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Brief Report

Early impact of COVID-19 quarantine on the perceived change of anxiety symptoms in a non-clinical, non-infected Italian sample
Effect of COVID-19 quarantine on anxiety

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ABSTRACT

Background In March 2020, the COVID-19 pandemic led to a national lockdown and quarantine in Italy. The aim of this study was to assess the perceived change in anxiety levels and its predictors in a non-clinical, non-infected, home-quarantined Italian sample in the very first weeks of the lockdown. Methods Online survey data on perceived change in anxiety symptoms since the beginning of the lockdown, health anxiety, social anxiety, depression, and obsessive-compulsive symptomatology before the lockdown, and background information were anonymously collected between March 26 and April 9 2020 on 660 Italian participants. Results Overall, participants reported a substantial increase of anxiety levels. Women reported more increased levels of anxiety symptoms than men. Increase of anxiety was also predicted by higher pre-existing levels of health anxiety and lower socio-economic status. Having lost the job was not associated with a perceived change in anxiety levels. Limitations Crosssectional design; sample of mostly female, young, highly educated, and not infected participants; use of self-report measures. Conclusions The results suggest the need to address mental health issues as a core element of the response to a pandemic, in order to prevent long-term social, psychological, and economic costs to society.

1. Introduction

The COVID-19 (SARS-CoV-2) disease is an infectious disease caused by a coronavirus, whose most common symptoms are fever, dry cough, fatigue, shortness of breath, and loss of smell and taste. While it can be often treated at home like a common flu, in some cases there might be severe complications, such as acute respiratory distress syndrome, that can cause death (World Health Organization [WHO], 2020a,b). This disease was unknown before December 2019, when an outbreak began in Wuhan, China. Being an airborne disease, it quickly spread worldwide, and the WHO declared it a pandemic on March 11, 2020. The rapid increase of cases in Northern Italy during the last week of February 2020 lead to quarantine two main regions and on March 8 the Prime Minister announced that the quarantine was extended nationwide. This decision imposed the lockdown of all businesses and activities that were not supplying basic goods and services. The population was forced to stay at home. Going outside was permitted for essential workers and necessary errands . Being the Italian national health care system open and free to everyone, the access to hospitals was regulated in order to prioritize the patients in most critical conditions that required urgent treatments, and the availability of intensive care beds soon showed to be inadequate.

At the end of March 2020, in Italy there were more than 100,000 confirmed cases and more than 10,000 deaths. During the early days of the pandemic, Italian news reported almost exclusively pandemic-related information, such as the high risk of contagion, the deadliness of the disease, the difficulties of the national and local governments in dealing with it, and nobody knew when the emergency, and, consequently, the lockdown would have ended. As pointed out by Wheaton et al. (2012), such media attention can be a double-edged sword, as the information about the risks of infection can promote healthy behaviors and reduce the spread of contagion, but it can lead to mass hysteria and fear, too. In March 2020, surveys (e.g. Nielsen, 2020) revealed that the situation in Italy was highly stressful for the whole population, as people became increasingly worried not only for their health and for their loved ones, but also for their jobs and finances. We thus hypothesized that these circumstances could lead to an increase in anxiety symptoms.

Anxiety can be defined as "an emotion characterized by apprehension and somatic symptoms of tension in which an individual anticipates

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impending danger, catastrophe, or misfortune" (American Psychological Association [APA], 2020). During a pandemic these symptoms may exacerbate. As reported by Rubin et al. (2009), one in four Britons reported a significant increase in anxiety during the 2009 H1N1 influenza outbreak. Other studies on the effects of pandemics on anxiety have reported that higher levels of anxiety are predicted by health anxiety (i.e., a form of anxiety that leads to interpret bodily sensations and changes as indicative of a disease (Taylor and Asmundson, 2004), to an overestimation of the likelihood of being infected, and to an inflated perception of the negative consequences of having a severe illness (Wheaton et al., 2010), contamination cognition, the tendency to exaggerate the likelihood and severity of contamination and to excessively monitor physical reactions, disgust sensitivity, and obsessive-compulsive symptoms or beliefs (Brand et al., 2013; Wheaton et al., 2012). The psychological consequences of pandemics can also be related to post-traumatic stress disorder (PTSD) and depression (e.g., Hawryluck et al., 2004).

A major role in developing a psychological distress during a pandemic is thought to be played by being quarantined (but see Wang et al., 2011). A review by Brooks et al. (2020) pointed out that the negative psychological effects of quarantine included PTSD symptoms, confusion, and anger, while risk factors were quarantine duration, infection fears, frustration, boredom, inadequate supplies, inadequate information, financial loss, and stigma. However, most of the studies reviewed enrolled health care workers, undergraduates, or infected individuals, and only a minority included the general population. The differences in sampling strategies, in the data collected, in the country where the study was performed, and in the specific pandemic considered make it hard to find conclusive results.

The investigation of the predictors of change in anxiety symptoms in quarantined individuals can be useful to understand the roots of the distress and the functional impairment that may occur in these circumstances. Previous studies (e.g., Wheaton et al., 2012) showed that one key factor is health anxiety. While moderate degrees of health anxiety are adaptive, excessive levels are not, as they can impair psychological, social, and occupational functioning, and lead to needless utilization of health care services (Asmundson and Taylor, 2007). As the COVID-19 is a highly contagious virus, the experts and the mass-media insistently recommended frequent hand washing and use of disinfectants to prevent infection. Such recommendations, however, might trigger fears of contamination comparable to the ones typically observed in individuals with obsessive-compulsive disorder (OCD), which can cause an overestimation of the likelihood of being contaminated and the dangerousness of the disease itself (Wheaton et al., 2012).

The aim of this study was to investigate the perceived change in anxiety symptoms and its predictors in the very first weeks of a quarantine in a non-clinical, non-infected sample (i.e., participants that did not report any COVID-19 symptoms at the time of the study). Most previous studies focused on quarantined individuals that had been infected or had a concrete possibility to have been infected. In these cases increased levels of anxiety can be expected mainly due to a higher perceived likelihood to be infected. Conversely, in this study we enrolled non-infected participants and administered them a questionnaire in order to investigate the predictive power of retrospectively rated levels of specific forms of anxiety (i.e., health anxiety, contamination fears, social anxiety), other dimensions of OCD, and depression, on the perceived change in anxiety levels during the quarantine, while controlling for background variables and exposure to infected individuals.

2. Method

2.1. Participants and procedure

A link to an online survey was sent to a list of 800 Italian adult personal and work contacts of the authors. Between March 26 and April 9, 2020, 755 participants anonymously accessed the survey, 95 of which reported not to have answered honestly to all questions. Their data was not used in subsequent analyses, which were performed on a sample of 660 participants (Table 1). The research was conducted in accordance with the Helsinki Declaration.

2.2. Measures

Participants were initially presented with a question that showed an informed consent form and asked whether they had read it and voluntary confirmed their willingness to participate. If they answered positively, they could access the questionnaires, that were presented in randomized order and included the Health Anxiety questionnaire (HAQ, Lucock and Morley, 1996), a newly developed social anxiety inventory (SAI; Author, in preparation), and the short versions of the Center for Epidemiologic Studies Depression Scale (CES-D; Andresen et al., 1994) and of the Obsessive–Compulsive Inventory (OCI; Foa et al., 2002). For these questionnaires, participants were asked to answer thinking about how they felt *before* the quarantine. Then they were presented with the Beck Anxiety Inventory (BAI, Beck et al., 1988) and asked to report if and how each symptom had changed since the beginning of the quarantine (-2= Much decreased, -1=A bit decreased, 0=Unchanged, +1=A bit increased, +2=Much increased). More details about these measures are reported in Section 1 of the Supplementary Materials (SM1). A form collecting background and exposure information was then administered (Table 1). Finally, participants were asked whether they answered carefully and honestly to all questions and were presented with a note on the final page that thanked them for participating and provided debriefing information and contact details for queries about the survey.

3. Results

Seven cases were excluded from the analyses as they reported being infected by the COVID-19. The BAI mean change score was significantly higher than 0, with a moderate effect size (one-sample t-test: $t(652)=14.17$, $p < .001$, $d = 0.55$ [0.47;0.63]), suggesting that participants perceived an increased level of anxiety. We performed the same analysis on item scores and those who showed a strong ($d>|0.80|$) increase were item5 ("Fear of worst happening"), item10 ("Nervous"), and item17 ("Scared") (Fig. 1).

We then computed bivariate associations of BAI scores with the other variables, and found that they were significantly associated with gender, age, relationship status, socioeconomic status (SES), occupational status during quarantine, living with parents, depression, health anxiety, obsessing, and hoarding (Table 1; SM2). These variables were subsequently entered as predictors in a general linear model predicting BAI scores. Results showed that women reported a higher increase in anxiety levels than men. While in all categories of occupation an increase in anxiety was observed, participants who lost their job did not report a significant change. The increase in anxiety was also predicted by higher levels of health anxiety and by lower levels of SES (Table 1; SM3).

4. Discussion

This study aimed at assessing the perceived change in anxiety symptoms and its predictors in a non-clinical and non-infected Italian sample in the very first weeks of the COVID-19 quarantine. Measuring the extent of this phenomenon and investigating the factors that contribute to it are useful in understanding how the population responds to large scale illness threats. While we were finalizing this manuscript, the WHO (2020b) published a document that reported an increase in symptoms of depression and anxiety in several countries, especially in women. The results of this study are consistent with those ones, as we found a substantial increase in anxiety that was higher in women. We also observed that a perceived increase in anxiety was significantly predicted by higher levels of health anxiety and lower levels of SES. Both results are consistent with previous studies. Health anxiety depends on how likely and how severe a feared illness is perceived to

Table 1
Descriptive statistics of the variables considered in this study, bivariate associations of Beck Anxiety Inventory (BAI) scores with the other variables (in *r* metric), and results of the general linear model (GLM) analysis predicting BAI scores. (in *r* metric). More details about these analyses are reported in the Supplementary Materials.

Variable	Statistic	Bivariate association coefficient	GLM effect size / EMMs
Gender identified with (N (%))	−.11** [−.19; −.03]	−.11** [−.18; −.03]	
Male	87 (13.18%)		*0.10 [0.00; 0.21]*[b]
Female	569 (86.21%)		*0.25 [0.20; 0.30]*[a]
Missing	4 (0.61%)		
Age (years; M ± SD, range)	31.08 ± 10.30 (18; 79)	−.15*** [−.23; −.08]	−.03 [−.11; .05]
Education (completed years; M ± SD, range)	15.44 ± 3.14 (5; 21)	−.01 [−.09; .06]	
Socioeconomic status (M ± SD, range)°	5.88 ± 1.66 (1; 10)	−.10* [−.18; −.02]	−.09* [−.17; −.01]
Relationship status (N (%))		.13** [.04; .20]^	.05 [.00; .12]
No relationship	173 (26.21%)		*0.16 [0.07; 0.24]*[a]
Stable relationship, no cohabiting	224 (33.94%)		*0.22 [0.13; 0.30]*[a]
Living with partner / spouse	263 (39.85%)		*0.16 [0.07; 0.24]*[a]
Occupational status during quarantine (N (%))°		.19*** [.08; .24]^	.15* [.00; .21]
Working as before	51 (7.73%)		*0.22 [0.08; 0.35]*[ab]
Working from home	166 (25.15%)		*0.24 [0.15; 0.32]*[a]
Forced to take time off	62 (9.39%)		*0.27 [0.15; 0.40]*[a]
Unemployement insurance	56 (8.48%)		*0.11 [-0.02; 0.23]*[ab]
Lost work	32 (4.85%)		*−0.03 [-0.20; 0.14]*[b]
Student	216 (32.73%)		*0.26 [0.18; 0.34]*[a]
Not working nor studying	77 (11.67%)		*0.17 [0.05; 0.29]*[ab]
People living with (N (%))			
Parents	299 (45.30%)	.14*** [.06; .21]	.02 [−.06; .10]
Children	123 (18.64%)	−.03 [−.11; .04]	
Partner	263 (39.85%)	NC[a]	
Relations	72 (10.91%)	.03 [−.05; .11]	
Friends	7 (1.06%)	NC	
Flatmates	26 (3.94%)	.03 [−.05; .10]	
Nobody	50 (7.58%)	−.05 [−.13; .03]	
Infected by Covid-19 (N (%))	NC		
No	653 (98.94%)		
Yes	7 (1.06%)		
Severity of infection (N (%))[a]		NC	
Asymptomatic	1 (0.15%)		
Weak symptoms	5 (0.76%)		
Moderate symptoms	1 (0.15%)		
People participant knows having being infected by Covid-19 (N (%))^			
Nobody	277 (41.97%)	−.01 [−.08; .07]	
Partner	3 (0.45%)	NC[b]	
Parent	7 (1.06%)	NC[b]	
Child	1 (0.15%)	NC[b]	
Sibling	1 (0.15%)	NC[b]	
Relation	30 (4.55%)	.07 [−.00; .15]	
Friend	85 (12.88%)	−.04 [−.12; .03]	
Colleague	49 (7.42%)	−.00 [−.08; .08]	
Acquaintance	312 (47.27%)	.05 [−.02; .13]	
Psychological measures (M ± SD, range, omega)			
CES-D	1.87 ± 0.61 (1.00; 4.00), .89	.08* [.00; .16]	−.03 [−.11; .04]
SAM	2.05 ± 0.57 (1.00; 3.86),.93	.06 [−.02; .14]	
HAS	1.67 ± 0.53 (1.00; 3.67),.96	.18*** [.11; .25]	.13*** [.06; .21]
OCI-Checking	0.60 ± 0.72 (1.00; 5.00),.83	.07 [−.00; .15]	
OCI-Washing	0.37 ± 0.61 (1.00; 5.00),.78	.04 [−.04; .11]	
OCI-Ordering	0.89 ± 0.92 (1.00; 5.00),.89	.03 [−.05; .11]	
OCI-Obsessing	1.04 ± 1.03 (1.00; 5.00),.92	.11** [.03; .19]	.03 [−.05; .10]
OCI-Neutralizing	0.28 ± 0.58 (1.00; 5.00),.88	−.02 [−.09; .06]	
OCI-Hoarding	0.98 ± 0.89 (1.00; 5.00),.87	.09* [.02; .17]	.04 [−.04; .12]
BAI	0.26 ± 0.48 (-2.00; 1.95),.95		

