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THE PAIN OF AN ENTREPRENEUR? RELATIONSHIP BETWEEN PERSONALITY, LIFE SATISFACTION, AND PSYCHOLOGICAL SUFFERING OF BRAZILIAN ENTREPRENEURS DURING THE COVID19 PANDEMIC

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ABSTRACT

Objective of the study: the main objective of the present study was to investigate the relationship between personality traits, life satisfaction, the perceived impact of the pandemic and the psychological suffering of Brazilian entrepreneurs.
Methodology: 631 respondents (51% female) with a mean age of 39.34 years (SD = 10.75), from different Brazilian states. Entrepreneurs answered an online collection form that assessed their personality, psychological distress, life satisfaction, and questions about the perception of the pandemic.
Originality/relevance: studies on the mental health of entrepreneurs are scarce, even in crisis situations, such as the covid-19 pandemic. This study sought to fill part of this gap.

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Main results: Structural equation modeling shows that personality traits and life satisfaction are directly associated with the psychological distress of entrepreneurs. The relationship between neuroticism, extraversion and conscientiousness and psychological distress was partially mediated by life satisfaction.
Theoretical/methodological contributions: this study contributes to the identification of individual and social variables and the way they are associated in the prediction of psychological suffering, in major health crises, such as covid-19.
Social /management contributions: the results of this study can be used by managers, entities, and support services for entrepreneurs in order to build policies and actions aimed at coping with medium and long-term emotional consequences, uncertainties and setbacks resulting from the pandemic. of covid-19 for the entrepreneur and his business.

Keywords: entrepreneurs; mental health; Covid-19; personality; life satisfaction.

EMPREENDE(DOR)? INVESTIGAÇÃO SOBRE A RELAÇÃO ENTRE A PERSONALIDADE E A SATISFAÇÃO COM E O SOFRIMENTO PSICOLÓGICO DE EMPREENDEDORES BRASILEIROS DURANTE A PANDEMIA DA COVID-19

RESUMO

Objetivo do estudo: o presente estudo teve como objetivo principal investigar a relação entre traços de personalidade, satisfação com a vida, o impacto percebido da pandemia e o sofrimento psicológico de empreendedores brasileiros.
Metodologia: 631 respondentes (51% do sexo feminino) com idade média de 39,34 anos (DP = 10,75), de diferentes estados. Os empreendedores responderam a um formulário online de coleta com instrumentos relacionados a sofrimento mental, personalidade, satisfação com a vida e sobre sua percepção da pandemia.
Originalidade/ relevância: são escassos os estudos a saúde mental de empreendedores, mesmo em situações de crise, como a pandemia da covid-19. Esse estudo buscou suprir parte desta lacuna.
Principais resultados: a modelagem de equações estruturais aponta que os traços de personalidade e a satisfação com a vida estão diretamente associados ao sofrimento psicológico dos empreendedores. A relação entre neuroticismo, extroversão e conscienciosidade e sofrimento psicológico foi parcialmente mediada pela satisfação com a vida.
Contribuições teórico/metodológicas: este estudo contribui para a identificação de variáveis individuais e sociais e a forma como estas estão associadas na predição do sofrimento psicológico, em crises sanitárias de grandes proporções, como foi a covid-19.
Contribuições para a sociedade: os resultados desse estudo podem ser usados por gestores, entidades e serviços de apoio ao empreendedor a fim de pensar em políticas e ações direcionadas aos enfrentamentos das consequências emocionais, de médio e longo prazo, das incertezas e revezes decorrentes da pandemia da covid-19 para o empreendedor e seu negócio.

Palavras-chave: empreendedores; saúde mental; covid-19; personalidade; satisfação com a vida.

¿EL DOLOR DEL EMPRENDEDOR? INVESTIGACIÓN SOBRE LA RELACIÓN ENTRE LA PERSONALIDAD, LA SATISFACCIÓN CON LA VIDA CON EL SUFRIMIENTO PSICOLÓGICO DE LOS EMPRENDEDORES BRASILEÑOS DURANTE LA PANDEMIA DE COVID-19

RESUMEN

Objetivo del estudio: el objetivo principal del presente estudio fue investigar la relación entre los rasgos de personalidad, la satisfacción con la vida, el impacto percibido de la pandemia y el sufrimiento psicológico de los empresarios brasileños.
Metodología: 631 encuestados (51% mujeres) con una edad media de 39,34 años (DT = 10,75), de diferentes estados brasileños. Los emprendedores respondieron un formulario de recolección en línea que evaluó su personalidad, malestar psicológico, satisfacción con la vida y preguntas sobre la percepción de la pandemia.
Originalidad/relevancia: los estudios sobre la salud mental de los emprendedores son escasos, incluso en situaciones de crisis, como la pandemia del covid-19. Este estudio buscó llenar parte de este vacío.
Principales resultados: El modelo de ecuaciones estructurales muestra que los rasgos de personalidad y la satisfacción con la vida están directamente asociados con el malestar psicológico de los emprendedores. La relación entre neuroticismo, extraversión y escrupulosidad y malestar psicológico estuvo parcialmente mediada por la satisfacción con la vida.
Aportes teóricos/metodológicos: este estudio contribuye a la identificación de variables individuales y sociales y la forma en que se asocian en la predicción del sufrimiento psicológico, en grandes crisis sanitarias, como la covid-19.
Aportes sociales/de gestión: los resultados de este estudio pueden ser utilizados por gestores, entidades y servicios de apoyo a emprendedores para construir políticas y acciones dirigidas a enfrentar las consecuencias emocionales, incertidumbres y contratiempos de mediano y largo plazo derivados de la pandemia. del covid-19 para el emprendedor y su negocio.

