CoMix social contact survey: Report for Lithuania rounds 1 to 15

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Survey dates: 25 January 2021 to 30 September 2021

Introduction & Methods

CoMix is a behavioural survey, first launched on 24 March 2020 in the UK, and launched in Lithuania on 25 January 2021. The sample is broadly representative of the adult population in Lithuania. Participants are invited to respond to the survey approximately once every two weeks. This report presents the results from 13 waves of adult data and 2 waves of children data. The children data was collected by having parents to complete the survey on behalf of a child in their household (aged 17 years or less). 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). Participants are instructed to report contacts individually, but are also given the opportunity to report aggregated estimates of the contacts made by age group and setting, in case they did not list all contacts individually. Further details have been published elsewhere[1,2]. The contact survey is based on the POLYMOD contact survey[3].

We calculated and plotted the crude mean number of contacts by setting, duration, and participant to contact age groups. We used 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), and report . We look at the mean contacts by age and survey wave. The mean number of contacts is influenced by a few individuals who report very high numbers of contacts (often in a work context). We show means for all contacts and means number of contacts after truncating the maximum number of contacts recorded at 50 per individual per day.

We calculated the mean contacts for the contact matrices by using the socialmixr R package [4], with 50 bootstrapped samples. We used the World Population Prospect data from 2015 for country specific population estimates by age and gender, which is the latest available data in the socialmixr package. We constructed age-stratified contact matrices for nine age-groups (0-4, 5-11, 12-17, 18-29, 30-39, 40-49, 50-59, 60-69, and 70+). For contacts, we do not have exact ages and therefore sampled from the reported age-group.

To complete the symmetric contact matrices that capture contacts by both adults and children, we combined each wave of the adult data with
- children who attended school,
- children who did not attend school,
- Wave C1, and
- Wave C2.
The first two scenarios capture contacts that are specific to school attendance status. The result should be interpreted with caution when the number for children who went to school were very low. The latter two scenarios are specific to the data collection periods of Wave C1 and Wave C2.

Timeline

The CoMix survey in Lithuania has had 15 waves of data collection covering the period between 25 January 2021 and 30 September 2021. Figure 1 shows survey response by date

Wave	A1	C1	A2	A3	A4	C2	A5	A6	A7	B1	B2	B3	B4	B5	B6
Sample type	Adults	Children	Adults	Adults	Adults	Children	Adults	Adults	Adults	Adults	Adults	Adults	Adults	Adults	Adults
Start date	25 Jan 2021	05 Feb 2021	18 Feb 2021	04 Mar 2021	18 Mar 2021	03 Apr 2021	15 Apr 2021	29 Apr 2021	13 May 2021	02 Jul 2021	22 Jul 2021	10 Aug 2021	26 Aug 2021	09 Sep 2021	24 Sep 2021
End date	01 Feb 2021	10 Feb 2021	01 Mar 2021	10 Mar 2021	23 Mar 2021	08 Apr 2021	21 Apr 2021	03 May 2021	17 May 2021	19 Jul 2021	04 Aug 2021	24 Aug 2021	01 Sep 2021	16 Sep 2021	30 Sep 2021

Participants	1553	307	1054	1038	827	294	711	631	529	1545	1313	1116	971	798	686
Contacts	7653	1403	4767	6586	3530	1889	3454	3365	1893	20956	8487	5771	6020	4118	3544

Table 1. Survey wave summary. Survey wave start and end dates, number of participants, and number of contacts.

Figure 1: Survey responses by date.
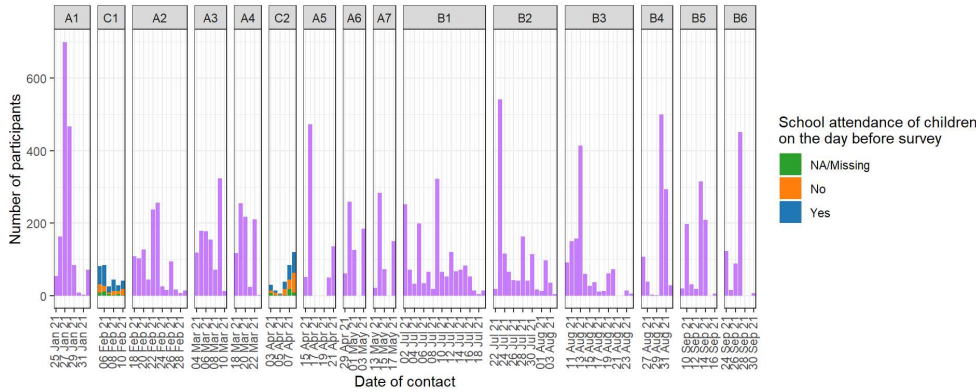
Participant demographics