Note: ***: $p < .001$; **: $p < .01$; *: $p < .05$; N: observed count; %: percentage on the total (660); M: mean; SD: standard deviation; °: measured using Adler et al. (2000) subjective socioeconomic status scale

[a] : not considered since redundant with the information in the relationship status variable

[b] : not computed due to the low frequency of "yes" responses; omega: McDonald (1999) reliability index; unless otherwise specified, bivariate association coefficients are Pearson's *r*s with their 95% confidence interval [CI]; ^ square root of the eta-squared with its 95% CI; GLM effect sizes: General Linear Model effect sizes, that are the square root of eta-squareds (categorical predictors) or the partial correlations (metric predictors) along with their 95%CI; indented italicized values are Estimated Marginal Means (EMMs) with their 95% CI; the compact letter display notation has been used to highlight significant post-hoc tests for categorical predictors.

be (Wheaton et al., 2010), and a media portrayal of the COVID-19 as an easily communicable virus possibly induced a perception of a high likelihood of exposure and of becoming infected. The daily press conferences of health authorities reporting the count of new cases and deaths could also have contributed to an increase in health anxiety, and consequently, in anxiety symptoms. A few previous studies found that lower SES predicted higher anxiety (e.g., Mwinyi et al., 2017), and speculated that low SES may, in a vicious circle, contribute to an increase in anxiety. Although the cross-sectional design used here does not allow causal inferences, this result could be ascribed to several factors, potentially

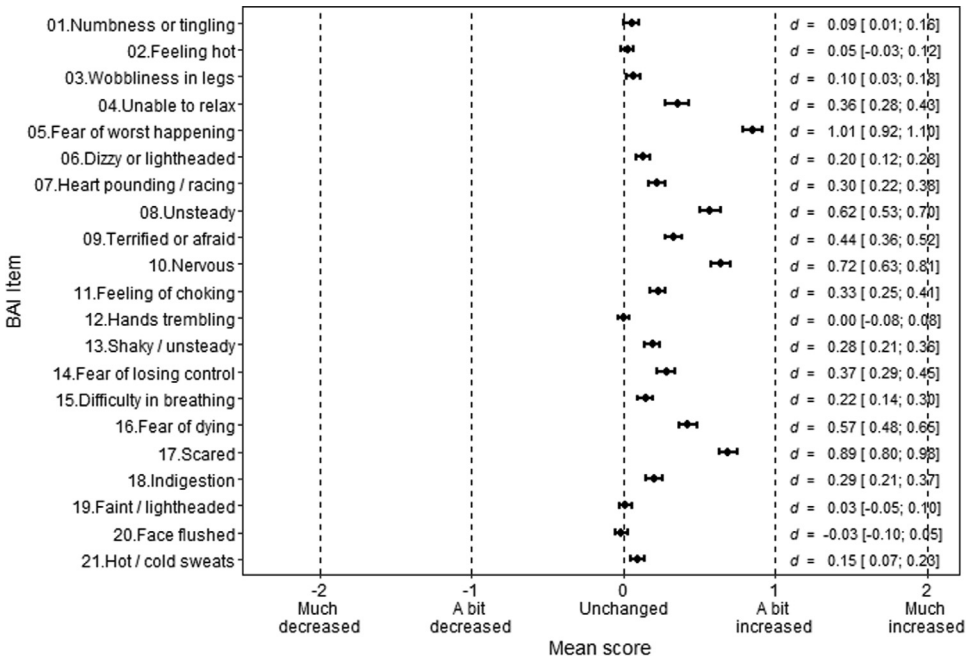

Fig. 1. Mean change scores of Beck Anxiety Inventory items and their effect size (difference from zero).

stressful and threatening in this situation, such as: have to face a lower income or a wider economic crisis; a perceived decreased possibility of receiving proper treatments in case of infection; having an inadequate living space where to spend the quarantine. However, having lost a job was not associated with a perceived change in anxiety symptoms: it is possible that some people felt relieved not to have to deal with the uncertainty of losing their job, and/or felt safer having the possibility of staying at home.

This work has some limitations. First, the generalizability of the results, since participants were recruited among the personal contacts of the authors. Although we sought to sample a group of participants as much diverse as possible in terms of background variables, they were mostly females, young, and highly educated. Second, the use of self-report measures might have caused an inflation of the relationships between study variables due to common method variance. Third, recall bias might have influenced the scores on the psychological predictors, and the scores on the perceived change in anxiety symptoms might have depended on the unknown participants' pre-quarantine level.

That said, the present research allowed an assessment of the psychological functioning of individuals in the early days of a pandemic-driven quarantine as it unfolded, and the results supported the WHO (2020b) claim that mental health needs must be treated as a core element of the response to a pandemic, since a failure to take them account can lead to long-term social, psychological, and economic costs to society.

Declaration of Competing Interest

The authors declare that they do not have any interests that could constitute a real, potential or apparent conflict of interest with respect to their involvement in the publication. The authors also declare that they do not have any financial or other relations (e.g. directorship, consultancy or speaker fee) with companies, trade associations, unions or groups (including civic associations and public interest groups) that may gain or lose financially from the results or conclusions in the study. The authors received no financial support for the research, authorship, and/or publication of this article.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.jadr.2021.100078.

References

Adler, N.E., Epel, E.S., Castellazzo, G., Ickovics, J.R., 2000. Relationship of subjective and objective social status with psychological and physiological functioning: Preliminary data in healthy white women. Health Psychol. 19 (6), 586–592. doi:10.1037/0278-6133.19.6.586.

American Psychological Association. (2020). Anxiety. In APA Dictionary of Psychology. https://dictionary.apa.org/anxiety

Andresen, E.M., Malmgren, J.A., Carter, W.B., Patrick, D.L., 1994. Screening for depression in well older adults: evaluation of a short form of the CES-D (Center for Epidemiologic Studies Depression Scale). Am. J. Prevent. Med. 10 (2), 77–84. doi:10.1016/S0749-3797(18)30622-6.

Asmundson, G.J.G., Taylor, S, 2007. Health anxiety and its disorders. In: Hersen, M., Rosqvist, J. (Eds.), Handbook of Assessment, Conceptualization, and Treatment. Wiley, pp. 701–727.

Beck, A.T., Epstein, N., Brown, G., Steer, R.A., 1988. An inventory for measuring clinical anxiety: psychometric properties. J. Consult. Clin. Psychol. 56 (6), 893–897. doi:10.1037//0022-006x.56.6.893.

Brand, J., McKay, D., Wheaton, M.G., Abramowitz, J.S., 2013. The relationship between obsessive compulsive beliefs and symptoms, anxiety and disgust sensitivity, and Swine Flu fears. J. Obsessive-Compuls. Relat. Disord. 2 (2), 200–206. doi:10.1016/j.jocrd.2013.01.007.

Brooks, S.K., Webster, R.K., Smith, L.E., Woodland, L., Wessely, S., Greenberg, N., Rubin, G.J., 2020. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. Lancet 395 (10227), 912–920. doi:10.1016/S0140-6736(20)30460-8.

Foa, E.B., Huppert, J.D., Leiberg, S., Langner, R., Kichic, R., Hajcak, G., Salkovskis, P.M., 2002. The obsessive-compulsive inventory: development and validation of a short version. Psychol. Assess. 14 (4), 485–496. doi:10.1037/1040-3590.14.4.485.

Hawryluck, L., Gold, W.L., Robinson, S., Pogorski, S., Galea, S., Styra, R., 2004. SARS control and psychological effects of quarantine, Toronto, Canada. Emerg. Infect. Dis. 10 (7), 1206–1212. doi:10.3201/eid1007.030703.

Lucock, M.P., Morley, S., 1996. The health anxiety questionnaire. Br. J. Health Psychol. 1, 137–150. doi:10.1111/j.2044-8287.1996.tb00498.x.

McDonald, R.P., 1999. Test Theory: a Unified Treatment. Lawrence Erlbaum Associates Publishers, New York.

Mwinyi, J., Pisanu, C., Castelao, E., Stringhini, S., Preisig, M., Schiöth, H.B., 2017. Anxiety disorders are associated with low socioeconomic status in women but not in men. Women's Health Issues 27 (3), 302–307. doi:10.1016/j.whi.2017.01.001.

Nielsen (2020, March 14). Coronavirus: Il pensiero degli italiani post DPCM. https://www.nielsen.com/it/it/insights/article/2020/coronavirus-il-pensiero-degli-italiani-post-dpcm/

Rubin, G.J., Amlôt, R., Page, L., Wessely, S., 2009. Public perceptions, anxiety, and behaviour change in relation to the swine flu outbreak: cross sectional telephone survey. BMJ 339, b2651. doi:10.1136/bmj.b2651.

Taylor, S., Asmundson, G.J.G., 2004. Treating Health Anxiety: a Cognitive-Behavioral Approach. Guilford.

Wang, Y., Xu, B., Zhao, G., Cao, R., He, X., Fu, S., 2011. Is quarantine related to immediate negative psychological consequences during the 2009 H1N1 epidemic? Gen. Hosp. Psychiatry 33 (1), 75–77. doi:10.1016/j.genhosppsych.2010.11.001.

Wheaton, M.G., Abramowitz, J.S., Berman, N.C., Fabricant, L.E., Olatunji, B.O., 2012. Psychological predictors of anxiety in response to the H1N1 (swine flu) pandemic. Cognit. Ther. Res. 36 (3), 210–218. doi:10.1007/s10608-011-9353-3.

Wheaton, M.G., Berman, N.C., Franklin, J.C., Abramowitz, J.S., 2010. Health anxiety: latent structure and associations with anxiety-related psychological processes in a student sample. J. Psychopathol. Behav. Assess. 32, 565–574. doi:10.1007/s10862-010-9179-4.

World Health Organization. (2020a). Q&A on coronaviruses (COVID-19). April 17, 2020. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/q-a-coronaviruses.

World Health Organization. (2020b). Substantial investment needed to avert mental health crisis. May 14, 2020. https://www.who.int/news-room/detail/14-05-2020-substantial-investment-needed-to-avert-mental-health-crisis.

Supplementary Materials for the paper

Early impact of Covid-19 quarantine on the perceived change of anxiety symptoms in a non-clinical, non-infected Italian sample

SM1 Description of the of psychological measures

Obsessive-Compulsive Inventory-Short Form (OCI, Foa et al., 2002). The OCI-SF is a shortened version of the original OCI (Foa et al., 1998). It comprises 18 items that describe everyday experiences. Participants are asked to rate the extent to which they have been distressed or bothered by such experiences in the past month using a 5-point, Likert-type scale (0 = "Not at all"; 4 = "Extremely"). The OCI-SF provides scores on six dimensions of the obsessive-compulsive symptomatology: Checking (i.e., compulsions to check things that are associated with harm or danger), Washing (i.e., cleaning and/or hand-washing compulsions to avoid contamination), Ordering (i.e., discomfort when objects are not set up in the "correct" way), Hoarding (i.e., fear of the negative consequences of throwing possessions away), Obsessing (i.e., intrusive thoughts that cause severe distress), and Neutralizing (i.e., numbers and counting-complaints). The Italian version of the OCI-SF showed adequate factor structure, internal consistency, and criterion and construct validity (Sica et al., 2009). For the purposes of this study, the instructions were modified in order to make participants rate the items while referring to their life before the quarantine. A test of the factor structure of the OCI-SF carried out on the data of this study revealed an optimal fit of the six-correlated-factor model (Diagonally Weighted Least Square estimator, $\chi^2(120) = 336.639$, $p < .001$, Comparative Fit Index [CFI]= .997, Tucker-Lewis Index [TLI] = .996, Root Mean Square Error od Approximation [RMSEA] = .035 [.027-.042])[1].

