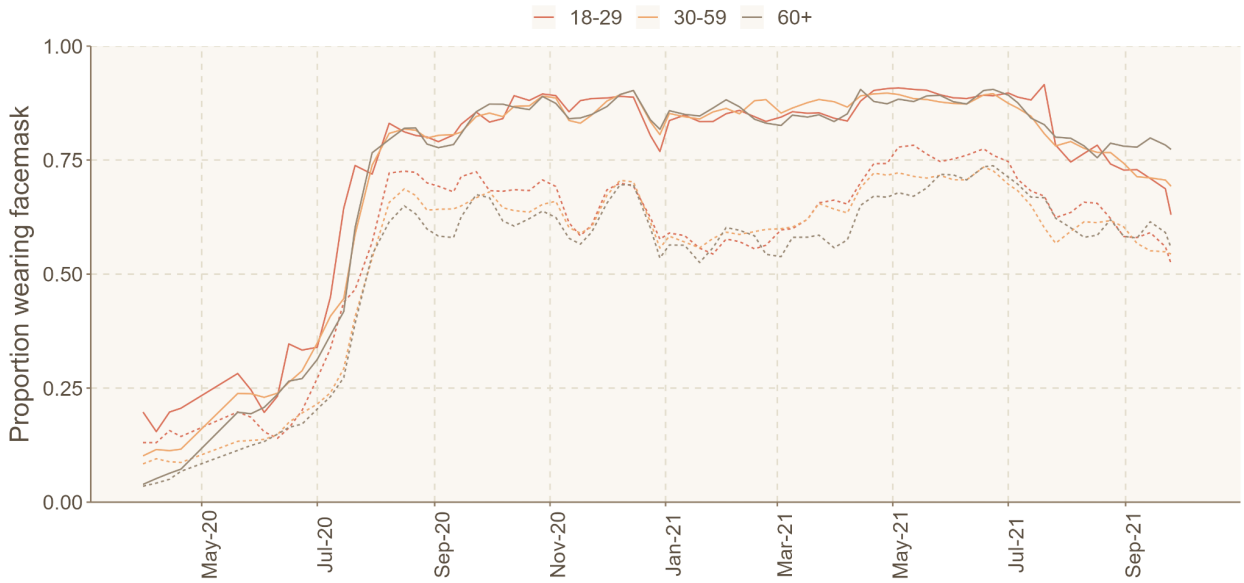

Figure 7: Proportion of adults wearing a face mask over time in England (Solid line = with at least one contact outside of the home, dotted line = all participants). Date on x axis refers to midpoint of the survey period.

