**Supplementary Material**

**Health-related quality of life before and during the COVID-19 pandemic in Switzerland**

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**Table S1:** Comparison of HRQOL during (CoWELL sample; n=1581) and before (Swiss general population (SGP) sample; n=1209) the COVID-19 pandemic; differences between participants from the CoWELL and the SGP sample and unadjusted T-scores of each sample for physical HRQOL (PCS) and mental HRQOL (MCS) and the eight health domain subscales.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | **CoWELL sample** | **SGP sample** |
| **Scale or subscale** | **Differencea** | **95% CI differencea** | **p valuea** | **Mean T‑Scoreb** | **95% CI T‑scoreb** | **Mean T‑scoreb** | **95% CI T‑scoreb** |
| Physical HRQOL (PCS) | 5.82 | (5.08, 6.56) | **<0.001** | 56.9 | (56.5, 57.3) | 50.0 | (49.4, 50.6) |
| Mental HRQOL (MCS) | -6.89 | (-7.78, -6.01) | **<0.001** | 42.0 | (41.5, 42.5) | 50.0 | (49.4, 50.6) |
| Physical functioning (PF) | 1.91 | (1.28, 2.54) | **<0.001** | 53.0 | (52.7, 53.2) | 50.0 | (49.5, 50.6) |
| Physical role functioning (RP) | 0.58 | (-0.25, 1.42) | 0.173 | 51.1 | (50.6, 51.6) | 50.0 | (49.4, 50.5) |
| Bodily pain (BP) | 4.52 | (3.75, 5.29) | **<0.001** | 54.7 | (54.3, 55.1) | 50.0 | (49.4, 50.6) |
| General health perceptions (GH) | 1.39 | (0.53, 2.25) | **0.002** | 52.0 | (51.5, 52.5) | 49.9 | (49.3, 50.5) |
| Vitality (VT) | -0.25 | (-1.12, 0.63) | 0.577 | 48.5 | (48.0, 49.0) | 49.9 | (49.3, 50.5) |
| Social role functioning (SF) | -2.24 | (-3.21, -1.28) | **<0.001** | 47.5 | (46.9, 48.0) | 49.9 | (49.3, 50.5) |
| Emotional role functioning (RE) | -3.32 | (-4.23, -2.40) | **<0.001** | 46.1 | (45.5, 46.7) | 49.8 | (49.3, 50.4) |
| Mental health (MH) | -9.85 | (-10.66, -9.04) | **<0.001** | 39.2 | (38.8, 39.6) | 49.9 | (49.3, 50.5) |

**Comments:** Difference: Positive values indicate better HRQOL and negative values poorer HRQOL during (CoWELL sample) compared to before (SGP sample) the COVID-19 pandemic; p values<0.05 are indicated in bold.

**Abbreviations**: BP, Bodily pain; CI, confidence interval; COVID-19, corona virus disease 2019; GH, General health perceptions; HRQOL, health-related quality of life; MCS, Mental Component Summary; MH, Mental health; PCS, Physical Component Summary; PF, Physical functioning; RE, Emotional role functioning; RP, Physical role functioning; SF, Social role functioning; SGP, Swiss general population; VT, Vitality.

**Footnotes:**

a Derived from linear regression models adjusted for sex, age, and education.

b Unadjusted mean and 95%CI T-Scores.

**Table S2:** Results from univariable and multivariable linear regression models for physical HRQOL (PCS) in the CoWELL sample (n=1581).

