

Personality, Affective Experience and the Psychological Impact of Covid-19 Outbreak in India

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ABSTRACT

The COVID-19 wave is severely affecting mental health worldwide, although the individual responses may vary. This study investigates psychological distress symptoms during the early phase of the COVID-19 outbreak and analyzes personality and affective experience as potential predictors. It is an exploratory survey and a total of 302 individuals participated in it. We collected and evaluated psychological distress, personality, and affect using the Depression, Anxiety and Stress scale (DASS-21), The International Personality Item Pool (Mini IPIP), and Positive and Negative Affect Schedule (PANAS) respectively through online means. Spearman's Rho correlation, Regression analysis and Moderation analysis using Hayes PROCESS was conducted. Results showed that 51.94% of the individuals reported no likelihood of depressive symptoms, whereas 30.38% displayed mild to moderate levels and 17.66% reported severe to extremely severe likelihood. 49.11% of the individuals did not report anxiety symptoms, 30% showed mild to moderate levels, and 20.84% of the participants displayed severe to extremely severe levels. 67.84% of the individuals did not report stress symptoms, whereas 22.25% showed mild to moderate levels, and 9.89% of the participants displayed severe to extremely severe stress symptom levels. Neuroticism and negative affect were risk factors while extraversion and conscientiousness were protective factors. Higher levels of extraversion, conscientiousness, and lower levels of Neuroticism are related to less negative affect and no significant moderation was seen among Neuroticism, negative affect and psychological distress. Specific personality traits and affective experience predict the extent of mental health burden.

Keywords: *Personality, Affect, Psychological distress, Covid-19*

In December 2019, cases of the life-threatening virus outbreak were reported in Wuhan, China. A novel coronavirus (2019-nCoV) was identified as the source of infection. The Covid-19 virus has been identified in other parts of the world also. On 30 January 2020, the World Health Organization (WHO) declared this disease a Public Health Emergency of International Concern¹. Modern quarantine strategies were imposed globally in an attempt to curtail the spread of the COVID-19 infection, which included strict lockdown, voluntary home curfew, restriction on the assembly of groups of people, cancellation of planned social

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and public events, closure of mass transit systems, and other travel restriction². These restrictions imposed by the COVID-19 outbreak have caused significant disturbances globally and to individuals, families, communities, and whole countries³. Countries such as India were also under strict lockdown⁴.

The fear of contracting COVID-19 through personal contact, together with the lockdown scenario, might contribute to elevated feelings of anxiety and psychological distress.

Being social is a human nature that facilitates social interaction. Therefore, when our movements are restricted, we may experience psychological distress³. Stressful life events are linked to major depressive episodes, with people being 2.5 times more likely to be depressed than controls¹² and an increased risk of admission for depression-related problems⁵. Anxiety is also often linked with stressful events, and it usually occurs before depression⁶. A nationwide survey conducted by the Indian Psychiatry Society recently showed that there had been a 20% rise in patients who have mental illness in India during Covid-19⁷. A study by Wang et al. (2020) conducted in China found that 54% of participants rated the mental impact of the virus outbreak as moderate or severe; 29% reported moderate to severe anxiety symptoms, and 17% reported moderate to severe depressive symptoms⁸. In one of the most extensive studies (N=2766) conducted in Italy, 32.8% of the participants reported high or extremely high-level depression, 18.7% anxiety, and 27.2% stress⁹.

The disparity in the prevalence of mental health issues across countries during the pandemic is naturally confounded by non-pandemic causes unique to each region, such as government policy, economic condition, and time after the pandemic began. Nonetheless, by comparing national estimates for mental health prevalence in each country before the pandemic with the results from national surveys performed after the pandemic, it is clear that mental health disorders are significantly higher during the COVID-19 timeframe, pointing to the pandemic as a plausible cause.

Mixed evidence is available about the role of inter-individual characteristics in determining the psychological response facing large-scale stressful events. Hence, it is crucial to detect possible predictors of the psychological impact during the COVID-19 outbreak, to implement prompt intervention strategies¹⁰. Individual differences in personality traits have shown to be critical factors contributing to explain why only some people are experiencing mental stress¹¹. The Five-Factor Model (FFM), which is the most accepted model, draws five personality dimensions -neuroticism, extraversion, openness, agreeableness, and conscientiousness for an individual¹². Personality modes are considered predictive factors for being affected with depression and anxiety and help predict the severity¹³. According to the literature in this field, certain personality traits such as neuroticism and openness contribute to extreme distress¹⁴.

