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▶ To cite this version:

Martin Breyton, Émilien Schultz, A. Smith, Alexandra Rouquette, J. Mancini. Information overload in the context of COVID-19 pandemic: A repeated cross-sectional study. Patient Education and Counseling, 2023, 110, 10.1016/j.pec.2023.107672. hal-04122801

HAL Id: hal-04122801 https://hal.science/hal-04122801

Submitted on 22 Sep 2023

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1	Information overload in the context of COVID-19 pandemic: a
2	repeated cross-sectional study.
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31 Abstract

- 32 **Objectives:** To assess the psychometric properties of the Coronavirus Information Overload
- 33 scale (CovIO) and explore relationships between CovIO, its predictors and several health
- 34 behaviours related to the COVID-19 pandemic, using Cancer Information Overload (CIO)
- 35 scale results as a reference for comparison.
- 36 Methods: 2,003 participants representative of the French adult population answered a self-
- 37 administered questionnaire over two waves of polling (N_{1(June 2020)}=1,003, N_{2(January}
- 38 2021)=1,000). Respondents were randomized to fill CovIO or CIO scale. Psychometric
- 39 properties of scales were evaluated with Confirmatory Factor Analysis (CFA). Predictors were
- 40 assessed using multivariate linear regression.
- 41 **Results:** CovIO scale showed satisfactory psychometric properties (α =0.86, ω =0.86,
- 42 RMSEA=0.050) without any measurement invariance issue. CovIO increased between waves
- 43 of sampling and was significantly linked to education, health literacy and trust in institutions
- 44 among other variables. A negative relationship between information overload and
- 45 preventive behaviours was also observed.
- 46 **Conclusion:** The CovIO scale is a valid tool for assessing COVID-19 information overload. The
- 47 dynamical formation of information overload and links with theorised predictors, especially,
- 48 health literacy are confirmed.
- 49 Practice implications: Longitudinal designs could help better understand the potential
- 50 detrimental effect of information overload and improving public health campaigns.
- 51 Interventions to reduce the degree of overload are needed.

- 53 **Keywords**: Cancer information overload; Coronavirus information overload; Health literacy;
- 54 Health behaviour; Validation studies; Psychometrics
- 55

56 Highlights:

57	•	The CovIO scale is a valid tool to assess information overload relating to COVID-19
58	•	CovIO is linked to socioeconomic predictors but also related to trust in various media
59		and health professionals
60	•	CovIO translates into negative health behaviours just like CIO does

• There is a clear increase in CovIO across the time of the pandemic

62 1 Introduction

63 The COVID-19 pandemic hit the world at a global scale, with unprecedented media coverage. 64 With it came a continuous flow of rapidly changing information: daily numbers of cases and 65 deaths, updates about progression of the outbreak worldwide, promotion of 66 countermeasures, barrier gestures, vaccines, lockdowns, etc. Citizens were asked to follow 67 health recommendations, some of them enforced by law, that rapidly changed and for some 68 of them were disputed in public space: as in France for lockdown or health pass[1]. 69 Recent research has investigated the impact of information overload on various chronic 70 disease (e.g. cancer, atrial fibrillation)[2–4]. The COVID-19 pandemic offers an unmatched 71 opportunity to study information overload in the context of an acute disease with a high 72 information environment[5]. In this specific context, the huge amount of information 73 available, the high level of uncertainty regarding its validity, and the frequent spread of 74 misinformation[6] might lead to a very high level of information overload. Previous studies 75 of COVID-19 information[7–9] have not validated a scale to capture COVID-19 information 76 overload (CovIO) and studied its predictors in the same population sample. Existing attempts 77 lacked representativeness or adequate methodological rigour, such as a control group. 78 Furthermore, despite a growing body of evidence on health information overload on 79 different topics, there are still discrepancies concerning key covariates, namely health 80 literacy and education in various studies[4]. Our previous work on Cancer Information Overload (CIO)[10], demonstrated the possibility of valid assessment with a 5-item scale and 81 82 found an association with poorer health related behaviours. We hypothesise that a similar 83 pattern may occur for CovIO, even if little is known about information overload in the 84 context of such a pandemic. In particular, CovIO might evolve rapidly as the epidemiological 85 and informational context changes. A valid tool to measure CoVIO and identify associated 86 health behaviours is needed to better assess and manage the impact of CoVIO in research 87 and practice. 88 The main objectives of our study were: to validate the psychometric properties of the CovIO

scale, to study its predictors, and to explore the relationships between CovIO and several
health behaviours over the first year of the COVID-19 pandemic in the general public. The
same analyses were performed in parallel with the CIO for comparison.

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96 2 Methods

97 2.1 Samples

98 We used data from large national repeated cross-sectional surveys conducted by IPSOS[11] 99 in the French general adult population[12,13]. Data was collected in two waves, the first 100 between May 27th and June 5th, 2020 (two weeks after the end of the first lockdown), and the second between January 8th and January 18th 2021 (where a curfew was set at 6PM). 101 102 Participants were selected from an online nationally representative research panel of 103 households of the French general population, and quota sampling was used to match French 104 official census statistics for gender, age, size of the population in the area of residence, and 105 region. At each time of data collection, participants were randomly assigned to receive the 106 CIO scale (CIO group) or its adaptation to capture COVID-19 Information Overload (CovIO 107 group). The study was approved by the Ethics Evaluation Committee of the French national 108 biomedical research Institute (CEEI, IRB 00003888).

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111 2.2 Measures

112 2.2.1 The Information Overload scales

113 The CIO group completed the French version of the 5-item CIO scale (CIO group)[10], while 114 the CovIO group completed an equivalent scale adapted to the context of the pandemic: the 115 Coronavirus Information Overload (CovIO) scale. This adaptation consisted of replacing occurrences of the word "cancer" in the CIO scale with "coronavirus (COVID-19)". For 116 117 example, the first item of the CIO scale: "There are so many different recommendations 118 about cancer, it's hard to know which ones to follow", became "There are so many different 119 recommendations about the coronavirus (COVID-19), it's hard to know which one to follow" 120 (Table 1). The adaptation used both 'coronavirus' and 'COVID-19' terms due to the 121 polysemic use of those designations of the disease, and that SARS CoV2 was seldom 122 used[14]. A 4-point Likert scale (strongly disagree = 1, disagree = 2, agree = 3, strongly agree

- = 4) was used for each item and items were summed to produce a total score for each scale
 ranging from 5 to 20, with higher scores indicating greater information overload.
- 125

126 2.2.2 Other measures

127 The questionnaire comprised questions regarding: socio-demographics (age, gender, 128 education, rural or urban living area), chronic comorbidities, the occurrence of COVID-19 129 within the participant's household and level of preoccupation regarding the COVID-19 130 pandemic and its consequences. Health literacy was assessed using the French version of the 131 HLS₁₉-Q12 questionnaire[15]. A score was computed by summing all twelve 4-point items 132 giving a range between 12 and 48, higher score indicating higher health literacy. Health 133 information seeking behaviour was assessed with a question about general health 134 information seeking in any source (books, magazines, internet, social media...). Trust in 135 institutions was measured with four questions regarding journalists, politicians, scientists, 136 and physicians. Finally, we inquired about several health-related behaviours linked to cancer 137 or COVID-19 prevention. For cancer prevention we asked for: the number of days per week 138 of tobacco use, alcohol consumption, physical exercise (more than 30 minutes), and healthy 139 diet. For COVID-19 we asked for the number of unsafe contacts, i.e. the number of social 140 interactions without respecting barrier gestures (excluding people within the household) 141 during the past week ("None, Only one, Two or three, Between Four and Eight, More than 142 Eight).