Palabras-clave: emprendedores; salud mental; COVID-19; personalidad; satisfacción con la vida.

INTRODUCTION

In March 2020, the World Health Organization declared the new coronavirus, SARS-CoV-2 pandemic, which is responsible for the disease of covid-19 (PAHO, 2020). Since then, the coronavirus has brought losses that range from economic and political to psychological and social. Data collected from 21 countries show that in 2020, about 200,000 more people died than expected had the pandemic not occurred (Kontis et al., 2020). In Brazil, on February 26, 2020, the first coronavirus case was confirmed in São Paulo (G1, 2020[1]), and in 2022, data from the Ministry of Health point to the mark of more than 666 thousand deaths accumulated. Despite the attenuation of the severity of the pandemic worldwide and the easing of sanitary measures, sanitary crises experienced at other times in our history, such as the SARS crisis, Ebola, H1N1 influenza pandemic, and equine influenza, are responsible for generating primarily negative impacts on the lives of the general population, culminating in drastic outcomes and socioeconomic and psychological damage to the affected populations (Brooks et al., 2020).

From the socioeconomic point of view, the general state of the population, the agility of the health and social care system, as well as safety nets - social and economic - are configured as mediators of the impacts of the pandemic on the population, especially regarding mortality (Kontis et al., 2020). The financial impact, for example, presents itself as a risk factor for mental illness after quarantine. In the studies reviewed by Brooks et al. (2020), employees, entrepreneurs, and freelancers unable to work, as well as the interruption of professional activities without prior notice or planning, were responsible for socioeconomic problems and were also considered risk factors for psychological disorders, anger, and anxiety for several months after quarantine.

In this sense, besides death, mourning, and uncertainty that impacts the lives of individuals, it is vital to shedding light on the indirect consequences of the pandemic, such as unemployment, hunger, and the lack of confidence in institutions, which consequently impact and aggravate the psychological damage experienced. In this regard, different research groups worldwide have sought to understand how the covid-19 pandemic has impacted the lives of people of varying age groups, in different occupations, with different characteristics, and especially how these individual differences impact, in turn, the outcome of the 2020 pandemic. The need to study this life outcome can be elucidated by the fact that for some mental disorders, such as schizophrenia and major depression, loneliness and reduced social interactions are risk factors (Fiorillo & Gorwood, 2020); thus, the potentiating of these scenarios, coming from the pandemic, can worsen clinical cases, contributing to tremendous mental suffering in these populations. In addition, the literature has presented data highlighting the impact of lockdown on mental health and depressed mood (Suso-Ribera, & Martín-Brufau, 2020), increased prevalence of depression, anxiety, and stress in pregnant women (Nwaforet al., 2021); on mental and physical health consequences in the elderly (Fastameet al., 2021), on challenges faced and effects on mental health in health professionals (Reiser et al., 2021; Foye et al., Ornell et al., 2021; Greenberg et al., 2021), the impact on mental health in college students (Chaturvedi et al., 2021; Mansur-Alves et al., 2021; Chirikov et al., 2020) as well as, life satisfaction in certain cultures (Bittmann, 2021). Regarding the latter, the literature points to the negative impact that the pandemic, especially the first wave and the first months of restrictive measures, generated on the life satisfaction of different European population groups, affecting, in particular, women and families with young children (Huebener et al., 2020). The death of thousands of people, close or not, the fear of a disease with a high potential for death, the curtailment of social life, socializing with friends and relatives, unemployment, and uncertain economic times may explain these findings (Huebener et al., 2020). In 2003, the SARS

epidemic caused an increase in anxiety and suicide rates in certain groups. In past epidemics, a higher frequency of suicidal behavior was observed relative to pre-pandemic periods (Mansur-Alves et al., 2021). Moreover, trust in institutions that govern, rule, and regulate almost every aspect of our lives - the political system, the government, or even the media - as pointed out by Bittmann (2021), correlates positively with life satisfaction since when we trust institutions and believe they are helpful, we are led to believe that we will have a favorable environment to go through the crisis with less damage.

Given what has already been presented, mental health is a necessary field of research. Understanding how environmental adversities impact the lives of individuals and how individual differences operate, mediate, potentiate, or mitigate the adverse effects on mental health is essential for thinking about public policies, coping measures, and forms of treatment in a scenario of global crisis. Thus, individual differences have been studied in their relationship with health and well-being, and several researchers point out that personality traits are good predictors of outcomes related to mental health, health-promoting behaviors, and physical health (Strickhouser et al., 2017). A meta-synthesis of 30 meta-analyses, with over 500,000 participants, explored the relationship between the five personality traits and health indicators and corroborated, with robust data, what was already found in the literature in the area on the impact of personality traits on health, particularly mental health (Strickhouser et al., 2017). Still, in this study, the author highlights that such a relationship is marked by considerable variability regarding the impact of personality traits, with more minor effects for physical health, for example, and more extensive and more robust effects for mental health and resilience (an example can be found in the modulating relationship of neuroticism with stress and risk perception, which consequently impacts mental health and immune system response) (Khosravi, 2020).