[1] Model fit was evaluated using Marsh et al. (2004) recommendations, i.e., we considered as indices of acceptable and optimal fit values of CFI and TLI higher than .90 and .95, respectively, and values of RMSEA lower than .08 e and .06, respectively.

Centre for Epidemiological Studies Depression Scale, 10 item version (CES-D; Andresen et al., 1994). The CES-D used in this study is the 10-item version of the original 20-item CES-D (Radloff, 1977) and it is a widely used screening tool for depressive symptomatology. Participants are asked to rate how often they have felt as described in the items during the past week on a 4-point, Likert-type scale (1 = "Rarely or none of the time"; 4 = "Most or all of the time"). For the purposes of this study, the instructions were modified in order to make participants rate the items while referring to their life before the quarantine. The items were taken from the Italian 20-item version by Fava (1983). This version showed adequate criterion and construct validity, as it adequately discriminated between depressed ad non-depressed participants and its score satisfactorily correlated with that on the Hamilton Rating Scale for Depression (Hamilton, 1960). A test of its factor structure carried out on the data of this study revealed an adequate fit of the one-factor model (Diagonally Weighted Least Square estimator, $\chi^2(35) = 180.029$, $p < .001$, CFI = .981, TLI = .975, RMSEA = .080 [.068-.091]).

Health Anxiety Questionnaire (HAQ, Lucock & Morley, 1996). The HAQ is a 21-item questionnaire that assesses concern about health in the absence of an illness or excessive concern when there is some degree of illness. The items are worded as questions about preoccupation or fear of diseases and death, and participants are asked to rate how often they usually experience them on a 4-point, Likert-type scale (1 = "Rarely or never"; 4 = "Almost always"). For the purposes of this study, the instructions were modified in order to make participants rate the items while referring to their life before the quarantine. Both the original and Italian (Melli et al., 2007) validation studies suggested a 4-factor measurement model (Health worry and preoccupation, Fear of illness and death, Reassurance-seeking behavior, Interference with life) derived from exploratory factor analyses. However, these authors seemed to have overlooked the lack of simple structure of their pattern matrices, and, at least

for the Italian version, the high inter-scale correlations, that could be as high as .70. This was actually the case also in this study, as showed in Table SM1.1.

Table SM1.1. Correlation matrix of Health Anxiety Questionnaire scale scores in this study.

	Fear of illness and death	Interference with life	Health worry
Interference with life	.52*** [.46; .58]		
Health worry	.83*** [.80; .85]	.78*** [.75; .81]	
Reassurance-seeking	.57*** [.52; .62]	.50*** [.45; .56]	.78*** [.75; .81]

Note: n = 653; ***: $p < .001$.

Since we planned to use HAQ scores as predictors in a general linear model, we sought to avoid to run in collinearity issues. We then tested a single-factor measurement model for the HAQ items, and found it adequately fitting, although the RSMEA exceeded the threshold for being acceptable (Diagonally Weighted Least Square estimator, $\chi^2(189) = 1223.243$, $p < .001$, CFI = .983, TLI = .981, RMSEA = .092 [.087-.097]). However, we maintained a single score as all standardized factor loading estimates ranged from .459 to .876 and indices of "essential unidimensionality" (Rodriguez et al., 2016) exceeded their recommended thresholds: McDonald (1999) *omega* = .96 (recommended threshold: .90; Rodriguez et al., 2016), construct reliability (or construct replicability) *H* = .95 (recommended threshold: .70; Hancock & Mueller, 2001), and factor determinacy = .98 (recommended threshold: .90, Gorsuch, 1983). This result suggested to compute a single score for the HAQ.

Social Anxiety Inventory (SAI; Author, in preparation). The SAI is a newly developed measure of social anxiety. It was developed through secondary analysis of data from another study (Baroni et al., 2019), in which a battery including self-report measures of depression (Beck Depression Inventory-II [BDI], Beck et al., 1996; Italian version in Sica & Ghisi, 2007), anxiety (Beck Anxiety Inventory [BAI], Beck et al., 1988; Italian version in Sica & Ghisi, 2007), worry (Penn State Worry Questionnaire [PSWQ]; Meyer et al., 1990; Italian

version in Morani et al., 1999), obsessive-compulsive symptomatology (Maudsley Obsessional Compulsive Questionnaire [MOCQ], Hodgson & Rachman, 1977; Italian version in Sanavio & Vidotto, 1985), and social anxiety was administered to 257 Italian patients who met DSM-IV-TR (American Psychiatric Association, 2000) criteria for Social Anxiety Disorder and 356 Italian community participants. The measures of social anxiety were the self-report version of the Liebowitz Social Anxiety Scale (Liebowitz, 1987, Italian version in (Baroni et al., 2019), the Social Phobia Scale (Mattick & Clarke, 1998; Italian version in Sica et al., 2007), the Social Interaction Anxiety Scale (Mattick & Clarke, 1998; Italian version in Sica et al., 2007), and the Social Phobia Inventory (Connor et al., 2000; Italian version in Gori et al., 2013). The items of these measures were merged into a single item pool, and a correlation matrix of item scores was computed on data from a pooled sample after partialing out group membership (patient vs community participants) in order to avoid the likely inflation of correlation coefficients due to population heterogeneity. This correlation matrix was screened for redundancies (i.e., pairs of items whose correlation was larger than |.70|). Redundant items were removed from the item pool, and the remaining set of 73 items proved to be substantially unidimensional. In order to develop a short measure that covered all the relevant operationalizations of social anxiety, exploratory factor analyses were carried out. The optimal solution was a single-factor one, but retaining the items with the highest absolute loadings on the single factor would have meant to select the items with the highest inter-correlations and, consequently, with very similar content, thus narrowing the content coverage of the scale. Instead, a series of multiple factor solutions were evaluated, in order to detect groups of items that showed relatively higher correlations within themselves than with the others. Of course, this procedure led to highly intercorrelated factors, but the aim was to find the minimum number of factors that had at least one item loading substantively and

exclusively on each of them. Fourteen factors met this criterion, and from each factor the item with the highest loading was included in the SAI. The SAI items are shown in Table SM1.2

Table SM1.2 Social Anxiety Inventory items

Original scale and item number	Item content
LSAS04	Drinking with others
LSAS15	Being the center of attention
LSAS05	Talking to someone in authority
LSAS07	Going to a party
LSAS08	Working while being observed
LSAS17	Taking a test of your ability, skill, or knowledge
LSAS18	Expressing disagreement or disapproval to someone you don't know very well
LSAS20	Giving a prepared oral talk to a group
LSAS22	Returning goods to a store for a refund
SIAS09	I have difficulty talking with other people
SPIN05	Being criticized scares me a lot.
SPIN17	Trembling or shaking in front of others is distressing to me
SPS12	I am worried people will think my behaviour odd
SPS17	I can feel conspicuous standing in a queue

Note: LSAS = Liebowitz Social Anxiety Scale (Liebowitz, 1987); SIAS = Social Interaction Anxiety Scale (Mattick & Clarke, 1998); SPIN = Social Phobia Inventory (Connor et al., 2000); SPS = Social Phobia Scale (Mattick & Clarke, 1998)

The SAI showed excellent criterion validity, as the effect size of the difference of mean scores among patients and community participants was $d = 2.41$ [2.19; 2.63]. In either sample, the SAI showed correlations in the .50s with the measures of depression, anxiety, and worry, and in the .30s with the measure of obsessive-compulsive symptomatology.

In this study the SAI instructions asked participants to read the items and to rate on 4-point, Likert-type scale (1 = "No anxiety"; 4 = "A lot of anxiety") how anxious or fearful they feel in that situation before the quarantine. If the items described a situation they ordinarily did not experience, participants were asked to imagine "what if they had faced with that situation," and then rate the degree to which they would fear this hypothetical situation. A test of the factor structure of the SAI carried out on the data of this study revealed an adequate fit

of the one-factor model (Diagonally Weighted Least Square estimator, $\chi^2(91) = 268.000$, $p < .001$, CFI = .977, TLI = .973, RMSEA = .062 [.054-.070]).

Beck Anxiety Inventory (BAI, Beck et al., 1988). The BAI a widely used measure of clinical anxiety. It lists 21 common symptoms of anxiety, and participants are asked to rate how much they have been bothered by that symptom during the past month on a 4-point, Likert-type scale (0 = "Not at all"; 3 = "Severely - it bothered me a lot"). For the purposes of this study, the instructions were modified in order to make participants rate the items on how much these symptoms changed (-2 = "Much decreased"; -1 = "A bit decreased"; 0 = "Unchanged"; +1 = "A bit increased"; +2 = "Much increased") since the beginning of the quarantine. The Italian version of the scale showed excellent psychometric properties, as Sica and Ghisi (2007) found strong support for a higher order unidimensional structure, convergent and discriminant validity, and discriminative power for distinguishing patients from non-clinical individuals. In this study the one-factor model showed optimal values for CFI and TLI ($\chi^2(189) = 70247.143$, $p < .001$, CFI = .972, TLI = .969) but not for RMSEA = .125 [.121-.130]. However, we maintained a single score as all standardized factor loading estimates ranged from .603 to .837, a two-factor solution yielded two highly correlated factors ($r = .62$) and a lack of simple structure, and indices of "essential unidimensionality" (Rodriguez et al., 2016) exceeded their recommended thresholds: *omega* = .95, *H* = .94, and factor determinacy = .98.

SM2 Detailed results of the bivariate association tests

Table SM2.1 Bivariate association of Beck Anxiety Inventory (BAI) scores with gender.

Effect	SS	df	F	p
Intercept	45.50	1	201.88	<.001
Gender	1.82	1	8.09	.005
Residuals	145.81	647		

Note: SS: Sum of squares (deviance); df: degrees of freedom; F: *F*-value; *p*: p-value

Table SM2.2 Estimated marginal means for the bivariate association of Beck Anxiety Inventory (BAI) scores with gender.

Group	EMM	SE	Lower.CL	Upper.CL
Female	0.28	0.02	0.25	0.32
Male	0.13	0.05	0.03	0.23

Note: EMM: estimated marginal mean; SE: standard error; Lower/Upper.CL: Lower/Upper 95% Confidence Limit

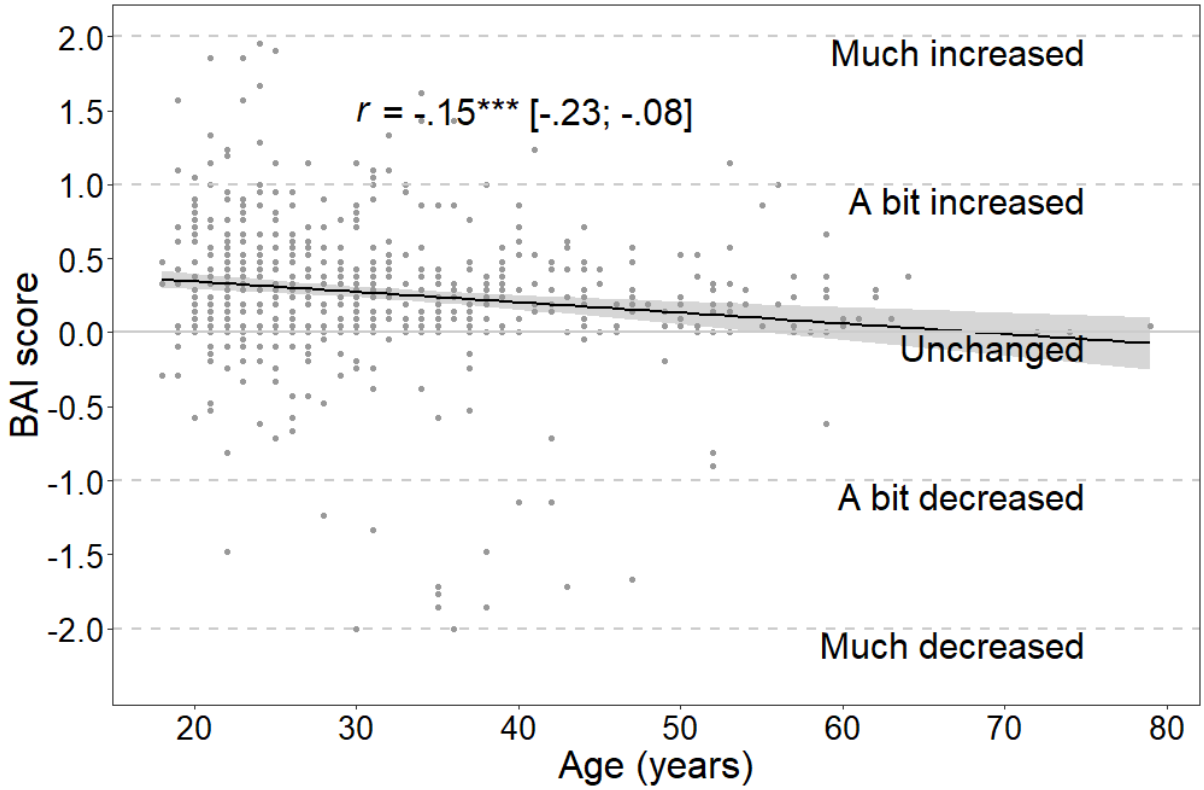

Figure SM2.1 Bivariate association of Beck Anxiety Inventory (BAI) score with age

