**Supplementary material**

1)

**Min-max algorithm**

Min-max algorithm to rescale psychological distress (SCL5) from 5-20 scale to 0-10 scale:

SCL5, rescaled=((10 - 0)/(20 - 5))\*(SCL5 - 20) + 10

2)

**Model specification**

The analyses can be specified as in the equation (1)

1. $dvar\_{it}=α+β∙SC\_{it}+ γ∙T\_{t}++δ∙SC\_{it}∙T\_{t}+θ∙X\_{it}+ϑ∙Z\_{i}+u\_{i}+e\_{it}$

Where

$dvar\_{it}$= $var\_{it}-var\_{ip} $, i.e. score for respectively life satisfaction, loneliness and psychological distress for individual *i* at time *t* ($var\_{it}) $*minus* score pre\_COVID-19 ($var\_{ip})$, where t=mid-2020, late-2020 and p=pre-COVID-19.

Hence, $dvar\_{it}$ is the outcome variable for subject i at measurement occasion t, $T\_{t}$ is a time indicator for the measurement occasion, $SC\_{it}$ is measured changed in social contact for individual i at occasion t, $X\_{it}$ are other time varying predictor variables, $Z\_{i}$ are other predictor variables that does not change with time, $u\_{i}$ is unobserved individual random effect and $e\_{it}$ is the individual random error term.

3)

**Covariates**

Sexi: male, female (reference)

Partnerit: single, non-cohabiting partner, married or cohabiting (reference)

Educationi: tertiary, secondary, primary (reference)

Employmentit: unemployed, temporarily laid off, employed (reference), pupil/student, other

Working from home officeit: yes, no (reference)

Participated in in organised leisure activities pre-COVID-19i: weekly (reference), 1-3 times a month, less often, never

Table S1 Results from the linear mixed (multilevel) change score regressions for life satisfaction, loneliness, and psychological distress, adjusted and unadjusted for covariates for age group < 30 yearsa).

