

Personality and Mental Health during the COVID-19 Pandemic

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Abstract

The COVID-19 pandemic was a health crisis eliciting a variety of stressors, leading to reductions in well-being worldwide. Personality traits are among the key factors determining how individuals respond to adversity and disasters. The aim of this study is to investigate the association between a wide range of personality characteristics and different indicators of psychological well-being in Turkish university undergraduates during the first lockdown of the pandemic. The data were collected through an online cross-sectional survey. Zero-order correlations in the analysis demonstrated higher resilience, extraversion, openness, agreeableness, and conscientiousness related to higher well-being, whereas neuroticism and attachment anxiety were related to lower well-being. The results of the multivariate regression analysis with the personality characteristics within the study showed that resilience was consistently and strongly associated with better psychological well-being. Neuroticism was related positively to depression and anxiety symptoms and negative affect but unrelated to positive affect. High self-control was linked to a more positive affect and less negative affect. Our findings illustrated personality's potential adaptive and maladaptive effects on reported mental health during the pandemic. The findings are discussed to shed light on future studies regarding the connection between personality traits and life events.

Keywords: Anxiety, COVID-19 Pandemic, Depression, Personality, Psychological Well-Being

1. INTRODUCTION

The COVID-19 pandemic was a health crisis unparalleled in recent history. Worldwide, people were exposed to stressors related to the pandemic directly (e.g., severe illness, intensive care admittance, bereavement) or indirectly (e.g., quarantine, social isolation, job loss). A meta-analysis of the pandemic's psychological impacts demonstrated that both directly and indirectly affected people experienced heightened levels of anxiety and depression (Luo et al., 2020). Personality differences may elicit adaptive or maladaptive responses to adversity. In this research, comprehensive multivariate analyses were conducted to identify which personality traits related most strongly to emotional disturbance during the first COVID-19 lockdown in Turkey.

Relevant personality traits were derived from literature. First, resilience, the self-perceived ability to cope in the face of adversity, was shown to be related to lower levels of not only anxiety but also depression during the COVID-19 lockdowns (Killgore et al., 2020). Moreover, women's low resilience mediated pandemic-related stress and psychiatric morbidity association at the onset of

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the pandemic (Kumar et al., 2022). Second, insecure attachment styles could heighten stress responsivity. Anxiously attached people are overly dependent on others resulting in them showing more distress, whereas avoidantly attached people are more self-reliant, potentially dampening displayed distress (Lopez & Brennan, 2000). Indeed, a stronger need for approval, typical of anxious attachment, was found to be related to more severe distress during a lockdown (Moccia et al., 2020). Further, people with higher anxious-attachment levels reported disrupted well-being (i.e., higher depression and anxiety symptoms) than the ones with lower anxious attachment in two longitudinal studies during the pandemic (Vowels et al., 2022).

Third, Big Five personality traits influenced pandemic-related distress (Aschwanden et al., 2021). For example, neuroticism, a trait of emotional instability, was likely to enhance emotional disturbance in response to stress. A study by Modersitzki et al. (2021) supported this premise, as it demonstrated a negative association between neuroticism and well-being indicators, including life satisfaction during the pandemic. Furthermore, in a Japanese survey, neuroticism was positively related to anxiety, stress, as well as depression symptoms (Qian & Yahara, 2020). Gupta and Parimal (2020) further demonstrated that an elevated level of neuroticism is negatively associated with eudemonic well-being (e.g., personal growth) in this period.

While extraversion and openness are positively related to psychological health in “normal” times (see Anglim et al., 2020, for a meta-analysis), some researchers found that extraversion triggers higher stress and lower well-being reports during the pandemic (Anglim & Horwood, 2021; Gupta & Parimal, 2020; Liu et al., 2021). This effect was argued to be related to the inability of extroverts to socialize physically with other people because of both lockdowns and fear of getting infected. Similarly, people with high levels of openness might experience reduced well-being because of a lack of novel experiences during social isolation (Gupta & Parimal, 2020). However, a large-scale survey comparing the associations of personality traits with well-being before vs. during the pandemic showed that the associations of extraversion and openness with well-being were still positive, but their effects were attenuated during the pandemic (Anglim & Horwood, 2021). Conversely, agreeableness and conscientiousness were both consistently positively associated with well-being in prior studies (e.g., Anglim & Horwood, 2021; Gupta & Parimal, 2020; Qian & Yahara, 2020). Explanations for the effects of agreeableness and conscientiousness were high levels of prosocial behaviors and the ability to organize life demands according to the new lifestyle, respectively (Gupta & Parimal, 2020; Qian & Yahara, 2020).