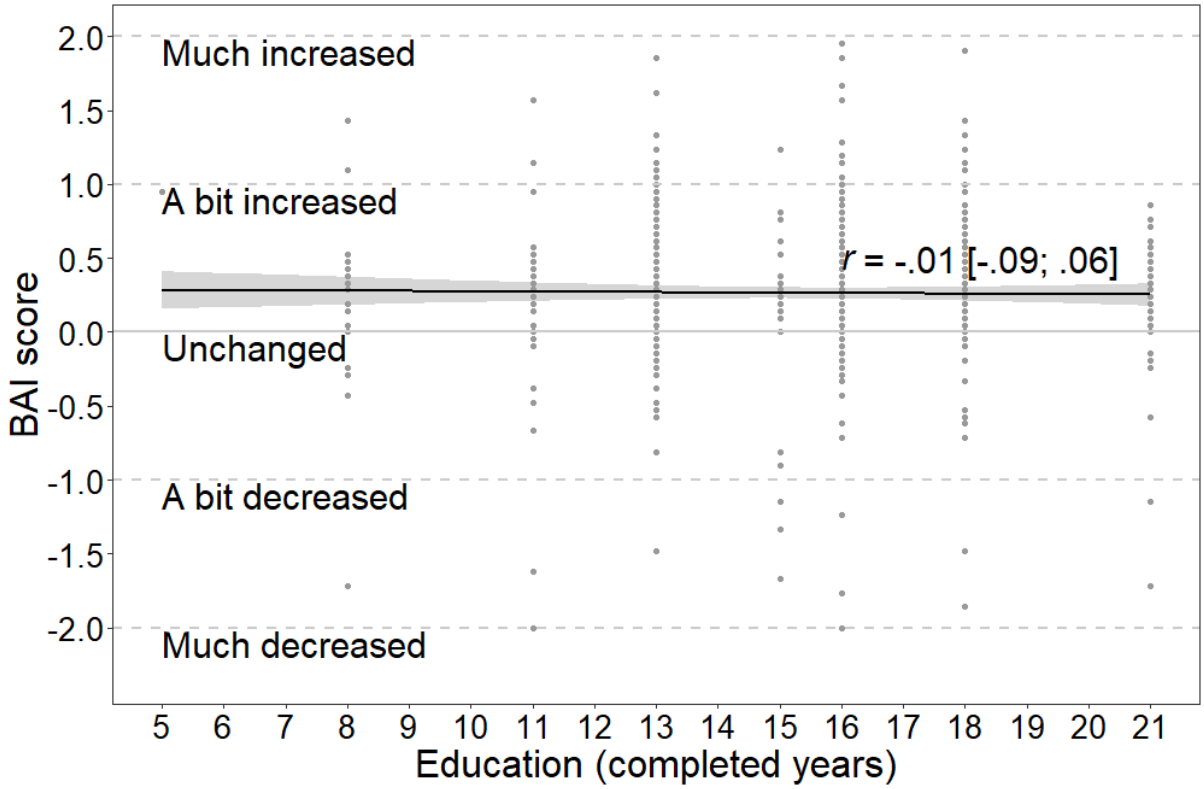

Figure SM2.2 Bivariate association of Beck Anxiety Inventory (BAI) score with education

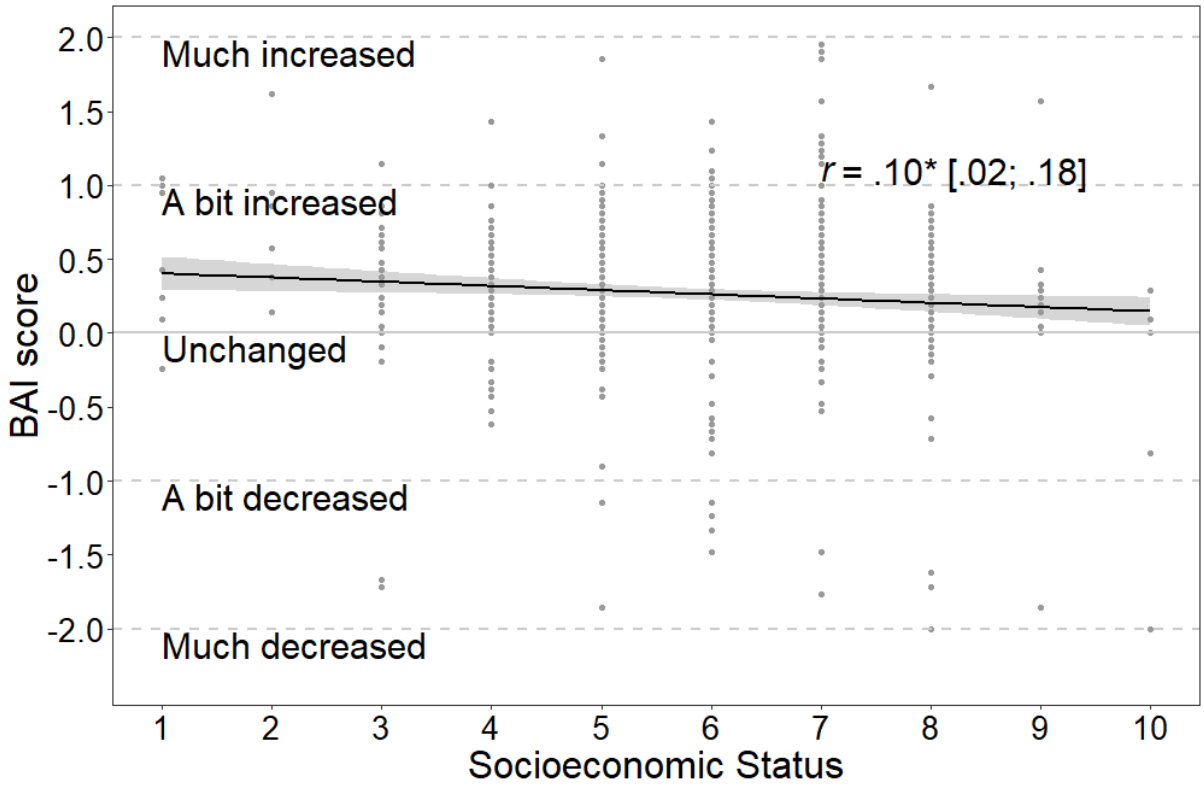

Figure SM2.3 Bivariate association of Beck Anxiety Inventory (BAI) score with socioeconomic status (measured as in Adler et al., 2000)

Table SM2.3 Bivariate association of Beck Anxiety Inventory (BAI) scores with relationship status.

Effect	SS	df	F	p
Intercept	10.69	1	47.59	<.001
Relationship Status	2.37	2	5.28	.005
Residuals	146.05	650		

Note: SS: Sum of squares (deviance); df: degrees of freedom; F: *F*-value; *p*: p-value

Table SM2.4 Estimated marginal means for the bivariate association of Beck Anxiety Inventory (BAI) scores with relationship status.

Group	EMM	SE	Lower.CL	Upper.CL	CLD
No relationship	0.25	0.04	0.18	0.33	ab
Stable relationship, no cohabiting	0.34	0.03	0.28	0.41	a
Living with partner / spouse	0.20	0.03	0.15	0.26	b

Note: EMM: estimated marginal mean; SE: standard error; Lower/Upper.CL: Lower/Upper 95% Confidence Limit; CLD: compact letter display for indicating significant differences.

Table SM2.5 Post-hoc tests results for the bivariate association of Beck Anxiety Inventory (BAI) scores with relationship status.

Contrast	Estimate	SE	df	t	p	d [95% CI]
Living with partner / spouse - Stable relationship, no cohabiting	-0.14	0.04	650	-3.23	.004	0.25 [0.07; 0.43]
Living with partner / spouse - No relationship	-0.05	0.05	650	-1.08	.525	0.09 [-0.11; 0.28]
Stable relationship, no cohabiting - No relationship	0.09	0.05	650	1.87	.149	0.15 [-0.05; 0.35]

Note: SE: standard error; df: degrees of freedom; t: *t*-value; p: p-value, Tukey adjustment method for comparing a family of 3 estimates; d [95% CI]: Absolute value of Cohen's *d* and its 95% confidence interval.

Table SM2.6 Bivariate association of Beck Anxiety Inventory (BAI) scores with occupational status during quarantine.

Effect	SS	df	F	p
Intercept	6.08	1	27.42	<.001
Occupational Status	5.25	6	3.95	.001
Residuals	143.17	646		

Note: SS: Sum of squares (deviance); df: degrees of freedom; F: *F*-value; *p*: p-value

Table SM2.7 Estimated marginal means for the bivariate association of Beck Anxiety Inventory (BAI) scores with occupational status during quarantine.

Group	EMM	SE	Lower.CL	Upper.CL	CLD
Working as before	0.23	0.07	0.09	0.36	ab
Working from home	0.23	0.04	0.16	0.30	ab
Forced to take time off	0.32	0.06	0.20	0.44	ab
Unemployement insurance	0.15	0.06	0.02	0.27	b
Lost work	0.03	0.08	-0.14	0.19	b
Student	0.36	0.03	0.30	0.43	a
Not working nor studying	0.23	0.05	0.13	0.34	ab

Note: EMM: estimated marginal mean; SE: standard error; Lower/Upper.CL: Lower/Upper 95% Confidence Limit; CLD: compact letter display for indicating significant differences.

Table SM2.8 Post-hoc tests results for the bivariate association of Beck Anxiety Inventory (BAI) scores with occupational status during quarantine.

Contrast	Estimate	SE	df	t	p	d [95% CI]
Forced to take time off-Working from home	0.09	0.07	646	1.28	.861	0.11 [-0.18; 0.41]
Forced to take time off-Unemployement insurance	0.17	0.09	646	1.97	.437	0.15 [-0.21; 0.52]
Forced to take time off-Lost work	0.29	0.10	646	2.81	.076	0.23 [-0.20; 0.67]
Forced to take time off-Working as before	0.09	0.09	646	1.02	.949	0.08 [-0.30; 0.46]
Forced to take time off-Not working nor studying	0.09	0.08	646	1.07	.938	0.08 [-0.25; 0.42]
Forced to take time off-Student	-0.05	0.07	646	-0.68	.994	0.06 [-0.22; 0.35]
Working from home-Unemployement insurance	0.08	0.07	646	1.12	.923	0.10 [-0.20; 0.40]
Working from home-Lost work	0.20	0.09	646	2.19	.304	0.24 [-0.15; 0.62]
Working from home-Working as before	0.00	0.08	646	0.03	1.000	0.00 [-0.32; 0.32]
Working from home-Not working nor studying	0.00	0.06	646	-0.07	1.000	0.01 [-0.26; 0.28]
Working from home-Student	-0.14	0.05	646	-2.82	.073	0.22 [0.02; 0.43]
Unemployement insurance-Lost work	0.12	0.11	646	1.14	.916	0.09 [-0.35; 0.53]
Unemployement insurance-Working as before	-0.08	0.09	646	-0.86	.978	0.07 [-0.32; 0.45]
Unemployement insurance-Not working nor studying	-0.09	0.08	646	-1.04	.946	0.08 [-0.26; 0.43]
Unemployement insurance-Student	-0.22	0.07	646	-3.09	.034	0.30 [0.00; 0.59]
Lost work-Working as before	-0.20	0.11	646	-1.85	.518	0.15 [-0.30; 0.60]
Lost work-Not working nor studying	-0.21	0.10	646	-2.06	.381	0.18 [-0.24; 0.60]
Lost work-Student	-0.34	0.09	646	-3.74	.004	0.44 [0.06; 0.82]
Working as before-Not working nor studying	-0.01	0.09	646	-0.07	1.000	0.01 [-0.35; 0.36]
Working as before-Student	-0.14	0.07	646	-1.87	.503	0.19 [-0.12; 0.50]
Not working nor studying-Student	-0.13	0.06	646	-2.12	.340	0.19 [-0.07; 0.45]

Note: SE: standard error; df: degrees of freedom; t: *t*-value; p: p-value, Tukey adjustment method for comparing a family of 7 estimates; d [95% CI]: Absolute value of Cohen's *d* and its 95% confidence interval.