Furthermore, DeYoung (2015) comments that the clustering of the traits of Neuroticism (inverted), Agreeableness, and Conscientiousness reflects the tendency for us to maintain stable functioning and control of the emotional, social, and motivational domains, which, understanding health from a biopsychosocial well-being perspective, may primarily explain the traits of Neuroticism and Conscientiousness as good predictors of mental health. Still on this relation, in the context of the global health crisis in 2020, different studies sought to examine how personality traits mediate the impact of the pandemic on people's mental health and how personality can act as a protective or risk factor for mental illness in a context of crisis, social isolation, losses, high risk of stress, fear, and social anxiety (Carvalho et al., 2020; Mansur-

Alves et al., 2021; Nikčević et al., 2021; Schmiedeberg & Thönnissen, 2021; Shokrkon & Nicoladis, 2021; Zajenkowski et al., 2020). In this sense, understanding how individual differences may impact the way people experience such events and develop resources to cope with this type of crisis is critical.

As presented in the previous paragraphs, covid-19 has brought damages that range from direct aspects, which are implicated in the social, political, and health spheres, to indirect aspects, such as increased domestic violence, change in the quality and quantity of food to the population, loss of income and impact on occupational life (Kontis et al., 2020). On the latter, O'Connor et al. (2021) comment that respondents who reported fulfilling a pivotal role at work had higher rates of suicidal thoughts compared to workers who did not hold such a role. Still, on this subject, as previously mentioned, the economic and psychological damage to people, whether employees, business owners, or entrepreneurs, lasts for months after a pandemic (Brooks et al., 2020). Regarding entrepreneurial activity, according to the World Bank[1], small and medium-sized enterprises (including self-employed workers here) account for about 90% of businesses worldwide, responsible for more than 50% of jobs around the globe. The entrepreneurial person can identify problems and opportunities, develop solutions for the world, and invest resources in creating something positive for society. This process is closely linked to innovation (Sebrae/SC, 2021). Entrepreneurs also possess the courage to take calculated risks, demand quality and efficiency, goal setting, planning, independence, and self-confidence (Krüger & Minello, 2018). During the covid-19 pandemic, self-employed and small and medium-sized entrepreneurs may have been particularly affected given that, among other things, unlike large companies, they have fewer economic resources to deal with the adversity of this proportion (Stephan et al., 2021). The economic impact, the lives directly and indirectly impacted (considering the relationship of entrepreneurial activity with the generation of jobs and income), and the characteristics mentioned above, such as the need for self-fulfillment and effectiveness, and the relationship with ambiguous and uncertain environments, make thinking about the mental health of entrepreneurs, whether self-employed, small, medium, or large, during the covid-19 pandemic an essential object of study that researchers should take a closer look. A report by the King's Business School (Stephan et al., 2021). one of the few sources of information on this theme found in the literature review conducted for this work presented the results of a study conducted with 5,206 entrepreneurs, 3,796 of them from small and medium-sized companies and 1,410 self-employed professionals, in 23 countries, including Brazil, and found results that indicate that life satisfaction was, on average, 12% lower than before the pandemic. In addition, about 50 % of the entrepreneurs in the study, about 57%, expressed

concern about their and their family's health, and 39.7% of the participants said they had faced great uncertainty and unpredictable events at work.

Scientific research on the effects of the pandemic on mental health has focused on the general population and specific subgroups, such as women (Bittmann, 2021; Huebener et al., 2021; Nwafor et al., 2020; Suso-Ribera & Martín-Brufau, 2020), the elderly (Fastame et al., 2021), healthcare professionals (Foye et al., 2021; Greenberg et al., 2020; Ornell et al., 2021; Reiser et al., 2021), and academics (Chaturvedi et al., 2021; Chirikov, 2020; Mansur-Alves et al., 2021). However, an important subgroup of the population has been neglected in studies on the effects of the Covid-19 pandemic on mental health. As mentioned in the previous paragraphs, individuals with some business or entrepreneurial venture can not only experience the personal effects of the pandemic but also be directly or indirectly affected in managing their businesses, considering the economic impacts of social distancing measures and the loss of income among the population. Nevertheless, entrepreneurs would be a subgroup of great interest when investigating risk and protective factors and the potential impacts of the pandemic on mental health, considering that they are at the forefront of one of the essential pillars of society, namely the generation of employment and income for a country. Therefore, this study aims to fill this gap in the literature on the effects of the covid-19 pandemic on mental health by seeking to investigate the predictive role of personality traits, life satisfaction, and psychological, social, and economic variables typical of the experience of that moment in the levels of psychological distress of Brazilian entrepreneurs during the covid-19 pandemic. Based on existing literature on the role of personality traits and life satisfaction in mental health, it is possible to hypothesize that personality traits will have direct and indirect effects on psychological distress among entrepreneurs, particularly neuroticism, which would be positively associated with psychological distress among entrepreneurs, and conscientiousness, which would be negatively associated with psychological distress. Life satisfaction would be negatively associated with psychological distress and could act as a protective factor in the relationship between personality traits, such as neuroticism, and psychological distress. However, as no previous studies on the impacts of the pandemic on the mental health of entrepreneurs have been found, the analysis of the relationship between specific variables related to the experience of this moment for this group and their levels of psychological distress will not be based on any specific hypothesis. However, it will be conducted in an exploratory manner.