Category	Group	Wave A1	Wave A2	Wave A3	Wave A4	Wave A5	Wave A6	Wave A7	Wave B1	Wave B2	Wave B3	Wave B4	Wave B5
All		1553	1054	1038	827	711	631	529	1545	1313	1116	971	798
Age	0-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	18-29	275 (17.7%)	167 (15.8%)	161 (15.5%)	128 (15.5%)	97 (13.6%)	84 (13.3%)	71 (13.4%)	252 (16.3%)	198 (15.1%)	163 (14.6%)	118 (12.2%)	102 (12.8%)
	30-39	258 (16.6%)	166 (15.7%)	159 (15.3%)	120 (14.5%)	100 (14.1%)	97 (15.4%)	71 (13.4%)	271 (17.5%)	247 (18.8%)	197 (17.7%)	159 (16.4%)	147 (18.4%)
	40-49	260 (16.7%)	193 (18.3%)	184 (17.7%)	138 (16.7%)	114 (16.0%)	108 (17.1%)	87 (16.4%)	252 (16.3%)	218 (16.6%)	187 (16.8%)	162 (16.7%)	134 (16.8%)
	50-59	258 (16.6%)	201 (19.1%)	188 (18.1%)	153 (18.5%)	142 (20.0%)	113 (17.9%)	102 (19.3%)	276 (17.9%)	253 (19.3%)	209 (18.7%)	198 (20.4%)	164 (20.6%)
	60-69	355 (22.9%)	231 (21.9%)	249 (24.0%)	211 (25.5%)	195 (27.4%)	167 (26.5%)	135 (25.5%)	342 (22.1%)	276 (21.0%)	250 (22.4%)	244 (25.1%)	172 (21.6%)
	70+	147 (9.5%)	96 (9.1%)	97 (9.3%)	77 (9.3%)	63 (8.9%)	62 (9.8%)	63 (11.9%)	152 (9.8%)	121 (9.2%)	110 (9.9%)	90 (9.3%)	79 (9.9%)
	NA/Other/Missing	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gender	Female	856 (55.1%)	518 (49.1%)	512 (49.3%)	418 (50.5%)	342 (48.1%)	309 (49.0%)	272 (51.4%)	857 (55.5%)	729 (55.5%)	620 (55.6%)	523 (53.9%)	418 (52.4%)
	Male	697 (44.9%)	534 (50.7%)	524 (50.5%)	409 (49.5%)	368 (51.8%)	322 (51.0%)	257 (48.6%)	687 (44.5%)	581 (44.2%)	496 (44.4%)	448 (46.1%)	380 (47.6%)
	NA/Other/Missing	NA	2 (0.2%)	2 (0.2%)	NA	1 (0.1%)	NA	NA	1 (0.1%)	3 (0.2%)	NA	NA	NA
Household size	1	272 (17.5%)	NA	NA	NA	NA	NA	NA	276 (17.9%)	236 (18.0%)	205 (18.4%)	192 (19.8%)	151 (18.9%)
	2	641 (41.3%)	NA	NA	NA	NA	NA	NA	647 (41.9%)	534 (40.7%)	469 (42.0%)	408 (42.0%)	336 (42.1%)
	3-5	626 (40.3%)	NA	NA	NA	NA	NA	NA	600 (38.8%)	527 (40.1%)	434 (38.9%)	366 (37.7%)	302 (37.8%)
	6+	14 (0.9%)	NA	NA	NA	NA	NA	NA	22 (1.4%)	16 (1.2%)	8 (0.7%)	5 (0.5%)	9 (1.1%)

Category	Group	Wave A1	Wave A2	Wave A3	Wave A4	Wave A5	Wave A6	Wave A7	Wave B1	Wave B2	Wave B3	Wave B4	Wave B5
	NA/Other/Missing	NA	1054 (100.0%)	1038 (100.0%)	827 (100.0%)	711 (100.0%)	631 (100.0%)	529 (100.0%)	NA	NA	NA	NA	NA

Table 2. Participant demographics by wave for age, gender, and household size.