Table SM2.9 Bivariate association of Beck Anxiety Inventory (BAI) scores with living with parents.

Effect	SS	df	F	p
Intercept	14.85	1	66.42	<.001
Living with parents	2.85	1	12.76	<.001
Residuals	145.57	651		

Note: SS: Sum of squares (deviance); df: degrees of freedom; F: *F*-value; *p*: p-value

Table SM2.10 Estimated marginal means for the bivariate association of Beck Anxiety Inventory (BAI) scores with living with parents.

Group	EMM	SE	Lower.CL	Upper.CL
No	0.20	0.03	0.16	0.25
Yes	0.34	0.03	0.28	0.39

Note: EMM: estimated marginal mean; SE: standard error; Lower/Upper.CL: Lower/Upper 95% Confidence Limit

Table SM2.11 Bivariate association of Beck Anxiety Inventory (BAI) scores with living with children.

Effect	SS	df	F	p
Intercept	39.34	1	172.72	<.001
Living with children	0.15	1	0.67	.413
Residuals	148.27	651		

Note: SS: Sum of squares (deviance); df: degrees of freedom; F: *F*-value; *p*: p-value

Table SM2.12 Estimated marginal means for the bivariate association of Beck Anxiety Inventory (BAI) scores with living with children.

Group	EMM	SE	Lower.CL	Upper.CL
No	0.27	0.02	0.23	0.31
Yes	0.23	0.04	0.15	0.32

Note: EMM: estimated marginal mean; SE: standard error; Lower/Upper.CL: Lower/Upper 95% Confidence Limit

Table SM2.13 Bivariate association of Beck Anxiety Inventory (BAI) scores with living with relations.

Effect	SS	df	F	p
Intercept	39.12	1	171.75	<.001
Living with relations	0.14	1	0.61	.434
Residuals	148.28	651		

Note: SS: Sum of squares (deviance); df: degrees of freedom; F: *F*-value; *p*: p-value

Table SM2.14 Estimated marginal means for the bivariate association of Beck Anxiety Inventory (BAI) scores with living with relations.

Group	EMM	SE	Lower.CL	Upper.CL
No	0.26	0.02	0.22	0.30
Yes	0.31	0.06	0.20	0.42

Note: EMM: estimated marginal mean; SE: standard error; Lower/Upper.CL: Lower/Upper 95% Confidence Limit

Table SM2.15 Bivariate association of Beck Anxiety Inventory (BAI) scores with living with friends.

Effect	SS	df	F	p
Intercept	45.77	1	200.95	<.001
Living with friends	0.14	1	0.63	.428
Residuals	148.28	651		

Note: SS: Sum of squares (deviance); df: degrees of freedom; F: *F*-value; *p*: p-value

Table SM2.16 Estimated marginal means for the bivariate association of Beck Anxiety Inventory (BAI) scores with living with friends.

Group	EMM	SE	Lower.CL	Upper.CL
No	0.27	0.02	0.23	0.30
Yes	0.12	0.18	-0.23	0.48

Note: EMM: estimated marginal mean; SE: standard error; Lower/Upper.CL: Lower/Upper 95% Confidence Limit

Table SM2.17 Bivariate association of Beck Anxiety Inventory (BAI) scores with living with flatmates.

Effect	SS	df	F	p
Intercept	43.02	1	188.84	<.001
Living with flatmates	0.12	1	0.50	.479
Residuals	148.31	651		

Note: SS: Sum of squares (deviance); df: degrees of freedom; F: *F*-value; *p*: p-value

Table SM2.18 Estimated marginal means for the bivariate association of Beck Anxiety Inventory (BAI) scores with living with flatmates.

Group	EMM	SE	Lower.CL	Upper.CL
No	0.26	0.02	0.23	0.30
Yes	0.33	0.09	0.15	0.51

Note: EMM: estimated marginal mean; SE: standard error; Lower/Upper.CL: Lower/Upper 95% Confidence Limit

Table SM2.19 Bivariate association of Beck Anxiety Inventory (BAI) scores with living with nobody.

Effect	SS	df	F	p
Intercept	44.40	1	195.19	<.001
Living with nobody	0.35	1	1.56	.213
Residuals	148.07	651		

Note: SS: Sum of squares (deviance); df: degrees of freedom; F: *F*-value; *p*: p-value

Table SM2.20 Estimated marginal means for the bivariate association of Beck Anxiety Inventory (BAI) scores with living with nobody.

Group	EMM	SE	Lower.CL	Upper.CL
No	0.27	0.02	0.23	0.31
Yes	0.18	0.07	0.05	0.32

Note: EMM: estimated marginal mean; SE: standard error; Lower/Upper.CL: Lower/Upper 95% Confidence Limit

Table SM2.21 Bivariate association of Beck Anxiety Inventory (BAI) scores with knowing nobody that has been infected.

Effect	SS	df	F	p
Intercept	27.01	1	118.46	<.001
Knowing nobody infected	0.01	1	0.04	.851
Residuals	148.42	651		

Note: SS: Sum of squares (deviance); df: degrees of freedom; F: *F*-value; *p*: p-value

Table SM2.22 Estimated marginal means for the bivariate association of Beck Anxiety Inventory (BAI) scores with knowing nobody that has been infected.

Group	EMM	SE	Lower.CL	Upper.CL
No	0.27	0.02	0.22	0.32
Yes	0.26	0.03	0.20	0.32

Note: EMM: estimated marginal mean; SE: standard error; Lower/Upper.CL: Lower/Upper 95% Confidence Limit

Table SM2.23 Bivariate association of Beck Anxiety Inventory (BAI) scores with knowing that a relation has been infected.

Effect	SS	df	F	p
Intercept	41.09	1	181.24	<.001
Relation infected	0.83	1	3.66	.056
Residuals	147.60	651		

Note: SS: Sum of squares (deviance); df: degrees of freedom; F: *F*-value; *p*: p-value

Table SM2.24 Estimated marginal means for the bivariate association of Beck Anxiety Inventory (BAI) scores with knowing that a relation has been infected.

Group	EMM	SE	Lower.CL	Upper.CL
No	0.26	0.02	0.22	0.29
Yes	0.43	0.09	0.26	0.60

Note: EMM: estimated marginal mean; SE: standard error; Lower/Upper.CL: Lower/Upper 95% Confidence Limit

Table SM2.25 Bivariate association of Beck Anxiety Inventory (BAI) scores with knowing that a friend has been infected.

Effect	SS	df	F	p
Intercept	42.35	1	186.14	<.001
Friend infected	0.30	1	1.30	.254
Residuals	148.13	651		

Note: SS: Sum of squares (deviance); df: degrees of freedom; F: *F*-value; *p*: p-value

Table SM2.26 Estimated marginal means for the bivariate association of Beck Anxiety Inventory (BAI) scores with knowing that a friend has been infected.

Group	EMM	SE	Lower.CL	Upper.CL
No	0.27	0.02	0.23	0.31
Yes	0.21	0.05	0.11	0.31

Note: EMM: estimated marginal mean; SE: standard error; Lower/Upper.CL: Lower/Upper 95% Confidence Limit

Table SM2.27 Bivariate association of Beck Anxiety Inventory (BAI) scores with knowing that a colleague has been infected.

Effect	SS	df	F	p
Intercept	42.42	1	186.04	<.001
Colleague infected	0.00	1	0.00	.979
Residuals	148.42	651		

Note: SS: Sum of squares (deviance); df: degrees of freedom; F: *F*-value; *p*: p-value

Table SM2.28 Estimated marginal means for the bivariate association of Beck Anxiety Inventory (BAI) scores with knowing that a colleague has been infected.

Group	EMM	SE	Lower.CL	Upper.CL
No	0.27	0.02	0.23	0.31
Yes	0.21	0.05	0.11	0.31

Note: EMM: estimated marginal mean; SE: standard error; Lower/Upper.CL: Lower/Upper 95% Confidence Limit

Table SM2.29 Bivariate association of Beck Anxiety Inventory (BAI) scores with knowing that an acquaintance has been infected.

Effect	SS	df	F	p
Intercept	19.71	1	86.69	<.001
Acquaintance infected	0.43	1	1.91	.167
Residuals	147.99	651		

Note: SS: Sum of squares (deviance); df: degrees of freedom; F: *F*-value; *p*: p-value

Table SM2.30 Estimated marginal means for the bivariate association of Beck Anxiety Inventory (BAI) scores with knowing that an acquaintance has been infected.

Group	EMM	SE	Lower.CL	Upper.CL
No	0.24	0.03	0.19	0.29
Yes	0.29	0.03	0.24	0.35

Note: EMM: estimated marginal mean; SE: standard error; Lower/Upper.CL: Lower/Upper 95% Confidence Limit

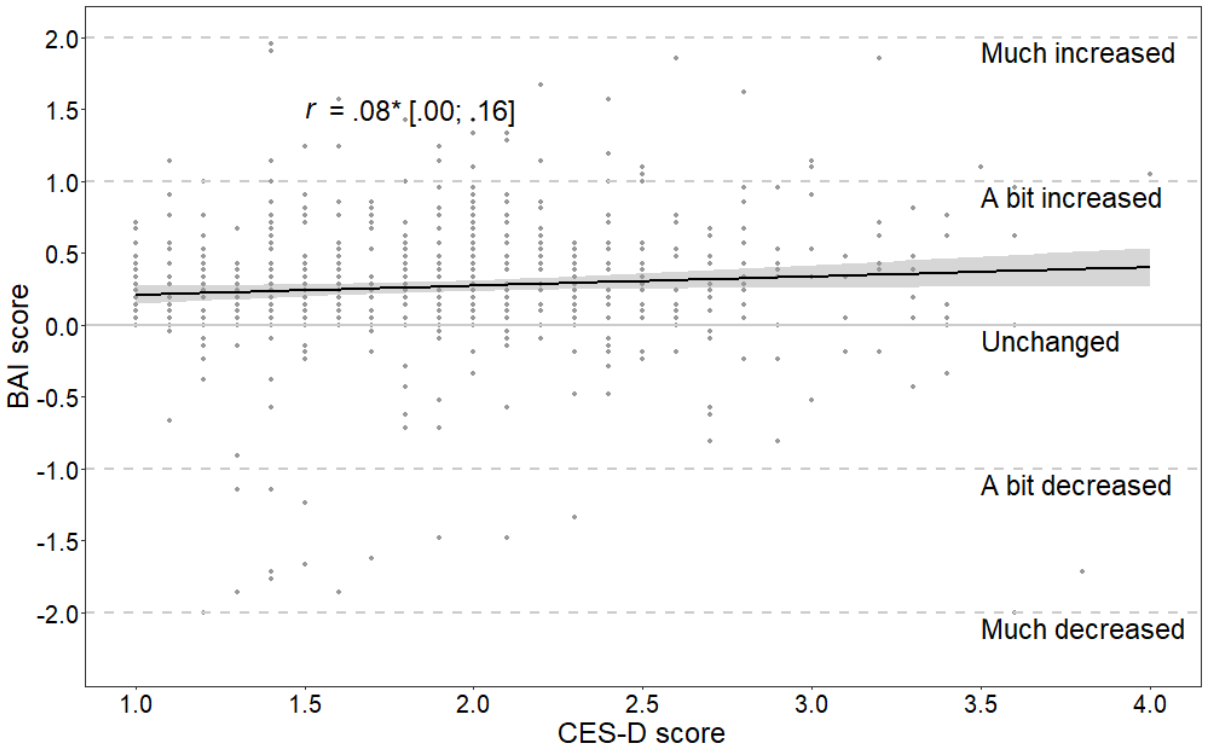

Figure SM2.4 Bivariate association of Beck Anxiety Inventory (BAI) score with Center for Epidemiological Studies - Depression (CES-D) score.

