

## Supplementary Material: Social mixing patterns in the UK following the relaxation of COVID-19 pandemic restrictions: a cross-sectional online survey

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## Analysis

### Age-specific mixing rates

To calculate age-specific mixing patterns we first defined matrix  $C_{ij}$ , where  $C_{ij}$  was the number of non-household contacts reported between participant age groups  $i$  and contact age groups  $j$ . The mean contact rate per age group ( $M_{ij}$ ) was given by

$$M_{ij} = \frac{C_{ij}}{N_i}$$

where  $N_i$  was the number of participants in age group  $i$ . As a measure of uncertainty, we calculated confidence intervals by taking 1,000 bootstrapped samples of participants.

Similarly, age-specific non-household contact rates were derived from the POLYMOD data.[1] We calculated the percentage decrease of age-specific non-household contact rates between the POLYMOD data and the CoCoNet data; Figure 1.

We found moderate assortative mixing by age, in line with both current and pre-pandemic contact studies ( $q = 0.38$ , 95%CI 0.17 to 0.58); Figure 1. Of all ages under 80 years old, 30-39 year olds had the highest non-household contact rate with those aged 80 or over; 4.8% (95%CI 3.77 to 6.04) of non-household contacts reported by 30-39 years olds were with someone aged 80+.

### Variables associated with variation in non-household contact rate - model selection

To identify characteristics of the participant associated with their rate of daily non-household contact we fitted a negative binomial model to the daily number of non-household contacts reported by participants. We then used our selected explanatory variables as candidate variables for a forward stepwise model selection process.

Participant age group, sex, ethnicity, working situation and COVID circumstance were included as explanatory variables in all models. Candidate explanatory variables were: nation of residence (England, Northern Ireland, Scotland or Wales); household size; dwelling type; whether the contact reporting day was a weekend or week day; whether the participant had left their home on the contact reporting day.

The model selection process selected the following variables from candidate variables: age, sex, ethnicity, working situation, COVID circumstance, nation, household size, day of the week, whether the participant had left their home as explanatory variables. Dwelling type was not selected as an explanatory variable. Their association with the rate of non-household contact in the fully adjusted model is shown in Table 3.

### Contact clustering or transitivity

Participants who made fewer than 15 contacts and did not live alone were asked if anyone in their household had met each of their contacts that same day, as a measure of clustering (also called transitivity) within social networks.[2] We estimated 40.4% (95%CI 39.1 to 41.6) of non-household contacts were also met by another household member on the same day. The proportion of contacts encountered by participant and household members was highest if the contact was under 20 years old: contact aged 0 to 4 (77.5%, 95%CI 66.8 to 86.1); aged 5

to 9 (80.0%, 95%CI 72.7 to 86.1); aged 10 to 19 (63.2%, 95%CI 56.1 to 69.9). This indicates that non-household interactions with children tend to be made with multiple individuals from those households.

### Visiting other households

Evidence suggests that transmission of COVID-19 often occurs within households.[3] We found that 12.2% (95%CI 11.3 to 13.1) of participants reported visiting another household. Females (aOR 1.2, 95%CI 0.98 to 1.56) and members of support bubbles (aOR 1.92, 95%CI 1.61 to 2.28) were more likely to have visited another household; Table 7.

### Household visits

The mean rate of contacts made with non-household members (non-household contacts) by those not leaving their home was 0.4 d<sup>-1</sup> (95%CI 0.4 to 0.5), with 23.8% (95%CI 21.2 to 26.6) meeting one or more non-household contacts. This contact rate was significantly lower than for those who did leave their home (incidence rate ratio (IRR) 0.12, 95%CI 0.11 to 0.14, p-value <0.001).