Affect is another component that plays a central role in the human experience. Affective experience has two dominant dimensions: Positive Affect (PA) and Negative Affect (NA). PA and NA have both been shown to be closely linked to the Extraversion and Neuroticism personality dimensions. A low NA suggests a state of relaxation and serenity, while a high NA indicates anxiety¹⁵. It has also been found that a larger Negative Affect (NA) stress reactivity was associated with long-term risk for chronic physical or mental health conditions¹⁵. NA is described as a trans-diagnostic factor for depression and anxiety¹⁶. Furthermore, larger NA responses to stress were related to self-reported depressive symptoms¹⁷ and mortality¹⁸. Therefore, to assess the mental health of Indians during the

present Covid-19 outbreak, we gave due consideration to the relationship between psychological distress symptoms and personality traits.

We hypothesized that personality and affective experience might influence the degree of perceived psychological distress during the COVID-19 pandemic. Therefore, we aimed to study the psychological distress symptoms during the COVID-19 outbreak and lockdown on the Indian general population in three weeks after India was locked down and the Indian government-imposed travel restrictions and to analyze personality and affect as potential predictive factors influencing the extent of stress, depression, and anxiety symptoms. Thus, the current research attempts to fill this gap so that practitioners and policymakers can plan adequate mental health management and interventions.

METHODOLOGY

Sample

A total of 302 (120 males; 182 females) individuals between the ages of 18-65 participated in the study during the national lockdown period. The participants' inclusion criteria were that they should be read and understand English and be a resident of India. Individuals who were hospitalized or with any mental disorder diagnosis; individuals or any of their immediate family members diagnosed with Covid-19 were excluded from participating in the study. Nineteen participants were excluded from the final analysis as they did not meet inclusion criteria. The final sample is 283 (170 females, Mean age: 23.10; 113 males, Mean age: 25.21).

Instruments

Three questionnaires were used in this study.

1. The Depression Anxiety and Stress Scale¹⁹ (DASS-21) were used to assess the psychological distress during the Covid-19 outbreak. It uses a 4-point Likert scale (3 = applied to me very much or most of the time; 0 = did not apply to me at all) that measures the negative emotional states experienced during the last week through 21 items. The items include, for example, for depression: 'I felt downhearted and blue'; for anxiety: 'I experienced trembling'; and for stress: 'I tended to over-react to situations. DASS-21 has been used in several Indian studies and has high internal consistency^{20, 21}.

2. The affective experience was assessed using the Positive and Negative Affect Schedule (PANAS)²². It is a well-validated measure of mood states and demonstrated good reliability. The PANAS instructions focus on how each person is feeling "right now, that is, at the present moment." These items are rated on a scale of very slightly (or) not at all to extremely. It enquires about different emotions such as upset, guilty, excited, proud, and many more.

3. The International Personality Item Pool (Mini IPIP)²³, a 20-item short form of the 50-item International Personality Item Pool-Five-Factor Model measure, was used to assess personality traits. The Mini-IPIP scales, with four items per Big Five trait, had consistent and acceptable internal consistencies across multiple studies (= at or well above .60), similar coverage of facets as other broad Big Five measures, and test-retest correlations that were quite similar to the parent measure across intervals of a few weeks and several months. Moreover, the Mini-IPIP scales showed a comparable pattern of convergent, discriminant, and criterion-related validity with other Big Five measures.

Procedure

The current research is an exploratory survey study. It was approved by the Institute Review Board and Ethics Committee. Data collection was conducted from 21 April 2020, 3 weeks

after the first lockdown was announced in India till 30 May 2020. It was collected using Google forms. The form link was shared on numerous social media sites and via emails and instant messaging apps. Before the survey began, informed consent was sought. Information about age, gender, marital status, occupation, socioeconomic background, and current living conditions was collected through a demographic form.