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Univariable** |  | **Multivariable** |
| **Coeff.** | **95% CI** | **p valuea** |  | **Coeff.** | **95% CI** | **p valuea** |
| **Sex** |  |  |  | 0.059 |  |  |  |  | 0.622 |
| Male | ref |  |  |  |  | ref |  |  |  |
| Female | 0.8 | -0.03 | 1.7 |  |  | 0.2 | -0.7 | 1.1 |  |
| **Age at survey** |  |  |  | **<0.001** |  |  |  |  | 0.128 |
| 18-25 years | ref |  |  |  |  | ref |  |  |  |
| 26-35 years | -0.8 | -2.3 | 0.6 |  |  | -0.7 | -2.4 | 0.9 |  |
| 36-45 years | -1.8 | -3.3 | -0.2 |  |  | -1.8 | -3.5 | 0.004 |  |
| 46-55 years | -1.5 | -3.1 | 0.1 |  |  | -1.4 | -3.2 | 0.3 |  |
| 56-65 years | -3.0 | -4.7 | -1.3 |  |  | -2.1 | -3.9 | -0.2 |  |
| ≥66 years | -6.8 | -8.7 | -4.9 |  |  | -2.0 | -4.5 | 0.5 |  |
| **Highest education** |  |  |  | **<0.001** |  |  |  |  | 0.134 |
| Compulsory schooling/Vocational training | -0.3 | -1.6 | 1.0 |  |  | -0.02 | -1.3 | 1.2 |  |
| Upper secondary education | ref |  |  |  |  | ref |  |  |  |
| University education | 1.4 | 0.4 | 2.5 |  |  | 0.8 | -0.2 | 1.9 |  |
| **Language of questionnaire** |  |  |  |  |  |  |  |  |  |
| German | ref |  |  | 0.154 |  |  |  |  |  |
| French/Italian | -0.9 | -2.2 | 0.4 |  |  |  |  |  |  |
| **Children <14 years in household** |  |  | **0.030** |  |  |  |  | 0.661 |
| No | ref |  |  |  |  | ref |  |  |  |
| Yes | 1.0 | 0.1 | 1.8 |  |  | 0.3 | -1.1 | 1.8 |  |
| **Employment status** |  |  |  | **<0.001** |  |  |  |  | **<0.001** |
| Employed/In education | ref |  |  |  |  | ref |  |  |  |
| Otherb | -5.3 | -6.5 | -4.0 |  |  | -3.4 | -5.1 | -1.7 |  |
| **Job type** |  |  |  | **<0.001** |  |  |  |  | 0.691 |
| Health Services | ref |  |  |  |  | ref |  |  |  |
| Essential servicesc | -1.3 | -2.6 | -0.1 |  |  | -0.6 | -1.8 | 0.7 |  |
| Office jobsd | -0.5 | -1.4 | 0.4 |  |  | -0.4 | -1.3 | 0.6 |  |
| Othere | -3.8 | -5.4 | -2.3 |  |  | -1.0 | -2.9 | 1.0 |  |
| **Living situation** |  |  |  | **0.026** |  |  |  |  | 0.741 |
| Alone | 0.5 | -0.6 | 1.6 |  |  | 0.7 | -0.4 | 1.7 |  |
| Partner | ref |  |  |  |  | ref |  |  |  |
| Partner and children | 1.3 | 0.4 | 2.3 |  |  | 0.6 | -0.8 | 2.0 |  |
| Parents and/or children | 1.0 | -0.4 | 2.4 |  |  | 0.6 | -0.9 | 2.1 |  |
| Other situationf | 1.8 | 0.4 | 3.3 |  |  | 0.6 | -0.9 | 2.0 |  |
| **Time since start of pandemic measures (days)** | -0.1 | -0.1 | -0.02 | **0.005** |  | -0.1 | -0.1 | -0.02 | **0.002** |
| **Physical distancing behaviour** |  |  |  | **<0.001** |  |  |  |  | **0.020** |
| Physical distancing | ref |  |  |  |  | ref |  |  |  |
| (Self-)isolation | -2.0 | -3.1 | -0.9 |  |  | -1.2 | -2.3 | -0.2 |  |
| No physical distancing/Initial physical distancing | 0.7 | -0.3 | 1.6 |  |  | 0.6 | -0.4 | 1.5 |  |
| **Contact to person with COVID-19** |  |  |  | 0.384 |  |  |  |  |  |
| No | ref |  |  |  |  |  |  |  |  |
| Yes, assumed/confirmed | 0.4 | -0.6 | 1.4 |  |  |  |  |  |  |
| **Perceived COVID-19** |  |  |  | **0.006** |  |  |  |  | **<0.001** |
| No | ref |  |  |  |  | ref |  |  |  |
| Yes | -1.7 | -2.9 | -0.5 |  |  | -2.2 | -3.4 | -1.1 |  |
| **At risk for severe course of COVID-19** |  |  |  | **<0.001** |  |  |  |  | **<0.001** |
| No | ref |  |  |  |  | ref |  |  |  |
| Yes | -4.7 | -5.7 | -3.7 |  |  | -3.7 | -4.8 | -2.7 |  |
|  |  |  |  |  |  |  |  |  |  |
| **Having person to ask for support** |  |  |  | **0.005** |  |  |  |  | **0.003** |
| No | -1.4 | -3.7 | 0.9 |  |  | -1.1 | -3.2 | 1.1 |  |
| Yes | ref |  |  |  |  | ref |  |  |  |
| No need for support | 1.1 | 0.4 | 1.9 |  |  | 1.2 | 0.5 | 2.0 |  |
| **Contact frequency with family and friends** |  |  |  | 0.201 |  |  |  |  |  |
| No, not enough contact | ref |  |  |  |  |  |  |  |  |
| Yes, enough/No need for contact | -0.6 | -1.6 | 0.3 |  |  |  |  |  |  |
| **Frequency of information about COVID-19** |  |  |  |  |  |  |  |  |  |
| Daily | ref |  |  | 0.802 |  |  |  |  |  |
| Several times per week | 0.3 | -0.6 | 1.3 |  |  |  |  |  |  |
| Once per week or less | 0.02 | -1.3 | 1.3 |  |  |  |  |  |  |
| **Health literacy (score)** | 0.2 | 0.1 | 0.2 | **<0.001** |   | 0.1 | 0.1 | 0.2 | **<0.001** |