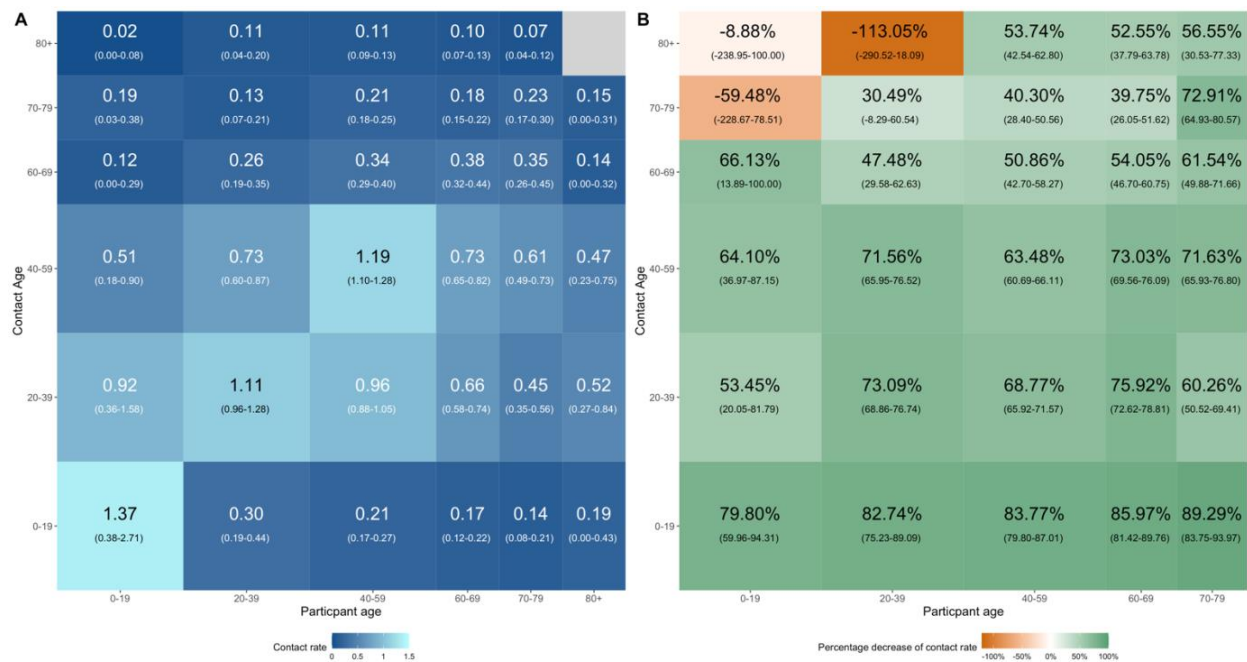
### Support bubbles

A substantial proportion (40.1%, 95%CI 38.7 to 41.4) of participants reported being part of a support bubble, with 43.1% (95%CI 40.9 to 45.3) joining with a single-person household. Males were less likely to be part of a support bubble (aOR 0.68, 95%CI 0.58 to 0.78); support bubble membership was not associated with age group or ethnicity. Support bubbles had a median (non-participant side) size of 2.0 (25th percentile 1.0, 75th percentile 3.0) and mean size of 2.2, (95%CI 2.1 to 2.2), and were mostly encountered two or fewer days in the past week.

### Survey methodology - limitations

When calculating the mean number of daily non-household contacts, an assumption for the maximum number of contacts was made. The survey asked participants how many contacts they had made yesterday, with the option of '0 to 15 or more'. If participants selected '15 or more', they were asked to group the contacts they had made by age, by selecting an integer between 0 and 19 or '20+' for each contact age category. To calculate the mean number of contacts, where '20+' contacts was selected, this was assumed to be 20 contacts. We may, therefore, have underestimated the maximum number of contacts of some participants and non-household contact rates.

## Figures



**Figure 1.** (A) Mean non-household contact rate (number of contacts per day) with different age groups reported by participant age group; bootstrapped 95% confidence intervals shown in parentheses. (B) Percentage decrease of non-household contact rate between the POLYMOD data (2005-2006) and the CoCoNet data; bootstrapped 95% confidence intervals shown in parentheses.

## Tables

**Table 1.** Comparison of non-household contact rates across different UK contact surveys.

Study, contact type and geography of sample	Mean contact rate, $d^{-1}$ (25th and 75th percentile)				
	CoCoNet Number of participants	CoCoNet non-household contacts UK	CoMix non-household contacts UK [4]	Social Contact Survey non-household contacts, Great Britain [5]	POLYMOD, non-household contacts, Great Britain [1]
Sampling period		28 July 2020 to 14 August 2020 Non-lockdown period	24 March 2020 to 27 March 2020 Lockdown period	2009 Pre-pandemic	2005-2006 Pre-pandemic
All participants	5,037	2.9 (0, 3)	1.4 (0, 1)	25.9 (5, 23)	9.6 (4, 13)
Age group					
0-9	5	1.0 (0, 1)	-	29.8 (7, 46)	8.9 (3, 13)
10-19	37	3.6 (0, 3)	-	43.1 (8, 40)	12.3 (5, 18)
20-29	250	3.2 (0, 3)	1.1 (0, 1)*	29.0 (7, 27)	9.7 (5, 13)
30-39	594	2.6 (0, 3)	1.4 (0, 1)	25.4 (6, 25)	8.9 (4, 12)
40-49	1167	3.1 (0, 4)	1.4 (0, 1)	30.8 (6, 29)	9.8 (4, 13)
50-59	1617	3.3 (0, 3)	1.6 (0, 2)	28.6 (6, 26)	8.2 (3, 11)
60-69	1056	2.3 (0, 3)	1.4 (0, 2)	23.0 (4, 18)	8.2 (4, 11)
70-79	290	1.9 (0, 3)	1.1 (1, 1)**	19.1 (3, 17)	6.8 (3, 11)
80+	21	1.7 (0, 2)	-	13.2 (1,10)	-
Sex†					
Female	3978	2.8 (0, 3)	1.4 (0, 1)	27.5 (5, 26)	10.2 (4, 14)
Male	1037	2.9 (0, 3)	1.3 (0, 1)	22.6 (4, 19)	9.0 (4, 13)
Prefer not to say	22	1.5 (0, 2)	-	-	-
Household size					
1	875	2.8 (0, 3)	1.6 (1, 2)	24.3 (4, 20)	7.5 (3, 11)
2	1902	2.6 (0, 3)	1.5 (0, 2)	23.7 (5, 21)	9.2 (4, 12)
3	979	3.2 (0, 3)	1.2 (0, 1)	24.6 (5, 25)	9.6 (4, 14)
4	896	2.7 (0, 3)	1.4 (0, 1)	33.4 (6, 33)	10.0 (4, 14)
5	284	3.2 (0, 4)	1.1 (0, 1)	30.7 (7, 30)	10.9 (5, 15)
6+	101	3.8 (0, 4)	1.1 (0, 1)	45.6 (8, 36)	10.1 (5, 15)