Data were analyzed with IBM SPSS version 23.0. First, a descriptive analysis was conducted. Associations between the independent variables and the outcome variables were calculated with Spearman's Rho multiple correlation analysis. Regression analysis to check the effect of predictors was also conducted. The moderation model was run using PROCESS as developed by Preacher and Hayes to check the moderation effect of neuroticism on negative affect and depression, stress, and anxiety separately.

RESULTS

In our sample (n = 283), 51.94% of the individuals reported no likelihood of depressive symptoms, whereas 30.38% displayed mild to moderate levels and 17.66% reported severe to extremely severe likelihood. 49.11% of the individuals did not report anxiety symptoms, 30% showed mild to moderate anxiety symptoms, and 20.84% of the participants displayed severe to extremely severe levels. 67.84% of the individuals did not report any stress symptoms, whereas 22.25% showed mild to moderate levels, and 9.89% of the participants displayed severe to extremely severe stress levels.

Figure No. 1 Rates of different levels of depression, anxiety, and stress symptoms, respectively among the sample

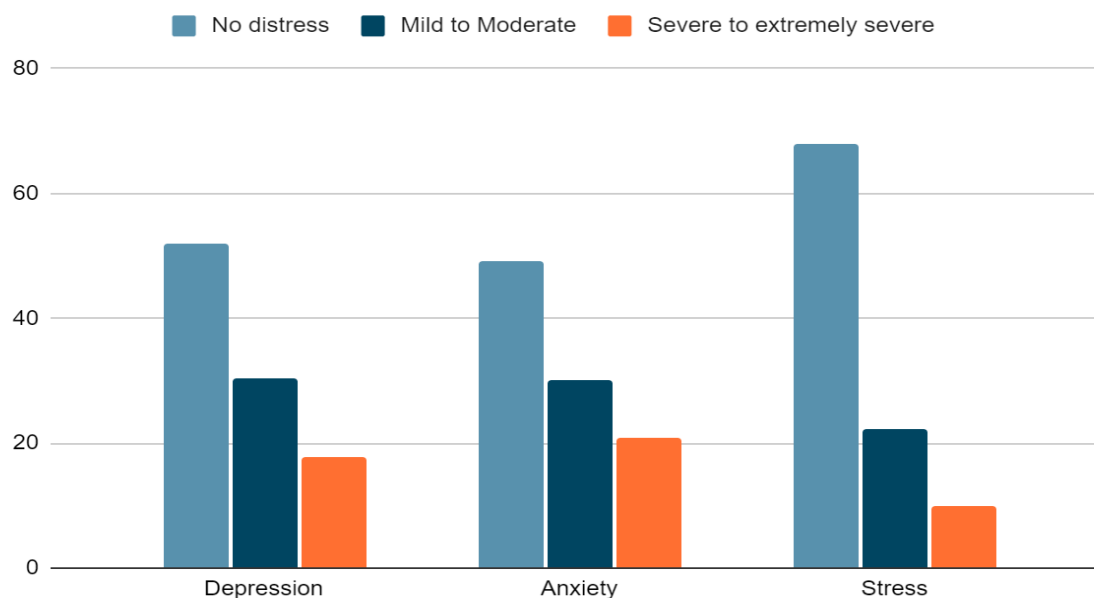


Table 1 shows the matrix consisting of the variables with a significant correlational relationship. Spearman's rank order multiple correlation was run to determine the relationship between depression and Extraversion ($r_s = -.201$, $p = .001$), Conscientiousness ($r_s = -.212$, $p = .000$), and Positive affect ($r_s = -.370$, $p = .000$). There was a strong, negative correlation between them which is statistically significant. Relationship between depression and Neuroticism ($r_s = .341$, $p = .000$), and Negative affect ($r_s = .641$, $p = .000$) were also determined. There is a strong, positive correlation between them which is statistically significant. Correlational analysis was again run to determine the relationship between

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Anxiety and Extraversion ($r_s = -.074$, $p = .213$), Conscientiousness ($r_s = -.179$, $p = .003$), and Positive affect ($r_s = -.086$, $p = .151$). There was a negative correlation between them which is statistically significant. Relationship between anxiety and Neuroticism ($r_s = .261$, $p = .000$), and Negative affect ($r_s = .568$, $p = .000$) were also determined. There was a strong, positive correlation between them which is statistically significant. The analysis also determined the relationship between Stress and Extraversion ($r_s = -.174$, $p = .003$), Conscientiousness ($r_s = -.221$, $p = .000$), and Positive affect ($r_s = -.284$, $p = .000$). There was a strong, negative correlation between them which is statistically significant. Relationship between Stress and Neuroticism ($r_s = .371$, $p = .000$), and Negative affect ($r_s = .646$, $p = .000$) were also determined. There was a strong, positive correlation between them which is statistically significant.

