**Supplementary material**

**Supplementary Figure 1.** Relationship between variables in the model, displayed as a causal diagram.

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**Supplementary Figure 2.** Distribution of CES-D-10 within half year intervals (H1 = March to August; H2 = September to February of the following year).



**Supplementary Figure 3.** Number of participants at risk and below threshold of clinical depression (CES-D-10 score > 10) at the last pre-COVID visit and at COVID Survey 1 (June 2020).

**Last pre-COVID visit**

**COVID Survey 1**

**Supplementary Figure 4**. Depression symptom scores at the last pre-COVID visit and the first COVID survey (June 2020), plotted separately for those at-risk for depression at their pre-COVID visit (CES-D-10 score > 10, n = 60) and those at low risk for depression at their pre-COVID visit (CES-D-10 score ≤ 10, n= 465). Those at risk for depression pre-COVID showed no change in depression scores during COVID, continuing to score, on average, above the threshold for depression risk.

**Supplementary Figure 5.** The increase of depressive symptoms (according to CESD-D-10) from Pre-COVID to COVID surveys was significantly greater in younger females compared with the other age-sex groups (p<0.01). Covariates were regressed out from change in CES-D-10.



***Table S1***. *Results of the base Poisson mixed-effect model testing for the effect of the COVID pandemic (no interactions with COVID) in 525 NCANDA participants.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Coefficients $β$ | SE | Z | Pr(>|Z|) |  |
| (Intercept) | 1.279519 | 0.070811 | 18.069 | < 2e-16 | \*\*\* |
| Age | 0.037461 | 0.005087 | 7.365 | 1.78E-13 | \*\*\* |
| Sex (male) | -0.170489 | 0.061571 | -2.769 | 0.00562 | \*\* |
| Age\*Sex | 0.007954 | 0.005453 | 1.459 | 0.145 |  |
| COVID | 0.553686 | 0.024561 | 22.544 | < 2e-16 | \*\*\* |
| Survey 2 | 0.04969 | 0.020781 | 2.391 | 0.0168 | \* |
| Socioeconomic Status | -0.020243 | 0.012958 | -1.562 | 0.11825 |  |
| Race |  |  |  |  |  |
| Asian | 0.081075 | 0.117308 | 0.691 | 0.48948 |  |
| African-American | 0.240794 | 0.115557 | 2.084 | 0.0372 | \* |
| Others | 0.084665 | 0.107427 | 0.788 | 0.431 |  |
| Site |  |  |  |  |  |
| Duke | -0.151712 | 0.100878 | -1.504 | 0.1326 |  |
| OHSU | 0.222081 | 0.092404 | 2.403 | 0.01624 | \* |
| SRI International | 0.135145 | 0.088328 | 1.53 | 0.12601 |  |
| UPMC | -0.078248 | 0.098161 | -0.797 | 0.42537 |  |

*Note*: . = *p* ≤ .1; \* = *p* ≤ .05; \*\* = *p* ≤ .01; \*\*\* = *p* ≤ .001. The fixed effect R2 was 0.199.

***Table S2***. *Results of the Poisson mixed-effect model testing for the effect of the COVID pandemic and its interaction with age and sex (two-way interactions) in 525 NCANDA participants.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Coefficients $β$ | SE | Z | Pr(>|Z|) |  |
| (Intercept) | 1.259217 | 0.070608 | 17.834 | < 2e-16 | \*\*\* |
| Age | 0.026533 | 0.006059 | 4.379 | 1.19E-05 | \*\*\* |
| Sex (male) | -0.11091 | 0.062668 | -1.77 | 0.07676 | . |
| Age\*Sex | 0.038726 | 0.008927 | 4.338 | 1.44E-05 | \*\*\* |
| COVID | 0.703586 | 0.034642 | 20.31 | < 2e-16 | \*\*\* |
| Survey 2 | 0.061375 | 0.020927 | 2.933 | 0.00336 | \*\* |
| Age\*COVID | -0.02533 | 0.005572 | -4.546 | 5.46E-06 | \*\*\* |
| Sex\*COVID | -0.199752 | 0.045672 | -4.374 | 1.22E-05 | \*\*\* |
| Socioeconomic Status | -0.021037 | 0.012851 | -1.637 | 0.10164 |  |
| Race |  |  |  |  |  |
| Asian | 0.087545 | 0.116342 | 0.752 | 0.45176 |  |
| African-American | 0.22416 | 0.114615 | 1.956 | 0.05049 | . |
| Others | 0.076094 | 0.106551 | 0.714 | 0.47513 |  |
| Site |  |  |  |  |  |
| Duke | -0.149603 | 0.100051 | -1.495 | 0.13484 |  |
| OHSU | 0.220857 | 0.091634 | 2.41 | 0.01594 | \* |
| SRI International | 0.130171 | 0.087635 | 1.485 | 0.13744 |  |
| UPMC | -0.061782 | 0.097374 | -0.634 | 0.52577 |  |

*Note*: . = *p* ≤ .1; \* = *p* ≤ .05; \*\* = *p* ≤ .01; \*\*\* = *p* ≤ .001. The fixed effect R2 was 0.202.