|  |  |  |  |
| --- | --- | --- | --- |
|   | Life satisfactionb)  | Loneliness | Psychological distress |
|  | Unadj. | Adjusted | Unadj | Adjusted | Unadj | Adjusted |
|  |  |  |  |  |  |  |
| Social contact=Less (ref.=More/Unchanged) | 0.17 | 0.16 | 0.68\*\*\* | 0.74\*\*\* | 0.33\*\* | 0.32\* |
|  | (0.11) | (0.11) | (0.17) | (0.16) | (0.13) | (0.13) |
| Time=Late-2020 (ref.=Mid-2020) | 0.40\*\*\* | 0.38\*\*\* | 0.88\*\*\* | 0.93\*\*\* | 0.66\*\*\* | 0.67\*\*\* |
|  | (0.11) | (0.11) | (0.16) | (0.17) | (0.12) | (0.12) |
| Interaction: Less social contact • Late-2020 | 0.20 | 0.24 | -0.25 | -0.23 | 0.041 | 0.070 |
|  | (0.16) | (0.16) | (0.23) | (0.23) | (0.17) | (0.17) |
| Sex=Male (ref.=Female) |  | -0.084 |  | -0.13 |  | 0.028 |
|  |  | (0.11) |  | (0.16) |  | (0.12) |
| Partner=Non-cohab. partner (ref.=Married/Cohab.)  |  | -0.058 |  | 0.56\*\* |  | 0.23 |
|  |  | (0.14) |  | (0.21) |  | (0.16) |
| Partner=Single (ref.= Married/Cohab.)  |  | 0.11 |  | 0.92\*\*\* |  | 0.088 |
|  |  | (0.11) |  | (0.16) |  | (0.12) |
| Education=Medium (ref.=Low) |  | -0.45\* |  | -0.12 |  | -0.26 |
|  |  | (0.19) |  | (0.28) |  | (0.22) |
| Education=High (ref.=Low) |  | -0.13 |  | -0.097 |  | 0.086 |
|  |  | (0.20) |  | (0.29) |  | (0.22) |
| Employment=Temp.laid off (ref.=Employed) |  | 0.76\*\* |  | 0.44 |  | 0.58 |
|  |  | (0.26) |  | (0.39) |  | (0.29) |
| Employment=Unemployed (ref.=Employed) |  | 0.61\* |  | 0.47 |  | 0.030 |
|  |  | (0.25) |  | (0.37) |  | (0.29) |
| Employment=Pupil/Student (ref.=Employed) |  | 0.20 |  | 0.10 |  | 0.32\*\* |
|  |  | (0.11) |  | (0.16) |  | (0.12) |
| Employment=Other (ref.=Employed) |  | 0.043 |  | -0.22 |  | -0.055 |
|  |  | (0.18) |  | (0.27) |  | (0.21) |
| Home office=Yes (ref.=No) |  | -0.13 |  | 0.37 |  | 0.041 |
|  |  | (0.14) |  | (0.21) |  | (0.16) |
| Leisure activities=1-3 times a month (ref.=Weekly) |  | 0.13 |  | -0.84\*\* |  | 0.020 |
|  |  | (0.18) |  | (0.27) |  | (0.20) |
| Leisure activities=Less often (ref.=Weekly) |  | 0.25 |  | 0.085 |  | 0.025 |
|  |  | (0.14) |  | (0.20) |  | (0.16) |
| Leisure activities=Never (ref.=Weekly) |  | -0.27\* |  | -0.25 |  | -0.077 |
|  |  | (0.13) |  | (0.20) |  | (0.15) |
| Constant  | -0.042 | 0.14 | -0.47\*\*\* | -0.75\* | -0.62\*\*\* | -0.71\*\* |
|  | (0.083) | (0.23) | (0.12) | (0.34) | (0.093) | (0.26) |
|  |  |  |  |  |  |  |
| Observations | 1,980 | 1,976 | 1,962 | 1,958 | 1,955 | 1,950 |
| Number of groups | 1,433 | 1,429 | 1,422 | 1,418 | 1,415 | 1,410 |
|  |  |  |  |  |  |  |
| Test Less +Less•Late-2020=0 (p-value) | 0.002 | 0.001 | 0.018 | 0.005 | 0.006 | 0.005 |
|  |  |  |  |  |  |  |
| AIC | 8195.892 | 8160.896 | 9655.199 | 9604.623 | 8526.053 | 8501.373 |
| BIC | 8229.437 | 8267.083 | 9688.69 | 9710.637 | 8559.522 | 8607.309 |
| Notes: a) Regression coefficients with standard error in parenthesis below coefficient, \*\*\* p<0.001, \*\* p<0.01, \* p<0.05. b) The original scale of life satisfaction is reversed in the analyses. |

Table S2 Results from the linear mixed (multilevel) change score regressions for life satisfaction, loneliness, and psychological distress, adjusted and unadjusted for covariates for age group 30-49 yearsa).