Table No. 1 Spearman's rho correlation analysis for non parametric data

Variables	Depression	Anxiety	Stress	Positive Affect	Negative Affect
Extraversion	-.201**	-.074	-.174**	.248**	-.184**
Agreeableness	-.147*	-.077	-.142*	.146*	-.101
Conscientiousness	-.212**	-.179**	-.221**	.199**	-.257**
Neuroticism	.341**	.261**	.371**	-.344**	.451**
Imagination	-.104	-.121*	-.123*	.058	-.097
Positive Affect	-.370**	-.086	-.284**	1.000	-.323**
Negative Affect	.641**	.568**	.646**	-.323**	1.000

* Correlation is significant at the 0.05 level (2 tailed)

**Correlation is significant at the 0.01 level (2 tailed)

Table 2 shows the result of the regression analysis between the dependent variables and the predictors. Regression models were run to examine moderation. All variables were standardized and centered to minimize multicollinearity. A multiple regression analysis was run to predict Depression from Neuroticism, Extraversion, Conscientiousness, Extraversion, Positive affect and Negative affect. However, only Negative affect, Positive affect and Extraversion statistically predicted Depression, $F(5,277) = 48.211$, $p < .0005$, $R^2 = .465$. High levels of Positive affect and extraversion and is related to low levels of depression. The three variables added statistically significant to the prediction, $p < .05$.

The analysis also tried to predict Anxiety from Neuroticism, Extraversion, Conscientiousness, Extraversion, Positive affect and Negative affect. Positive and negative affect statistically predicted anxiety, $F(5,277) = 36.340$, $p < .0005$, $R^2 = .396$. Both variables added statistically significant to the prediction, $p < .05$; showing that higher levels of negative affected is related to increase in anxiety.

The multiple regression analysis also predicted Stress from the predictors. Only Negative affect and Neuroticism statistically predicted Stress, $F(5,277) = 46.588$, $p < .0005$, $R^2 = .457$. Higher levels of neuroticism and negative affect leads to the increase in stress levels. Both variables added statistically significant to the prediction, $p < .05$

Table No.2 Multiple regression analysis between the predictors and dependent variables (Depression, Anxiety, and Stress)

Dependent variable	Predictors	Unstandardized Coefficients		P	R	R square	Adjusted R square	F
		B	SE					
Depression	Constant	5.081	4.389	.248	.682	.465	.456	48.211
	Negative Affect	.734	.068	.000				
	Positive Affect	-.170	.065	.009				
	Neuroticism	.127	.185	.493				
	Conscientiousness	-.204	.151	.177				
	Extraversion	-.304	.139	.030				
Anxiety	Constant	-7.889	4.281	.066	.629	.396	.385	36.340
	Negative Affect	.774	.066	.000				
	Positive Affect	.172	.063	.007				
	Neuroticism	-.052	.181	.774				
	Conscientiousness	-.276	.147	.062				
	Extraversion	-.023	.136	.868				
Stress	Constant	-4.281	4.005	.286	.676	.457	.447	46.588
	Negative Affect	.705	.062	.000				
	Positive Affect	.008	.059	.890				
	Neuroticism	.370	.169	.029				
	Conscientiousness	-.171	.138	.216				
	Extraversion	-.138	.127	.227				

Table 3 shows the results of the Regression analyses that were conducted to test if Neuroticism prospectively moderates the relationship between negative affect and depressive, anxiety and stress symptoms.

Table No. 3 Moderation analysis using Hayes PROCESS to determine the moderation effect of neuroticism on negative affect and psychological distress (Depression, Anxiety and Stress)

Outcome Variables	R square change (NxNA)	Sig. F change (NxNA)
Depression	.0021	.3120
Anxiety	.0000	.9578
Stress	.0022	.2876

p<.0005

No significant moderation is seen among the predictor, outcome variables and the moderator. There is no statistical significance existing between the variables and the moderator as the p value is greater than .0005.