METHODS

Participants

Six hundred thirty-one entrepreneurs (51% female) aged 18 and 68 (M = 39.34, SD = 10.75) participated in the study. Most participants declared themselves heterosexual (89%) and married or in a stable union (60%). Regarding formal education, 29% stated that they had completed undergraduate studies, and 26% had completed specializations or MBAs. Only 3% of the sample had incomplete elementary or high school education. Most of the participants were located in the Southeast region (71%), and the entrepreneurs in this study lived in 26 states of the federation, most of them in Minas Gerais (29%) and São Paulo (28%). The study sample was non-probabilistic and of convenience.

Instruments

Inventário dos Cinco Grandes Fatores de Personalidade – IGFP-5 (Andrade, 2008). The Brazilian version of the Big-Five inventory (John et al., 1991) is a self-report instrument that evaluates personality traits based on five dimensions: Neuroticism, Extraversion, Openness to experiences, Agreeableness, and Conscientiousness. Items are answered on a five-point Likert scale (1 - strongly disagree; 5 - strongly agree). The reliability estimates for each dimension were acceptable. Neuroticism: $\alpha = .86$ $\omega = .88$; Extraversion: $\alpha = .85$ $\omega = .86$; Openness to experiences: $\alpha = .82$ $\omega = .85$; Agreeableness: $\alpha = .84$ $\omega = .86$; Conscientiousness: $\alpha = .75$ $\omega = .73$. An exploratory structural equation model with a random intercept to control for acquiescence showed adequate fit $\chi^2(735) = 1728.44$ $p < .001$ CFI = .931 TLI = .911 RMSEA (90% CI) = .046 (.043 - .049) SRMR = .044. The structure presented for the BFI was in line with studies indicating the need to model cross-loadings in personality scales (Booth & Hughes, 2014) and as well as controlling for the tendency to agree with items regardless of their content (i.e., acquiescence - Zanon et al., 2018).

Depression, Anxiety, and Stress Scale - DASS 21 (Vignola & Tucci, 2014). The Brazilian version of the DASS-21 (Lovibond & Lovibond, 1995) is a questionnaire that assesses symptoms of depression, anxiety, and stress. Items are answered on a four-point Likert-type scale (0 - does not apply at all; 3 - applies a lot or most of the time). Each subscale has seven items. The higher the score on the scale, the greater the symptom intensity. According to McDonald's Omega, the reliability indices indicate that only the total score was acceptable. Depression: $\alpha = .90$ $\omega = .28$; Anxiety: $\alpha = .90$ $\omega = .25$; Stress: $\alpha = .89$ $\omega = .22$; Total score: $\alpha = .95$ $\omega = .83$. For the DASS-21, a bi-factor model has tested in which a general factor explains

the items in a concurrent manner to the specific factors (da Rocha et al., 2021). The model showed an acceptable fit $\chi^2(168) = 532.80$ $p < .001$ CFI = .983 TLI = .979 RMSEA (90% CI) = .059 (.053 - .064) SRMR = .035.

Escala de satisfação com a vida – ESV (Gouveia et al., 2009). The Brazilian version of the Life Satisfaction Scale (Diener et al., 1985) is a scale that assesses life satisfaction. The items are answered on a seven-point Likert-type scale (1 - strongly disagree; 7 - strongly agree)—higher scores on the scale point to higher levels of life satisfaction. The reliability indices were acceptable: $\alpha = .89$ $\omega = .88$. The ESV presented indices consistent with previous studies indicating its unidimensionality (i.e., only one dimension - Gouveia et al., 2009) $\chi^2(5) = 12.03$ $p = .034$ CFI = .999 TLI = .998 RMSEA (90% CI) = .047 (.012 - .082) SRMR = .011.

Pandemic variables. Participants answered general questions about the perceived impact of the pandemic. Regarding how affected they felt by the isolation, the response was on a 5-point Likert scale (1 - Neutral, I do not think I've been affected yet like other people around me; 5 - Very affected). The response was on a 5-point Likert scale (1 - Strongly disagree; 5 - Strongly agree) regarding the perceived ability and uncertainty to cope. Participants responded on a 3-point Likert-type scale (1 - Not at all afraid; 3 - Very afraid) regarding the fear of being infected with the new coronavirus. About the enterprise, it was asked if there was a drop in income (1 - No, 2 - Yes, or do not want to inform) and how long the enterprise has existed.

Data collection procedures

This is an integrated research project on risk and protective factors for anxiety, stress, depression, and suicidal ideation in adults, approved by the UFMG Research Ethics Committee (Registration: CAAE 07077019.3.0000.5149). All procedures complied with the precepts of the Declaration of Helsinki.