143

144

145 2.3 Statistical analyses

Continuous and categorical variables were described using means (±standard deviation) and
counts (percentages) respectively. Univariate analyses were performed and significance was
measured using chi-square tests, Student t tests or ANOVAs for categorical and continuous
variables respectively. Tests were two-sided and the p-values were considered significant
when less than 0.05. All the following analyses were conducted for both scales, CovIO and
CIO, using R.3.5.2 and RStudio.

153 2.3.1 Score and item responses description

Floor or ceiling effects at the scale level were considered to be present if more than 15% of respondents achieved the lowest or highest possible score, respectively[16]. At the item level, these effects were considered to be present if more than 95% endorsed if the lowest or highest response category[17].

158

159 2.3.2 Internal consistency and structural validity

160 Items were considered redundant if the polychoric inter-item correlation > 0.7 and irrelevant 161 if < 0.2[16]. Reliability was assessed using ordinal Cronbach's alpha (α)[18] and McDonald's 162 Omega (ω)[19], and considered satisfactory if ≥ 0.7[20].

163 Structural validity was tested using confirmatory factor analysis (CFA) with the robust 164 weighted least squares (WLSMV) estimator and Delta parameterization[21,22]. The initial 165 factor structure explored was the unidimensional structure (as determined by Jensen and 166 colleagues for the CIO scale) and modification indices were then examined, if necessary, to 167 allow correlation between items until fit indices were satisfactory[2]. The following fit 168 indices were used: the Root Mean Square Error of Approximation (indicating a good fit if 169 RMSEA <0.05, poor fit if ≥0.10, acceptable elsewhere, the Comparative Fit Index and the 170 Tucker-Lewis index (CFI and TLI, indicating a good fit if >0.95, poor fit if <0.90, acceptable 171 elsewhere[23]).

172

173 2.3.3 Measurement invariance

174 After assessing structural validity, measurement invariance was explored using multiple-175 group CFA and nested model comparisons. It was consecutively studied over the following 176 variables: *age* (<50 and \geq 50 years), *gender, education level* (more than high school or not), 177 and the presence or absence of a *chronic condition*. We used the classic three-step sequence 178 investigating configural, metric and scalar invariance consecutively by fitting and testing 179 three different nested models with increasing constraints[21,24]. To explore gender 180 invariance for example, the same model was initially hypothesized for both groups and the 181 following sequence of nested model tests was constructed: 1) configural invariance: 182 unconstrained factor loadings and item thresholds; 2) metric invariance: factor loadings 183 constrained to be equal across gender groups and unconstrained item thresholds; 3) scalar 184 invariance: factor loadings and item thresholds constrained to be equal across gender

185 groups. Each level of invariance was considered to be met if the fit indices difference

186 between two nested models (unconstrained - constrained) was equal or less than 0.01 for

187 Δ CFI and equal or higher than -0.015 for Δ RMSEA[25,26]. When a level of invariance was not 188 met, non-invariant items were identified by reviewing modification indices (essentially the χ^2 189 value) in order to release equality constraints concerning these items until partial invariance

- 190 was met.
- 191

192 2.3.4 CIO and CovIO predictors

193 Candidate variables to be screened as CIO and CovIO predictors were: polling wave, gender, 194 age, education, living area, chronic disease, personal-history of COVID-19, history of COVID-195 19 within the household, preoccupation with COVID-19, health information seeking 196 behaviour, health literacy, trust in journalists, politics, physicians, and scientists. CovIO and 197 CIO predictors were identified across the two waves using linear regression models stratified 198 with respect to the random assignment to the CovIO (N=1,003) or CIO group (N=1,000). The 199 Akaike Information Criteria[27] and stepwise (forward and backward) methods were used 200 for model selection[28]. Interaction terms between all candidate variables and the wave 201 variable were tested using a global F-test comparing models with and without interaction 202 terms. Stepwise regression was then initiated on the model with all candidate variables and, 203 if the global F-test for interaction was significant, all the interaction terms.

204

205 2.3.5 CIO, CovIO and Health behaviours

206 Lastly, relationships between CIO, CovIO and various health related behaviours were 207 investigated by comparing mean levels of overload across several variables. We 208 hypothesized that overload would be systematically associated with detrimental behaviours 209 (e.g. higher levels of CIO would be linked to tobacco use or alcohol consumption, and higher 210 levels of CovIO were expected to be related to higher number of social interactions without 211 barrier gestures in the past week)[10,29]. Every hypothesis was either tested with an ANOVA 212 or Pearson's correlation and considered significant when the p-value was below 0.05. 213 214

- 215
- 216

217 **3** Results

218 3.1 Samples

219 1,003 participants responded during the first wave of polling and 1,000 during the second. In 220 line with French census statistics, there was an almost equal distribution between men 221 (50.8%) and women (49.2%) in the 2,003 participants who responded to the surveys. The 222 mean age was 46.5 (±15.6) years old. The population was mostly urban (78.9%) and 223 educated with 1,209 participants (60.4%) with a degree higher than high school graduation. 224 Almost half the participants (44.9%) reported at least one chronic condition. Only 128 (6.4%) 225 respondents indicated having been infected by COVID-19, and 180 (9.0%) reported an 226 infection within the household. Those rates were higher in the second wave of the survey 227 (Appendix 1). Except for COVID-19 related variables, participants of the two waves were 228 similar. CovIO and CIO groups were also similar. CovIO was found to be significantly higher 229 than CIO (p<0.01) in both waves with mean CovIO of 14.1 (±3.4) and mean CIO of 13.2 (±3.0). 230 See Appendix 1 for a full description of the samples.