Children sample school attendance

School attendance	Wave C1, by age			Wave C2, by age		
	(0-17y)	(0-4y)	(5-17y)	(0-17y)	(0-4y)	(5-17y)
NA/Missing	**35 (11.4%)**	**25 (35.7%)**	**10 (4.2%)**	**39 (13.7%)**	**27 (39.1%)**	**12 (5.6%)**
No	**83 (27.0%)**	**15 (21.4%)**	**68 (28.7%)**	**112 (39.3%)**	**21 (30.4%)**	**91 (42.1%)**
No, but it was open for my child	12 (3.9%)	8 (11.4%)	4 (1.7%)	11 (3.9%)	7 (10.1%)	4 (1.9%)
No, it was a weekend/holiday/day off	14 (4.6%)	5 (7.1%)	9 (3.8%)	73 (25.6%)	10 (14.5%)	63 (29.2%)
No, it was closed	52 (16.9%)	1 (1.4%)	51 (21.5%)	22 (7.7%)	NA	22 (10.2%)
Yes	**194 (63.2%)**	**31 (44.3%)**	**163 (68.8%)**	**140 (49.1%)**	**25 (36.2%)**	**115 (53.2%)**

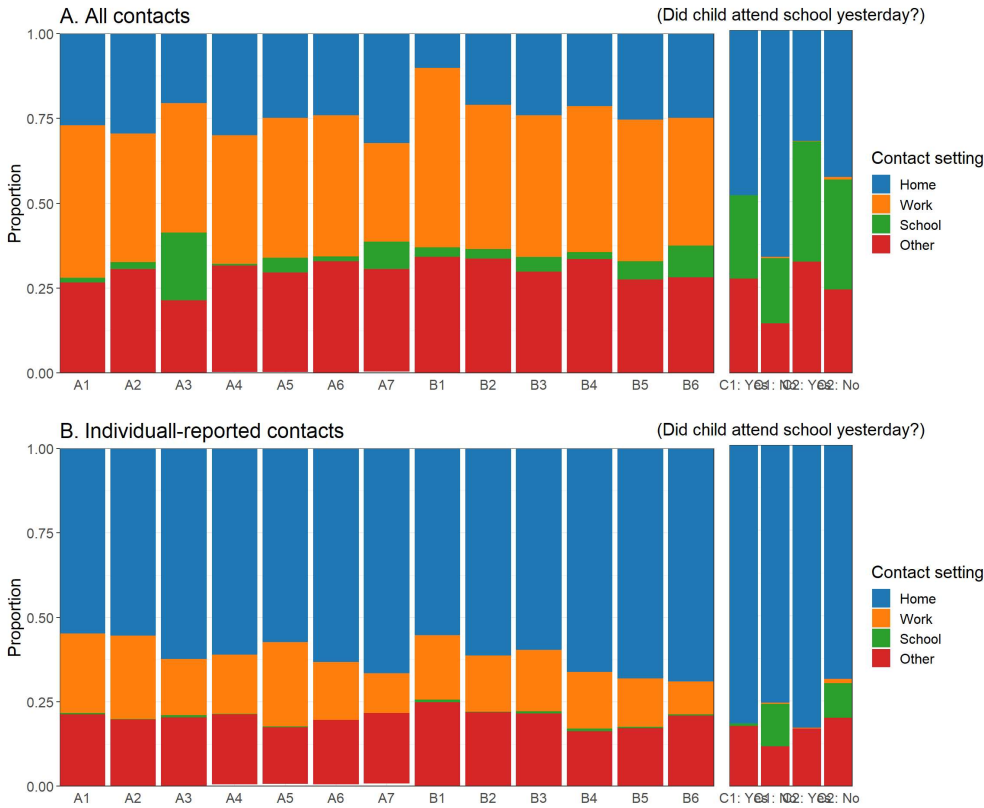**Table 3. School attendance of children on the day before survey by age**

Contact characteristics

Contact setting

Figure 2. Proportion of contacts by setting and wave.
A. All contacts (both individually-reported and reported in aggregated contact questions);
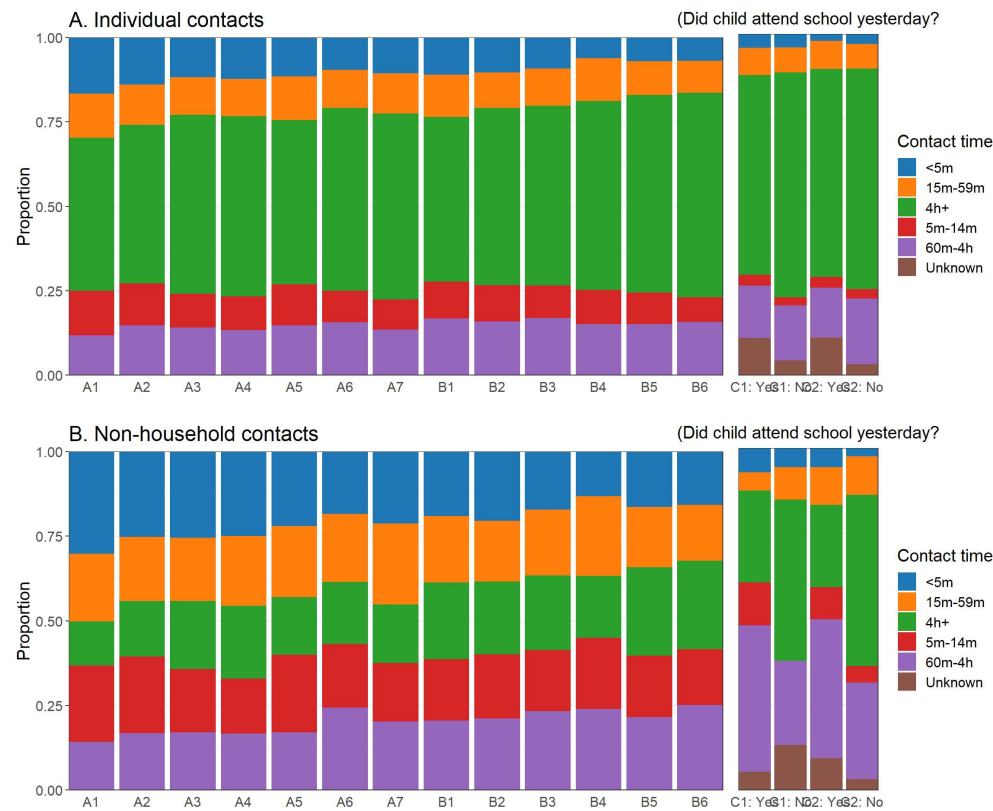B. individually-reported contacts only.