DISCUSSION

The present research aimed to explore the levels of psychological distress (stress, anxiety, and depressive symptoms) among different sections of the Indian population. For the current study, the data was collected from different professionals, including students. 30% showed mild to moderate anxiety levels, and 20.84% displayed severe to extremely severe levels. These high rates could be because of the current lockdown, and fear of getting infected with Covid-19 is so pervasive that similar distress experiences are evident irrespective of gender. 51.94% of the individuals reported no likelihood of depression, whereas 30.38% displayed mild to moderate levels, and 17.66% reported severe to extremely severe likelihood. 67.84% of the individuals did not report stress, whereas 22.25% showed mild to moderate levels, and

9.89% of the participants displayed severe to extremely severe stress levels. The results are consistent with the results of a recent survey conducted by the Indian Psychiatry Society that showed that there had been a 20% rise in patients who have mental illness in India¹⁵. Results displayed that Neuroticism and negative affect were risk factors for depression, anxiety, and stress symptoms, while extraversion and Positive affect acted as protective factors. Personality traits are differentially associated with positive and negative affect. Higher levels of extraversion, conscientiousness and lower levels of Neuroticism are related to less negative affect. Ormel, Stewart, and Sanderman (1989) found that Neuroticism moderates the impact of life situation change on depressive mood²⁴. However, in our study, Neuroticism has no significant moderation effect in the relationship between negative affect and depression, anxiety, and stress individually, as seen from the results. This could be mainly because of the small sample size, or since the data collected was done after three weeks India went into lockdown, the citizens might have adapted to their current scenario and fear of the virus. People who experience more significant increases in negative affect and greater decreases in positive affect in response to a stressor (Pandemic/lockdown) are more likely to have subsequent mental health problems. Our data results indicated that a relevant rate of individuals might have experienced psychological distress following the COVID-19 outbreak. The 'Theory of behavioral immune system' explains the negative emotion and distress during the COVID-19 Pandemic. The behavioral immune system is composed of psychological pathways that infer infection risk based on perceptual cues and respond to these cues by activating aversive emotions, thoughts, and behavioral impulses²⁵. When faced with stress or traumatic experiences, the general population often tends to respond differently, with some responding positively and others responding negatively. To explore this, we conducted this study in the early stages of this pandemic to investigate the general population's affective experience and psychological distress during the Pandemic so that those who have high levels of psychological distress or respond negatively can be detected early and undergo timely intervention.

There are a few limitations in the present study. Standardized self-reported questionnaires were used to assess the severity of the distress and the socioeconomic predictors of psychological distress in the context of the early period of the COVID-19 pandemic. The availability of internet facilities, education level, and responder's compliance might have influenced the number of participants in this study. The study sample lacks representation of India's geographical and economic status, and few of the predictors of psychological distress were not statistically significant.

Our survey shows that a relevant percentage of the Indian population might have experienced mild-to-extremely severe psychological distress symptoms during the early phase of the COVID-19 outbreak and lockdown. Both personality traits and Affective experience may predict the extent of mental health stress. Interventions and programs to promote mental health among the general population should be rapidly implemented, bearing personal backgrounds and characteristics.

REFERENCES

1. Shigemura, J., Ursano, R. J., Morganstein, J. C., Kurosawa, M., & Benedek, D. M. (2020). Public responses to the novel 2019 coronavirus (2019-nCoV) in Japan: Mental health consequences and target populations. *Psychiatry and Clinical Neurosciences*, 74(4).
2. Oskovi-Kaplan, Z. A., Buyuk, G. N., Ozgu-Erdinc, A. S., Keskin, H. L., Ozbas, A., & Moralglu Tekin, O. (2020). The effect of COVID-19 pandemic and social

