Supplemental Table 5. Odds ratio of reporting severe loneliness / severe anxiety / low life satisfaction compared to the reference values in the four cohorts (N=69,136). Model 3.

| | | | | LON | ELINI | -55 | | | | |
|---|---|--|---|--|---|---|---|---|--|---|
| Exposure | | DNBC | | ТЕМРО | | Constances | | UCL Covid-19 Social Study | | |
| | | Young people | Women | Men | Women | Men | Women | Young people | Men | Women |
| Access to | Yes | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref |
| outdoor facilities | No | 1.17 | 3.59 | 0.14 | 0.46 | 1.25 | 1.23 | 2.41 | 1.10 | 1.02 |
| | <43 m2 | [0.90,1.53] Ref | [1.56,8.28] Ref | [0.02, 1.01] N/A | [0.09, 2.47] N/A | [1.03,1.51] Ref | [1.04,1.46] Ref | [1.17,4.97] N/A | [0.82,1.48] N/A | [0.84,1.25] N/A |
| Household density | | 0.89 | 1.14 | | | 1.36 | 1.35 | | | - |
| | ≥43 m2 | [0.79,1.00] | [0.97,1.35] | N/A | N/A | [1.18,1.58] | [1.11,1.65] | N/A | N/A | N/A |
| Household crowding | Ideal | N/A | N/A | N/A | N/A | Ref | Ref | Ref | Ref | Ref |
| | Crowded | N/A | N/A | N/A | N/A | 1.41 [1.08,1.84] | 1.28 [0.83,1.73] | | 1.07 [0.71,.160] | 1.25 [0.94,1.67 |
| | Underoccupied | N/A | N/A | N/A | N/A | 0.67 [0.57,0.79] | 0.86 [0.72,1.04] | 0.76 [0.39,1.47] | 0.82 [0.63,1.05] | 0.91 [0.79,1.05 |
| | Adults-only households | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref |
| Household | Households with children | 0.91 | 0.88 [0.74,1.04] | 0.82 | 1.58 [0.74, 3.57] | 1.05 [0.86,1.27] | 1.20 [0.93,1.55] | 2.87 | 0.98 [0.67,1.20] | 1.05 [0.91,1.21] |
| composition | Single | 1.69 | 2.33 | 0.72 | 5.4 | 8.71 | 6.99 | 1.58 | 3.62 | 2.72 |
| | (living alone) | [1.38,2.06] | [1.81,3.00] | [0.23, 2.26] | [1.65, 18.1] | [7.51,10.10] | [5.69,8.58] | [0.63,3.96] | [2.86,4.59] | [2.33,3.18 |
| Dwelling type | House | N/A | N/A | Ref | Ref | Ref | Ref | Ref | Ref | Ref |
| | Apartment | N/A | N/A | 0.16 [0.02, 1.24] | 0.23 [0.04, 1.32] | 1.71 [1.46,1.99] | 1.50 [1.32,1.70] | 0.69 [0.29,1.63] | 0.89 [0.67,1.19] | 0.98 [0.82,1.17] |
| Urbanicity | Urban | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref |
| | Semi-urban | 0.98 | 1.07 | 0.34 | 0.7 | N/A | N/A | 1.28 | 1.13 | 1.02 |
| | | [0.83,1.17] 0.97 | [0.98,1.17] 1.05 | [0.11, 0.99] 0.34 | [0.31, 1.55] 0.77 | , 1.05 | 1.14 | [0.67,2.43] 2.43 | [0.91,1.41] | [0.90,1.16 0.94 |
| | Rural | [0.86,1.10] | [0.96,1.13] | [0.08, 1.2 | [0.34, 1.65] | | [0.91,1.42] | - | [0.84,1.47] | [0.81,1.09] |
| Exposure | | DNBC | | АN темро | IXIET | Y Constances | | UCL Covid-1 | 9 Social Stud | у |
| | | | | | | constances | | | | |
| | | Young people | Women | Men | Women | Men | Women | Young people | Men | Women |
| Access to | Yes | - | Women Ref | Men N/A | Women N/A | | Women Ref | - | Men Ref | Women Ref |
| outdoor | | people Ref 0.99 | Ref 1.35 | N/A | N/A | Men Ref | Ref 1.12 [0.89, | people Ref 1.21 | Ref 1.02 | Ref 1.03 |