Contact duration

Figure 3. Proportion of contacts by duration of contact and wave.
A. All individually-reported contacts;
B. individually-reported contacts, excluding the participant's household members.

A. Individual contacts

B. Non-household contacts

Category	Group	Wave A1	Wave A2	Wave A3	Wave A4	Wave A5	Wave A6	Wave A7	Wave B1	Wave B2	Wave B3	Wave B4	Wave B5	Wave B6	Did Wave C1: Yes
Contact setting	Home	2071 (27.1%)	1402 (29.4%)	1354 (20.6%)	1057 (29.9%)	860 (24.9%)	809 (24.0%)	610 (32.2%)	2113 (10.1%)	1783 (21.0%)	1391 (24.1%)	1286 (21.4%)	1045 (25.4%)	881 (24.9%)	435 (48.1%
	Other	2039 (26.6%)	1463 (30.7%)	1411 (21.4%)	1106 (31.3%)	1012 (29.3%)	1102 (32.7%)	572 (30.2%)	7171 (34.2%)	2859 (33.7%)	1725 (29.9%)	2018 (33.5%)	1133 (27.5%)	1001 (28.2%)	249 (27.5%
	School	107 (1.4%)	93 (2.0%)	1316 (20.0%)	20 (0.6%)	151 (4.4%)	45 (1.3%)	152 (8.0%)	595 (2.8%)	240 (2.8%)	246 (4.3%)	126 (2.1%)	225 (5.5%)	329 (9.3%)	220 (24.3%
	Work	3436 (44.9%)	1809 (37.9%)	2505 (38.0%)	1337 (37.9%)	1421 (41.1%)	1401 (41.6%)	551 (29.1%)	11077 (52.9%)	3605 (42.5%)	2409 (41.7%)	2590 (43.0%)	1715 (41.6%)	1333 (37.6%)	NA
Contact time	<5m	628 (16.6%)	353 (14.0%)	256 (11.8%)	214 (12.3%)	173 (11.5%)	124 (9.7%)	97 (10.6%)	423 (11.1%)	302 (10.4%)	215 (9.2%)	121 (6.2%)	109 (7.1%)	89 (7.0%)	22 (4.1%
	15m-59m	496 (13.1%)	302 (12.0%)	241 (11.1%)	190 (11.0%)	193 (12.9%)	143 (11.2%)	109 (11.9%)	475 (12.4%)	307 (10.6%)	256 (11.0%)	246 (12.7%)	153 (10.0%)	120 (9.4%)	42 (7.9%
	4h+	1709 (45.2%)	1185 (46.9%)	1151 (53.0%)	925 (53.4%)	730 (48.7%)	693 (54.1%)	505 (55.1%)	1866 (48.9%)	1522 (52.4%)	1243 (53.3%)	1085 (55.9%)	897 (58.5%)	773 (60.6%)	312 (58.5%
	5m-14m	502 (13.3%)	315 (12.5%)	217 (10.0%)	173 (10.0%)	181 (12.1%)	119 (9.3%)	82 (9.0%)	415 (10.9%)	314 (10.8%)	223 (9.6%)	195 (10.0%)	143 (9.3%)	92 (7.2%)	17 (3.2%
	60m-4h	445 (11.8%)	372 (14.7%)	306 (14.1%)	231 (13.3%)	222 (14.8%)	201 (15.7%)	123 (13.4%)	640 (16.8%)	462 (15.9%)	396 (17.0%)	295 (15.2%)	232 (15.1%)	202 (15.8%)	82 (15.4%

Table 4. Contacts by setting and duration of contact and wave. Number and percentage of contacts by category for all contacts (individually-reported and reported in aggregated contact questions).