The participants agreed to participate in the study by electronically signing the informed consent form. The collection was performed online using the Google Forms questionnaire platform. To publicize the research to potential participants, invitations were made through social networks, contacting entrepreneurs, advertising on websites of interest to the target audience, and with the help of partners. The answers were collected in June 2020. The time taken to fill out the online questionnaire was approximately 25 minutes.

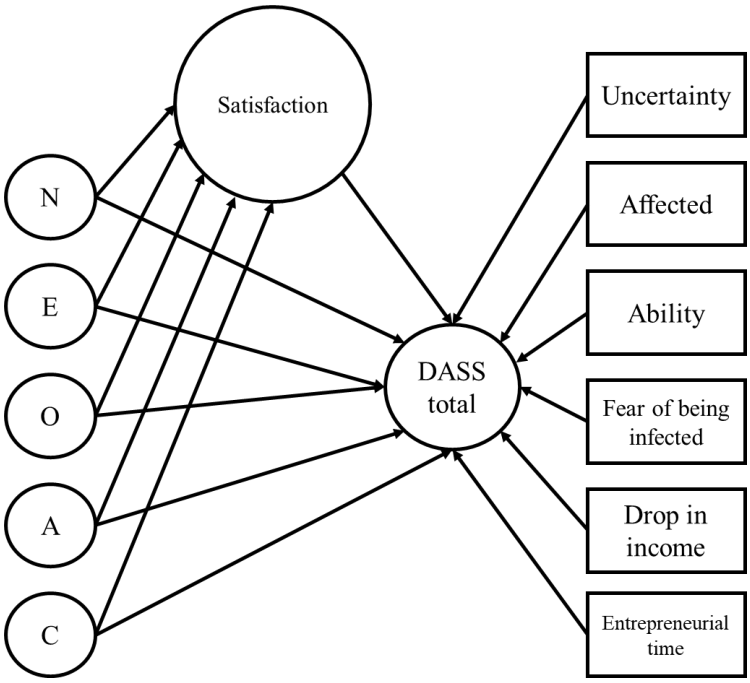
Data analysis procedures

To test the conceptual models presented in Figure 1, structural equation modeling (SEM) analyses were performed. The first step before testing the relationships between variables was to conduct factor analyses to determine the internal structure of the scales. All analyses used the weighted least squares mean and variance adjusted (WLSMV) estimation method, which is suitable for ordinal data and Likert-type scales (Li, 2016). The models to be tested for the internal structure of the scales were configured according to previous research using the instruments.

The fit of factor analyses and structural equation models was evaluated using the following indices: comparative fit index (CFI); Tucker-Lewis index (TLI); standardized root mean residual (SRMR), and root mean square error of approximation (RMSEA). CFI and TLI values should be greater than .90 (preferably greater than .95), and RMSEA and SRMR values should be less than .08 (preferably lower than .06) to be considered acceptable. Furthermore, the upper bound of the confidence interval of RMSEA should be less than .10 to be considered acceptable (Brown, 2015). All analyses were performed using the R program version 4.1.0 (R core team, 2021). In addition, the packages Lavaan (Rosseel, 2012 - version 0.6-9) and semTools (Jorgensen et al., 2016 - version 0.5-5) were used.

Figure 1

SEM model to be tested



Note: this is a representational/conceptual model where the observed variables have been omitted. N: neuroticism; E: extraversion; O: openness to experience; A: agreeableness; C: conscientiousness.

Relationships between variables were established based on the results found in previous studies conducted with other samples and population groups. Scores on personality traits were considered predictors of psychological distress (DASS-21 total score) and life satisfaction. The score on life satisfaction was considered a possible mediator of the relationship between personality traits and psychological distress. As presented in Figure 1, the pandemic variables were treated as possible observed covariates. In terms of statistical power, we consider an alpha level of 5% and a power of 80%. Considering 76 observable variables (scale items and pandemic covariates), 11 latent variables, and an average overall effect ($\delta = 0.3$), a sample size of at least 378 individuals would be required (Soper, 2023). This indicates that the sample size of the current study appears to be sufficient.

RESULTS

To investigate the bivariate associations among the variables, Spearman's correlation was chosen since the variables about the impact of the pandemic were ordinal. The coefficients are presented in Table 1. As only the general factor of the DASS-21 showed satisfactory

reliability indices, only this score was used in further analyses. Most variables showed a significant correlation with the overall DASS-21 score and life satisfaction. Regarding the pandemic variables, higher scores on uncertainty, feeling affected by the pandemic, fear of being infected, and higher perceived drop in income were significantly associated with more significant psychological distress. On the other hand, the higher the perceived ability to deal with the pandemic, the lower the psychological distress.