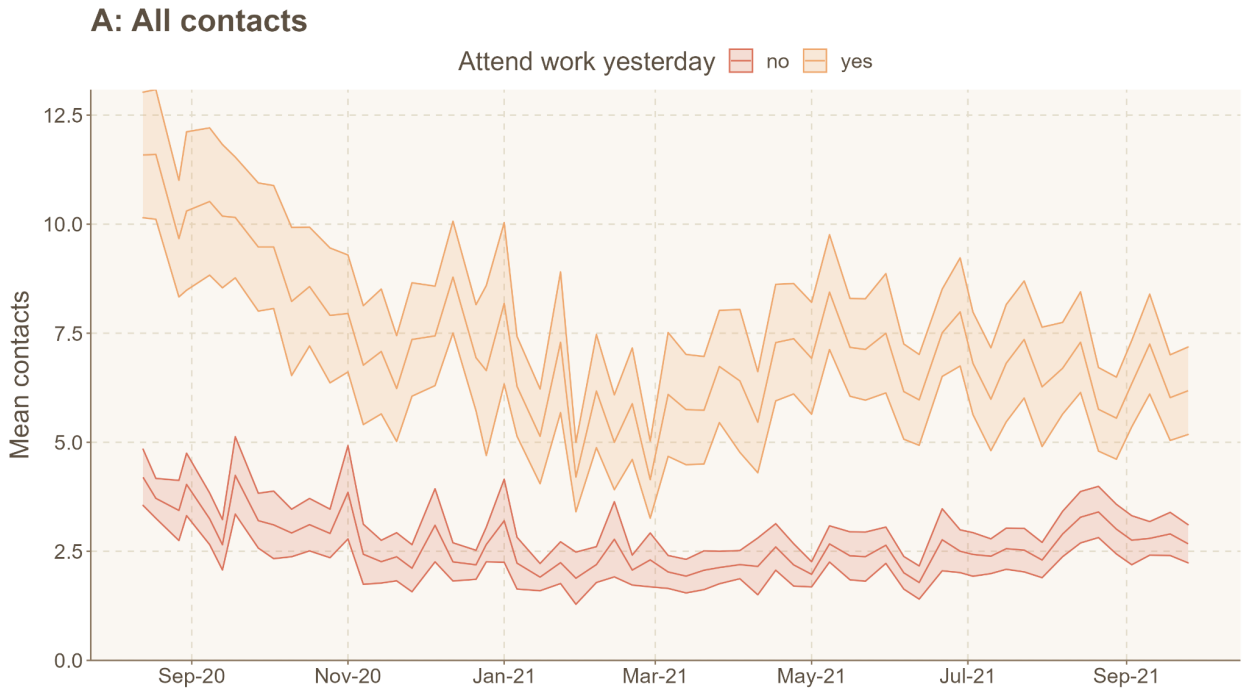

Figure 8: Mean contacts in the UK since August 2020 for individuals attending or not attending work on the day of the survey for people that are employed and their work is open. 95% Uncertainty interval calculated assuming a standard normal mean of two times the standard error of the mean. Contacts truncated 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.

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.

Funding

Medical Research Council (MC_PC_19065), the European Commission (EpiPose 101003688) and the NIHR (CV220-088 - COMIX) and HPRU in Modelling & Health Economics (NIHR200908).

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

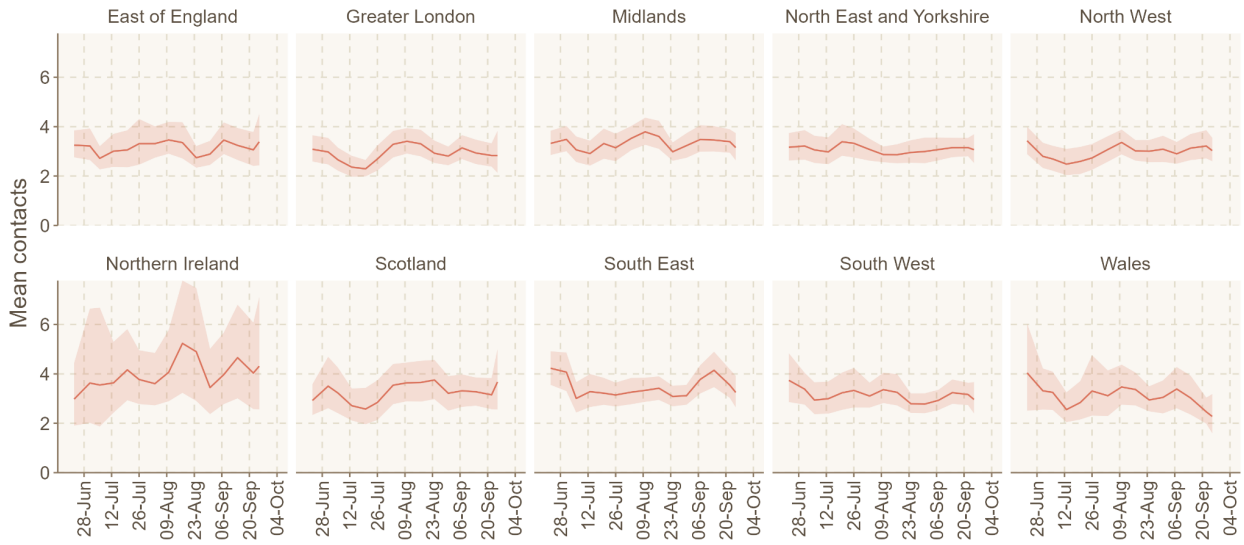

Figure S1: Mean contacts in all settings in adults for UK nations and English regions over time. Uncertainty calculated using bootstrapping. Contacts truncated to 50 contacts per participant. Observations are smoothed over two weeks to account for panel effects. Date on x axis refers to the midpoint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