**Comments:** Higher scores of the PCS indicate better physical HRQOL. Multivariable linear regression models included sex, age at survey, and highest education level regardless of their significance in the univariable regression model, because we assumed *a priori* that these variables were important predictors of HRQOL. p values<0.05 are indicated in bold.

**Abbreviations:** CI, confidence interval; Coeff, coefficient; COVID-19, corona virus disease 2019; HRQOL, health-related quality of life; PCS, Physical Component Summary; ref, reference category.

**Footnotes:**

a P values derived from *mi test* (in Stata) to perform joint tests that coefficients are equal to zero for a global effect of the categorial variable on physical HRQOL (PCS).

b Other employment status includes persons who were retired, managing a household, seeking for a job, receiving disability insurance, or other forms of occupation.

c Essential services include jobs within the areas of agriculture, manufacturing, waste management, construction; trade, transportation, gastronomy; education; social work.

d Office jobs spans the fields of information and communication, finances, insurances, real estate; scientific and technical activities; administration; arts and other service activities.

e Other jobe type includes persons who were retired, unemployed or not actively working.

f Other living situation includes persons living in a shared apartment or other living arrangements.

**Table S3:** Results from univariable and multivariable linear regression models for mental HRQOL (MCS) in the CoWELL sample (n=1581).

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Univariable** |  | **Multivariable** |
| **Coeff.** | **95% CI** | **p valuea** |  | **Coeff.** | **95% CI** | **p valuea** |
| **Sex** |  |  |  | **0.005** |  |  |  |  | **0.026** |
| Male | ref |  |  |  |  | ref |  |  |  |
| Female | -1.8 | -3.0 | -0.5 |  |  | -1.3 | -2.5 | -0.2 |  |
| **Age at survey (years)** |  |  |  |  |  |  |  |  |  |
| 18-25 years | ref |  |  | **<0.001** |  | ref |  |  | **<0.001** |
| 26-35 years | 2.1 | -0.01 | 4.1 |  |  | 0.5 | -1.7 | 2.7 |  |
| 36-45 years | 3.2 | 1.1 | 5.4 |  |  | 1.1 | -1.2 | 3.4 |  |
| 46-55 years | 5.0 | 2.8 | 7.1 |  |  | 1.8 | -0.5 | 4.1 |  |
| 56-65 years | 7.5 | 5.2 | 9.8 |  |  | 3.8 | 1.4 | 6.2 |  |
| ≥66 years | 9.0 | 6.4 | 11.7 |  |  | 5.0 | 1.7 | 8.4 |  |
| **Highest education** |  |  |  | **<0.001** |  |  |  |  | **0.038** |
| Compulsory schooling/Vocational training | -2.7 | -4.5 | -0.9 |  |  | -1.7 | -3.4 | -0.02 |  |
| Upper secondary education | ref |  |  |  |  | ref |  |  |  |
| University education | -3.3 | -4.8 | -1.9 |  |  | -1.8 | -3.2 | -0.4 |  |
| **Language of questionnaire** |  |  |  | **<0.001** |  |  |  |  | **<0.001** |
| German | ref |  |  |  |  | ref |  |  |  |
| French/Italian | -5.0 | -6.7 | -3.2 |  |  | -3.3 | -5.0 | -1.5 |  |
| **Children <14 years in household** |  |  | 0.974 |  |  |  |  |  |
| No | ref |  |  |  |  |  |  |  |  |
| Yes | -0.02 | -1.2 | 1.2 |  |  |  |  |  |  |
| **Employment status** |  |  |  | **<0.001** |  |  |  |  | 0.198 |
| Employed/In education | ref |  |  |  |  | ref |  |  |  |
| Otherb | 3.7 | 1.9 | 5.5 |  |  | 1.5 | -0.8 | 3.7 |  |