| outdoor | No | people Ref 0.99 [0.75,1.30] | Ref 1.35 [0.69,2.62] | N/A N/A | N/A N/A | Men Ref 1.21 [0.92, 1.59] | Ref 1.12 [0.89, 1.41] | people Ref 1.21 [0.53,2.79] | Ref 1.02 [0.63,1.64] | Ref 1.03 [0.81,1.31] |
| outdoor facilities Household | | people Ref 0.99 [0.75,1.30] Ref | Ref 1.35 [0.69,2.62] Ref | N/A | N/A | Men Ref 1.21 [0.92, 1.59] Ref | Ref 1.12 [0.89, 1.41] Ref | people Ref 1.21 | Ref 1.02 | Ref 1.03 |
| outdoor facilities Household | No | people Ref [0.75,1.30] Ref 0.76 | Ref 1.35 [0.69,2.62] Ref 1.07 | N/A N/A | N/A N/A | Men Ref 1.21 [0.92, 1.59] Ref 1.02 [0.84, | Ref 1.12 [0.89, 1.41] Ref 0.86 | people Ref 1.21 [0.53,2.79] | Ref 1.02 [0.63,1.64] | Ref 1.03 [0.81,1.31] |
| outdoor facilities Household | No <43 m2 | people Ref 0.99 [0.75,1.30] Ref | Ref 1.35 [0.69,2.62] Ref | N/A N/A N/A | N/A N/A N/A N/A | Men Ref 1.21 [0.92, 1.59] Ref | Ref 1.12 [0.89, 1.41] Ref | people Ref 1.21 [0.53,2.79] N/A | Ref 1.02 [0.63,1.64] N/A | Ref 1.03 [0.81,1.31] N/A |
| butdoor facilities Household density Household | No <43 m2 ≥43 m2 | people Ref 0.99 [0.75,1.30] Ref 0.76 [0.67,0.86] | Ref 1.35 [0.69,2.62] Ref 1.07 [0.91,1.26] | N/A N/A N/A N/A | N/A N/A N/A | Men Ref 1.21 [0.92, 1.59] Ref 1.02 [0.84, 1.24] Ref 1.16 | Ref 1.12 [0.89, 1.41] Ref 0.86 [0.75,0.99] Ref 1.09 | people Ref 1.21 [0.53,2.79] N/A N/A Ref 1.89 | Ref 1.02 [0.63,1.64] N/A N/A Ref 0.98 | Ref 1.03 [0.81,1.31] N/A N/A Ref 0.95 |
| outdoor facilities Household density Household | No <43 m2 ≥43 m2 Ideal | people Ref 0.99 [0.75,1.30] Ref 0.76 [0.67,0.86] N/A | Ref 1.35 [0.69,2.62] Ref 1.07 [0.91,1.26] N/A | N/A N/A N/A N/A | N/A N/A N/A N/A | Men Ref 1.21 [0.92, 1.59] Ref 1.02 [0.84, 1.24] Ref 1.16 [0.79,1.70] 0.86 | Ref 1.12 [0.89, 1.41] Ref 0.86 [0.75,0.99] Ref 1.09 [0.82,1.44] 0.78 | people Ref 1.21 [0.53,2.79] N/A N/A Ref 1.89 [0.81,4,40] 2.36 | Ref 1.02 [0.63,1.64] N/A N/A Ref 0.98 [0.45,2.12] 0.62 | Ref 1.03 [0.81,1.31] N/A N/A Ref 0.95 [0.68,1.32] 0.82 |
| outdoor acilities Household Jensity Household | No <43 m2 ≥43 m2 Ideal Crowded | people Ref 0.99 [0.75,1.30] Ref 0.76 [0.67,0.86] N/A | Ref 1.35 [0.69,2.62] Ref 1.07 [0.91,1.26] N/A N/A | N/A N/A N/A N/A N/A | N/A N/A N/A N/A N/A | Men Ref 1.21 [0.92, 1.59] Ref 1.02 [0.84, 1.24] Ref 1.16 [0.79,1.70] | Ref 1.12 [0.89, 1.41] Ref 0.86 [0.75,0.99] Ref 1.09 [0.82,1.44] 0.78 | people Ref 1.21 [0.53,2.79] N/A N/A Ref 1.89 [0.81,4,40] | Ref 1.02 [0.63,1.64] N/A N/A Ref 0.98 [0.45,2.12] | Ref 1.03 [0.81,1.31 N/A N/A Ref 0.95 [0.68,1.32 0.82 |