- restrictions on depression rates and maternal attachment in immediate postpartum women: A preliminary study. *Psychiatric Quarterly*.
3. Usher, K., Durkin, J., & Bhullar, N. (2020). The COVID-19 pandemic and mental health impacts. *International Journal of Mental Health Nursing*, 29(3).
 4. Sahu, K. K., Lal, A., & Mishra, A. K. (2020). Latest updates on COVID-2019: A changing paradigm shift. *Journal of Medical Virology*, 92(6).
 5. Kessing, L.V., Agerbo, E., & Mortensen, P.B. (2003). Does the impact of major stressful life events on the risk of developing depression change throughout life? *Psychological Medicine*, 33(7).
 6. Schneiderman, N., Ironson, G., & Siegel, S. D. (2005). Stress and health: Psychological, behavioral, and biological determinants. *Annual Review of Clinical Psychology*, 1(1).
 7. Loiwal, M. (2020). 20% increase in patients with mental illness since coronavirus outbreak: Survey. *India Today*, 31.
 8. Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health*, 17(5).
 9. Mazza, C., Ricci, E., Biondi, S., Colasanti, M., Ferracuti, S., Napoli, C., & Roma, P. (2020). A nationwide survey of psychological distress among Italian people during the COVID-19 pandemic: Immediate psychological responses and associated factors. *International Journal of Environmental Research and Public Health*, 17(9).
 10. Sani, G., Janiri, D., Di Nicola, M., Janiri, L., Ferretti, S., & Chieffo, D. (2020). Mental health during and after the COVID -19 emergency in Italy. *Psychiatry and Clinical Neurosciences*, 74(6).
 11. Jakšić, N., Brajković, L., Ivezić, E., Topić, R., & Jakovljević, M. (2012). The role of personality traits in posttraumatic stress disorder (PTSD). *Psychiatria Danubina*, 24(3).
 12. Begg, S. J., Vos, T., Barker, B., Stanley, L., & Lopez, A. D. (2008). Burden of disease and injury in Australia in the new millennium: Measuring health loss from diseases, injuries and risk factors. *Medical Journal of Australia*, 188(1).
 13. Van der Veen, D. C., Van Dijk, S. D., Comijs, H. C., Van Zelst, W. H., Schoevers, R. A., & Oude Voshaar, R. C. (2016). The importance of personality and life-events in anxious depression: From trait to state anxiety. *Aging & Mental Health*, 21(11).
 14. Costa, P. T., & McCrae, R. R. (1992). Normal personality assessment in clinical practice: The NEO personality inventory. *Psychological Assessment*, 4(1).
 15. Watson, D., & Clark, L. A. (1992). On traits and temperament: General and specific factors of emotional experience and their relation to the five-factor model. *Journal of Personality*, 60(2).
 16. Böhnke, J. R., Lutz, W., & Delgadillo, J. (2014). Negative affectivity as a transdiagnostic factor in patients with common mental disorders. *Journal of Affective Disorders*, 166.
 17. Van Winkel, M., Nicolson, N., Wichers, M., Viechtbauer, W., Myin-Germeys, I., & Peeters, F. (2015). Daily life stress reactivity in remitted versus non-remitted depressed individuals. *European Psychiatry*, 30(4).
 18. Chiang, J. J., Turiano, N. A., Mroczek, D. K., & Miller, G. E. (2018). Affective reactivity to daily stress and 20-year mortality risk in adults with chronic illness: Findings from the national study of daily experiences. *Health Psychology*, 37(2).

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19. Lovibond, P., & Lovibond, S. (1995). The structure of negative emotional states: Comparison of the depression anxiety stress scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, 33(3).
20. Meena, P. S., Soni, R., Jain, M., & Paliwal, S. (2015). Social networking sites addiction and associated psychological problems among young adults: A study from North India. *Sri Lanka Journal of Psychiatry*, 6(1).
21. Rao, S., & Ramesh, N. (2015). Depression, anxiety and stress levels in industrial workers: A pilot study in Bangalore, India. *Industrial Psychiatry Journal*, 24(1).
22. Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54(6).
23. Goldberg, L. R. (1999). A broad-bandwidth, public domain, personality inventory measuring the lower-level facets of several five-factor models. *Personality psychology in Europe*, 7(1).
24. Ormel, J., Stewart, R., & Sanderman, R. (1989). Personality as modifier of the life change-distress relationship. *Social Psychiatry and Psychiatric Epidemiology*, 24(4).
25. Schaller, M. (2011). The behavioural immune system and the psychology of human sociality. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 366(1583).

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Conflict of Interest

The author(s) declared no conflict of interest.

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