Fourth, self-control, which can be described as one’s ability to regulate emotions, behaviors, and impulses, might reduce distress during the COVID-19 pandemic as it does in normal times (e.g., Buyukcan-Tetik et al., 2018). A better ability to self-regulate might have helped people remain calm and act constructively in times of crisis. Indeed, some research found that people with higher levels of self-control experienced lower mental health problems even if they perceived the COVID-19 pandemic as a severe threat (Li et al., 2020).

Past research provided valuable knowledge on the potential impact of personality traits on well-being during lockdowns. Furthermore, the number of studies that examined the predictors of Turkish people’s mental health is still increasing (e.g., Bozdağ & Ergün, 2020; Karataş & Tagay, 2021). In the present research, the aim was to investigate whether resilience, insecure attachment, Big Five traits, and self-control are linked to well-being (i.e., anxiety, depression, negative and positive affect) among Turkish university undergraduates shortly after the first cases of COVID-19 were diagnosed in Turkey. Consistent with past findings, the expectations were to find positive effects of resilience, agreeableness, conscientiousness, and self-control and negative effects of insecure attachment and neuroticism on well-being. Given the mixed results in the literature, no specific hypotheses were formulated regarding the roles of extraversion and openness. Additionally, which of these personality factors is related most strongly and

consistently to well-being was investigated in a multivariate analysis, as this may offer preliminary indications of which treatment strategies may be most appropriate for those experiencing reductions in well-being during the pandemic.

2. MATERIAL AND METHODS

2.1. Participants

Participants were university students ($N = 236$; 65% female; Mage = 21.79 years, $SD_{age} = 1.54$; 79% living with a nuclear family, 21% other living arrangements). Participants in our sample were mostly indirectly affected at that time. That is, they did not lose a significant other due to the COVID-19 virus. On average, they spent 96% of their time at home for about five weeks.

2.2. Measures

Brief Resilience Scale (Smith et al., 2015; Turkish adaptation: Dogan, 2015): Trait resilience was measured with the Brief Resilience Scale, which was composed of six items. Participants responded to the scale with seven points ranging from “not at all” to “very much.” The reliability of the scale was good, $\alpha = .88$.

Experiences in Close Relationships Scale-Revised (Fraley et al., 2000; Turkish adaptation: Selcuk et al., 2005): The attachment variable was assessed through the Experiences in Close Relationships Scale-Revised. Each insecure attachment type (i.e., anxious and avoidant attachment) was measured by 18 items. The Likert scale had seven points, with the minimum point representing “strongly disagree” and the maximum point showing “strongly agree.” Internal consistency levels of anxious and avoidant attachment scales were excellent, $\alpha = .90$, and $\alpha = .93$, respectively.

Ten-Item Personality Inventory (Gosling et al., 2003; Turkish adaptation: Atak, 2003): The five main personality traits (i.e., Big Five) were measured via the Ten-Item Personality Inventory. Each personality trait was assessed using two items (e.g., “easily upset” and a reverse-coded item “emotionally stable” for neuroticism). Each item was asked to be rated by a selection from seven points between “strongly disagree” and “strongly agree.” Internal consistency of the extraversion scale was satisfactory, $\alpha = .72$. Reliability levels of the other four subscales were low (α s = .27-.51). These low reliabilities were not surprising or uncommon in research that used the same scale given because each trait was assessed by two items only (e.g., Gosling et al., 2003; Romero et al., 2012).