\* CoMix age group 18-29

\*\* CoMix age group 70+

† Comix and POLYMOD report participants' gender rather than sex

**Table 2.** Adjusted incidence rate ratios for number of daily non-household contacts by select variables. Intercept of 0.41 (95 %CI 0.35-0.48). Dispersion parameter of 1.07 (95%CI 1.00-1.14)

	Multivariable analysis <sup>1</sup>	
	aIRR (95%CI)	p-value
Age		
0-9	0.70 (0.13-3.69)	0.673
10-19	0.90 (0.50-1.67)	0.724
20-29	1.16 (0.97-1.39)	0.109
30-39	0.86 (0.76-0.97)	0.016
40-49	0.90 (0.82-1.00)	0.039
50-59	1.00	-
60-69	0.89 (0.79-1.00)	0.046
70-79	0.94 (0.78-1.14)	0.542
80+	1.23 (0.69-2.25)	0.458
Sex		
Female	1.00	-
Male	1.01 (0.93-1.10)	0.772
Prefer not to say	0.53 (0.27-1.05)	0.063
Ethnicity		
White	1.00	-
Mixed/Multiple ethnic groups	1.09 (0.77-1.58)	0.625
Asian/Asian British	0.54 (0.36-0.82)	0.004
Black/African/Caribbean/Black British	0.46 (0.17-1.23)	0.136
Other ethnic group	0.54 (0.18-1.80)	0.308
Nation		
England	1.00	-
Northern Ireland	0.92 (0.59-1.47)	0.713
Scotland	0.80 (0.68-0.95)	0.009
Wales	1.22 (0.99-1.50)	0.060
Household size		
1	1.00	-
2	0.92 (0.83-1.02)	0.105

	Multivariable analysis <sup>1</sup>	
	aIRR (95%CI)	p-value
3	0.99 (0.88-1.12)	0.878
4	0.84 (0.74-0.96)	0.008
5	0.97 (0.81-1.16)	0.717
6+	0.85 (0.65-1.12)	0.247
Day of the week (contacts recorded)		
Weekday	1.00	-
Weekend	1.14 (0.99-1.31)	0.066
Left home yesterday		
No	1.00	-
Yes	5.58 (4.92-6.33)	<0.001
Dwelling type		
House or bungalow	1.00	-
Flat, maisonette or apartment	0.95 (0.85-1.07)	0.435
Mobile or temporary structure	1.13 (0.53-2.65)	0.760
Assisted living facility	2.25 (0.39-37.68)	0.442
Care home	2.84 (0.42-50.22)	0.345
Other	1.28 (0.68-2.54)	0.461
School or work situation		
Employed - working from home	1.00	-
School pupil - studying at home	0.83 (0.28-2.46)	0.739
School pupil - attending school	2.90 (0.95-10.02)	0.080
College or University student	0.84 (0.63-1.12)	0.229
Employed - going to place of work	3.33 (3.02-3.66)	<0.001
Self Employed	1.63 (1.43-1.87)	<0.001
Healthcare professional	5.10 (4.29-6.10)	<0.001
Unemployed	1.10 (0.89-1.36)	0.399
Furloughed	1.20 (0.98-1.48)	0.074
Unable to work	0.96 (0.71-1.31)	0.815
Retired	1.24 (1.09-1.42)	0.001
COVID-19 circumstance		
Not self isolating or shielding	1.00	-