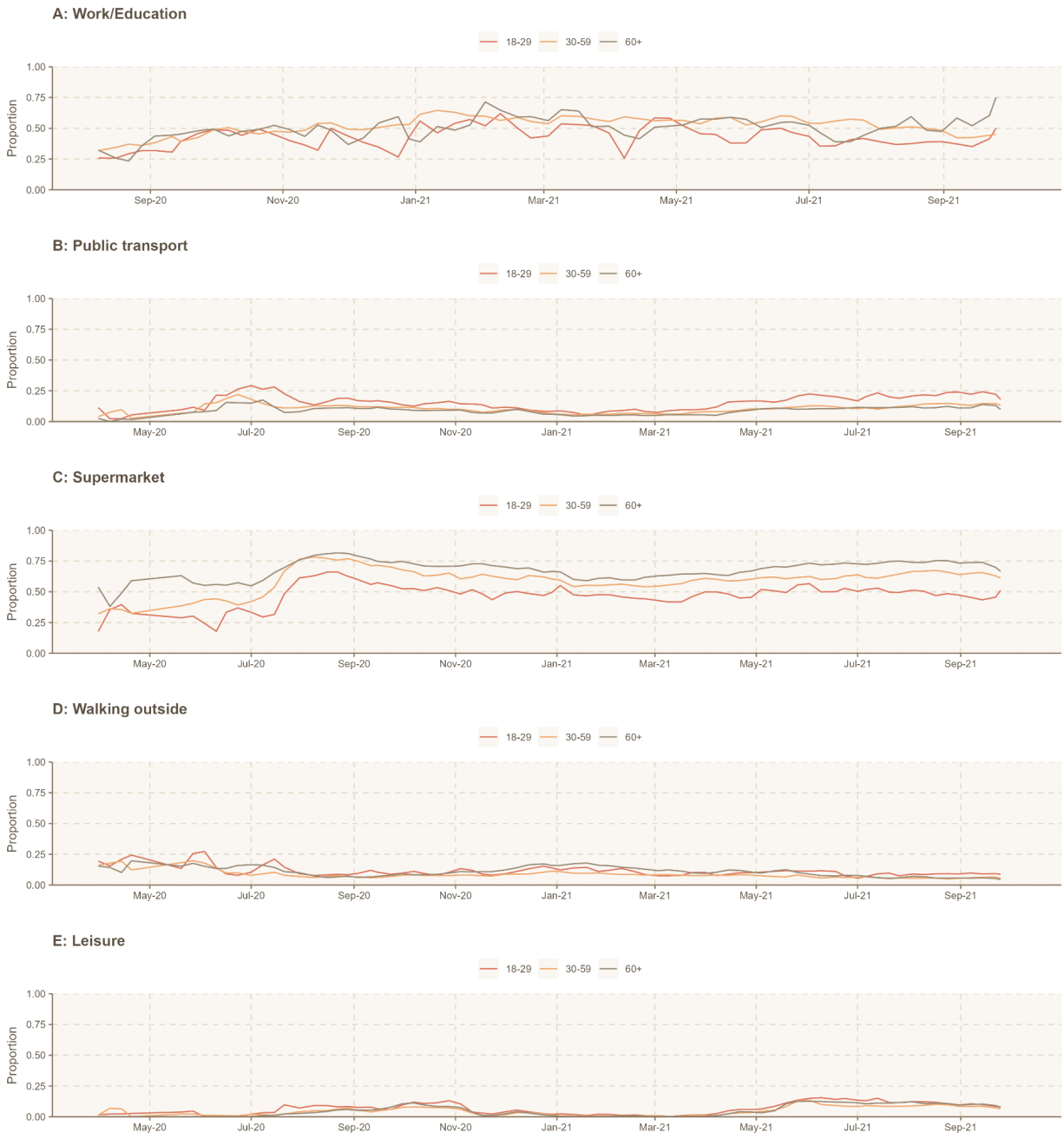

Figure S2: Proportion of adults wearing a face mask over time in different settings for those with at least one contact outside of the home, dotted line = all participants). Date on x axis refers to midpoint of the survey period.