|  |  |  |  |
| --- | --- | --- | --- |
|   | Life satisfactionb)  | Loneliness | Psychological distress |
|  | Unadj. | Adjusted | Unadj | Adjusted | Unadj | Adjusted |
|  |  |  |  |  |  |  |
| Social contact=Less (ref.=More/Unchanged) | 0.087 | 0.071 | 0.25\*\* | 0.24\*\* | 0.18\*\* | 0.16\*\* |
|  | (0.053) | (0.053) | (0.078) | (0.078) | (0.054) | (0.054) |
| Time=Late-2020 (ref.=Mid-2020) | 0.26\*\*\* | 0.28\*\*\* | 0.41\*\*\* | 0.42\*\*\* | 0.42\*\*\* | 0.42\*\*\* |
|  | (0.054) | (0.054) | (0.079) | (0.080) | (0.054) | (0.055) |
| Interaction: Less social contact • Late-2020 | 0.29\*\*\* | 0.29\*\*\* | 0.22\* | 0.23\* | 0.16\* | 0.16\* |
|  | (0.071) | (0.071) | (0.10) | (0.10) | (0.072) | (0.072) |
| Sex=Male (ref.=Female) |  | -0.14\*\* |  | 0.047 |  | -0.12\* |
|  |  | (0.050) |  | (0.073) |  | (0.051) |
| Partner=Non-cohab. partner (ref.=Married/Cohab.)  |  | -0.25\* |  | -0.016 |  | -0.27\* |
|  |  | (0.11) |  | (0.16) |  | (0.11) |
| Partner=Single (ref.= Married/Cohab.)  |  | 0.019 |  | 0.56\*\*\* |  | 0.088 |
|  |  | (0.065) |  | (0.096) |  | (0.067) |
| Education=Medium (ref.=Low) |  | -0.050 |  | 0.077 |  | 0.14 |
|  |  | (0.10) |  | (0.15) |  | (0.11) |
| Education=High (ref.=Low) |  | 0.0085 |  | 0.095 |  | 0.18 |
|  |  | (0.10) |  | (0.15) |  | (0.11) |
| Employment=Temp.laid off (ref.=Employed) |  | 0.67\*\*\* |  | 0.33 |  | 0.56\*\*\* |
|  |  | (0.13) |  | (0.20) |  | (0.14) |
| Employment=Unemployed (ref.=Employed) |  | 0.68\*\*\* |  | 0.079 |  | 0.41\* |
|  |  | (0.17) |  | (0.24) |  | (0.17) |
| Employment=Pupil/Student (ref.=Employed) |  | -0.12 |  | 0.43\* |  | -0.15 |
|  |  | (0.14) |  | (0.20) |  | (0.14) |
| Employment=Other (ref.=Employed) |  | -0.47\*\*\* |  | -0.27\* |  | -0.29\*\*\* |
|  |  | (0.072) |  | (0.11) |  | (0.074) |
| Home office=Yes (ref.=No) |  | 0.023 |  | 0.069 |  | 0.0090 |
|  |  | (0.054) |  | (0.080) |  | (0.055) |
| Leisure activities=1-3 times a month (ref.=Weekly) |  | -0.00046 |  | -0.19 |  | 0.12 |
|  |  | (0.072) |  | (0.11) |  | (0.074) |
| Leisure activities=Less often (ref.=Weekly) |  | -0.084 |  | 0.020 |  | -0.037 |
|  |  | (0.061) |  | (0.089) |  | (0.063) |
| Leisure activities=Never (ref.=Weekly) |  | -0.24\*\*\* |  | -0.28\*\* |  | -0.065 |
|  |  | (0.069) |  | (0.10) |  | (0.072) |
| Constant  | -0.15\*\*\* | 0.030 | -0.47\*\*\* | -0.58\*\*\* | -0.47\*\*\* | -0.55\*\*\* |
|  | (0.044) | (0.11) | (0.064) | (0.17) | (0.045) | (0.12) |
|  |  |  |  |  |  |  |
| Observations | 7,008 | 6,979 | 6,884 | 6,858 | 6,924 | 6,895 |
| Number of groups | 4,489 | 4,472 | 4,434 | 4,419 | 4,441 | 4,424 |
|  |  |  |  |  |  |  |
| Test Less +Less•Late-2020=0 (p-value) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
|  |  |  |  |  |  |  |
| AIC | 26891.56 | 26688.24 | 31566.45 | 31383.92 | 26755.98 | 26595.55 |
| BIC | 26932.69 | 26818.4 | 31607.47 | 31513.75 | 26797.03 | 26725.48 |
| Notes: a) Regression coefficients with standard error in parenthesis below coefficient, \*\*\* p<0.001, \*\* p<0.01, \* p<0.05. b) The original scale of life satisfaction is reversed in the analyses. |
|  |  |  |  |

Table S3 Results from the linear mixed (multilevel) change score regressions for life satisfaction, loneliness, and psychological distress, adjusted and unadjusted for covariates for age group 50-64 yearsa).