	Multivariable analysis <sup>1</sup>	
	aIRR (95%CI)	p-value
Self isolating - I have symptoms	4.05 (1.94-9.72)	0.001
Self isolating - Someone in my household has symptoms	1.31 (0.51-3.63)	0.604
Self isolating - Someone in my support bubble has symptoms	0.81 (0.21-3.32)	0.771
Self isolating - precaution/told to by Test and Trace	0.58 (0.43-0.79)	<0.001
Shielding - I am a vulnerable individual	0.82 (0.66-1.01)	0.056
Shielding - I live with a vulnerable individual	0.79 (0.62-1.02)	0.065
Not sure	0.56 (0.39-0.79)	0.001

<sup>1</sup>Adjusted for age,sex, ethnicity, nation, household size, day of the week, left home, dwelling type, school or work situation and COVID-19 circumstance.

\*This increased contact rate is due to one participant who was self-isolating with symptoms reporting a large number of contacts (*see results*).



**Table 3.** Adjusted incidence rate ratios for number of daily non-household contacts by select variables. Model intercept was 0.40 (95 %CI 0.34-0.47). Dispersion parameter of 1.07 (95%CI 1.00-1.13)

	Multivariable analysis <sup>†</sup>	
	aIRR (95%CI)	p-value
Age		
0-9	0.69 (0.13-3.65)	0.663
10-19	0.88 (0.49-1.64)	0.688
20-29	1.14 (0.96-1.36)	0.142
30-39	0.86 (0.76-0.97)	0.012
40-49	0.90 (0.82-0.99)	0.032
50-59	1.00	-
60-69	0.89 (0.79-1.00)	0.047
70-79	0.95 (0.79-1.15)	0.598
80+	1.24 (0.69-2.27)	0.446
Sex		
Female	1.00	-
Male	1.01 (0.93-1.11)	0.762
Prefer not to say	0.53 (0.27-1.05)	0.061
Ethnicity		
White	1.00	-
Mixed/Multiple ethnic groups	1.08 (0.76-1.56)	0.667
Asian/Asian British	0.53 (0.35-0.81)	0.003
Black/African/Carribbean/Black British	0.46 (0.17-1.23)	0.135
Other ethnic group	0.53 (0.17-1.77)	0.290
Nation		
England	1.00	-
Northern Ireland	0.92 (0.59-1.47)	0.708
Scotland	0.79 (0.67-0.94)	0.006
Wales	1.23 (1.00-1.51)	0.052
Household size		
1	1.00	-
2	0.92 (0.83-1.02)	0.133

	Multivariable analysis <sup>1</sup>	
	aIRR (95%CI)	p-value
3	1.00 (0.89-1.13)	0.981
4	0.85 (0.75-0.96)	0.010
5	0.98 (0.83-1.17)	0.839
6+	0.88 (0.68-1.16)	0.357
Day of the week (contacts recorded)		
Weekday	1.00	-
Weekend	1.14 (0.99-1.31)	0.074
Left home yesterday		
No	1.00	
Yes	5.60 (4.94-6.36)	<0.001
School or work situation		
Employed - working from home	1.00	-
School pupil - studying at home	0.84 (0.29-2.48)	0.752
School pupil - attending school	2.96 (0.97-10.23)	0.074
College or University student	0.86 (0.65-1.14)	0.287
Employed - going to place of work	3.32 (3.02-3.66)	<0.001
Self Employed	1.63 (1.43-1.87)	<0.001
Healthcare professional	5.05 (4.25-6.03)	<0.001
Unemployed	1.11 (0.90-1.37)	0.354
Furloughed	1.20 (0.98-1.48)	0.074
Unable to work	0.96 (0.71-1.30)	0.798
Retired	1.24 (1.09-1.42)	0.001
COVID-19 circumstance		
Not self-isolating or shielding	1.00	-
Self-isolating - I have symptoms*	4.07 (1.96-9.79)	0.001
Self-isolating - Someone in my household has symptoms	1.30 (0.51-3.60)	0.614
Self-isolating - Someone in my support bubble has symptoms	0.82 (0.21-3.34)	0.780
Self-isolating - precaution/told to do so by Test and Trace	0.58 (0.43-0.79)	<0.001
Shielding - I am a vulnerable individual	0.81 (0.66-1.01)	0.050

	Multivariable analysis <sup>1</sup>	
	aIRR (95%CI)	p-value
Shielding - I live with a vulnerable individual	0.79 (0.62-1.01)	0.063
Not sure	0.55 (0.39-0.78)	0.001

<sup>1</sup>Adjusted for age, sex, ethnicity, nation, household size, day of the week, left home, school or work situation and COVID-19 circumstance.