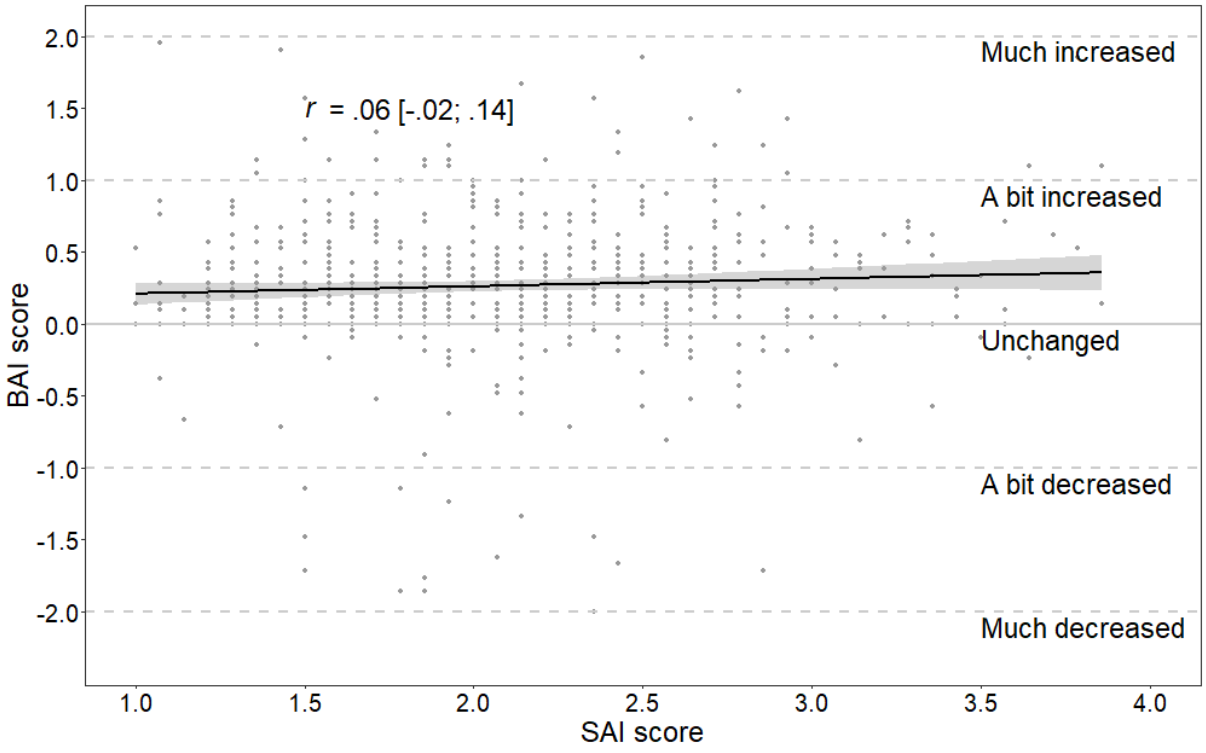

Figure SM2.5 Bivariate association of Beck Anxiety Inventory (BAI) score with Social Anxiety Inventory (SAI) score.

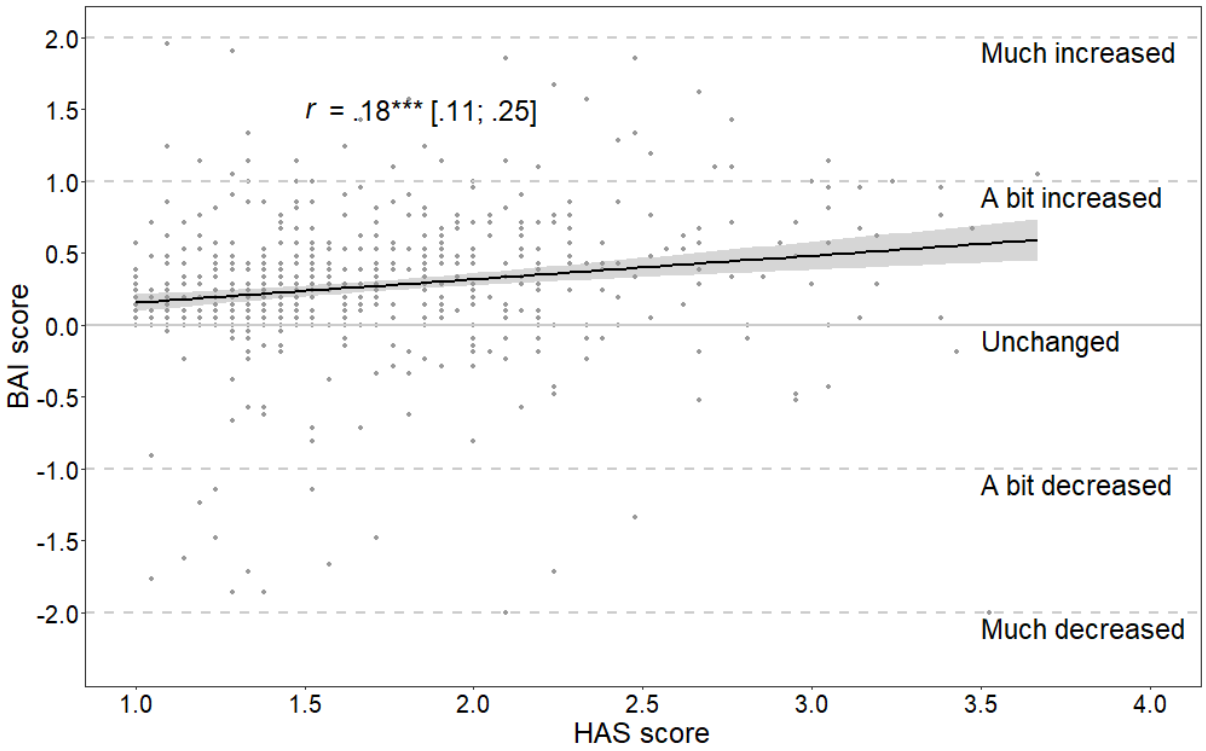

Figure SM2.6 Bivariate association of Beck Anxiety Inventory (BAI) score with Health Anxiety Inventory (HAS) score.

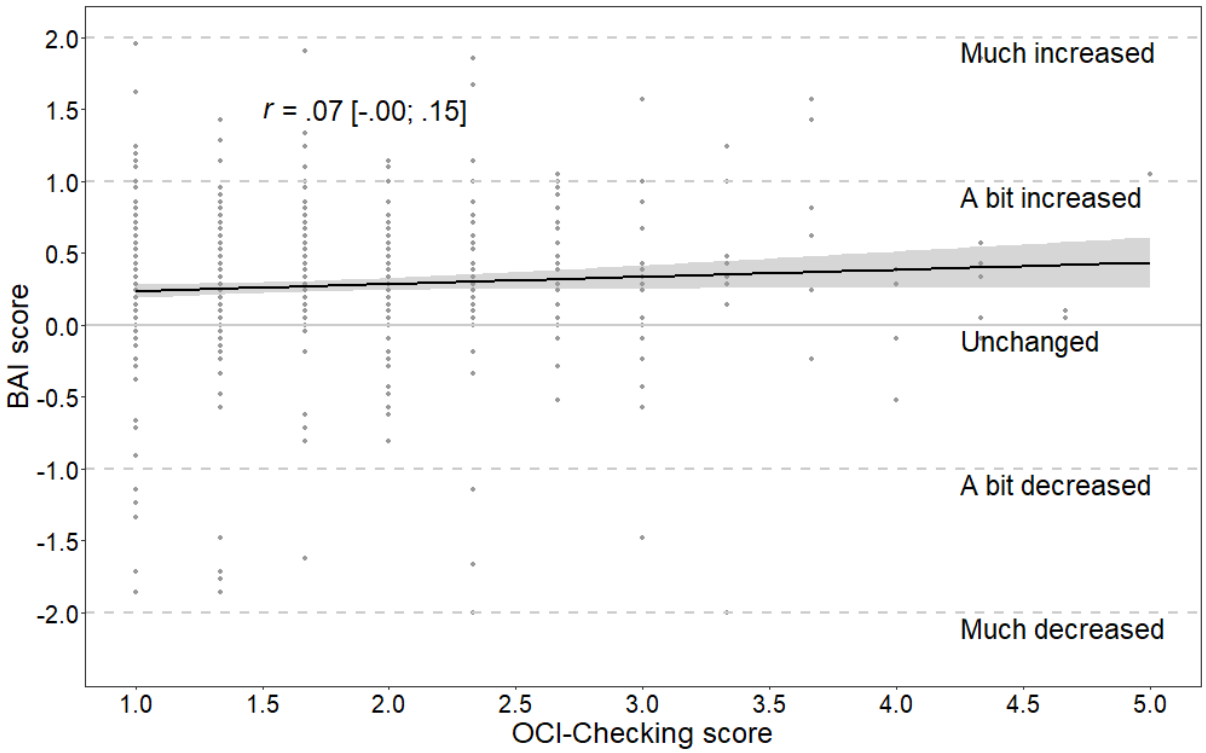

Figure SM2.7 Bivariate association of Beck Anxiety Inventory (BAI) score with Obsessive Compulsive Inventory (OCI) - Checking score.

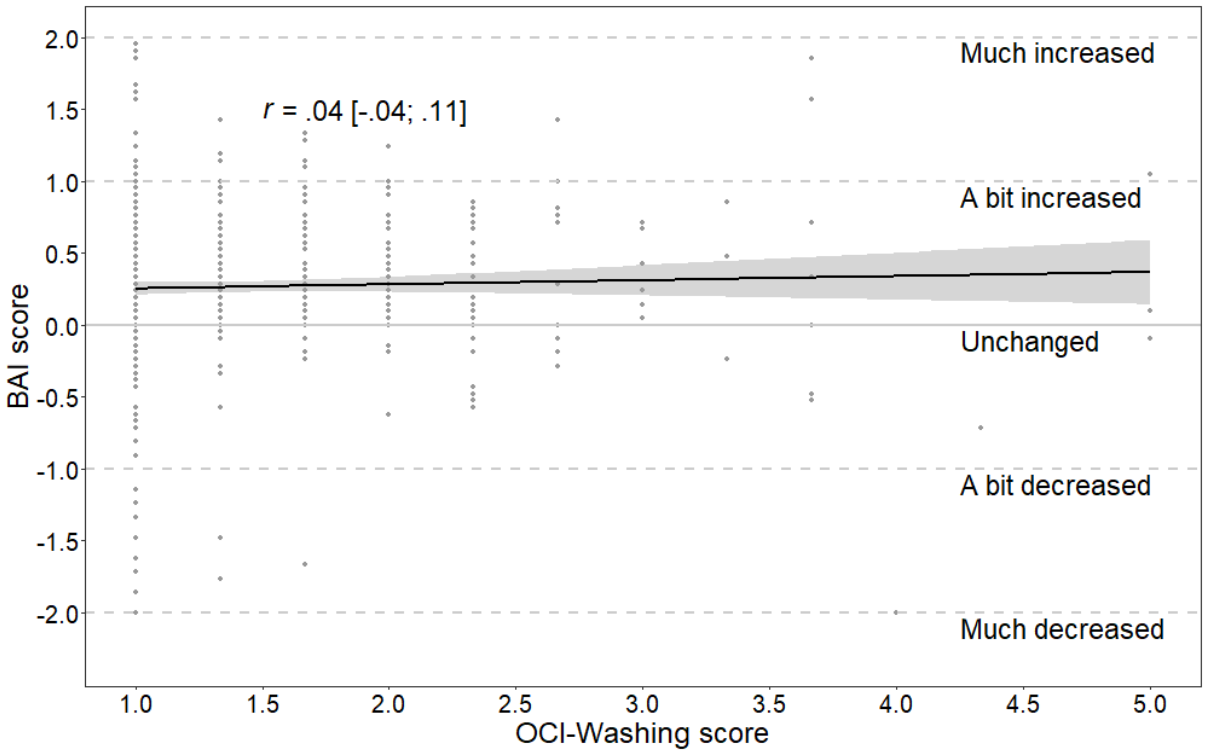

Figure SM2.8 Bivariate association of Beck Anxiety Inventory (BAI) score with Obsessive Compulsive Inventory (OCI) - Washing score.