|  |  |  |  |
| --- | --- | --- | --- |
|   | Life satisfactionb)  | Loneliness | Psychological distress |
|  | Unadj. | Adjusted | Unadj | Adjusted | Unadj | Adjusted |
|  |  |  |  |  |  |  |
| Social contact=Less (ref.=More/Unchanged) | 0.12\* | 0.092 | 0.21\*\* | 0.23\*\* | 0.13\*\* | 0.10\* |
|  | (0.049) | (0.049) | (0.072) | (0.073) | (0.040) | (0.041) |
| Time=Late-2020 (ref.=Mid-2020) | 0.39\*\*\* | 0.40\*\*\* | 0.52\*\*\* | 0.50\*\*\* | 0.35\*\*\* | 0.37\*\*\* |
|  | (0.048) | (0.048) | (0.070) | (0.070) | (0.039) | (0.039) |
| Interaction: Less social contact • Late-2020 | 0.27\*\*\* | 0.28\*\*\* | 0.24\*\* | 0.24\* | 0.17\*\*\* | 0.18\*\*\* |
|  | (0.064) | (0.064) | (0.094) | (0.094) | (0.052) | (0.052) |
| Sex=Male (ref.=Female) |  | -0.19\*\*\* |  | -0.050 |  | -0.11\*\* |
|  |  | (0.044) |  | (0.067) |  | (0.040) |
| Partner=Non-cohab. partner (ref.=Married/Cohab.)  |  | -0.31\*\*\* |  | -0.18 |  | -0.12 |
|  |  | (0.089) |  | (0.14) |  | (0.079) |
| Partner=Single (ref.= Married/Cohab.)  |  | -0.19\*\*\* |  | 0.38\*\*\* |  | -0.11\* |
|  |  | (0.056) |  | (0.086) |  | (0.051) |
| Education=Medium (ref.=Low) |  | -0.10 |  | -0.085 |  | 0.051 |
|  |  | (0.070) |  | (0.11) |  | (0.064) |
| Education=High (ref.=Low) |  | -0.083 |  | -0.11 |  | 0.073 |
|  |  | (0.070) |  | (0.11) |  | (0.063) |
| Employment=Temp.laid off (ref.=Employed) |  | 0.96\*\*\* |  | 0.25 |  | 0.70\*\*\* |
|  |  | (0.15) |  | (0.23) |  | (0.13) |
| Employment=Unemployed (ref.=Employed) |  | 0.12 |  | 0.37 |  | -0.14 |
|  |  | (0.19) |  | (0.29) |  | (0.16) |
| Employment=Pupil/Student (ref.=Employed) |  | -0.34 |  | 0.29 |  | 0.39 |
|  |  | (0.44) |  | (0.65) |  | (0.38) |
| Employment=Other (ref.=Employed) |  | -0.13\*\* |  | -0.0073 |  | -0.12\*\* |
|  |  | (0.048) |  | (0.074) |  | (0.043) |
| Home office=Yes (ref.=No) |  | -0.0093 |  | -0.13 |  | 0.076 |
|  |  | (0.052) |  | (0.077) |  | (0.044) |
| Leisure activities=1-3 times a month (ref.=Weekly) |  | 0.059 |  | -0.0061 |  | 0.072 |
|  |  | (0.068) |  | (0.10) |  | (0.062) |
| Leisure activities=Less often (ref.=Weekly) |  | -0.0024 |  | -0.19\* |  | -0.0068 |
|  |  | (0.055) |  | (0.085) |  | (0.050) |
| Leisure activities=Never (ref.=Weekly) |  | -0.18\*\* |  | -0.20\* |  | -0.14\* |
|  |  | (0.062) |  | (0.094) |  | (0.056) |
| Constant  | -0.12\*\* | 0.17 | -0.30\*\*\* | -0.12 | -0.41\*\*\* | -0.35\*\*\* |
|  | (0.040) | (0.086) | (0.060) | (0.13) | (0.034) | (0.077) |
|  |  |  |  |  |  |  |
| Observations | 8,439 | 8,385 | 8,140 | 8,088 | 8,323 | 8,267 |
| Number of groups | 5,060 | 5,036 | 4,977 | 4,954 | 4,996 | 4,974 |
|  |  |  |  |  |  |  |
| Test Less +Less•Late-2020=0 (p-value) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
|  |  |  |  |  |  |  |
| AIC | 32007.23 | 31715.21 | 37144.09 | 36880.39 | 28849.57 | 28616.27 |
| BIC | 32049.48 | 31848.86 | 37186.12 | 37013.36 | 28891.73 | 28749.65 |
| Notes: a) Regression coefficients with standard error in parenthesis below coefficient, \*\*\* p<0.001, \*\* p<0.01, \* p<0.05. b) The original scale of life satisfaction is reversed in the analyses. |

Table S4 Results from the linear mixed (multilevel) change score regressions for life satisfaction, loneliness, and psychological distress, adjusted and unadjusted for covariates for age group 65+ yearsa).