Contact means

Figure 4. Crude mean contacts by participant age group and wave. Reported by all contacts and contacts truncated to 50 per participant per day.
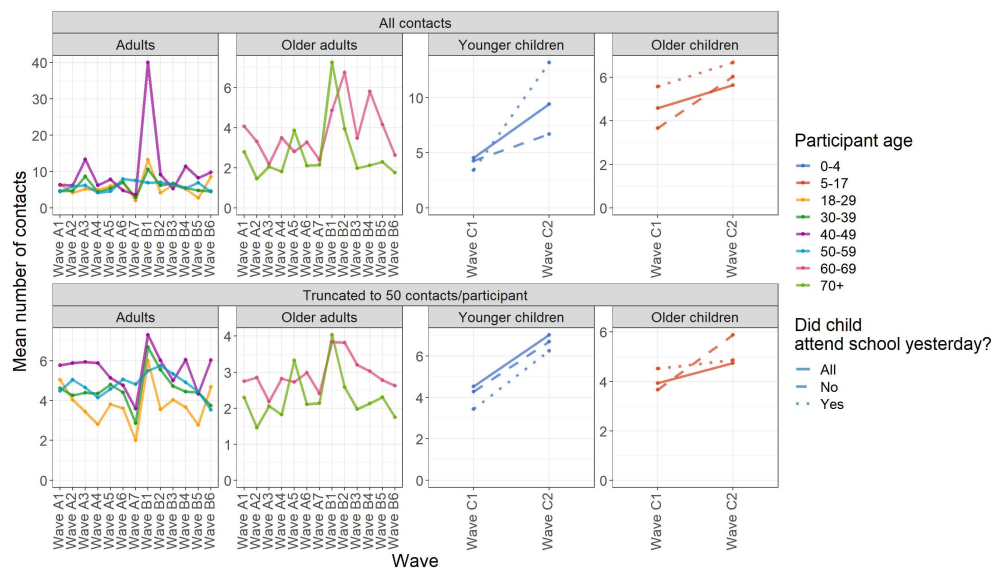
<table>
<thead>
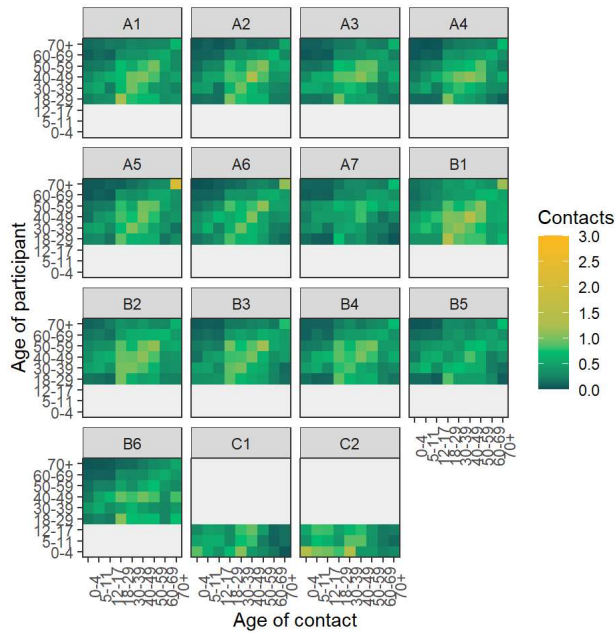<tr><th>Contacts</th><th>Participant age</th><th>Wave A1</th><th>Wave A2</th><th>Wave A3</th><th>Wave A4</th><th>Wave A5</th><th>Wave A6</th><th>Wave A7</th><th>Wave B1</th><th>Wave B2</th><th>Wave B3</th><th>Wave B4</th><th>Wave B5</th><th>Wave B6</th></tr>
</thead>
<tbody>
<tr><td>All contacts</td><td>All</td><td>4.93</td><td>4.52</td><td>6.34</td><td>4.27</td><td>4.86</td><td>5.33</td><td>3.58</td><td>13.56</td><td>6.46</td><td>5.17</td><td>6.20</td><td>5.16</td><td>5.17</td></tr>
<tr><td></td><td>0-4</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td></tr>
<tr><td></td><td>5-17</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td></tr>
<tr><td></td><td>18-29</td><td>6.46</td><td>4.13</td><td>5.17</td><td>4.95</td><td>5.97</td><td>7.08</td><td>2.01</td><td>13.25</td><td>4.18</td><td>6.35</td><td>5.23</td><td>2.79</td><td>8.53</td></tr>
<tr><td></td><td>30-39</td><td>4.71</td><td>4.73</td><td>8.70</td><td>4.35</td><td>5.39</td><td>7.00</td><td>2.86</td><td>10.56</td><td>6.17</td><td>6.77</td><td>5.47</td><td>4.77</td><td>4.54</td></tr>
<tr><td></td><td>40-49</td><td>6.32</td><td>6.22</td><td>13.35</td><td>6.22</td><td>7.81</td><td>4.76</td><td>3.66</td><td>39.99</td><td>9.20</td><td>5.25</td><td>11.43</td><td>8.24</td><td>9.84</td></tr>
<tr><td></td><td>50-59</td><td>4.50</td><td>5.91</td><td>6.22</td><td>4.16</td><td>4.60</td><td>7.96</td><td>7.53</td><td>6.91</td><td>7.07</td><td>6.39</td><td>5.41</td><td>6.88</td><td>4.43</td></tr>
<tr><td></td><td>60-69</td><td>4.08</td><td>3.31</td><td>2.18</td><td>3.50</td><td>2.82</td><td>3.28</td><td>2.41</td><td>4.87</td><td>6.75</td><td>3.47</td><td>5.82</td><td>4.17</td><td>2.62</td></tr>