231

232 3.2 Score and item responses description

There was no missing data for the CovIO and CIO scales. Item responses and score distributions in the CovIO scale are shown in Figure 1. No floor or ceiling effect was detected at the item level: the highest proportion of response for the lowest and highest response category were respectively 12.7% (N=127) for item 4 and 30.1% (N=301) for item 5. This was also the case at the scale level with a minimum and a maximum total score reached by 8.6% (N=86) and 1.3% (N=13) of the sample respectively. Similar results were observed regarding CIO (cf. Figure 1 and Appendix 3).

240

241 3.3 Reliability and Confirmatory Factor Analysis

242 Internal consistency of CovIO was satisfactory with both Cronbach's alpha = 0.86 and

- 243 McDonald's Omega = 0.86. All inter-item polychoric correlations were between 0.2 and 0.7.
- 244 The initial Confirmatory Factor Analysis fitted poorly with a RMSEA=0.128, CFI=0.98 and
- TLI=0.96, and it was necessary to allow for error-correlation between items 2 and 3 to obtain
- 246 satisfactory results: RMSEA=0.050, CFI=0.99, TLI=0.99. Similar adequate psychometric
- 247 properties were observed regarding CIO (Appendix 3).

248

249 3.4 Measurement Invariance

No measurement invariance issue was found during MGCFA for the CovIO scale across
gender, education level, age, and the presence or absence of chronic comorbidity. Similar
invariance was observed regarding CIO (Appendix 2).

253

254 3.5 Study of predictors (Table 2)

255 *CovIO*

256 The result of the global F-test for interaction was significant (F-statistic=2.27, p<0.01), 257 therefore interaction terms were kept in the stepwise procedure. In the retained model 258 (Table 2), CovIO was found to be significantly increased in wave 2 (beta=5.93, p<0.01). The 259 trust in physicians and a history of self-infection by COVID-19 were also significantly 260 associated with higher levels of CovIO (beta=1.08, p=0.014 and beta=2.31, p<0.01 261 respectively). Significant negative interactions were found between wave and health 262 information seeking and between wave and health literacy (Fig 2). Stratified analysis across 263 waves revealed that the negative effects of health information seeking and of health literacy 264 on CovIO were significant only in wave 2 with beta=-1.51 (p<0.01) and beta=-0.10 (p<0.01) 265 respectively. Higher age and higher education were globally associated with less CovIO 266 (beta=-0.02, p=0.006, and beta=-0.63, p=0.004 respectively), and so were the trust in 267 politicians (beta=-1.06, p<0.01) and scientists (beta=-1.28, p<0.01). Lastly, a negative linear 268 relationship between increasing levels of preoccupation for COVID-19 and CovIO was found 269 (beta=-0.65, p=0.047).

270

271 *CIO*

The global F-test for interaction was not significant (p= 0.15). In the final model (Table 2), higher age, education, and preoccupation with COVID-19 were all linked to lower CIO just like with CovIO. Lastly, health literacy and health information seeking were significantly associated with lower CIO, but independently from the sampling period (Fig 2).

277 3.6 Health behaviours (Table 3)

278 Mean CovIO levels increased significantly (p<0.001) and monotonously with the number of unsafe social contacts from a mean of 13.4 (±3.3) for "no contact", to 14.8 (±3.5) for "more 279 280 than 8 contacts". When explored between waves, this trend was only significant at wave 2, 281 in January 2021 (Fig 3). Regarding more general health behaviours, CovIO showed a 282 significant negative correlation with healthy dieting (p<0.01), but no relationship with 283 physical exercise, tobacco use and alcohol consumption. CIO was also significantly negatively 284 correlated with healthy dieting and physical exercise (p=0.042), and close-to-significantly 285 correlated with tobacco use (p=0.070) and alcohol intake (p=0.067). 286

287

288 4 Discussion and conclusion

289 4.1 Discussion

In this study the CovIO scale was a reliable and valid tool (good internal consistency and
structural validity) to measure the degree of information overload related to COVID-19,
exhibiting measurement invariance across gender, education level, age, and presence of
chronic illness.

294 As expected, with an enormous amount of often changing and not always valid[30] COVID-295 19-related information being broadcast across all media channels during the study period 296 and specific controversies over treatments (e.g., efficacy of chloroquine[31]), CovIO was 297 higher than CIO and increased over time in our study (when adjusting for CoVID-19 related 298 variables such as personal infection and preoccupation). While CIO was higher in this sample 299 compared to our previous study in 2016[10], it was stable across the two survey waves and 300 this difference may reflect the fact that our previous study recruited a convenience sample 301 of people specifically interested in cancer research and that participants not affected by 302 cancer were found to have higher CIO than cancer patients or caregivers[10]. In contrast to 303 our previous results[10] the present results suggest that exposure to an acute disease such 304 as COVID-19 (through personal infection) increases information overload, however, this 305 relationship tends to decrease over time, despite an increased number of infection. This can be due to the specific uncertainty about this virus and the fact that some of the available 306 307 information became rapidly obsolete or learning that COVID-19 reinfection was possible.

308 The study of interactions suggests that the relationship between CovIO (and very likely 309 information overload in general) and some of its predictors is not static. Indeed, the effects of health literacy and health information seeking behaviours became significant only during 310 311 wave 2. These results might suggest that as the amount and complexity of information about 312 the virus increased as the pandemic progressed, that health literacy helps navigate through 313 it, or, that respondents with active interest for health information developed specific 314 expertise to navigate this specific information. Similarly, the interaction between time and 315 health seeking behaviours suggests that this mass information accumulating through the 316 pandemic is also complex and sometimes contradictory (e.g debates around the vaccination 317 in France) and more proactive information seeking reduces the amount of overload. This is 318 in line with our previous study showing less information overload among intense 319 information seekers[10]. As expected from previous results[10,32,33] and in accordance 320 with the negative relationship with health literacy, higher education was also significantly 321 associated with lower information overload. Both education level and health literacy are key 322 factors to consider when developing health related messages and programs.

323

324 This is the first report of age being significantly negatively correlated with information 325 overload[32,34] since its formalization by Jensen et al[2]. Although from a cognitive 326 perspective, this results seems contradictory with the natural decline of cognitive processes 327 and the limited capacity model[35], our samples were relatively young (only 15% over 65 328 years old) and it's likely that older people have more interest in health questions but may 329 also be more accepting of official health messages. Such a positive relationship with official 330 health messages would be consistent with the negative association between trust in 331 politicians and overload and deemed important if not crucial in the context of a pandemic 332 where the trust in public health measures appears to be central. But this encouraging result 333 should be tempered by a the context of low trust in politicians in general (only 16.6%, Table 334 S1), which could reflect the evolving political decisions throughout the pandemic (for 335 example, masks were not deemed necessary by the minister of health of France at the 336 beginning of the pandemic[36]). Changing political decisions may both increase overload and 337 erode trust in politicians. On the other hand, the trust in scientists being associated with less 338 CovIO with a very high rate of trust in scientists (88.2%) underlines the value of clear health 339 messages emanating from the scientific community. This link to trust suggests that overload