|  |  |  |  |
| --- | --- | --- | --- |
|   | Life satisfactionb)  | Loneliness | Psychological distress |
|  | Unadj. | Adjusted | Unadj | Adjusted | Unadj | Adjusted |
|  |  |  |  |  |  |  |
| Social contact=Less (ref.=More/Unchanged) | 0.073 | 0.041 | 0.18\* | 0.18\* | 0.039 | 0.031 |
|  | (0.058) | (0.059) | (0.090) | (0.091) | (0.045) | (0.046) |
| Time=Late-2020 (ref.=Mid-2020) | 0.37\*\*\* | 0.37\*\*\* | 0.56\*\*\* | 0.55\*\*\* | 0.31\*\*\* | 0.32\*\*\* |
|  | (0.054) | (0.054) | (0.084) | (0.084) | (0.041) | (0.042) |
| Interaction: Less social contact • Late-2020 | 0.36\*\*\* | 0.36\*\*\* | 0.23\* | 0.25\* | 0.20\*\*\* | 0.20\*\*\* |
|  | (0.076) | (0.076) | (0.12) | (0.12) | (0.058) | (0.059) |
| Sex=Male (ref.=Female) |  | -0.33\*\*\* |  | -0.13 |  | -0.18\*\*\* |
|  |  | (0.055) |  | (0.082) |  | (0.044) |
| Partner=Non-cohab. partner (ref.=Married/Cohab.)  |  | -0.035 |  | 0.083 |  | -0.077 |
|  |  | (0.12) |  | (0.18) |  | (0.093) |
| Partner=Single (ref.= Married/Cohab.)  |  | -0.10 |  | 0.45\*\*\* |  | 0.091 |
|  |  | (0.067) |  | (0.10) |  | (0.054) |
| Education=Medium (ref.=Low) |  | -0.041 |  | -0.021 |  | 0.037 |
|  |  | (0.076) |  | (0.12) |  | (0.060) |
| Education=High (ref.=Low) |  | 0.0029 |  | -0.048 |  | 0.070 |
|  |  | (0.072) |  | (0.11) |  | (0.058) |
| Employment=Temp.laid off (ref.=Employed) |  | 0.83 |  | -0.47 |  | 0.86\* |
|  |  | (0.49) |  | (0.73) |  | (0.38) |
| Employment=Unemployed (ref.=Employed) |  | -0.089 |  | 0.91 |  | 1.77\*\*\* |
|  |  | (0.65) |  | (0.97) |  | (0.50) |
| Employment=Pupil/Student (ref.=Employed) |  | -1.87 |  | - |  | 1.30 |
|  |  | (1.40) |  | - |  | (1.08) |
| Employment=Other (ref.=Employed) |  | -0.032 |  | 0.082 |  | 0.14 |
|  |  | (0.089) |  | (0.13) |  | (0.071) |
| Home office=Yes (ref.=No) |  | -0.051 |  | 0.051 |  | 0.42\*\*\* |
|  |  | (0.15) |  | (0.22) |  | (0.12) |
| Leisure activities=1-3 times a month (ref.=Weekly) |  | -0.081 |  | 0.15 |  | 0.053 |
|  |  | (0.078) |  | (0.12) |  | (0.063) |
| Leisure activities=Less often (ref.=Weekly) |  | -0.084 |  | -0.10 |  | 0.000091 |
|  |  | (0.068) |  | (0.10) |  | (0.054) |
| Leisure activities=Never (ref.=Weekly) |  | -0.22\*\* |  | -0.053 |  | -0.0024 |
|  |  | (0.076) |  | (0.11) |  | (0.061) |
| Constant  | 0.056 | 0.41\*\* | -0.048 | -0.095 | -0.19\*\*\* | -0.29\*\* |
|  | (0.048) | (0.13) | (0.073) | (0.19) | (0.037) | (0.100) |
|  |  |  |  |  |  |  |
| Observations | 5,211 | 5,134 | 4,798 | 4,737 | 5,168 | 5,094 |
| Number of groups | 3,083 | 3,049 | 2,942 | 2,908 | 3,061 | 3,030 |
|  |  |  |  |  |  |  |
| Test Less +Less•Late-2020=0 (p-value) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
|  |  |  |  |  |  |  |
| AIC | 19249.63 | 18931.91 | 21329.15 | 21033.82 | 16527.61 | 16251.23 |
| BIC | 19288.99 | 19056.24 | 21368.01 | 21150.16 | 16566.92 | 16375.41 |
| Notes: a) Regression coefficients with standard error in parenthesis below coefficient, \*\*\* p<0.001, \*\* p<0.01, \* p<0.05. b) The original scale of life satisfaction is reversed in the analyses. |