Table 1

Correlations among the study variables

Variável	M	DP	1	2	3	4	5	6	7	8	9	10	11	12	13
1. DASS-21 total	19.17	14.57	1												
2. Life Satisfation	23.54	6.87	-.43***	1											
3. Neuroticism	23.33	6.56	.65***	-.33***	1										
4. Extraversion	28.76	6.04	.18***	.26***	-.13*	1									
5. Openness	39.44	5.95	-.10	.13	-.12	.38***	1								
6. agreeableness	25.47	5.26	-.04	.05	-.16**	.13	.16**	1							
7. conscientiousness	34.42	4.87	-.30***	.21***	-.27***	.18***	.26***	.30***	1						
8. Uncertainty	-	-	.21***	-.14*	.13	-.03	-.04	.06	-.09	1					
9. Affected	-	-	.43***	-.34***	.28***	-.06	-.02	.09	-.06	.26***	1				
10. Abilities	-	-	-.40***	.37***	-.33***	.23***	.21***	.01	.28***	-.14*	-.24***				
11. Fear of being infected	-	-	.20***	-.12	.18***	-.07	-.06	.06	-.09	.05	.08	-.12	1		
12. Drop in income	-	-	.17***	-.17***	.09	.00	-.05	.18***	.07	.21***	.20***	-.1	.07	1	
13. entrepreneurial time	-	-	-.12	.14*	-.07	.08	.11	.01	.13*	.06	-.06	.14*	.01	-.03	1

Note: M: mean. SD: standard deviation, pandemic variables are described in terms of the frequency of response in each category. Descriptives of the pandemic variables are available in the supplementary material. *p < .05; **p < .01; ***p < .001

The structural equation model without covariates showed better fit than the model with pandemic covariates [Model 1 – without covariates - $\chi^2(2146) = 3920{,}79$ $p < 0{,}001$ CFI = 0,952 TLI = 0,946 RMSEA (90% CI) = 0,036 (0,034 – 0,038) SRMR = 0,048; model 2 – with covariates - $\chi^2(2560) = 4763{,}40$ $p < 0{,}001$ CFI = 0,917 TLI = 0,922 RMSEA (90% CI) = 0,037 (0,035 – 0,039) SRMR = 0,051]. The regression coefficients for model 1 are presented in Table 2. It can be observed that there was a significant positive effect of Extraversion and Conscientiousness in explaining levels of life satisfaction. On the other hand, Neuroticism showed a significant negative relationship with life satisfaction. The results also indicate that Neuroticism was positively related to the total score of the DASS-21. Conversely, Conscientiousness and life satisfaction showed a negative association. Finally, it could be seen that there was a partial mediation of the effects of Neuroticism, Extraversion, and Conscientiousness through life satisfaction in explaining the DASS-21.

Table 2

Regression coefficients of the best fit model

		IC 95%				
Variable	b	Lower	Upper	EP	β	p
Life Satisfaction (R^2 = .259)						
Neuroticism	29	-0.36	-0.22	0.04	-0.35	.000
Extraversion	0.25	0.18	0.33	0.04	0.30	.000
Openness to experience	-0.01	-0.08	0.07	0.04	-0.01	.860
Agreeableness	-0.05	-0.13	0.02	0.04	-0.07	.174
Conscientiousness	0.11	0.03	0.18	0.04	0.13	.005
Total score DASS-21 (R^2 = .670)						
Neuroticism	1,10	0,93	1,26	0,09	0,63	.000
Extraversion	0,17	-0,02	0,35	0,10	0,10	.084
Openness to experience	0,06	-0,20	0,31	0,13	0,03	.664
Agreeableness	0,10	-0,43	0,63	0,27	0,06	.714
Conscientiousness	-0,32	-0,54	-0,10	0,11	-0,18	.005
Life Satisfaction	-0,46	-0,62	-0,31	0,08	-0,22	.000
Indirect effects: Life Satisfaction as a mediator						
Neuroticism -> Satisfaction -> DASS-21	0,13	0,08	0,19	0,03	0,08	.000
Extraversion -> Satisfaction -> DASS-21	0,12	0,06	0,17	0,03	0,07	.000
Openness to experience -> Satisfaction -> DASS-21	0,01	-0,04	0,06	0,02	0,01	.710
Agreeableness -> Satisfaction -> DASS-21	0,00	-0,05	0,05	0,03	0,00	.961
Conscientiousness -> Satisfaction -> DASS-21	-0,06	-0,10	-0,01	0,02	-0,03	.015

Note: CI: confidence interval, SE: standard error.

DISCUSSION

The main objective of the present study was to investigate the role of variables such as life satisfaction, personality traits, and perceived impact of the pandemic in predicting levels of psychological distress in Brazilian entrepreneurs during the COVID-19 pandemic, to test a model of psychological distress for entrepreneurs that had not been identified in the literature.

