

Psychosocial Impact of COVID-19 Survey Factor Analysis Report

We conducted a factor analysis on the Psychosocial Impact of COVID-19 survey to determine if there are latent constructs measured by survey items. When developing the survey, the items were not selected to ensure that some construct was measured with sufficient broadness or depth, and therefore there was no a priori expectation that a robust factor structure would emerge. However, many of the items are conceptually related, and therefore we decided to determine if there was empirical evidence for the combination of items into subscales for data analyses.

It is important to note that there were two versions of this form administered during the study (original and revised), and the form was administered every two weeks for 6 months after a participant enrolled. For this analysis, we chose to include only the baseline (time of enrollment) data from individuals who enrolled during the first 6 weeks of the study (4/4/2020-5/16/2020; n = 1983). The revised version of the survey was not administered until 5/29, so this analysis was run on the original survey. We began with an exploratory factor analysis (EFA). There were 7 eigenvalues < 1, so solutions with 1-7 factors were extracted. Relative fit indices were interpreted using the following cutoff criteria: 0.95 for the comparative fit index (CFI) and Tucker-Lewis index (TLI) (0.90 = adequate), and 0.06 for the root mean square error of approximation (RMSEA) (0.10 = adequate). All solutions with at least 3 factors had adequate fit. However, solutions with 5, 6 and 7 factors were not viable because some factors had too few items loading onto them. Based on these results, the 3 and 4 factor models were carried forward to a confirmatory factor analysis (CFA).

The CFA fit of the 3-factor model was very poor, and the 4-factor model would not converge, which is likely reflective of the low degree of intercorrelation observed among the variables. These results demonstrate that there is no evidence of a robust factor structure in the COVID-19 survey. This does not undermine the potential utility or importance of the data collected in the survey, but rather suggests that the items included in this survey measure distinct constructs.