Brief Self-Control Scale (Tangney et al., 2004; Turkish adaptation: Nebioglu et al., 2012): The well-known Brief Self-Control Scale evaluated participants’ self-control levels. The 13 items’ assessment ranged from “not at all” to “very much.” The internal reliability had a level of $\alpha = .84$.

Center for Epidemiological Studies-Depression Scale (Radloff, 1977; Turkish adaptation: Tatar & Saltukoglu, 2010): The depressive symptoms of our participants in the past week were assessed using the Center for Epidemiological Studies-Depression Scale. The scale comprises 20 items. The minimum Likert point represented “never,” whereas the maximum point showed “always” on a seven-point measurement. The reliability of the scale was excellent, $\alpha = .92$.

State-Trait Anxiety Inventory (Spielberger et al., 1983; Turkish adaptation: Öner & Le Compte, 1985): Trait anxiety was measured through a subscale of the State-Trait Anxiety Inventory. The scale was composed of 20 items, and its Likert points were the same as the ones for depression. The reliability of the scale was good, $\alpha = .89$.

Positive Affect and Negative Affect Schedule (Watson et al., 1988; Turkish adaptation: Gençöz, 2000): Participants' positive and negative affect levels were assessed using the well-known PANAS (Positive Affect and Negative Affect Schedule). Subscales for both types of affect had 10 items. Sample items were "excited" for positive affect and "afraid" for negative affect. Participants' degree of feeling those emotions in the last week was measured with seven points. The points were between "very slightly or not at all" and "extremely." Positive affect and negative affect subscales' reliability were both good, $\alpha = .89$, and $\alpha = .86$, respectively.

2.3. Procedure

The dataset was collected from university students in Turkey via an online survey in April 2020. Participants received course credits in return for their participation. The Research Ethics Council in the first author's Institution approved the study (FASS-2020-45). The participants filled in the surveys after they provided informed consent.

3. RESULTS

For the purpose of investigating the personality characteristics' associations with psychological well-being, correlation analyses as well as multivariate regression analyses were performed. The results of the significant zero-order correlations were generally in the expected directions (see Table 1). The results revealed that putative adaptive traits (resilience, conscientiousness, self-control) were consistently related to less affective disturbance (negative links with depression, anxiety, and negative affect; and a positive link with positive affect). However, putative maladaptive traits (attachment anxiety, neuroticism) were generally related to more affective disturbance (positive links with depression, anxiety, and negative affect) in the results. Neuroticism was additionally negatively linked to positive affect. Moreover, extraversion and agreeableness were negatively related to anxiety symptoms, whereas a positive association emerged between openness and positive affect. The correlation results showed that avoidant attachment was not significantly related to any outcome.

Table 1. Multivariate regression and correlation results

	Depression		Anxiety		PA		NA	
	β	r	β	r	β	r	β	r
Resilience	-.37	-.53	-.29	-.66	.21	.29	-.23	-.40
Anxious Attachment	.11	.41	.17	.57	.15	-.11	.08	.32
Avoidant Attachment	.11	.13	.02	.13	-.13	-.10	.04	.06
Extraversion	-.01	-.13	-.15	-.33	-.03	.06	-.02	-.11
Agreeableness	.08	.00	.02	-.15	-.11	-.01	.00	-.07
Conscientiousness	.03	-.32	-.12	-.59	.10	.27	.11	-.27
Neuroticism	.19	.45	.35	.70	-.07	-.21	.24	.41
Openness	-.01	-.08	-.05	-.13	.17	.18	-.04	-.07
Self-Control	-.09	-.24	-.09	-.41	.17	.23	-.18	-.27
<i>F</i>	13.62		56.58		5.03		7.71	
<i>R</i> ²	.36		.70		.17		.24	

Note. All values in bold are significant ($p < .05$). PA and NA = Positive affect and negative affect, respectively. β = Standardized coefficients in the multivariate regression analyses. r = zero-order correlations.