340 depends on the way individuals select or reject sources of information as credible. However, 341 the most surprising result was about the trust in physicians being linked to higher CovIO 342 when most of the sample declared trusting their physicians (92.7%, Table S1). One 343 speculative explanation could be that individual physicians were also prone to CovIO due to 344 frequent changing recommendations about isolation protocols, systematic screening 345 protocols for contact cases for example or, more generally, an overall feeling of overload (i.e 346 work overload) about COVID-19 that was sensed by day-to-day patients. Alternatively, this 347 could reveal that people who distrust physicians are engaged in an alternative view of the 348 world with its own set of beliefs which, although false, are firm and less prone to 349 information overload[37] or that people who trust physicians were confronted with 350 conflicting information elsewhere, which caused them to feel overwhelmed. 351 Finally, we've shown that CovIO might translate into health behaviours, just like CIO in 352 previous findings[10]. CovIO was related to risky behaviours such as the increase in the 353 number of unsafe contacts (lacking recommended barrier gestures). This relationship was, 354 again, strongest at wave 2 underpinning the dynamic nature of information overload. 355 Although, the desire to return to a normal life could be a confounding factor not measured 356 in our study that could have interacted with CovIO and the compliance to social distancing. 357 For more general health behaviours, CIO was confirmed to be linked with lower physical 358 activity and less days of healthy diet in the week. The correlations with tobacco use and 359 alcohol consumption were also expected but only close to significance. However, the 360 significant relation between CovIO and non-healthy dieting wasn't expected and lacks any 361 reasonable explanation except for a link to health information overload in general. But 362 overall, these results reinforce the purpose of CovIO, CIO and health information overload in 363 general, in capturing some of the reasons why the general population might not engage in 364 healthy preventive behaviours upon clear health messages.

365

The major limitation of our study is that despite a repeated design to study the dynamics of information overload in a pandemic context, the participants in the two samples (in June 2020 and January 2021) are not the same. However, the sampling method was similar and both waves had good statistical power with large sample sizes. Moreover, the comparison between the characteristics of the two samples didn't reveal any major difference. The same limitation holds for the comparison between CovIO and CIO but to limit the burden of the

372 questionnaire it was not possible to ask sequentially for CovIO and CIO. The questionnaire 373 randomization compensated this limitation. Another limit would be the important number 374 of interactions between the predictors of CovIO discarded. We chose to focus on the 375 interaction with time since it was the main objective of our study. Exploratory analysis on 376 the data, not presented in the article suggested for example many interactions between 377 health literacy and other variables. These interactions should be addressed in later work 378 using, for instance, structural equation modelling with some meaningful constructs (e.g. 379 health literacy, trust in various public actors...) yielding results that take in account 380 interactions without losing interpretability. Finally, the context of COVID-19 was marked by 381 specific national contexts of information, with governmental communication and media 382 debates. Especially for CovIO, a joint analysis with available public information at this time 383 would be useful to contextualise the results.

384

385 4.2 Conclusion

We have shown that the CovIO scale is a valid instrument to measure the amount of
information saturation relating to COVID-19. The huge amount of often changing or
conflicting COVID-19 related information in all media appears to have led to greater CovIO
than CIO. The relationship to some of its predictors was better characterized and the
dynamic nature of its formation revealed.

391

392 4.3 Practice implications

393 Even though monitoring COVID-19 information might be less relevant recently given the 394 evolution of the pandemic and public awareness, our study sheds light on the dynamics of 395 information overload in general. Therefore, longitudinal designs are needed to better 396 understand the potential detrimental effect of information overload and improve the 397 impact of public health campaigns. Future work should also consider interventional studies to decrease health information overload on a selected topic (e.g. through educational 398 399 lectures, or dedicated medical sessions) and validate the effects on behaviours. 400 401

402 Conflict of interest statement

403 The authors have no conflicts to declare.

404 Funding

- 405 This work benefited from the support of La Ligue Contre le Cancer through the accreditation
- 406 (LIGUE 2019) of the CANBIOS team.
- 407 The sponsors had no role in study design; in the collection, analysis and interpretation of
- 408 data; in the writing of the report; and in the decision to submit the paper for publication.

409 Authors' contribution

- 410 MB: Conceptualization, Formal analysis, Writing original draft.
- 411 JM: Conceptualization, Investigation, Writing review and editing, Supervision, Project
- 412 administration, Funding acquisition.
- 413 ES: Investigation, Writing review and editing
- 414 AR: Investigation, Writing review and editing
- 415 BS: Investigation, Writing review and editing

416 Acknowledgements

- 417 We thank the Réseau Francophone de la Littératie en Santé (REFLIS) network for their
- 418 collaboration in the European HLS₁₉ survey.
- 419

420 Figures and Tables

- 421 Figure 1: Item responses and score distributions of the COVID-19 Information overload
- 422 (CovIO) scale







- Figure 3: Univariate link between CovIO and the number of unsafe contacts for the different
- sampling periods



433 Table 1: CovIO scale translated from French

CovIO scale adapted from the CIO scale after Costa <i>et al.</i> 2014 (DOI: 10.1016/j.pec.2015.04.020)	French version
1 There are so many different recommendations about the coronavirus (COVID-19), it's hard to know which ones to follow.	Il y a tellement de recommandations différentes concernant le coronavirus (COVID-19) qu'il est difficile de savoir lesquelles suivre
2 There is so much coronavirus (COVID-19) information, I don't even care to hear new things about coronavirus (COVID-19)	Il y a tellement d'informations sur le coronavirus (COVID-19) qu'en avoir des nouvelles ne m'intéresse même plus
3 There is so much information about coronavirus (COVID-19), it all starts to sound the same after a while.	Il y a tellement d'informations sur le coronavirus (COVID-19), qu'au bout d'un moment elles commencent à toutes se ressembler
4 There is so much coronavirus (COVID-19) information, I forget most coronavirus (COVID-19) information right after I learn it.	Il y a tellement d'informations sur le coronavirus (COVID-19), que j'en oublie la plupart aussitôt après les avoir reçues
5 I feel overloaded by the amount of coronavirus (COVID-19) information I am supposed to know.	Je me sens submergé(e) par la quantité d'informations sur le coronavirus (COVID-19), que je suis censé(e) connaitre