\*This increased contact rate is due to one participant who was self-isolating with symptoms reporting a high number of contacts (*see results*).

**Table 4.** Characteristics of participants who reported ‘Self isolating’ or ‘Shielding’ as their COVID circumstance. N is the number of participants who provided a response to the question.

	Number of self-isolating participants (%)	Number of shielding participants (%)	Number of participants not self-isolating or shielding (%)
Age group	N = 136	N = 353	N = 4,511
0-9	0 (0.0%)	0 (0.0%)	5 (0.1%)
10-19	1 (0.7%)	4 (1.1%)	33 (0.7%)
20-29	7 (5.1%)	12 (3.4%)	233 (5.2%)
30-39	11 (8.1%)	28 (7.9%)	549 (12.2%)
40-49	17 (12.5%)	64 (18.1%)	1093 (24.2%)
50-59	41 (30.1%)	95 (26.9%)	1465 (32.5%)
60-69	32 (23.5%)	104 (29.5%)	905 (20.1%)
70-79	22 (16.2%)	43 (12.2%)	215 (4.8%)
80+	5 (3.7%)	3 (0.8%)	13 (0.3%)
No response	0 (0.0%)	0 (0.0%)	0 (0.0%)
Sex	N = 136	N = 353	N = 4,511
Female	111 (81.6%)	286 (81.0%)	3548 (78.7%)
Male	25 (18.4%)	65 (18.4%)	943 (20.9%)
Prefer not to say	0 (0.0%)	2 (0.6%)	20 (0.4%)
No response	0 (0.0%)	0 (0.0%)	0 (0.0%)
Ethnicity	N = 136	N = 353	N = 4,511
White	126 (92.6%)	334 (94.6%)	4336 (96.1%)
Mixed/Multiple ethnic groups	5 (3.7%)	8 (2.3%)	36 (0.8%)
Asian/Asian British	3 (2.2%)	2 (0.6%)	43 (1.0%)
Black/African/Caribbean/Black British	0 (0.0%)	2 (0.6%)	9 (0.2%)
Other ethnic group	1 (0.7%)	0 (0.0%)	6 (0.1%)
Prefer not to say	0 (0.0%)	3 (0.8%)	13 (0.3%)
No response	1 (0.7%)	4 (1.1%)	68 (1.5%)
Left home yesterday	N = 135	N = 350	N = 4,495
No	64 (47.4%)	145 (41.4%)	778 (17.3%)
Yes	71 (52.6%)	205 (58.6%)	3717 (82.7%)

	<b>Number of self-isolating participants (%)</b>	<b>Number of shielding participants (%)</b>	<b>Number of participants not self-isolating or shielding (%)</b>
No response	0 (0.0%)	0 (0.0%)	0 (0.0%)
Part of a support bubble	N = 136	N= 352	N = 4,505
No	87 (64.0%)	238 (67.6%)	2664 (59.1%)
Yes	49 (36.0%)	114 (32.4%)	1841 (40.9%)
No response	0 (0.0%)	0 (0.0%)	0 (0.0%)
Social distancing	N = 53	N= 167	N = 2,989
Yes, all of the time	39 (73.6%)	117 (70.1%)	1728 (57.8%)
More than half of the time	10 (18.9%)	36 (21.6%)	877 (29.3%)
Less than half of the time	4 (7.5%)	11 (6.6%)	278 (9.3%)
No, none of the time	0 (0.0%)	3 (1.8%)	86 (2.9%)
Not sure	0 (0.0%)	0 (0.0%)	20 (0.7%)
No response	0 (0.0%)	0 (0.0%)	0 (0.0%)
	<b>Mean daily non-household contact rate (IQR)</b>		
	<b>Sef-isolating participants</b>	<b>Shielding participants</b>	<b>Participants not shielding or self-isolating</b>
	N = 134	N = 348	N = 4,484
All participants	1.2 (0, 2)	1.3 (0, 2)	3.1 (0, 3)

**Table 5.** Adjusted incidence rate ratios for number of daily non-household contacts by select variables. Self-isolating individual with large number of contacts removed for this analysis (see results). Intercept of 0.41 (95 %CI 0.35-0.48). Dispersion parameter of 1.07 (95%CI 1.00-1.14)