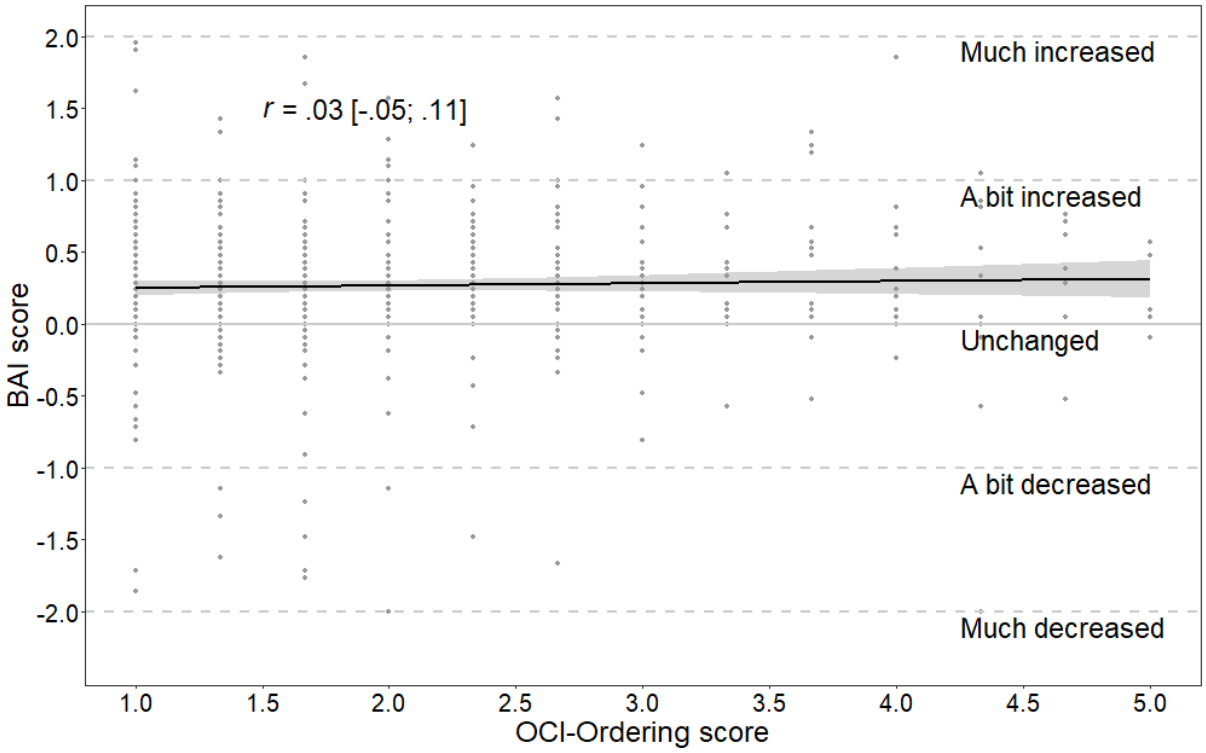

Figure SM2.9 Bivariate association of Beck Anxiety Inventory (BAI) score with Obsessive Compulsive Inventory (OCI) - Ordering score.

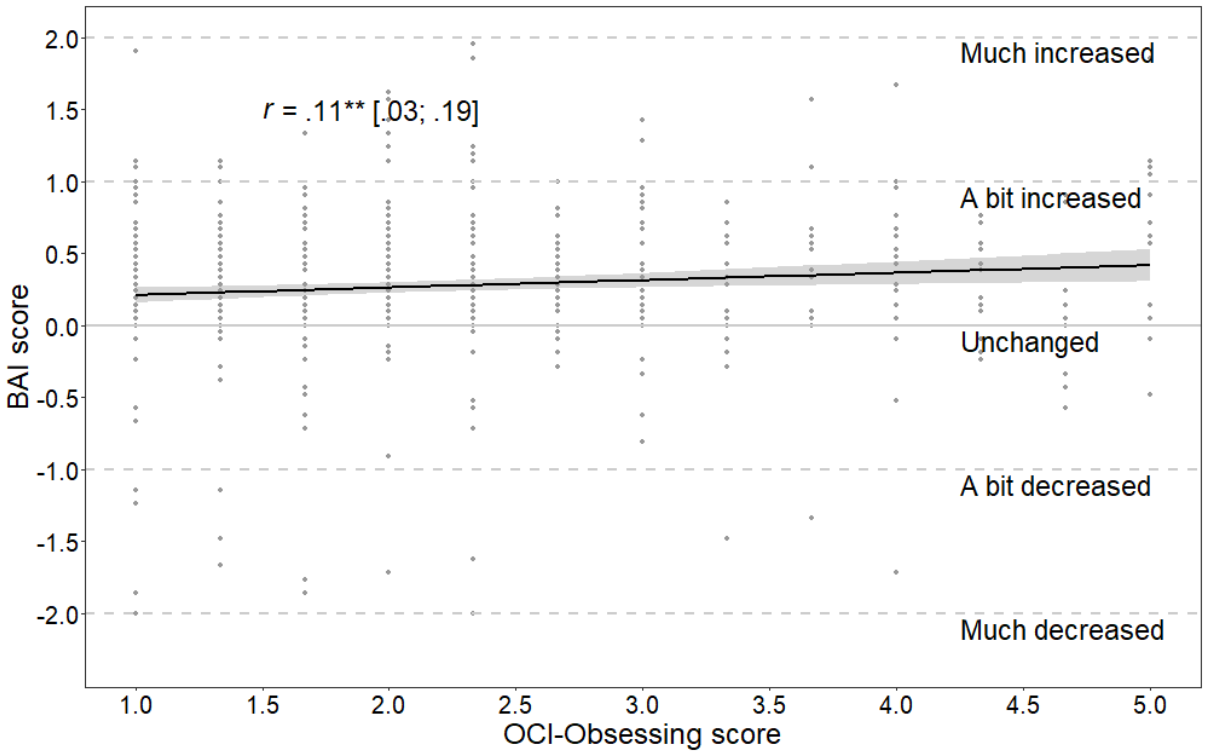

Figure SM2.10 Bivariate association of Beck Anxiety Inventory (BAI) score with Obsessive Compulsive Inventory (OCI) - Obsessing score.

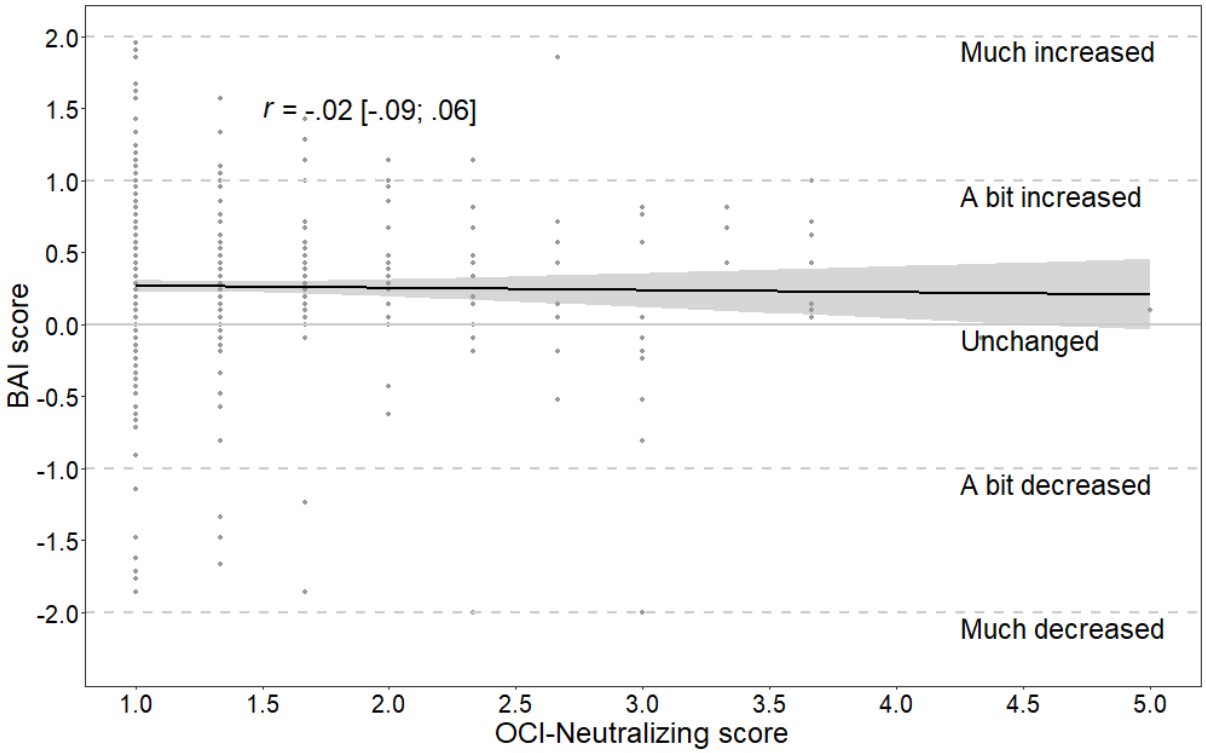

Figure SM2.11 Bivariate association of Beck Anxiety Inventory (BAI) score with Obsessive Compulsive Inventory (OCI) - Neutralizing score.

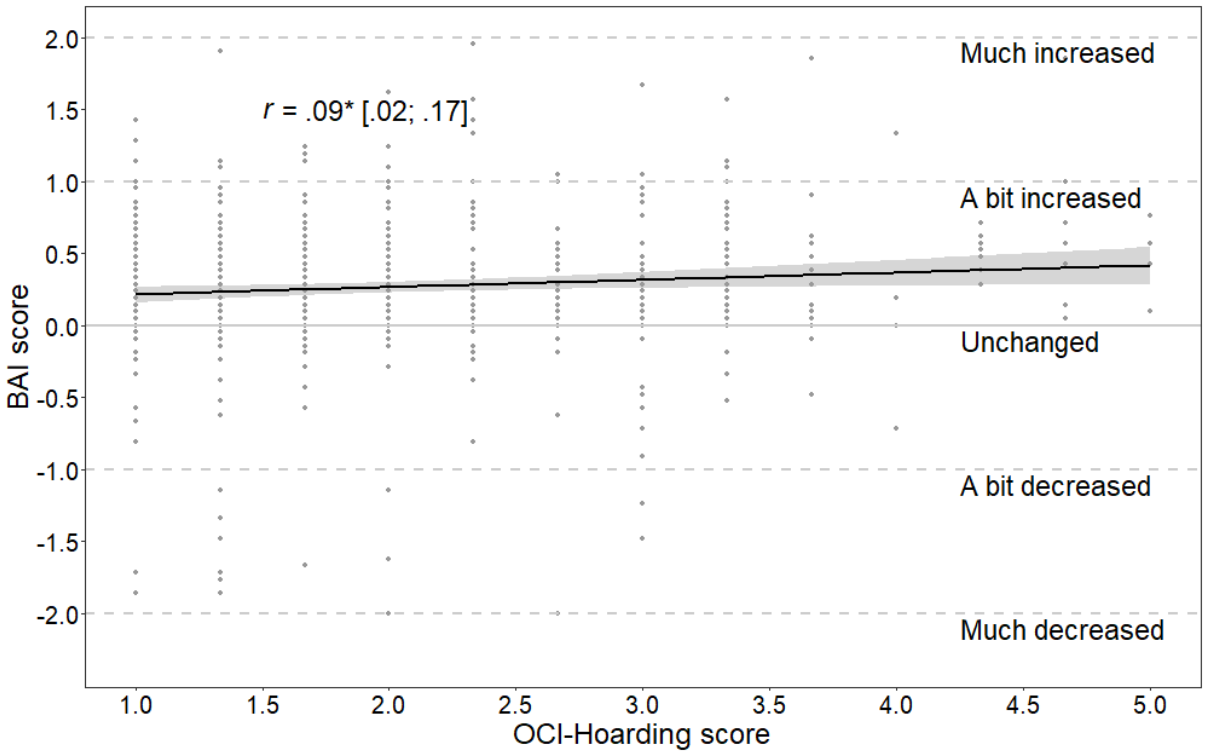

Figure SM2.12 Bivariate association of Beck Anxiety Inventory (BAI) score with Obsessive Compulsive Inventory (OCI) - Hoarding score.

SM3 Detailed results of the general linear model for predicting Beck Anxiety Inventory scores

Table SM3.1 Analysis of variance table

Effect	SS	df	F	p
(Intercept)	0.80	1	3.85	.050
Gender	1.45	1	6.98	.008
Age	0.12	1	0.58	.445
SES	1.10	1	5.29	.022
Relationship Status	0.38	2	0.90	.407
Occupational status	3.15	6	2.52	.020
Living with parents	0.06	1	0.29	.587
CES-D	0.15	1	0.70	.405
HAS	2.34	1	11.26	.001
OCI-OBS	0.09	1	0.41	.522
OCI-HOA	0.22	1	1.07	.302
Residuals	128.44	617		

Note: SS: Sum of squares (deviance); df: degrees of freedom; F: *F*-value; *p*: p-value; SES: Socioeconomic status; CES-D: Center for Epidemiological Studies - Depression score; HAS: Health Anxiety Inventory score; OCI-OBS: Obsessive Compulsive Inventory - Obsessing score; OCI-HOA: Obsessive Compulsive Inventory - Hoarding score

Table SM3.2 Parameter estimates table

Effect	Estimate	SE	t	p
(Intercept)	0.29	0.15	1.96	.050
Gender - Male	-0.15	0.06	-2.64	.008
Age	0.00	0.00	-0.76	.445
SES	-0.03	0.01	-2.30	.022
Relationship Status - Stable relationship, no coliving	0.06	0.06	1.06	.290
Relationship Status - No relationship	0.00	0.06	0.02	.981
Occupational status - Working from home	-0.04	0.07	-0.53	.593
Occupational status - Unemployement insurance	-0.17	0.09	-1.94	.053
Occupational status - Lost work	-0.31	0.10	-3.01	.003
Occupational status - Working as before	-0.06	0.09	-0.63	.531
Occupational status - Not working, nor studying	-0.10	0.08	-1.23	.221
Occupational status - Student	-0.01	0.07	-0.20	.841
Living with parents	0.03	0.05	0.54	.587
CES-D	-0.03	0.04	-0.83	.405
HAS	0.13	0.04	3.36	.001
OCI-OBS	0.02	0.02	0.64	.522
OCI-HOA	0.02	0.02	1.03	.302

Note: SE: standard error; t: *t*-value; *p*: p-value; SES: Socioeconomic status; CES-D: Center for Epidemiological Studies - Depression score; HAS: Health Anxiety Inventory score; OCI-OBS: Obsessive Compulsive Inventory - Obsessing score; OCI-HOA: Obsessive Compulsive Inventory - Hoarding score

Table SM3.3 Estimated marginal means for relationship status in the General Linear Model predicting Beck Anxiety Inventory scores.