435 Table 2: Linear regressions of CIO and CovIO on their predictors

β p-value β p-value (Intercept) 14.62 <0.001 18.46 <0.001 Wave 2 (January 2021) 5.93 <0.001 - - Male 0.30 0.159 - - Age (per 1-year increase) -0.02 0.006 -0.02 0.007 Higher Education (> Baccalaureate) -0.64 0.004 -0.40 0.049 Self-history of COVID-19 2.31 0.001 0.83 0.065 Household-history of COVID-19 - - 0.63 0.106 Health Information seeking -0.23 0.585 -1.23 <0.001 Health Literacy (per 1-point 0.04 0.181 -0.08 <0.001 increase) - - 0.39 0.036 Category increase) - - 0.39 0.026 Trust in: - - - - - Journalists 0.01 0.973 - - Politicians -1.067 <th></th> <th colspan="2">CovIO</th> <th>CI</th> <th>0</th>		CovIO		CI	0
(Intercept) 14.62 <0.001		β	p-value	β	p-value
Wave 2 (January 2021) 5.93 <0.001 - - Male 0.30 0.159 - - Age (per 1-year increase) -0.02 0.006 -0.02 0.007 Higher Education (> Baccalaureate) -0.64 0.004 -0.40 0.049 Self-history of COVID-19 2.31 0.001 0.83 0.065 Household-history of COVID-19 - - 0.63 0.106 Health Information seeking -0.23 0.585 -1.23 <0.001	(Intercept)	14.62	<0.001	18.46	<0.001
Male0.300.159Age (per 1-year increase)-0.020.006-0.020.007Higher Education (> Baccalaureate)-0.640.004-0.400.049Self-history of COVID-192.310.0010.830.065Household-history of COVID-190.630.106Health Information seeking-0.230.585-1.23<0.001	Wave 2 (January 2021)	5.93	< 0.001	-	-
Age (per 1-year increase) -0.02 0.006 -0.02 0.007 Higher Education (> Baccalaureate) -0.64 0.004 -0.40 0.049 Self-history of COVID-19 2.31 0.001 0.83 0.065 Household-history of COVID-19 - - 0.63 0.106 Health Information seeking -0.23 0.585 -1.23 <0.001	Male	0.30	0.159	-	-
Higher Education (> Baccalaureate) -0.64 0.004 -0.40 0.049 Self-history of COVID-19 2.31 0.001 0.83 0.065 Household-history of COVID-19 - - 0.63 0.106 Health Information seeking -0.23 0.585 -1.23 <0.001	Age (per 1-year increase)	-0.02	0.006	-0.02	0.007
Self-history of COVID-192.310.0010.830.065Household-history of COVID-190.630.106Health Information seeking-0.230.585-1.23<0.001Health Literacy (per 1-point0.040.181-0.08<0.001increase)0.630.036COVID-19 preoccupation (per 10.650.047-0.630.036category increase)0.390.096Trust in:0.390.096Trust in:Politicians-1.067<0.001Politicians1.08Selected interactions:Wave 2 * Self-history of COVID-19-1.470.026-Wave 2 * Health Information seekingWave 2 * Health Information seekingWave 2 * Trust in journalistsOutput- </td <td>Higher Education (> Baccalaureate)</td> <td>-0.64</td> <td>0.004</td> <td>-0.40</td> <td>0.049</td>	Higher Education (> Baccalaureate)	-0.64	0.004	-0.40	0.049
Household-history of COVID-19 - - 0.63 0.106 Health Information seeking -0.23 0.585 -1.23 <0.001 Health Literacy (per 1-point 0.04 0.181 -0.08 <0.001 increase) - - 0.63 0.036 COVID-19 preoccupation (per 1- -0.65 0.047 -0.63 0.036 category increase) - - 0.39 0.096 Trust in: - - 0.39 0.096 Trust in: - - 0.01 0.973 - - Journalists 0.01 0.973 - - - Politicians 1.067 <0.001 - - Scientists -1.28 <0.001 - - Wave 2 * Self-history of COVID-19 -1.47 0.095 - - Wave 2 * Health Information -1.27 0.026 - - Wave 2 * Health Literacy -0.14 <0.001 - - <td>Self-history of COVID-19</td> <td>2.31</td> <td>0.001</td> <td>0.83</td> <td>0.065</td>	Self-history of COVID-19	2.31	0.001	0.83	0.065
Health Information seeking-0.230.585-1.23<0.001Health Literacy (per 1-point0.040.181-0.08<0.001increase)0.650.047-0.630.036COVID-19 proccupation (per 1- category increase)0.390.096Urban area0.390.096Trust in:0.390.096Politicians0.010.973Politicians1.067<0.001Selected interactions:-1.28<0.001Wave 2 * Self-history of COVID-19-1.470.095Wave 2 * Health Information-1.270.026Wave 2 * Health Literacy-0.14<0.001Wave 2 * Trust in journalists-0.810.107	Household-history of COVID-19	-	-	0.63	0.106
Health Literacy (per 1-point 0.04 0.181 -0.08 <0.001 increase) COVID-19 preoccupation (per 1- -0.65 0.047 -0.63 0.036 category increase) Urban area - - 0.39 0.096 Trust in: Journalists 0.01 0.973 - - Politicians -1.067 <0.001	Health Information seeking	-0.23	0.585	-1.23	< 0.001
increase) COVID-19 preoccupation (per 1- -0.65 0.047 -0.63 0.036 category increase) - - 0.39 0.096 Urban area - - 0.39 0.096 Trust in: - - 0.39 0.096 Politicians 0.01 0.973 - - Politicians -1.067 <0.001	Health Literacy (per 1-point	0.04	0.181	-0.08	<0.001
COVID-19 preoccupation (per 1- -0.65 0.047 -0.63 0.036 category increase) Urban area - - 0.39 0.096 Trust in: - - 0.39 0.096 Politicians 0.01 0.973 - - Politicians -1.067 <0.001 - - Physicians 1.08 0.014 -0.57 0.123 Scientists -1.28 <0.001 - - Wave 2 * Self-history of COVID-19 -1.47 0.095 - - Wave 2 * Health Information -1.27 0.026 - - Wave 2 * Health Literacy -0.14 <0.001 - - Wave 2 * Trust in journalists -0.81 0.107 - -	increase)				
category increase) Urban area - - 0.39 0.096 Trust in: - - 0.39 0.096 Politicians 0.01 0.973 - - Politicians -1.067 <0.001 - - Physicians 1.08 0.014 -0.57 0.123 Scientists -1.28 <0.001 - - Selected interactions: - - - - Wave 2 * Self-history of COVID-19 -1.47 0.095 - - Wave 2 * Health Information -1.27 0.026 - - Wave 2 * Health Literacy -0.14 <0.001 - - Wave 2 * Trust in journalists -0.81 0.107 - -	COVID-19 preoccupation (per 1-	-0.65	0.047	-0.63	0.036
Urban area0.390.096Trust in:Journalists0.010.973Politicians-1.067<0.001Physicians1.080.014-0.570.123Scientists-1.28<0.001Selected interactions:Wave 2 * Self-history of COVID-19-1.470.095Wave 2 * Health Information-1.270.026Wave 2 * Health Literacy-0.14<0.001Wave 2 * Trust in journalists-0.810.107	category increase)				
Trust in: Journalists 0.01 0.973 - - Politicians -1.067 <0.001	Urban area	-	-	0.39	0.096
Journalists 0.01 0.973 - - Politicians -1.067 <0.001	Trust in:				
Politicians -1.067 <0.001 - - Physicians 1.08 0.014 -0.57 0.123 Scientists -1.28 <0.001 - - Selected interactions: - - - - Wave 2 * Self-history of COVID-19 -1.47 0.095 - - Wave 2 * Health Information -1.27 0.026 - - Wave 2 * Health Literacy -0.14 <0.001 - - Wave 2 * Trust in journalists -0.81 0.107 - -	Journalists	0.01	0.973	-	-
Physicians 1.08 0.014 -0.57 0.123 Scientists -1.28 <0.001 - - Selected interactions: - - Wave 2 * Self-history of COVID-19 -1.47 0.095 - - - Wave 2 * Health Information -1.27 0.026 - - - Wave 2 * Health Literacy -0.14 <0.001 - - - Wave 2 * Trust in journalists -0.81 0.107 - -	Politicians	-1.067	<0.001	-	-
Scientists -1.28 <0.001 - - Selected interactions: <	Physicians	1.08	0.014	-0.57	0.123
Selected interactions: Wave 2 * Self-history of COVID-19 -1.47 0.095 - - Wave 2 * Health Information seeking -1.27 0.026 - - Wave 2 * Health Literacy -0.14 <0.001	Scientists	-1.28	<0.001	-	-
Wave 2 * Self-history of COVID-19 -1.47 0.095 - - Wave 2 * Health Information seeking -1.27 0.026 - - Wave 2 * Health Literacy -0.14 <0.001	Selected interactions:				
Wave 2 * Health Information seeking -1.27 0.026 - - Wave 2 * Health Literacy -0.14 <0.001	Wave 2 * Self-history of COVID-19	-1.47	0.095	-	-
seeking Wave 2 * Health Literacy -0.14 <0.001 - - Wave 2 * Trust in journalists -0.81 0.107 - -	Wave 2 * Health Information	-1.27	0.026	-	-
Wave 2 * Health Literacy -0.14 <0.001 - - Wave 2 * Trust in journalists -0.81 0.107 - -	seeking				
Wave 2 * Trust in journalists -0.81 0.107 - -	Wave 2 * Health Literacy	-0.14	<0.001	-	-
	Wave 2 * Trust in journalists	-0.81	0.107	-	-