Nikčević and collaborators (2021) pointed out in their study that psychological distress during the pandemic is not only dictated by personality traits but also, significantly, by other factors. Thus, regarding the psychological and economic variables included in this study, specific to the experience of the pandemic, the findings indicate the relationship between psychological distress, expressed by higher levels in the DASS scores, and variables related to the pandemic moment experienced by Brazilian entrepreneurs, such as a perceived drop in income, fear of being infected, and perception of having the ability to deal with the pandemic. These results indicate that the greater the perception of uncertainty and feeling affected by the pandemic scenario, the fear of being infected, and the perception of a drop in income, the greater the psychological distress experienced. In this sense, it seems reasonable to assume that the pandemic of COVID-19 and its developments in the private, social, and economic lives of Brazilian entrepreneurs had a significant impact on the levels of psychological distress and were configured as risk factors for the mental health of entrepreneurs. Brooks et al. (2020), through the studies reviewed in their work, commented that financial loss due to the pandemic and bringing socioeconomic losses were also risk factors for psychological symptoms, anxiety, and anger. The previously mentioned report by King's Business School (Stephan et al., 2021) pointed out that in the sample investigated, entrepreneurs' well-being, measured through life satisfaction, during the pandemic was, on average, 12% lower than in pre-pandemic periods. The report concludes that lower levels of well-being and higher levels of stress also reflect how the business and the entrepreneur are connected, especially in terms of financial consequences. In this same direction, concerning the Equine Influenza epidemic, researchers found that respondents whose primary source of income guessed from the equine-related industry were more than twice as likely to experience more significant distress than respondents whose income did not come from that industry (Taylor et al., 2008), which corroborates the possible relationship between impact on financial income and mental health in times of crisis.

Furthermore, the positive relationship between perceived uncertainty and psychological distress has also been pointed out in studies that sought to investigate this relationship in the context of the COVID-19 pandemic, as in Nikopoulou et al. (2022) and Rettie & Daniels (2021).

King's Business School (Stephan et al., 2021) points out that while entrepreneurs are said to cope well with uncertainty, they are not immune to its stressful effects, especially during the pandemic, where levels of uncertainty are already relatively high in this population, intensified. The present study also showed a negative association between the variable of perceived ability to deal with the moment and the total scores of the DASS. This reinforces the understanding that other variables may be necessary as an object of investigation regarding health outcomes in crisis contexts. Furthermore, this result can be configured as a gateway for future investigations regarding the perception of having the skills to deal with situations of uncertainty and its relationship with studies directed at personality and entrepreneurial behavior.

Regarding the role of personality traits and life satisfaction in understanding levels of psychological distress, there is already some consensus regarding the protective or risk role of personality traits and life satisfaction in predicting psychological distress in adults, both before and during the COVID-19 pandemic [for example, Boyce & Powdthavee (2013), Deneve & Cooper (1998), Gale et al. (2013), Hosseinkhanzadeh & Taher (2013), López-Núñez et al. (2021), Krautter et al. (2022)], little was known about the contribution of personality to understanding levels of psychological distress among entrepreneurs. In this sense, regarding the tested model and as hypothesized, the findings indicate that neuroticism, extraversion, conscientiousness, and life satisfaction as a mediator are the main variables associated with psychological distress scores, a pattern similar to that observed in other studies in the field (Mansur-Alves et al., 2021; Shokrkon & Nicoladis, 2021; Nikčević et al., 2021; Kroencke et al., 2020; Schmiedeberg & Thönnissen., 2021). Individuals with higher levels of neuroticism are more inclined to experience negative, distressing, and stressful feelings in the face of aversive events; moreover, they tend to be more vulnerable to periods of more intense and recurrent stress (Bui, 2017; McCrae & Costa, 2008), as in the context of the COVID-19 pandemic, which configures this trait as a risk factor for mental health.

Regarding conscientiousness, the tendency to be more oriented to standards and organization, to seek reliable information from the environment, greater tendency to follow the rules and protocols, and a greater sense of self-efficacy (Mansur-Alves et al., 2021) may be presented as protection tools during the pandemic, which may explain the result found. Less conscientious individuals tend to adopt less healthy and riskier behaviors, such as less engagement and compliance with rules and procedures (Yong, 2007), which in many cases are incompatible with periods of health crises that require following rules and discipline in the execution of measures to control the spread of diseases, such as the case of COVID-19. Thus, these people may be more stressed and anxious because they know they have more difficulty

following restrictive or distancing measures requiring greater discipline and organization. Conscientiousness as a protective factor is supported by other research results before the pandemic (Strickhouser et al., 2017).

Concerning Extraversion, Bui (2017) points out that extroverts tend to be, among other characteristics, more socially oriented, expansive, and gregarious. Thus they tend to engage in behaviors that can be seen as coping mechanisms in times of crisis, such as community relations, companionship, and a more significant support network (Nikčević et al., 2021). Also, Barańczuk (2019) found that a higher level of Extraversion is associated with the ability to adapt to new contexts since these subjects use mechanisms such as reappraisal, acceptance strategies, and less avoidance in addition to being problem-solving oriented. Thus, more introverted people tend to be more vulnerable to new contexts of crisis and isolation. Such associations have been found and discussed in other studies concerning Extraversion in the pandemic context (Nikčević et al., 2021; Shokrkon & Nicoladis, 2021; Kroencke et al., 2020). These results may explain this study's indirect association between extraversion and psychological distress.

Regarding the direct effects of life satisfaction on psychological distress, the results corroborated that of previous studies. Gori et al. (2021) point out, through the results of their study conducted during the pandemic and in agreement with previous research (Peterson et al., 2005), that the perception of having a meaningful life and having feelings of satisfaction is associated with lower stress and higher incidence of healthy and adaptive behaviors. Also, the research data of Gori et al. (2021) showed that, indirectly, life satisfaction was positively related to coping approaches, positive attitudes, and mature defense strategies. Still, in this relation, Mansur et al. (2021), in their findings, point out that life satisfaction seemed to indirectly impact the degree of psychological distress of the study participants through the negative influence on perceived stress levels and the personal impact of the pandemic.