<tr><td></td><td>70+</td><td>2.80</td><td>1.46</td><td>2.06</td><td>1.82</td><td>3.86</td><td>2.11</td><td>2.14</td><td>7.25</td><td>3.95</td><td>1.98</td><td>2.13</td><td>2.30</td><td>1.75</td></tr>
<tr><td>Truncated to 50 contacts/participant</td><td>All</td><td>4.22</td><td>4.11</td><td>3.82</td><td>3.71</td><td>3.98</td><td>3.88</td><td>3.05</td><td>5.57</td><td>4.73</td><td>4.18</td><td>4.15</td><td>3.64</td><td>3.73</td></tr>
<tr><td></td><td>0-4</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td></tr>
<tr><td></td><td>5-17</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td></tr>
<tr><td></td><td>18-29</td><td>5.04</td><td>4.04</td><td>3.44</td><td>2.81</td><td>3.81</td><td>3.61</td><td>2.01</td><td>6.02</td><td>3.56</td><td>4.04</td><td>3.66</td><td>2.78</td><td>4.70</td></tr>
<tr><td></td><td>30-39</td><td>4.61</td><td>4.27</td><td>4.39</td><td>4.35</td><td>4.81</td><td>4.41</td><td>2.86</td><td>6.68</td><td>5.55</td><td>4.73</td><td>4.45</td><td>4.41</td><td>3.75</td></tr>
<tr><td></td><td>40-49</td><td>5.77</td><td>5.88</td><td>5.93</td><td>5.89</td><td>5.14</td><td>4.76</td><td>3.59</td><td>7.29</td><td>6.02</td><td>5.00</td><td>6.06</td><td>4.33</td><td>6.03</td></tr>
<tr><td></td><td>50-59</td><td>4.49</td><td>5.04</td><td>4.65</td><td>4.16</td><td>4.58</td><td>5.07</td><td>4.82</td><td>5.50</td><td>5.76</td><td>5.35</td><td>4.92</td><td>4.45</td><td>3.53</td></tr>
<tr><td></td><td>60-69</td><td>2.75</td><td>2.85</td><td>2.18</td><td>2.82</td><td>2.73</td><td>2.98</td><td>2.41</td><td>3.84</td><td>3.82</td><td>3.20</td><td>3.03</td><td>2.78</td><td>2.62</td></tr>
<tr><td></td><td>70+</td><td>2.29</td><td>1.46</td><td>2.06</td><td>1.82</td><td>3.32</td><td>2.11</td><td>2.14</td><td>4.03</td><td>2.58</td><td>1.98</td><td>2.13</td><td>2.30</td><td>1.75</td></tr>
</tbody>
</table>