Response		CovIO	p-value	CIO	p-value
		Mean (SD)		Mean (SD)	
Number of unsafe None		13.4 (3.3) N=384		13.0 (2.9) N=401	
contacts (within	1	14.1 (3.5) N=88		13.6 (2.9) N=88	
the past week)	2-3	14.3 (3.3) N=221	<0.001	13.3 (2.9) N=221	0.15
	4-8	14.6 (3.1) N=150		13.5 (2.9) N=153	
	>8	14.8 (3.5) N=160		13.5 (3.3) N=137	
Number of d	lays in a	r*		r	
typical wee	ek with :				
Physical	activity	-0.039	0.21	-0.064	0.042
Healthy diet		-0.129	<0.01	-0.107	<0.01
Toba	cco use	0.048	0.127	0.057	0.070
Alcoho	l intake	0.019	0.544	0.058	0.067

437 Table 3: Univariate links between CIO, CovIO and various health behaviours

438 * Pearson's correlation coefficient

5

		Both waves	Wave 1	Wave 2	p-value*
Gender	Female	1017 (50.8)	506 (50.4)	511 (51.1)	0.905
	Male	986 (49.2)	497 (49.6)	489 (48.9)	0.805
Age	Mean (SD)	46.5 (15.6)	46.5 (15.3)	46.5 (15.9)	0.946
Education level	Low**	794 (39.6)	411 (41.0)	383 (38.3)	0 220
	High**	1209 (60.4)	592 (59.0)	617 (61.7)	0.236
Comorbidity	None	1103 (55.1)	538 (53.6)	565 (56.5)	0 214
	At least 1	900 (44.9)	465 (46.4)	435 (43.5)	0.214
Work status	Active	1353 (67.5)	665 (66.3)	688 (68.8)	0 252
	Not active	650 (32.5)	338 (33.7)	312 (31.2)	0.232
Self-history of	No	1748 (87.3)	862 (85.9)	886 (88.6)	
COVID-19	Yes	128 (6.4)	50 (5.0)	78 (7.8)	0.032
	Don't know	127 (6.3)	91 (9.1)	36 (3.6)	
History of COVID-19	No	1697 (84.7)	851 (84.8)	846 (84.6)	
within the	Yes	180 (9.0)	58 (5.8)	122 (12.2)	< 0.001
household	Don't know	126 (6.3)	94 (9.4)	32 (3.2)	
Living area	Rural	423 (21.1)	212 (21.1)	211 (21.1)	0 000
	Urban	1580 (78.9)	791 (78.9)	789 (78.9)	0.999
Health information	No	296 (14.8)	136 (13.6)	160 (16.0)	0 1 4
seeking behavior	Yes	1707 (85.2)	867 (86.4)	840 (84.0)	0.14
Health Literacy	Mean (SD)	35.7 (5.6)	36.0 (5.6)	35.4 (5.6)	0.009
Do you trust:					
Journalists	No	1476 (73.7)	744 (74.2)	732 (73.2)	0 656
	Yes	527 (26.3)	259 (25.8)	268 (26.8)	0.050
Politicians	No	1671 (83.4)	824 (82.2)	847 (84.7)	0 1 1 1
	Yes	332 (16.6)	179 (17.8)	153 (15.3)	0.141
Physicians	No	147 (7.3)	68 (6.8)	79 (7.9)	0 381
	Yes	1856 (92.7)	935 (93.2)	921 (92.1)	0.381
Scientists	No	236 (11.8)	106 (10.6)	130 (13.0)	0 106
	Yes	1767 (88.2)	897 (89.4)	870 (87.0)	0.100
Preoccupation for	Not at all	114 (5.7)	53 (5.3)	61 (6.1)	
COVID-19 and its	A little	461 (23.0)	255 (25.4)	206 (20.6)	0.018
consequences	Somewhat	847 (42.3)	429 (42.8)	418 (41.8)	0.018
	A lot	581 (29.0)	266 (26.5)	315 (31.5)	
CIO score	Mean (SD)	13.2 (3.0)	13.3 (3.1)	13.2 (2.9)	0.865
CovIO score	Mean (SD)	14.1 (3.4)	14.2 (3.2)	14.0 (3.5)	0.329

441 *Test across waves, **High = degree higher than the Baccalaureate, ***Students, military