The findings in the four multivariate regression analyses (one for each indicator of well-being) demonstrated that all personality traits jointly explained substantial variance in depression symptoms (36%, $F(9, 220) = 13.62$, $p < .001$), anxiety symptoms (70%, $F(9, 219) = 56.58$, $p < .001$), positive affect (17%, $F(9, 220) = 5.03$, $p < .001$), and negative affect (24%, $F(9, 220) = 7.71$, $p < .001$) during the COVID-19 lockdown. The results of the regression analysis

showed that higher resilience was consistently related to better emotional adaptation (see Table 1). Higher neuroticism was constantly related to all dependent variables except positive affect. Higher self-control was uniquely linked with more positive and less negative affect. Other effects were inconsistent.

4. DISCUSSION

The aim of this study was to investigate the association of personality traits with well-being (i.e., anxiety, depression, negative and positive affect) in university students one month after the first cases of COVID-19 infection appeared in Turkey. Overall, the findings showed the negative roles of neuroticism and attachment anxiety as well as the positive roles of resilience, extraversion, openness, agreeableness, and conscientiousness in explaining well-being during a lockdown.

Most of the present study's findings aligned with the past studies and the expectations (e.g., Anglim & Horwood, 2021; Gupta & Parimal, 2020; Killgore et al., 2020; Modersitzki et al., 2021). The study highlighted the role of trait resilience as a potential protective factor, as it was the strongest and most consistent positive predictor of well-being in this study. This result is not surprising given that past research demonstrated that resilience is related to healthy and beneficial behaviors such as sticking to sleep routines, exercising regularly, spending more time in the sunshine, and maintaining close and supportive relationships during the pandemic (Killgore et al., 2020). Other studies also confirmed that resilience was among the most beneficial personality characteristics during the pandemic (Osimo et al., 2021), including for people from Turkey (Yıldırım et al., 2022). Supporting the finding about the Turkish participants in a cross-cultural study, neuroticism was detrimental to well-being during the pandemic (Micillo et al., 2022).

The literature had mixed findings regarding the effects of extraversion and openness during the COVID-19 pandemic. For example, although studies by Gupta and Parimal (2020) and Staneva et al. (2022) showed a negative association between extraversion and well-being during the pandemic, the opposite effect was found in this study, which was in line with the findings in some other studies (e.g., Anglim & Horwood, 2021; López-Núñez et al., 2021). Perhaps extrovert undergraduates were better at switching to other means of communication, such as online meetings with their classmates or online parties with their friends rather than face-to-face meetings, which would have satisfied their high need for social connection to some extent and safeguarded their well-being. The positive link between openness and well-being in our study was also consistent with the findings of Anglim and Horwood (2021) and contradictory to the findings of Gupta and Parimal (2020). Our finding suggests that individuals with prominent levels of openness might have quickly adapted to new situations, which would have helped them maintain their well-being despite the pandemic. Given the mixed evidence regarding the roles of extraversion and openness, our findings await replication.

The effects of personality traits differed across well-being indicators in our research. An interesting finding was that anxiety, rather than depression and affect, had the highest percentage of explained variance. Seven out of nine personality traits were correlated with anxiety. High uncertainty and unpredictability (characteristic of the start of the COVID-19 pandemic) potentially fueled anxiety (Carleton, 2012). Personality characteristics, which in part determine how people cope with uncertainty and unpredictability, may be more likely to explain variability in anxiety during crises.

This study has some limitations. First, social desirability might be an issue in our online self-report measurements. Second, the findings about the Big Five personality traits should be interpreted cautiously, given the low-reliability levels in four of the five traits. Future research should examine

the replicability of our findings in other crises using a longer, more reliable, and more comprehensive scale. Lastly, the correlational nature design of our study did not inform us about the direction of the association between personality traits and well-being. Indeed, research has also shown that personality traits differed before and after the pandemic (Sutin et al., 2020; 2022).

Taken together, personality was related to affective disturbances in Turkish university students. If temporal precedence in such relationships will be supported in future studies, developing interventions reducing the maladaptive impact of neuroticism (e.g., by targeting related maladaptive coping styles, such as worry and rumination) or enhancing helpful abilities (resilience, self-control; Chmitorz et al., 2018; Friese et al., 2017) could curb the emotional impact of the pandemic.

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