| **Job type** |  |  |  | **0.002** |  |  |  |  | 0.409 |
| Health Services | ref |  |  |  |  | ref |  |  |  |
| Essential servicesc | -1.4 | -3.2 | 0.3 |  |  | -0.2 | -1.9 | 1.5 |  |
| Office jobsd | -2.5 | -3.8 | -1.3 |  |  | -0.7 | -1.9 | 0.5 |  |
| Othere | -1.7 | -3.9 | 0.4 |  |  | -1.8 | -4.4 | 0.7 |  |
| **Living situation** |  |  |  | **<0.001** |  |  |  |  | **<0.001** |
| Alone | -3.9 | -5.4 | -2.4 |  |  | -3.0 | -4.4 | -1.6 |  |
| Partner | ref |  |  |  |  | ref |  |  |  |
| Partner and children | -1.4 | -2.7 | -0.1 |  |  | -0.3 | -1.6 | 1.0 |  |
| Parents and/or children | -5.0 | -7.0 | -3.1 |  |  | -2.7 | -4.6 | -0.8 |  |
| Other situationf | -5.4 | -7.4 | -3.4 |  |  | -3.6 | -5.5 | -1.7 |  |
| **Time since start of pandemic measures (days)** | -0.02 | -0.1 | 0.04 | 0.545 |  |  |  |  |  |
| **Physical distancing behaviour** |  |  |  | **0.008** |  |  |  |  | 0.412 |
| Physical distancing | ref |  |  |  |  | ref |  |  |  |
| (Self-)isolation | -2.3 | -3.8 | -0.8 |  |  | -0.9 | -2.4 | 0.5 |  |
| No physical distancing/Initial physical distancing | -1.1 | -2.4 | 0.3 |  |  | 0.0 | -1.2 | 1.3 |  |
| **Contact to person with COVID-19** |  |  |  | 0.098 |  |  |  |  |  |
| No | ref |  |  |  |  |  |  |  |  |
| Yes, assumed/confirmed | -1.2 | -2.6 | 0.2 |  |  |  |  |  |  |
| **Perceived COVID-19** |  |  |  | **<0.001** |  |  |  |  | **0.007** |
| No | ref |  |  |  |  | ref |  |  |  |
| Yes | -3.4 | -5.1 | -1.7 |  |  | -2.2 | -3.7 | -0.6 |  |
| **At risk for severe course of COVID-19** |  |  |  | 0.250 |  |  |  |  |  |
| No | ref |  |  |  |  |  |  |  |  |
| Yes | -0.9 | -2.3 | 0.6 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| **Having person to ask for support** |  |  |  | **<0.001** |  |  |  |  | **<0.001** |
| No | -8.3 | -11.3 | -5.3 |  |  | -6.8 | -9.7 | -4.0 |  |
| Yes | ref |  |  |  |  | ref |  |  |  |
| No need for support | 5.3 | 4.2 | 6.3 |  |  | 3.9 | 2.9 | 4.9 |  |
| **Contact frequency with family and friends** |  |  |  | **<0.001** |  |  |  |  | **<0.001** |
| No, not enough contact | ref |  |  |  |  | ref |  |  |  |
| Yes, enough/No need for contact | 4.7 | 3.3 | 6.0 |  |  | 4.4 | 3.2 | 5.7 |  |
| **Frequency of information about COVID-19** |  |  |  | 0.130 |  |  |  |  |  |
| Daily | ref |  |  |  |  |  |  |  |  |
| Several times per week | -1.1 | -2.4 | 0.2 |  |  |  |  |  |  |
| Once per week or less | -1.4 | -3.2 | 0.5 |  |  |  |  |  |  |
| **Health literacy (score)** | 0.3 | 0.2 | 0.4 | **<0.001** |   | 0.2 | 0.1 | 0.3 | **<0.001** |

**Comments:** Higher scores of the MCS indicate better mental HRQOL. Multivariable linear regression models included sex, age at survey, and highest education level regardless of their significance in the univariable regression model, because we assumed *a priori* that these variables were important predictors of HRQOL. p values<0.05 are indicated in bold.

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e Other jobe type includes persons who were retired, unemployed or not actively working.

f Other living situation includes persons living in a shared apartment or other living arrangements.

**Figure S1:** Flow diagram for the CoWELL sample (n = 1581).

