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Short communication

Obsessive-compulsive symptoms and reactions to the COVID-19 pandemic

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ABSTRACT

We aimed to investigate OCD symptoms and responsibility beliefs in relation to coronavirus-related anxiety and adaptive and maladaptive behaviors at two different time points. We tested age as a moderator of the relationship between responsibility and outcomes. 159 participants completed the initial online assessment, whereas 56 completed the second assessment, six months later. OCD symptoms significantly predicted coronavirus-related anxiety, adaptive and maladaptive behaviors. Responsibility beliefs predicted the above-mentioned outcomes, but no longer when controlling for OCD symptoms and age did not moderate these relationships. OCD symptoms may represent both protective and vulnerability factors during the coronavirus pandemic.

1. Introduction

Given the significant health threat and uncertainty imposed by the current Coronavirus disease (COVID-19) pandemic, this context may have a particular effect on individuals susceptible to OCD, both by exacerbating existing symptoms and by facilitating the development of new ones (Shafran et al., 2020). In fact, different types of OCD-related symptoms have been associated with attitudes, anxiety and/or behaviors during virus outbreaks (Taylor et al., 2020). Contamination fear has also been found to be a significant predictor of COVID-19 preventive behaviors (Knowles and Olatunji, 2021), so, in some sense, OCD symptoms may also serve a protective role, encouraging people to strictly follow health recommendations.

Fontenelle and Miguel (2020) suggested that for individuals with OCD, COVID-related concerns may vary from becoming infected or having undetected symptoms to infecting somebody else. Recent theoretical commentaries about the influence of the current pandemic on OCD symptoms suggest that individuals diagnosed or predisposed to OCD might be particularly prone to excessive concerns about how they could contribute to the spreading of the virus (Shafran et al., 2020). As Fontenelle and Miguel (2020) have wondered, is the COVID-19 pandemic an opportunity to grasp a potentially "adaptive and protective" consequence of having OCD-related symptoms, in terms of a lower chance to become infected through the thorough cleansing rituals and social distancing? In other words, do benefits outweigh the costs, or are pre-existing symptoms associated with increased vulnerability?

Given the possibility of asymptomatic COVID-19 transmission (Centers for Disease Control and Prevention, 2020a), as well as the fact that older individuals and those with pre-existing health issues are more vulnerable to COVID-19 (Centers for Disease Control and Prevention, 2020b), for younger individuals with responsibility concerns, fear of contaminating others may increase chances for COVID-related anxiety and excessive engagement in adaptive and maladaptive behaviors. In fact, age has been found to influence epidemic or pandemic-related behaviors in the past (ex: Nwachukwu et al., 2020). Therefore, we also investigated age as a predictor of COVID-19 anxiety and preventive (adaptive and maladaptive) behaviors.

We expected both obsessive-compulsive symptoms and responsibility beliefs to predict coronavirus-related anxiety and the endorsement of adaptive and maladaptive preventive behaviors (H1) and we also expected age to moderate the effect of responsibility beliefs on these outcomes (H2). We also tested whether OCD symptoms at the beginning of the pandemic predicted COVID-19-related anxiety and adaptive and maladaptive behaviors 6 months later.

2. Methods

The study was approved by the Ethics Committee of the Babeș-Bolyai University, no. 11264.

The sample included 159 participants, recruited in March and April 2020 (T1), aged 18 to 80 ($M=27.5$, $SD=10.38$), 132 (83%) female and 27 (17%) male. We collected the data again in November-beginning of

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December 2020 (T2), and 56 participants responded at this time, aged 19 to 65 ($M=27.59$, $SD=10.21$), 50 female (89.3%) and 6 male (10.7%). The study excluded participants under the age of 18.

At T1, participants were recruited via a social media study announcement and accessed an online form where they completed a survey. At T2, participants who completed the first wave and expressed their desire to be involved in the second wave were recontacted for further participation. Informed consent was provided online as part of the form.

The Obsessive-Compulsive Inventory (OCI; Foa et al., 1998) was used to measure the severity of OCD symptoms.