Group	EMM	SE	Lower.CL	Upper.CL	CLD
No relationship	0.16	0.04	0.07	0.24	a
Stable relationship, no cohabiting	0.22	0.04	0.13	0.30	a
Living with partner / spouse	0.16	0.05	0.07	0.24	a

Note: EMM: estimated marginal mean; SE: standard error; Lower/Upper.CL: Lower/Upper 95% Confidence Limit; CLD: compact letter display for indicating significant differences.

Table SM3.4 Post-hoc tests results for relationship status in the General Linear Model predicting Beck Anxiety Inventory scores.

Contrast	Estimate	SE	df	t	p	d [95% CI]
Living with partner / spouse - Stable relationship, no cohabiting	-0.06	0.06	617	-1.06	.540	0.09 [-0.09; 0.26]
Living with partner / spouse - No relationship	0.00	0.06	617	-0.02	1.000	0.00 [-0.19; 0.19]
Stable relationship, no cohabiting - No relationship	0.06	0.05	617	1.21	.445	0.10 [-0.10; 0.30]

Note: SE: standard error; df: degrees of freedom; t: *t*-value; p: p-value, Tukey adjustment method for comparing a family of 3 estimates; d [95% CI]: Absolute value of Cohen's *d* and its 95% confidence interval.

Table SM3.5 Estimated marginal means for occupational status in the General Linear Model predicting Beck Anxiety Inventory scores.

Group	EMM	SE	Lower.CL	Upper.CL	CLD
Working as before	0.22	0.07	0.08	0.35	ab
Working from home	0.24	0.04	0.15	0.32	a
Forced to take time off	0.27	0.06	0.15	0.40	a
Unemployement insurance	0.11	0.07	-0.02	0.24	ab
Lost work	-0.03	0.09	-0.20	0.14	b
Student	0.26	0.04	0.18	0.34	a
Not working nor studying	0.17	0.06	0.05	0.29	ab

Note: EMM: estimated marginal mean; SE: standard error; Lower/Upper.CL: Lower/Upper 95% Confidence Limit; CLD: compact letter display for indicating significant differences.

Table SM3.6 Post-hoc tests results for occupational status in the General Linear Model predicting Beck Anxiety Inventory scores.

Contrast	Estimate	SE	df	t	p	d [95% CI]
Forced to take time off- Working from home	0.04	0.07	617	0.53	.998	0.05 [-0.25; 0.34]
Forced to take time off- Unemployement insurance	0.17	0.09	617	1.94	.456	0.16 [-0.21; 0.52]
Forced to take time off- Lost work	0.31	0.10	617	3.01	.044	0.26 [-0.18; 0.69]
Forced to take time off- Working as before	0.06	0.09	617	0.63	.996	0.05 [-0.33; 0.43]
Forced to take time off- Not working nor studying	0.10	0.08	617	1.23	.884	0.10 [-0.24; 0.44]
Forced to take time off- Student	0.01	0.07	617	0.20	1.000	0.02 [-0.27; 0.31]
Working from home- Unemployement insurance	0.13	0.07	617	1.80	.548	0.17 [-0.14; 0.47]
Working from home- Lost work	0.27	0.09	617	2.97	.049	0.33 [-0.06; 0.71]
Working from home- Working as before	0.02	0.08	617	0.24	1.000	0.02 [-0.30; 0.34]
Working from home- Not working nor studying	0.06	0.07	617	0.93	.967	0.08 [-0.19; 0.35]
Working from home- Student	-0.02	0.06	617	-0.40	1.000	0.03 [-0.17; 0.23]
Unemployement insurance- Lost work	0.14	0.10	617	1.36	.822	0.11 [-0.33; 0.55]
Unemployement insurance- Working as before	-0.11	0.09	617	-1.23	.883	0.10 [-0.28; 0.48]
Unemployement insurance- Not working nor studying	-0.07	0.08	617	-0.82	.983	0.07 [-0.28; 0.41]
Unemployement insurance- Student	-0.15	0.07	617	-2.07	.373	0.21 [-0.09; 0.50]
Lost work- Working as before	-0.25	0.11	617	-2.36	.215	0.20 [-0.26; 0.65]
Lost work- Not working nor studying	-0.21	0.10	617	-2.10	.353	0.19 [-0.23; 0.60]
Lost work- Student	-0.29	0.09	617	-3.17	.026	0.38 [0.01; 0.76]
Working as before- Not working nor studying	0.04	0.09	617	0.51	.999	0.04 [-0.32; 0.40]
Working as before- Student	-0.04	0.08	617	-0.53	.998	0.05 [-0.26; 0.36]
Not working nor studying- Student	-0.09	0.07	617	-1.23	.882	0.11 [-0.15; 0.37]

Note: SE: standard error; df: degrees of freedom; t: *t*-value; p: p-value, Tukey adjustment method for comparing a family of 7 estimates; d [95% CI]: Absolute value of Cohen's *d* and its 95% confidence interval.

References

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Author.

Andresen, E. M., Malmgren, J. A., Carter, W. B., & Patrick, D. L. (1994). Screening for depression in well older adults: evaluation of a short form of the CES-D (Center for Epidemiologic Studies Depression Scale). *American Journal of Preventive Medicine, 10*(2), 77–84. https://doi.org/10.1016/S0749-3797(18)30622-6

Author (in preparation). A new measure of social anxiety.

Baroni, D., Caccico, L., Grassi, E., Lauretta, F., Marsigli, N., Rosadoni, M., & Chiorri, C. (2019). Italian validation of the self-report Liebowitz Social Anxiety Scale. In T. Heidenreich, P. Tata, & S. Blackwell (Eds.), *Proceedings of the 9th World Congress of Behavioral & Cognitive Therapies. Volume II* (p. 9). dgvt-Verlag.

Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology, 56*(6), 893–897. https://doi.org/10.1037//0022-006x.56.6.893

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression Inventory-II*. Psychological Corporation.

Connor, K. M., Davidson, J. R. T., Erik Churchill, L., Sherwood, A., Foa, E., & Weisler, R. H. (2000). Psychometric properties of the social phobia inventory (SPIN). New self-rating scale. *British Journal of Psychiatry, 176*(APR.), 379–386. https://doi.org/10.1192/bjp.176.4.379

Fava, G. A. (1983). Assessing depressive symptoms across cultures: Italian validation of the CES-D self-rating scale. *Journal of Clinical Psychology, 39*(2), 249–251. https://doi.org/10.1002/1097-4679(198303)39:2<249::aid-jclp2270390218>3.0.co;2-y

Foa, E. B., Huppert, J. D., Leiberg, S., Langner, R., Kichic, R., Hajcak, G., & Salkovskis, P.

M. (2002). The Obsessive-Compulsive Inventory: Development and validation of a short version. *Psychological Assessment*, *14*(4), 485–496. https://doi.org/10.1037/1040-3590.14.4.485

Foa, E. B., Kozak, M. J., Salkovskis, P. M., Coles, M. E., & Amir, N. (1998). The validation of a new obsessive-compulsive disorder scale: The obsessive-compulsive inventory. *Psychological Assessment*, *10*(3), 206–214. https://doi.org/10.1037/1040-3590.10.3.206

Gori, A., Giannini, M., Socci, S., Luca, M., Dewey, D., Schuldberg, D., & Craparo, G. (2013). Assessing Social Anxiety Disorder: Psychometric properties of the Italian Social Phobia Inventory (I-SPIN). *Clinical Neuropsychiatry*, *10*(1), 37–42.

Gorsuch, R. L. (1983). *Factor analysis* (2nd ed.). Lawrence Erlbaum Associates.

Hamilton, M. (1960). A rating scale for depression. *Journal of Neurology, Neurosurgery, and Psychiatry*, *23*, 56–62. https://doi.org/10.1136/jnnp.23.1.56

Hancock, G. R., & Mueller, R. O. (2001). Rethinking construct reliability within latent variable systems. In R. Cudeck, S. du Toit, & D. Sörbom (Eds.), *Structural Equation Modeling: Present and Future: A Festschrift in Honor of Karl Jöreskog* (pp. 195–216). Scientific Software International.

Hodgson, R. J., & Rachman, S. (1977). Obsessional-compulsive complaints. *Behaviour Research and Therapy*, *15*(5), 389–395. https://doi.org/10.1016/0005-7967(77)90042-0

Liebowitz, M. (1987). Social phobia. *Modern Problems of Pharmacopsychiatry*, *22*, 147–173. https://doi.org/10.1159/000414022

Lucock, M. P., & Morley, S. (1996). The health anxiety questionnaire. *British Journal of Health Psychology*, *1*, 137–150. https://doi.org/10.1111/j.2044-8287.1996.tb00498.x

Marsh, H. W., Hau, K.-T., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling*, *11*(3),

320–341. https://doi.org/10.1207/s15328007sem1103_2

Mattick, R. P., & Clarke, J. C. (1998). Development and validation of measures of social phobia scrutiny fear and social interaction anxiety. *Behaviour Research and Therapy*, *36*(4), 455–470. https://doi.org/10.1016/S0005-7967(97)10031-6

McDonald, R. P. (1999). *Test theory: A unified treatment*. Lawrence Erlbaum Associates Publishers.

Melli, G., Coradeschi, D., & Smurra, R. (2007). La versione italiana dell'Health Anxiety Questionnaire: attendibilità e struttura fattoriale. *Psicoterapia Cognitiva e Comportamentale*, *13*(1), 37–48.

Meyer, T. J., Miller, M. L., Metzger, R. L., & Borkovec, T. D. (1990). Development and validation of the penn state worry questionnaire. *Behaviour Research and Therapy*, *28*(6), 487–495. https://doi.org/10.1016/0005-7967(90)90135-6

Morani, S., Pricci, D., & Sanavio, E. (1999). Penn State Worry Questionnaire and Worry Domains Questionnaire: Italian versions and reliability. *Psicoterapia Cognitiva e Comportamentale*, *5*, 195–209.

Radloff, L. S. (1977). The CES-D Scale. *Applied Psychological Measurement*, *1*(3), 385–401. https://doi.org/10.1177/014662167700100306

Rodriguez, A., Reise, S. P., & Haviland, M. G. (2016). Evaluating bifactor models: Calculating and interpreting statistical indices. *Psychological Methods*, *21*(2), 137–150. https://doi.org/10.1037/met0000045

Sanavio, E., & Vidotto, G. (1985). The components of the Maudsley Obsessional-Compulsive Questionnaire. *Behaviour Research and Therapy*, *23*(6), 659–662. https://doi.org/10.1016/0005-7967(85)90061-0

Sica, C., & Ghisi, M. (2007). The Italian versions of the Beck Anxiety Inventory and the Beck Depression Inventory-II: Psychometric properties and discriminant power. In M. A.

Lange (Ed.), *Leading-edge psychological tests and testing* (pp. 27–50). Nova Science Publishers, Inc.

Sica, C., Ghisi, M., Altoè, G., Chiri, L. R., Franceschini, S., Coradeschi, D., & Melli, G. (2009). The Italian version of the Obsessive Compulsive Inventory: Its psychometric properties on community and clinical samples. *Journal of Anxiety Disorders*, *23*(2), 204–211. https://doi.org/10.1016/j.janxdis.2008.07.001

Sica, C., Musoni, I., Chiri, L. R., Bisi, B., Lolli, V., & Sighinolfi, C. (2007). Social Phobia Scale (SPS) and Social Interaction Anxiety Scale (SIAS). Traduzione e adattamento italiano. *Bollettino Di Psicologia Applicata*, *252*, 59–71.