442 CIO: Cancer Information Overload; CovIO: Coronavirus Information Overload

Table S2: Group characteristics 444

		CIO-group	CovIO-group	p-value*
Gender	Female	497 (49.7)	520 (51.8)	0.26
	Male	503 (50.3)	483 (48.2)	0.36
Age	Mean (SD)	46.4 (15.6)	46.6 (15.5)	0.773
Education level	Low**	373 (37.3)	421 (42.0)	0.020
	High**	627 (62.7)	582 (58.0)	0.036
Comorbidity	None	551 (55.1)	552 (55.0)	0.000
	At least 1	449 (44.9)	451 (45.0)	0.999
Work status	Active	687 (68.7)	666 (66.4)	0 202
	Not active	313 (31.3)	337 (33.6)	0.295
Self-history of	No	870 (87.0)	878 (87.5)	
COVID-19	Yes	61 (6.1)	67 (6.7)	0.711
	Missing	69 (6.9)	58 (5.8)	
History of COVID-19	No	849 (84.9)	848 (84.5)	
within the	Yes	84 (8.4)	96 (9.6)	0.436
household	Missing	67 (6.7)	59 (5.9)	
Living area	Rural	208 (20.8)	215 (21.4)	0 760
	Urban	792 (79.2)	788 (78.6)	0.709
Health information	No	134 (13.4)	162 (16.2)	0.005
seeking behavior	Yes	866 (86.6)	841 (83.8)	0.095
Health Literacy	Mean (SD)	35.9 (5.7)	35.5 (5.5)	0.165
Do you trust:				
Journalists	No	729 (72.9)	747 (74.5)	0 453
	Yes	271 (27.1)	256 (25.5)	0.455
Politicians	No	850 (85.0)	821 (81.9)	0.067
	Yes	150 (15.0)	182 (18.1)	0.007
Physicians	No	73 (7.3)	74 (7.4)	n aga
	Yes	927 (92.7)	929 (92.6)	0.999
Scientists	No	121 (12.1)	115 (11.5)	0 711
	Yes	879 (87.9)	888 (88.5)	0.711
Preoccupation for	Not at all	54 (5.4)	60 (6.0)	
COVID-19 and its	A little	219 (21.9)	242 (24.1)	0 579
consequences	Somewhat	433 (43.3)	414 (41.3)	0.373
	A lot	294 (29.4)	287 (28.6)	1
CIO score	Mean (SD)	13.2 (3.0)	-	-
CovIO score	Mean (SD)	-	14.1 (3.4)	-

445

*Test across waves, **High = degree higher than the Baccalaureate, ***Students, military

CIO: Cancer Information Overload; CovIO: Coronavirus Information Overload 446

448 Table S3: Measurement invariance across age groups, education levels, and deprivation, for Cancer Information Overload scale (CIO)

AGE						
Measurement Invariance model	CFI	RMSEA (90% CI)	ΔCFI	ΔRMSEA		
M1: Configural*	.997	.060 (.032091)				
M2: Metric**	.997	.059 (.035085)	.000 (ΔM1-M2)	.001 (ΔM1-M2)		
M3: Scalar***	.995	.055 (.037074)	.002 (ΔM2-M3)	.004 (ΔM2-M3)		
GENDER	. <u>.</u>					
Measurement Invariance model	CFI	RMSEA (90% CI)	ΔCFI	ΔRMSEA		
M1: Configural*	.999	.036 (.000070)				
M2: Metric**	.999	.028 (.000059)	.000 (ΔM1-M2)	.008 (ΔM1-M2)		
M3: Scalar***	.999	.012 (.000016)	.000 (ΔM2-M3)	.012 (ΔM2-M3)		
CHRONIC ILLNESS						
Measurement Invariance model	CFI	RMSEA (90% CI)	ΔCFI	ΔRMSEA		
M1. Configural*	998	052 (020- 082)				
	.550	.052 (.020 .002)				
M2: Metric**	.997	.059 (.035085)	.001 (ΔM1-M2)	008 (ΔM1-M2)		
M1: Configurat M2: Metric** M3: Scalar***	.997	.052 (.020 .002) .059 (.035085) .022 (.000046)	.001 (ΔM1-M2) 002 (ΔM2-M3)	008 (ΔM1-M2) 037 (ΔM2-M3)		
M2: Metric** M3: Scalar***	.997 .999	.059 (.020 .002) .059 (.035085) .022 (.000046)	.001 (ΔM1-M2) 002 (ΔM2-M3)	008 (ΔM1-M2) 037 (ΔM2-M3)		
M1: Configurat M2: Metric** M3: Scalar*** EDUCATION	.997 .999	.052 (.020 .002) .059 (.035085) .022 (.000046)	.001 (ΔM1-M2) 002 (ΔM2-M3)	008 (ΔM1-M2) 037 (ΔM2-M3)		
M1: Configurat M2: Metric** M3: Scalar*** EDUCATION Measurement Invariance model	.997 .999 CFI	.052 (.020 .002) .059 (.035085) .022 (.000046) RMSEA (90% CI)	.001 (ΔM1-M2) 002 (ΔM2-M3) ΔCFI	008 (ΔM1-M2) 037 (ΔM2-M3) ΔRMSEA		
M1: Configural M2: Metric** M3: Scalar*** EDUCATION Measurement Invariance model M1: Configural*	.997 .999 CFI .997	.052 (.020 .002) .059 (.035085) .022 (.000046) RMSEA (90% CI) .066 (.038096)	.001 (ΔM1-M2) 002 (ΔM2-M3) ΔCFI	008 (ΔM1-M2) 037 (ΔM2-M3) ΔRMSEA		
M1: Configural M2: Metric** M3: Scalar*** EDUCATION Measurement Invariance model M1: Configural* M2: Metric**	.997 .999 CFI .997 .997	.052 (.020 .002) .059 (.035085) .022 (.000046) RMSEA (90% CI) .066 (.038096) .057 (.032083)	.001 (ΔM1-M2) 002 (ΔM2-M3) ΔCFI .000 (ΔM1-M2)	008 (ΔΜ1-Μ2) 037 (ΔΜ2-Μ3) ΔRMSEA .008 (ΔΜ1-Μ2)		
M1: Configural M2: Metric** M3: Scalar*** EDUCATION Measurement Invariance model M1: Configural* M2: Metric** M3: Scalar***	.997 .999 CFI .997 .997 .995	.052 (.020 .002) .059 (.035085) .022 (.000046) RMSEA (90% Cl) .066 (.038096) .057 (.032083) .051 (.032070)	.001 (ΔΜ1-M2) 002 (ΔΜ2-M3) ΔCFI .000 (ΔΜ1-M2) .001 (ΔΜ2-M3)	008 (ΔΜ1-Μ2) 037 (ΔΜ2-Μ3) ΔRMSEA .008 (ΔΜ1-Μ2) .006 (ΔΜ2-Μ3)		
M2: Metric** M3: Scalar*** EDUCATION Measurement Invariance model M1: Configural* M2: Metric** M3: Scalar*** * same factor structure across groups	.997 .999 CFI .997 .997 .995	.052 (.020 .002) .059 (.035085) .022 (.000046) RMSEA (90% CI) .066 (.038096) .057 (.032083) .051 (.032070)	.001 (ΔM1-M2) 002 (ΔM2-M3) ΔCFI .000 (ΔM1-M2) .001 (ΔM2-M3)	008 (ΔΜ1-Μ2) 037 (ΔΜ2-Μ3) ΔRMSEA .008 (ΔΜ1-Μ2) .006 (ΔΜ2-Μ3)		
M2: Metric** M3: Scalar*** EDUCATION Measurement Invariance model M1: Configural* M2: Metric** M3: Scalar*** * same factor structure across groups ** loadings constrained to be equal acro	.997 .999 .999 .997 .997 .997 .995 ss groups	.052 (.020 .002) .059 (.035085) .022 (.000046) RMSEA (90% Cl) .066 (.038096) .057 (.032083) .051 (.032070)	.001 (ΔΜ1-Μ2) 002 (ΔΜ2-Μ3) ΔCFI .000 (ΔΜ1-Μ2) .001 (ΔΜ2-Μ3)	008 (ΔΜ1-Μ2) 037 (ΔΜ2-Μ3) ΔRMSEA .008 (ΔΜ1-Μ2) .006 (ΔΜ2-Μ3)		