Regarding the indirect effects of neuroticism personality traits, mediated by life satisfaction, on levels of psychological distress, it is possible to hypothesize that higher levels of neuroticism lead to lower levels of life satisfaction due to negative biases and the perception of the world as dangerous, which would potentiate the former's deleterious effects on mental health (DeYoung, 2015; Mansur-Alves et al., 2021; Ozer & Benet-Martínez, 2006). In contrast, people with higher levels of Extraversion would have higher levels of life satisfaction because they are more optimistic and engage more in social activities and support themselves, which would further reduce levels of psychological distress. These presented findings point to the need

and importance of further understanding, beyond direct relationships, of variables that indirectly impact mental health outcomes since the elucidation of these relationships can strongly contribute to the development of policies and coping measures related to population health in times of crisis, as in the context of the Covid-19 pandemic.

As shown, the results obtained in this work find support in other findings present in the literature in the area of individual differences and health regarding the pandemic period and before it, in which the relationships with other variables were also tested and investigated, such as age, nationality, socioeconomic level, educational level; gender (Carvalho et al., 2020; Gori et al., 2021; Mansur-Alves et al., 2021; Muro et al., 2020; Nikčević et al., 2021; Schmiedeberg & Thönnissen., 2021; Shokrkon & Nicoladis, 2021; Strickhouser et al., 2017; Wang et al., 2020; Zajenkowski et al., 2020). This corroborates the robustness of the results found and replicated in the field's literature regarding the relationship between personality traits and mental health. Furthermore, these findings may support the assumption of DeYoung (2015) that some personality traits reflect the tendency to maintain stable functioning and adaptive control of the socioemotional and motivational domains, resulting from the evolutionary process and characteristics that enabled the species' survival. It is important to emphasize that the relationships conducted and presented in this article are cross-sectional, observational, and associative studies. Therefore, causality is not assumed in the found.

In addition to the results found, the present study has some limitations. First, the data were collected at the very beginning of the measures of social distancing and wearing masks. Therefore, it is impossible to know if, with the passing of time and the intensification of the health measures, the relationships found remained the same or even if the same variables would predict the levels of psychological distress. For example, one could hypothesize that over time, higher levels of Extraversion could be associated with higher levels of psychological distress since extroverts are more gregarious and optimistic and tend to have more difficulties remaining socially isolated for longer or even understanding the actual seriousness of the health situation. A new data collection conducted at another point in the pandemic could not only bring insights on this point but also allow for a longitudinal analysis of the variation in entrepreneurs' psychological distress levels. Second, the indicators of variables associated with the COVID-19 pandemic were "single items" and not a scale previously thought out and validated for assessing the impacts of the pandemic. The absence of an indicator that can be treated as a latent variable may have contributed to the poor fit of Model 2. Thus, studies may investigate the effects of the pandemic on psychological distress to increase systematic rigor using an instrument with evidence of validity that has been designed for this purpose. Finally, it is worth

mentioning that the sample used for this study was composed of entrepreneurs with different characteristics in terms of length of experience, sector, the size of the enterprise, and location, among others. However, it was mostly made up of entrepreneurs located in the Southeast, who run traditional businesses or startups, called small (up to 5 employees and revenues of up to 4.8 million) and present in the service sector. Thus, it would be interesting if other studies investigated the same effects in samples with other characteristics since the population of entrepreneurs is widely diverse.

Even with the existing limitations, the results of the present study are unprecedented and original in that the relationships tested here had never been done in a group of entrepreneurs. In this sense, it is interesting to point out that studies like this are relevant and necessary for entrepreneurs who experience emotional challenges since the entrepreneurial process involves dealing with uncertainty and changes frequently. Furthermore, this population regularly takes risks, experiences, and decision-making under pressure and is often encouraged to normalize this experience with high-stress levels. Thus, the results of the present study may pave the way for future investigations regarding aspects related to mental health, perception of life, and individual differences concerning the phenomenon of entrepreneurship.

FINAL CONSIDERATIONS

The pandemic of COVID-19 and its unfolding in individual and social life, directly and indirectly, has presented itself as a challenging event for the stability of the socio-emotional domains, public institutions, and the world economy in such a way as to configure itself as a serious threat to mental health and the basic survival needs of our species. In this sense, the opportunity to seek to understand how individual differences and variables related to mental health operate in scenarios like this is unique, especially in a sample classically left out of this type of investigation and which is strongly affected by the economic impacts and the uncertainty of the scenario, the entrepreneurs.

The investigation of the model of illness hypothesized and tested in this study aimed to contribute to the understanding and further theoretical and, in the future, practical deepening concerning mental health outcomes during global crises, pointing to the protective or risk roles of individual variables, such as personality traits and perceived life satisfaction, for example. This examination of the model presented, besides contributing to the consolidation and robustness of the knowledge about individual differences and health and to the gathering of helpful information for the direction of policies to face crises, also opens the door to a niche

that lacks further investigation on the way they operate in the world, those who are entrepreneurs.

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