

Supplementary Material

Estimating the risk of contracting COVID-19 in different settings using a multiscale transmission dynamics model

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Table S1. Collected data for shopping centres.

Shopping centre			
Age bracket	Demography (%)	Desired speed (m/s)	Desired distance (m)
[0,5[	0	$N(0.88;0.106)$	$N(1.99;0.056)$
[5,10[	0.6	$N(1.15;0.04)$	
[10,15[	1	$N(1.20;0.048)$	$N(2.04;0.075)$
[15,20[	12.75	$N(1.36;0.036)$	
[20,25[	12.25	$N(1.42;0.035)$	$N(2.16;0.072)$
[25,30[	12.50		
[30,35[	12.04	$N(1.42;0.051)$	$N(2.19;0.0814)$
[35,40[	11.42		
[40,45[	10.03	$N(1.39;0.065)$	$N(2.15;0.076)$
[45,50[	6.05		
[50,55[	5.43	$N(1.30;0.023)$	$N(2.11;0.066)$
[55,60[	5.11		
[60,65[	4.49	$N(1.26;0.023)$	$N(2.12;0.073)$
[65,70[	3.44		
[70,75[	2.08	$N(1.01;0.003)$	$N(2.24;0.047)$
[75,80[	1.35		

Table S2. Collected data for schools.

School			
Age bracket	Demography (%)	Desired speed (m/s)	Desired distance (m)
[0,5[	0.885	$N(0.65;0.106)$	$N(1.26;0.125)$
[5,10[	30.97	$N(1.08;0.028)$	
[10,15[	38.05	$N(1.33;0.012)$	$N(1.31;0.135)$
[15,20[	22.12	$N(1.45;0.035)$	
[20,25[	0.885	$N(1.44;;0.023)$	$N(1.35;0.141)$
[25,30[	0.885	$N(1.39;0.246)$	
[30,35[	0.885	$N(1.36;0.0304)$	$N(1.38;0.108)$
[35,40[	0.885	$N(1.33;0.030)$	
[40,45[	0.885	$N(1.3;0.021)$	$N(1.36;0.128)$
[45,50[	0.885	$N(1.26;0.021)$	
[50,55[	0.885	$N(1.16;0.243)$	$N(1.22;0.015)$
[55,60[	1.77	$N(1.2;0.015)$	
[60,65[	0	$N(1.2;0.018)$	$N(1.37;0.129)$
[65,70[	0	$N(1.18;0.018)$	
[70,75[	0	$N(1.08;0.015)$	$N(1.49;0.1309)$
[75,80[	0	$N(0.92;0.015)$	

Table S3. Collected data for residential areas/households.

Residential area/Household			
Age bracket	Demography (%)	Desired speed (m/s)	Desired distance (m)
[0,5[	11.55	$N(0.88;0.106)$	$N(0.38;0.095)$
[5,10[	12.23	$N(1.53;0.447)$	
[10,15[11.42		$N(1.55;0.323)$	$N(0.41;0.088)$
[15,20[	07.45	$N(0.41;0.097)$	
[20,25[	07.17		
[25,30[	07.53	$N(1.47;0.246)$	$N(0.42;0.099)$
[30,35[	07.25		
[35,40[	06.89		$N(0.45;0.126)$
[40,45[	06.05		
[45,50[	05.39	$N(1.38;0.243)$	$N(0.41;0.103)$
[50,55[	04.83		
[55,60[	04.55		$N(0.47;0.144)$
[60,65[	03.03		
[65,70[	02.34	$N(1.16;0.255)$	$N(0.49;0.149)$
[70,75[	01.41		
[75,80[	0.92		

Table S4. Collected data for workplaces.

Workplace			
Age bracket	Demography (%)	Desired speed (m/s)	Desired distance (m)
[0,5[	0	$N(0.88;0.106)$	$N(1.26;0.125)$
[5,10[	0	$N(1.16;0.043)$	
[10,15[	0	$N(1.21;0.046)$	$N(1.31;0.135)$
[15,20[	7.75	$N(1.39;0.035)$	
[20,25[	7.65	$N(1.35;0.023)$	$N(1.35;0.141)$
[25,30[	15.34		
[30,35[	14.41	$N(1.43;0.030)$	$N(1.38;0.108)$
[35,40[	12.20		
[40,45[	10.35	$N(1.434;0.021)$	$N(1.36;0.128)$
[45,50[	9.02		
[50,55[	8.38	$N(1.433;0.015)$	$N(1.30;0.131)$
[55,60[	07.90		
[60,65[	7.00	$N(1.339;0.018)$	$N(1.37;0.129)$
[65,70[	0		
[70,75[	0	$N(1.262;0.015)$	$N(1.49;0.130)$
[75,80[	0		

Table S5. Collected data for public spaces/other locations.

Public space/other locations			
Age bracket	Demography (%)	Desired speed (m/s)	Desired distance (m)
[0,5[	0	$N(0.88;0.1061)$	$N(1.99;0.056)$
[5,10[	0.6	$N(1.11;0.028)$	
[10,15[	1	$N(1.35;0.012)$	$N(2.04;0.075)$
[15,20[	12.75	$N(1.39;0.035)$	
[20,25[	12.25	$N(1.34;0.038)$	$N(2.16;0.072)$
[25,30[	12.50		
[30,35[	12.04	$N(1.26;0.032)$	$N(2.19;0.0814)$
[35,40[	11.42		
[40,45[	10.03	$N(1.26;0.0478)$	$N(2.15;0.076)$
[45,50[	6.05		
[50,55[	5.43	$N(1.23;0.041)$	$N(2.11;0.066)$
[55,60[	5.11		
[60,65[	4.49	$N(1.21;0.049)$	$N(2.12;0.073)$
[65,70[	3.44		
[70,75[	2.08	$N(0.95;0.23)$	$N(2.24;0.047)$
[75,80[	1.35		

Table S6. Weight and relaxation time of the Moroccan population.

Age bracket	Weight (kg)	τ_i (s)
[0,5[$N(13.10; 4.05)$	0.5
[5,10[	$N(20.91; 2.935)$
[10,15[	$N(34.525; 6.553)$
[15,20[$N(50.532; 7.196)$	0.54
[20,25[	$N(60.95; 10.45)$
[25,30[	$N(66.05; 13.25)$
[30,35[	$N(73.25; 14.75)$
[35,40[
[40,45[$N(73.55; 16.25)$	0.71
[45,50[
[50,55[	$N(73.10; 23.00)$
[55,60[
[60,65[	$N(72.1; 13.63)$
[65,70[	$N(71.99; 13.63)$
[70,75[	$N(67.05; 15.50)$
[75,80[	$N(70.39; 16.71)$