AGE				
Measurement Invariance model	CFI	RMSEA (90% CI)	ΔCFI	ΔRMSEA
M1: Configural*	.996	.069 (.042099)		
M2: Metric**	.996	.059 (.035085)	.000 (ΔM1-M2)	.01 (ΔM1-M2)
M3: Scalar***	.991	.063 (.045081)	.005 (ΔM2-M3)	004 (ΔM2-M3)
GENDER				
Measurement Invariance model	CFI	RMSEA (90% CI)	ΔCFI	ΔRMSEA
M1: Configural*	.994	.082 (.055011)		
M2: Metric**	.995	.065 (.042091)	001 (ΔM1-M2)	.017 (ΔM1-M2)
M3: Scalar***	.990	.062 (.045081)	.005 (ΔM2-M3)	.003 (ΔM2-M3)
CHRONIC ILLNESS				
Measurement Invariance model	CFI	RMSEA (90% CI)	ΔCFI	ΔRMSEA
M1: Configural*	.997	.055 (.025086)		
M2: Metric**	.995	.063 (.04089)	.002 (ΔM1-M2)	008 (ΔM1-M2)
M3: Scalar***	.991	.061 (.043079)	.004 (ΔM2-M3)	.002 (ΔM2-M3)
FDUCATION				
Measurement Invariance model	CFI	RMSEA (90% CI)	ΔCFI	ΔRMSEA
Measurement Invariance model M1: Configural*	CFI .997	RMSEA (90% CI) .058 (.029088)	ΔCFI	ΔRMSEA
Measurement Invariance model M1: Configural* M2: Metric**	CFI .997 .997	RMSEA (90% CI) .058 (.029088) .055 (.029081)	Δ CFI .000 (ΔM1-M2)	ΔRMSEA .003 (ΔM1-M2)
Measurement Invariance model M1: Configural* M2: Metric** M3: Scalar***	CFI .997 .997 .994	RMSEA (90% CI) .058 (.029088) .055 (.029081) .05 (.031069)	Δ CFI .000 (ΔM1-M2) .003 (ΔM2-M3)	ΔRMSEA .003 (ΔΜ1-Μ2) .005 (ΔΜ2-Μ3)
Measurement Invariance model M1: Configural* M2: Metric** M3: Scalar*** * same factor structure across groups	CFI .997 .997 .994	RMSEA (90% CI) .058 (.029088) .055 (.029081) .05 (.031069)	ΔCFI .000 (ΔM1-M2) .003 (ΔM2-M3)	ΔRMSEA .003 (ΔΜ1-Μ2) .005 (ΔΜ2-Μ3)
Measurement Invariance model M1: Configural* M2: Metric** M3: Scalar*** * same factor structure across groups ** loadings constrained to be equal acro	CFI .997 .997 .994	RMSEA (90% CI) .058 (.029088) .055 (.029081) .05 (.031069)	ΔCFI .000 (ΔM1-M2) .003 (ΔM2-M3)	ΔRMSEA .003 (ΔΜ1-Μ2) .005 (ΔΜ2-Μ3)

450 Table S4: Measurement invariance across age groups, education levels, and deprivation, for Coronavirus Information Overload scale (CovIO)

452 Table S5: CFA results for the CovIO and CIO scales

		CovIO scale	CIO scale
		(N=1003)	(N=1000)
Internal consistency	Cronbach's alpha	0.86	0.87
	McDonald's omega	0.86	0.88
Structural	RMSEA	0.050 (0.024-0.080)*	0.045 (0.017-0.075)*
validity	CFI	0.998	0.999
	TLI	0.994	0.997

453 *RMSEA* = Root Mean Error of Approximation (95% confidence interval), CFI = Comparative Fit

454 Index, TLI = Tucker-Lewis Index, *With correlation between item 2 and 3

455

456 Table S6: Polychoric correlations for the CovIO scale

	COVIO1	COVIO2	COVIO3	COVIO4	COVIO5
COVIO1	1				
COVIO2	0.47	1			
COVIO3	0.38	0.63	1		
COVIO4	0.53	0.61	0.56	1	
COVIO5	0.56	0.59	0.54	0.66	1

457

458 Tables S7: Polychoric correlations for the CIO scale

	CIO1	CIO2	CIO3	CIO4	CIO5
CIO1	1				
CIO2	0.41	1			
CIO3	0.45	0.69	1		
CIO4	0.49	0.66	0.64	1	
CIO5	0.52	0.62	0.61	0.74	1

459

460 Table S8. Item responses for the CIO scale (N=1000)

-		. ,		
	Strongly Disagree	Disagree	Agree	Strongly Agree
CIO1	24 (2.4%)	186 (18.6%)	566 (56.6%)	224 (22.4%)
CIO2	95 (9.5%)	486 (48.6%)	325 (32.5%)	94 (9.4%)
CIO3	53 (5.3%)	367 (36.7%)	466 (46.6%)	114 (11.4%)
CIO4	60 (6%)	374 (37.4%)	453 (45.3%)	113 (11.3%)
CIO5	78 (7.8%)	376 (37.6%)	432 (43.2%)	114 (11.4%)

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