	Multivariable analysis <sup>1</sup>	
	aIRR (95%CI)	p-value
Age		
0-9	0.69 (0.13-3.64)	0.662
10-19	0.89 (0.49-1.64)	0.691
20-29	1.15 (0.97-1.39)	0.114
30-39	0.86 (0.76-0.98)	0.021
40-49	0.91 (0.82-1.00)	0.044
50-59	1.00	-
60-69	0.89 (0.79-1.00)	0.047
70-79	0.94 (0.78-1.14)	0.540
80+	1.23 (0.69-2.25)	0.457
Sex		
Female	1.00	-
Male	1.02 (0.93-1.11)	0.730
Prefer not to say	0.53 (0.27-1.05)	0.063
Ethnicity		
White	1.00	-
Mixed/Multiple ethnic groups	1.13 (0.79-1.62)	0.511
Asian/Asian British	0.54 (0.36-0.82)	0.004
Black/African/Caribbean/Black British	0.47 (0.17-1.23)	0.137
Other ethnic group	0.54 (0.18-1.79)	0.305
Nation		
England	1.00	-
Northern Ireland	0.92 (0.59-1.47)	0.713
Scotland	0.80 (0.68-0.95)	0.009
Wales	1.22 (1.00-1.50)	0.059
Household size		
1	1.00	-

	Multivariable analysis <sup>1</sup>	
	aIRR (95%CI)	p-value
2	0.92 (0.83-1.02)	0.105
3	0.98 (0.87-1.11)	0.805
4	0.84 (0.74-0.95)	0.007
5	0.97 (0.81-1.15)	0.692
6+	0.85 (0.65-1.12)	0.244
Day of the week (contacts recorded)		
Weekday	1.00	-
Weekend	1.14 (0.99-1.31)	0.068
Left home yesterday		
No	1.00	-
Yes	5.54 (4.89-6.29)	<0.001
Dwelling type		
House or bungalow	1.00	-
Flat, maisonette or apartment	0.95 (0.85-1.07)	0.414
Mobile or temporary structure	1.21 (0.56-2.87)	0.647
Assisted living facility	2.25 (0.39-37.46)	0.441
Care home	2.78 (0.41-48.81)	0.355
Other	1.28 (0.68-2.54)	0.460
School or work situation		
Employed - working from home	1.00	-
School pupil - studying at home	0.85 (0.29-2.50)	0.763
School pupil - attending school	2.90 (0.95-10.00)	0.080
College or University student	0.86 (0.65-1.15)	0.291
Employed - going to place of work	3.34 (3.04-3.68)	<0.001
Self Employed	1.64 (1.43-1.87)	<0.001
Healthcare professional	5.12 (4.31-6.12)	<0.001
Unemployed	1.10 (0.89-1.37)	0.369
Furloughed	1.21 (0.99-1.49)	0.063
Unable to work	1.00 (0.74-1.35)	0.993
Retired	1.25 (1.09-1.42)	0.001
COVID-19 circumstance		

	Multivariable analysis <sup>1</sup>	
	aIRR (95%CI)	p-value
Not self isolating or shielding	1.00	-
Self isolating - I have symptoms	0.83 (0.24-2.82)	0.775
Self isolating - Someone in my household has symptoms	1.31 (0.51-3.62)	0.606
Self isolating - Someone in my support bubble has symptoms	0.81 (0.21-3.30)	0.768
Self isolating - precaution/told to by Test and Trace	0.58 (0.43-0.79)	<0.001
Shielding - I am a vulnerable individual	0.81 (0.66-1.00)	0.050
Shielding - I live with a vulnerable individual	0.79 (0.62-1.02)	0.065
Not sure	0.56 (0.39-0.79)	0.001

<sup>1</sup> Adjusted for age, sex, ethnicity, nation, household size, day of the week, left home, dwelling type, school or work situation and COVID-19 circumstance.



**Table 6.** Association of participant characteristics and maintaining social distancing more than half of the time with contacts (adjusted odds ratios). N = 3058. Model intercept of 9.34 (7.24-12.20).

	Adjusted Odds Ratio (95%CI) <sup>1</sup>	p-value
Age		
10-19	0.30 (0.08-1.25)	0.077
20-29	0.62 (0.38-1.06)	0.069
30-39	0.66 (0.46-0.95)	0.024
40-49	0.88 (0.65-1.19)	0.415
50-59	1.00	-
60-69	0.88 (0.61-1.28)	0.496
70-79	0.91 (0.49 -1.79)	0.778
80+	0.28 (0.08-1.30)	0.064
School or work situation		
Employed - working from home	1.00	-
College or University student	0.68 (0.33-1.55)	0.335
Employed - going to place of work	0.71 (0.53-0.96)	0.025
Self Employed	1.48 (0.92-2.51)	0.126
Healthcare professional	0.26 (0.17-0.40)	<0.001
Unemployed	0.59 (0.35-1.07)	0.068
Furloughed	1.01 (0.54-2.05)	0.979
Unable to work	1.58 (0.56-6.61)	0.453
Retired	1.40 (0.90-2.19)	0.136

<sup>1</sup> Adjusted for age and school or work situation

\* School pupils excluded from analysis due to insufficient data.