Table 5. Crude mean contacts by participant age group for each wave. Children data is disaggregated by school attendance status.
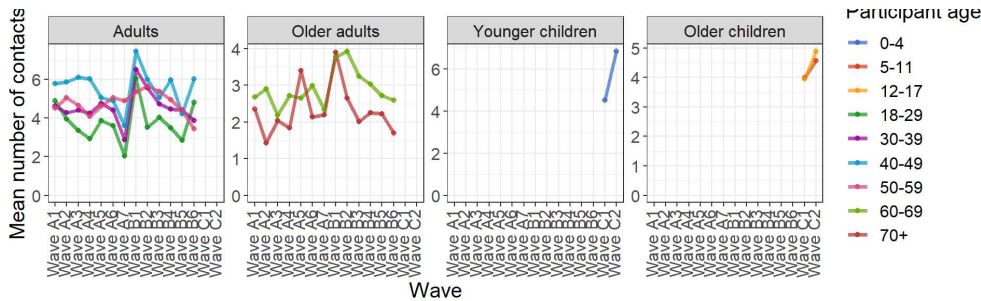
Contact Matrices

All contacts

Figure 5. Contact matrices by wave. Contacts truncated to 50 per participant per day, adjusted for day of week.

Figure 6. Adjusted contact means by participant age group. Contacts truncated to 50 per participant per day, adjusted for day of week.

Participant age	Wave A1	Wave A2	Wave A3	Wave A4	Wave A5	Wave A6	Wave A7	Wave B1	Wave B2	Wave B3	Wave B4	Wave B5	Wave B6	Wave C1	Wave C2
0-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.51	6.83
5-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.99	4.57
12-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.95	4.88
18-29	4.91	3.96	3.35	2.93	3.86	3.60	2.03	6.05	3.53	4.04	3.51	2.84	4.81	NA	NA
30-39	4.62	4.28	4.40	4.24	4.77	4.41	2.87	6.52	5.56	4.72	4.47	4.42	3.87	NA	NA
40-49	5.79	5.88	6.12	6.02	5.05	4.91	3.60	7.45	6.01	5.05	5.98	4.22	6.04	NA	NA
50-59	4.51	5.04	4.65	4.10	4.62	5.05	4.91	5.36	5.66	5.39	4.94	4.37	3.44	NA	NA
60-69	2.68	2.90	2.18	2.73	2.65	2.99	2.33	3.78	3.93	3.24	3.04	2.72	2.59	NA	NA
70+	2.36	1.43	2.04	1.83	3.40	2.14	2.19	3.91	2.65	2.01	2.25	2.23	1.71	NA	NA

Table 6. Adjusted contact means by participant age group. Contacts truncated to 50 per participant per day, adjusted for day of week.
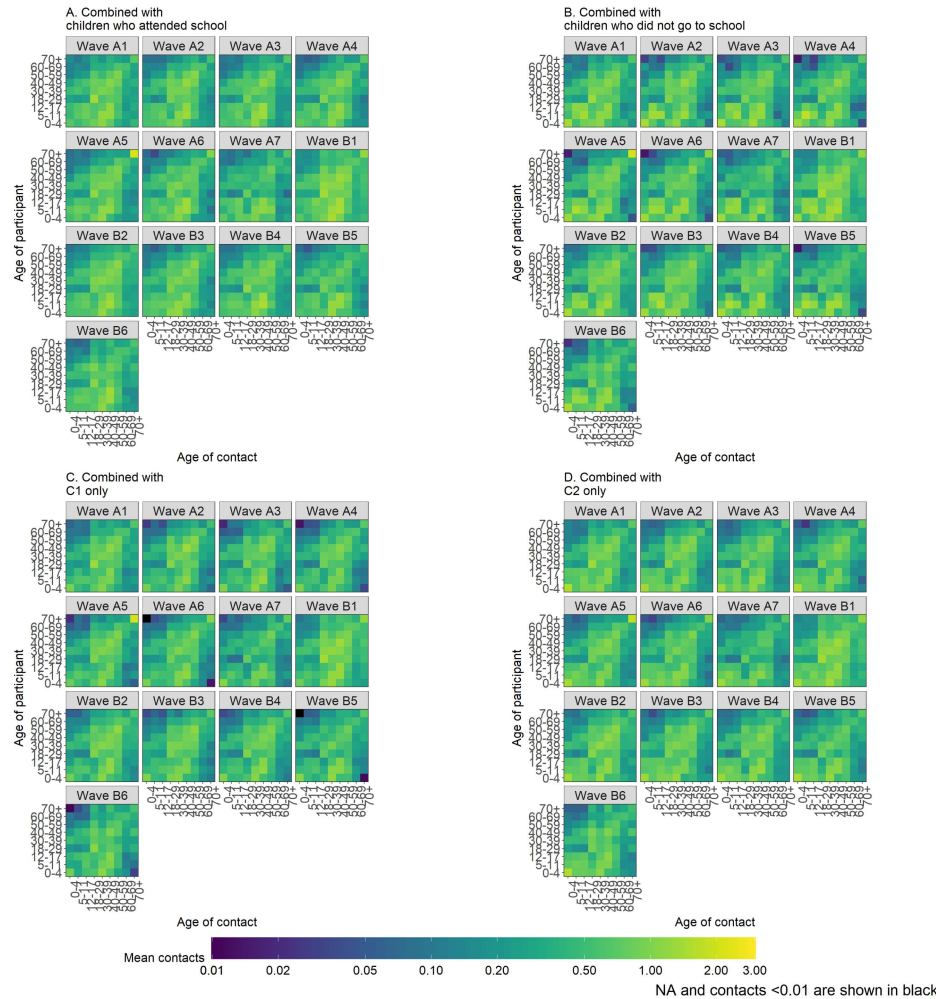
Combined contacts