| outdoor acilities Household Iensity Household Frowding | No <43 m2 ≥43 m2 Ideal Crowded Underoccupied Adults-only | people Ref 0.99 [0.75,1.30] Ref 0.76 [0.67,0.86] N/A N/A | Ref 1.35 [0.69,2.62] Ref 1.07 [0.91,1.26] N/A N/A N/A | N/A N/A N/A N/A N/A N/A | N/A N/A N/A N/A N/A N/A | Men Ref 1.21 [0.92, 1.59] Ref 1.02 [0.84, 1.24] Ref 1.16 [0.79,1.70] 0.86 [0.69,1.07] | Ref 1.12 [0.89, 1.41] Ref 0.86 [0.75,0.99] Ref 1.09 [0.82,1.44] 0.78 [0.68,0.91] Ref 1.13 | people Ref 1.21 [0.53,2.79] N/A N/A Ref 1.89 [0.81,4,40] 2.36 [1.08,5.19] | Ref 1.02 [0.63,1.64] N/A N/A Ref 0.98 [0.45,2.12] 0.62 [0.41,0.94] | Ref 1.03 [0.81,1.31 N/A N/A Ref 0.95 [0.68,1.32 0.82 [0.68,0.98 Ref 1.10 |
| outdoor facilities Household Household crowding | No <43 m2 ≥43 m2 Ideal Crowded Underoccupied Adults-only households Households with children Single households | people Ref 0.99 [0.75,1.30] Ref 0.76 [0.67,0.86] N/A N/A N/A N/A 0.94 | Ref 1.35 [0.69,2.62] Ref 1.07 [0.91,1.26] N/A N/A N/A N/A Ref 1.07 [0.90,1.27] 1.05 | N/A N/A N/A N/A N/A N/A N/A | N/A N/A N/A N/A N/A N/A N/A | Men Ref 1.21 [0.92, 1.59] Ref 1.02 [0.84, 1.24] Ref 1.16 [0.79,1.70] 0.86 [0.69,1.07] Ref 1.18 | Ref 1.12 [0.89, 1.41] Ref 0.86 [0.75,0.99] Ref 1.09 [0.82,1.44] 0.78 [0.68,0.91] Ref 1.13 [0.97,1.33] 0.91 | people Ref 1.21 [0.53,2.79] N/A N/A Ref 1.89 [0.81,4,40] 2.36 [1.08,5.19] Ref 0.42 | Ref 1.02 [0.63,1.64] N/A N/A Ref 0.98 [0.45,2.12] 0.62 [0.41,0.94] Ref 0.81 | Ref 1.03 [0.81,1.31 N/A N/A Ref 0.95 [0.68,1.32 0.82 [0.68,0.98 Ref 1.10 [0.91,1.34 0.48 |
| butdoor facilities Household density Household crowding | No <43 m2 ≥43 m2 Ideal Crowded Underoccupied Adults-only households Households with children Single | people Ref 0.99 [0.75,1.30] Ref 0.76 [0.67,0.86] N/A N/A N/A N/A I.23 | Ref 1.35 [0.69,2.62] Ref 1.07 [0.91,1.26] N/A N/A N/A N/A Ref 1.07 [0.90,1.27] 1.05 [0.82,1.35] | N/A N/A N/A N/A N/A N/A N/A N/A | N/A N/A N/A N/A N/A N/A N/A N/A N/A | Men Ref 1.21 [0.92, 1.59] Ref 1.02 [0.84, 1.24] Ref 1.16 [0.79,1.70] 0.86 [0.69,1.07] Ref 1.18 [0.93,1.48] 1.55 | Ref 1.12 [0.89, 1.41] Ref 0.86 [0.75,0.99] Ref 1.09 [0.82,1.44] 0.78 [0.68,0.91] Ref 1.13 [0.97,1.33] 0.91 | people Ref 1.21 [0.53,2.79] N/A N/A Ref 1.89 [0.81,4,40] 2.36 [1.08,5.19] Ref 0.42 [0.16,1.05] 1.02 | Ref 1.02 [0.63,1.64] N/A N/A Ref 0.98 [0.45,2.12] 0.62 [0.41,0.94] Ref 0.81 [0.51,1.28] 0.39 | Ref 1.03 [0.81,1.31] N/A N/A Ref 0.95 [0.68,1.32] 0.82 [0.68,0.98] Ref 1.10 [0.91,1.34] |
| Access to outdoor facilities Household density Household crowding Household composition | No <43 m2 ≥43 m2 Ideal Crowded Underoccupied Adults-only households Households with children Single households (living alone) | people Ref 0.99 [0.75,1.30] Ref 0.76 [0.67,0.86] N/A N/A N/A 0.94 [0.83,1.06] 1.23 [1.00,1.51] | Ref 1.35 [0.69,2.62] Ref 1.07 [0.91,1.26] N/A N/A N/A N/A Ref 1.07 [0.90,1.27] 1.05 | N/A N/A N/A N/A N/A N/A N/A N/A | N/A N/A N/A N/A N/A N/A N/A N/A | Men Ref 1.21 [0.92, 1.59] Ref 1.02 [0.84, 1.24] Ref 1.16 [0.79,1.70] 0.86 [0.69,1.07] Ref 1.18 [0.93,1.48] 1.55 [1.23,1.95] | Ref 1.12 [0.89, 1.41] Ref 0.86 [0.75,0.99] Ref 1.09 [0.82,1.44] 0.78 [0.68,0.91] Ref 1.13 [0.97,1.33] 0.91 [0.76,1.10] | people Ref 1.21 [0.53,2.79] N/A N/A Ref 1.89 [0.81,4,40] 2.36 [1.08,5.19] Ref 0.42 [0.316,1.05] 1.02 [0.35,2.96] Ref 0.41 | Ref 1.02 [0.63,1.64] N/A N/A Ref 0.98 [0.45,2.12] 0.62 [0.41,0.94] Ref 0.81 [0.51,1.28] 0.39 [0.26,0.58] | Ref 1.03 [0.81,1.31 N/A N/A Ref 0.95 [0.68,1.32 0.82 [0.68,0.98 Ref 1.10 [0.91,1.34 0.48 [0.39,0.58 |