**Table 7.** Association of participant characteristics with risk (adjusted odds ratios) of visiting another household (N = 4,030). Model intercept 0.11 (0.09-0.14).

	Adjusted Odds Ratio (95%CI) <sup>1</sup>	p-value
Age		
10-19	0.75 (0.18-2.20)	0.643
20-29	0.77 (0.47-1.21)	0.277
30-39	0.85 (0.62-1.15)	0.313
40-49	1.03 (0.82-1.30)	0.805
50-59	1.00	-
60-69	1.09 (0.86-1.38)	0.479
70-79	1.18 (0.79-1.72)	0.413
80+	0.73 (0.11-2.73)	0.682
Sex		
Female	1.23 (0.98-1.56)	0.073
Male	1.00	-
Prefer not to say	1.07 (0.17-3.92)	0.926
Part of a support bubble		
No	1.00	-
Yes	1.92 (1.61-2.28)	<0.001

<sup>1</sup>Adjusted for age, sex and whether a participants was a part of a support bubble.

\*0-9 year olds excluded from analysis due to insufficient data.

## References

- 1 Mossong J, Hens N, Jit M, *et al.* Social contacts and mixing patterns relevant to the spread of infectious diseases. *PLoS Med* 2008;**5**:e74.
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- 4 Jarvis CI, Van Zandvoort K, Gimma A, *et al.* Quantifying the impact of physical distance measures on the transmission of COVID-19 in the UK. *BMC Med* 2020;**18**:124.
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**Survey Questions - Round 1**

Q1

Are you aged 13 or over?

 Yes No

Q1.a

**Please make sure you agree to the following before continuing with the survey:**

You currently live in the UK;

You have read the [Participant Information Sheet](#) and fully understand what is expected of you within this study;

Your participation is voluntary and you are aware that you can stop the survey at any point; You understand that data submitted prior to closing the survey will be collected;

You consent to Lancaster University keeping the anonymised data for a period of 10-years after the study has finished;

If you are filling out the survey on behalf of someone else, please make sure you have their consent before continuing.

 **I consent to taking part in the CoCoNet study**

Q1.b

**If you are under the age of 13 we do ask that a parent or guardian fills out the survey with you.**Please take the time to read through and discuss the *Information sheet for Children* together. The parent or guardian should also read through the more detailed *Participant Information Sheet*.**Please make sure you both agree to the following before continuing with the survey:**

I live in the UK;

I have read and understood the information sheet(s);

I understand I can stop the survey at any point;

I understand that my answers will be kept for 10 years after the study has finished.

	Child	Parent/Guardian
<b>I agree to take part in the CoCoNet study/ I consent to my child taking part in the study</b>	<input type="checkbox"/>	<input type="checkbox"/>

Q2 Where in the UK do you currently live?

- England
- Northern Ireland
- Scotland
- Wales
- I do not live in the UK

Q3 What is your age?

- 0 - 9 years old
- 10 - 19 years old
- 20 - 29 years old
- 30 - 39 years old
- 40 - 49 years old
- 50 - 59 years old
- 60 - 69 years old
- 70 - 79 years old
- Aged 80 or over

Q4 What is your sex?

*The answer you give can be different from what is on your birth certificate.*

- Female
- Male
- Prefer not to say

Q5 Which of the following best describes your ethnicity?

- English / Welsh / Scottish / Northern Irish / British
- Irish
- Gypsy or Irish Traveller
- Any other White background
- White and Black Caribbean
- White and Black African
- White and Asian
- Any other Mixed / Multiple ethnic background
- Indian
- Pakistani
- Bangladeshi
- Chinese
- Any other Asian background
- African
- Caribbean
- Any other Black / African / Caribbean background
- Arab
- Any other ethnic group
- Prefer not to say

Q6 What is the first part of your home postcode?

*For example, if your home postcode was LA1 4YW then you would enter LA1.*

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Q7 Which type of accommodation best describes your home?

- Flat, maisonette or apartment
- House or bungalow
- Mobile or temporary structure
- Assisted living facility
- Care home
- Other

Q8

What is your current school or work situation?

- School pupil - studying at home
- School pupil - still attending school
- College or University student
- Employed - working from home
- Employed - still going to place of work
- Self Employed
- Healthcare professional
- Unemployed
- Furloughed
- Unable to work
- Retired
- Other

Q9 Currently, do you regularly meet members of the general public as part of your job?

- Yes
- No



Q10

Are you self-isolating or shielding because of COVID-19?