Figure 7. Symmetric combined matrices by wave. Adult survey waves each combined with
A. children who attended school,
B. children who did not attend school to provide an estimate of overall contacts,
C. Wave C1 (Wave C1 data collected between 05 February 2021 and 10 February 2021), and
D. Wave C2 (Wave C2 data collected between 03 April 2021 and 08 April 2021).

Sub-plots A and B are specific to the different contexts of school attendance, and sub-plots C and D are specific to the data collection periods of Wave C1 and Wave C2, respectively.

Contacts truncated to 50 per participant per day, adjusted for day of week and country population by age using the World Population Prospect population data.


Figure 8. Combined contact means by wave. Contact means as calculated from symmetric, combined symmetric matrices. Adult survey waves each combined with

A. children who attended school, and

B. children who did not attend school.

Contacts truncated to 50 per participant per day, adjusted for day of week and country population by age using the World Population Prospect population data.
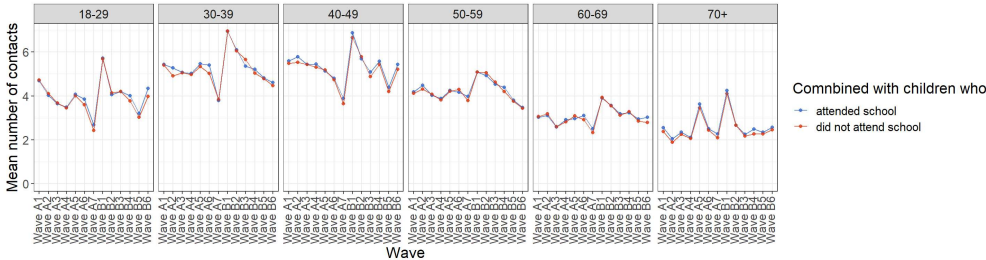
A. Combined with children who attended school

Participant age	Wave A1	Wave A2	Wave A3	Wave A4	Wave A5	Wave A6	Wave A7	Wave B1	Wave B2	Wave B3	Wave B4	Wave B5	Wave B6	Wave A1	Wave A2	Wave A3
0-4	5.52	5.03	5.09	4.97	4.96	5.12	5.35	6.45	5.42	5.45	5.20	5.31	5.10	6.41	5.79	6.43
5-11	6.19	5.91	5.92	5.56	6.26	6.09	5.61	6.71	6.48	6.22	6.67	5.79	6.05	6.79	7.00	6.26
12-17	5.57	5.02	5.54	5.05	4.75	5.44	5.44	6.70	5.53	5.06	5.13	5.62	5.52	6.19	4.76	5.91

A. Combined with children who attended school

Participant age	Wave A1	Wave A2	Wave A3	Wave A4	Wave A5	Wave A6	Wave A7	Wave B1	Wave B2	Wave B3	Wave B4	Wave B5	Wave B6	Wave A1	Wave A2	Wave A3
18-29	4.69	4.03	3.65	3.49	4.08	3.86	2.67	5.72	4.06	4.20	4.01	3.21	4.34	4.72	4.11	3.68
30-39	5.43	5.27	5.06	5.02	5.47	5.40	3.78	6.93	6.10	5.36	5.21	4.81	4.62	5.40	4.91	5.06
40-49	5.60	5.78	5.44	5.44	5.14	4.79	3.89	6.88	5.68	5.09	5.57	4.39	5.43	5.48	5.54	5.44
50-59	4.19	4.49	4.03	3.88	4.24	4.17	3.98	5.09	4.92	4.54	4.38	3.80	3.48	4.13	4.31	4.07
60-69	3.04	3.10	2.59	2.91	2.96	3.12	2.50	3.90	3.56	3.19	3.24	2.95	3.03	3.06	3.19	2.60
70+	2.55	2.05	2.34	2.11	3.64	2.51	2.27	4.25	2.66	2.25	2.50	2.34	2.57	2.38	1.89	2.25

Table 7. Participant contact means by wave. Contact means as calculated from symmetric, participant to contact symmetric matrices. Adult survey waves each combined with
A. children who attended school, and
B. children who did not attend school.
Contacts truncated to 50 per participant per day, adjusted for day of week and country population by age using the World Population Prospect population data.

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