| Urbanicity | Semi-urban | 0.87 [0.75,1.01] | 1.03 [0.94,1.13] | N/A | N/A | N/A | N/A | 0.59 [0.28,1.23] | 1.29 [0.85,1.97] | 0.95 [0.79,1.13] |
|------------------------------------|--|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|---------------------------|----------------------|----------------------|
| | Rural | 0.98 [0.84,1.14] | 1.03 [0.93,1.15] | N/A | N/A | 0.83 [0.64,1.06] | 1.02 [0.87,1.19] | 0.56 | 1.38 [0.83,2.30] | 0.91 [0.74,1.12] |
| | | | LIF | E SAT | TISFA | CTIO | N | | | |
| Exposure | | DNBC | | ТЕМРО | | Constances | | UCL Covid-19 Social Study | | |
| | | Young people | Women | Men | Women | Men | Women | Young people | Men | Women |
| Access to outdoor facilities | Yes | Ref | Ref | Ref | Ref | N/A | N/A | Ref | Ref | Ref |
| | No | 1.16 [0.88, 1.54] | 1.12 [0.55, 2.27] | 0.12 [0.01, 1.28] | 0.32 [0.05, 2.78] | N/A | N/A | 0.83 [0.36, 1.92] | 1.3 [1, 1.69] | 1.22 [1.01, 1.45] |
| Household density | <43 m2 | Ref | Ref | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| | ≥43 m2 | 0.92 [0.81, 1.04] | 0.81 [0.65, 1.01] | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Household crowding | Ideal | N/A | N/A | N/A | N/A | N/A | N/A | Ref | Ref | Ref |
| | Crowded | N/A | N/A | N/A | N/A | N/A | N/A | 1.56 [0.7, 3.45] | 1.16 [0.74, 1.82] | 1.25 [0.95, 1.64] |
| | Underoccupied | N/A | N/A | N/A | N/A | N/A | N/A | 0.87 [0.39, 1.92] | 1.09 [0.85, 1.37] | 0.87 [0.75, 1] |
| Household composition | Adults-only households | Ref | Ref | Ref | Ref | N/A | N/A | Ref | Ref | Ref |
| | Households with children | 1.02 [0.9, 1.16] | 1.16 [0.98, 1.37] | 0.88 [0.29, 2.94] | 0.93 [0.39, 2.44] | N/A | N/A | 0.99 [0.42, 2.33] | 1.22 [0.95, 1.59] | 0.81 [0.68, 0.97] |
| | Single households (living alone) | 1.35 [1.1, 1.67] | 1.64 [1.28, 2.13] | 0.98 [0.27, 3.45] | 2.08 [0.58, 7.69] | N/A | N/A | 1.92 [0.64, 5.88] | 1.12 [0.88, 1.43] | 1.05 [0.92, 1.2] |
| Dwelling type | House | N/A | N/A | Ref | Ref | N/A | N/A | Ref | Ref | Ref |
| | Apartment | N/A | N/A | 0.2 [0.02, 2.17] | 0.45 [0.07, 4.17] | N/A | N/A | 1.35 [0.57, 3.13] | 0.83 [0.63, 1.11] | 0.85 [0.72, 1.01] |
| Urbanicity | Urban | Ref | Ref | Ref | Ref | N/A | N/A | Ref | Ref | Ref |
| | Semi-urban | 0.95 [0.81, 1.11] | 1.04 [0.94, 1.14] | 0.87 [0.23, 2.86] | 0.77 [0.23, 2.13] | N/A | N/A | 1.02 [0.48, 2.17] | 0.78 [0.63, 0.96] | 1.14 [0.98, 1.33] |
| | Rural | | 0.98 [0.9, 1.06] | 0.4 [0.05, 1.89] | 1.54 [0.61, 0.79] | N/A | N/A | 1.35 [0.57, 3.23] | 0.57 [0.43, 0.75] | 0.91 [0.78, 1.05] |