*A vulnerable individual here refers to a clinically extremely vulnerable person.*

- I am not self-isolating or shielding
- Self Isolating - I have symptoms of COVID
- Self Isolating - Someone in my household has symptoms of COVID
- Self Isolating - Someone in my support bubble has symptoms of COVID
- Self Isolating - As a precaution / told to do so by Test and Trace
- Shielding - I am a vulnerable individual
- Shielding - I live with a vulnerable individual
- Not sure

Q11

How many other people currently live with you at home?

- 0 - I live alone
- 1
- 2
- 3
- 4
- 5 or more

Q12

How many people of each age group live with you at home?

*Do not include yourself.*

*Drop down options of 0, 1, 2, 3, 4, 5 or more for each age group.*

0 - 9 year olds  
10 - 19 year olds  
20 - 29 year olds  
30 - 39 year olds  
40 - 49 year olds  
50 - 59 year olds  
60 - 69 year olds  
70 - 79 year olds  
Aged 80 or over

Q13

Have you formed a support bubble with another household?

*A single-person household can join with one other household and interact without maintaining social distance.*

Yes

No

Q14

How many people of each age group are part of your support bubble?

*Do not include your own household members.*

*Drop down options of 0, 1, 2, 3, 4, 5 or more for each age group.*

0 - 9 year olds  
10 - 19 year olds  
20 - 29 year olds  
30 - 39 year olds  
40 - 49 year olds  
50 - 59 year olds  
60 - 69 year olds  
70 - 79 year olds  
Aged 80 or over

Q15

Thinking about the past 7 days, on how many of these days did you meet someone from your support bubble?

- None
- 1 day
- 2 days
- 3 days
- 4 days
- 5 days
- 6 days
- 7 days
- Not sure

Q16

Did you leave your home or property yesterday?

*Do not include going into your private garden, but do include visits to shared or communal gardens or spaces.*

Yes

No

Q17

Where did you go yesterday? Tick all that apply.

Visited the home of someone else

My school or workplace

Doctor's surgery or healthcare facility

Supermarket or convenience store

Other shops or retail spaces (e.g. garden centre, clothing shops, drive-through food outlets)

Restaurant, café or pub

For a walk or exercise

Other - *please do not include any identifying information*

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Q18

What modes of transport did you use yesterday? Tick all that apply.

- I walked or cycled
- I travelled in a car by myself
- I travelled in a car with another person(s)
- I took a bus, tram or train
- I took an aeroplane or ferry

Q19

Not including those that you live with, how many people did you meet yesterday?

*Only include those you had a face-to-face conversation with.*

- None
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15 or more

## Q20

Please tell us about each of the people you met yesterday.

*Information collected for up to 14 contacts.*

How old were they? <i>Please estimate the person's age if you are unsure.</i>							Did you meet this person indoors? <i>For example, in a shop, office or house.</i>			Did anyone that you live with also meet this person yesterday?		
0 - 4	5 - 9	10 - 19	20 - 39	40 - 59	60 - 69	70 - 79	80 +	Yes	No	Yes	No	Not sure

## Q21

Please tell us about each of the people you met yesterday.

*Information collected for up to 14 contacts.*

How old were they? <i>Please estimate the person's age if you are unsure.</i>							Did you meet this person indoors? <i>For example, in a shop, office or house.</i>		
0 - 4	5 - 9	10 - 19	20 - 39	40 - 59	60 - 69	70 - 79	80 +	Yes	No

## Q22

How many people of each age group did you meet yesterday?

*Drop down choice of integers 1 - 19 or '20 or more' for each age group.*

0-4 year olds

5-9 year olds

10-19 year olds

20-39 year olds

40-59 year olds

60-69 year olds

70-79 year olds

Aged 80 or over

## Q23

Did you meet these people indoors or outdoors?

*For example, meeting someone indoors could be in a shop, office or house etc.*

- I met everyone indoors
- I met most people indoors
- I met most people outdoors
- I met everyone outdoors
- Not sure



Q24

Were you able to maintain social distance from everyone you met yesterday?

*Do not include people that you live with or those in your support bubble. Please refer to the government advice for the recommended social distance in your area.*

- Yes, all of the time
- More than half of the time
- Less than half of the time
- No, none of the time
- Not sure

Q25 Of the people you live with, how many people stayed at home all day yesterday?

- None
- 1
- 2
- 3
- 4
- 5 or more
- Not sure

Q26 Thinking about the past 7 days, on how many of these days did you leave your home or property?

- None
- 1 day
- 2 days
- 3 days
- 4 days
- 5 days
- 6 days
- 7 days
- Not sure

Q27 What was the furthest distance from home you travelled over the past 7 days?

- Less than 2 miles (3 km)
- 2 - 9 miles (3 - 15 km)
- 10 - 19 miles (16 - 31 km)
- 20 - 49 miles (32 - 79 km)
- 50 miles (80 km) or more