COVID-related anxiety - 9 items based on the State-Trait Anxiety Inventory Form Y- State (STAI; Spielberger, 1983) were used to measure COVID-related state anxiety.

Adaptive and maladaptive COVID-19-related behavior were measured using a scale constructed by the authors of this study. The scale for adaptive behaviors was designed to refer to the recommendations issued by the Romanian government. Maladaptive behaviors were those presented as such by the media and scientific literature (e.g., hoarding, excessive news watching).

The Responsibility Attitude Scale (RAS; Salkovskis et al., 2000) was used to measure general responsibility beliefs.

3. Results

To test our hypotheses, regressions were run using the Univariate General Linear Model in SPSS. Heteroskedasticity was identified with Modified Breusch-Pagan Test for Heteroskedasticity and White Test for Heteroskedasticity at T1, thus two of the regressions were run using HC3 correction. Overall, results showed that OCD symptom levels significantly predict COVID-19 related anxiety ($b=.103$, $SE=.02$, $p<.01$), adaptive behaviours ($b=.074$, $RobustSE=.018$, $p<.01$) and maladaptive behaviour ($b=.044$, $Robust SE=.008$, $p<.01$).

Heteroskedasticity was identified with adaptive behaviors regressed onto responsibility beliefs and an HC3 correction was used in further analyses building on this relationship. Responsibility beliefs significantly predicted anxiety, adaptive and maladaptive behaviors, but all effects disappeared when controlling for OCD symptoms (OCD symptoms, however, remained significant predictors in the presence of responsibility). Moderation analyses were thus run controlling for OCD symptoms, with age as a moderator, and results indicated no interaction effects between age and responsibility beliefs (all p values $>.05$). Age significantly positively predicted maladaptive behaviors in the simple regression, but not within the moderation analysis.

Furthermore, we conducted simple regression analyses investigating the extent to which T1 OCD symptoms predicted T2 anxiety and adaptive and maladaptive behaviors. Overall, results showed that the levels of OCD symptoms at the beginning of the pandemic do not predict later anxiety ($b=.074$, $SE=0.44$, $p=.102$), COVID-19 related adaptive ($b=.019$, $SE=.039$, $p=.634$) or maladaptive behavior ($b=.017$, $RobustSE=.010$, $p>.05$).

4. Discussion

In support of our first hypothesis, obsessive-compulsive symptoms significantly predicted coronavirus-related anxiety and adaptive and maladaptive behaviours. These results are consistent with previous research suggesting that individuals more susceptible to or diagnosed with OCD were at a higher risk of suffering more negative psychological consequences during past epidemics (e.g., Cullen et al., 2020). Similarly, in the COVID-19 literature, OCD concerns and/or symptoms have been associated with worse stress (Robillard et al., 2020) and generalized anxiety vulnerability (Abba-Aji et al., 2020).

Our hypothesis concerning the role of responsibility beliefs in pandemic-related anxiety and behaviors was not supported, since responsibility beliefs no longer predicted the outcomes when controlling

for obsessive-compulsive symptoms. Thus, OCD symptoms might be linked to anxiety and behaviors through mechanisms other than responsibility. For instance, Schimmenti et al. (2020) have postulated the existence of four horsemen of fear during the COVID-19 pandemic, including fear for one's body. Furthermore, at T1, Romania was under imposed quarantine, and compliance with preventing measures was generally high, (probably) irrespective of perceived vulnerability or responsibility. Age did not moderate relationships, which might also be related to the young age of this sample.

At T2, OCD symptoms no longer predicted anxiety or behaviors, thus factors other than OCD symptoms at T1 might have been involved in reactions to the coronavirus at T2. Results must be interpreted tentatively, however, given the small number of participants regressions with T2 outcomes were based upon.

Thus, OCD symptoms were related to both adaptive and maladaptive outcomes at the beginning of the COVID pandemic. Future research could investigate the line that separates OCD symptom-driven adaptive and maladaptive emotional and behavioral responses to the coronavirus pandemic.

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Declaration of Competing Interest

On behalf of all authors, the corresponding author states that there is no conflict of interest.

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