

The First Wave of the COVID–19 Pandemic: HEXACO Profiles Affect Coping Mechanisms and Adaptability of Response*

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Our primary objective was to investigate whether HEXACO personality profiles predict different coping strategies during the first wave of the COVID–19 pandemic. We chose a person-centered approach as it enabled visibility of personal structures differentiating between adaptive and maladaptive coping in a nonclinical sample. Latent profile analysis identified three distinct personality profiles, each profile complemented by its specific choice of coping strategies. The Resilient (conscientious extroverts) used strategies focused on the stressor (Problem-focused, Emotion-focused coping, and Humor); the Undercontrolled (conscienceless) turned to Avoidance of problem-solving strategies; the Overcontrolled (emotionally reactive and conscientious introverts) avoided Humor and handling of their own emotions. Combination of Conscientiousness scores differentiated between adaptive and maladaptive resilience. However, high Emotionality in conjunction with Introversion and high Conscientiousness produced both vulnerability and maladaptation. Absence of Avoidance is the paramount feature of adaptive resilience. Thus, personality related variance in stress response is mostly determined by traits responsible for control, proactivity, and affectivity.

Keywords: COVID–19 pandemic fears, HEXACO, latent profile analysis, coping strategies

Highlights:

- Three distinct HEXACO profiles were identified by the latent profile analysis.
- Profiles were differentiated by Conscientiousness, Extraversion, and Emotionality.
- Each HEXACO profile predicted its specific coping strategies.

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- Emotionality lead to vulnerability and maladaptation.
- Proclivity for reciprocal behavior did not distinguish between personality types.

COVID-19 outbreak announced by the World Health Organization as a pandemic on March 11, 2020 possesses all features of a global catastrophic event, judged by both medical (number of people infected and number of deceased) and non-medical criteria (economic and psychological effects of a lockdown that was enforced in many countries). Some European countries, like Netherlands, opted for “intelligent lockdown” (Kuiper et al., 2020), allowing unrestricted movement of people while trusting their common sense to practice safe distancing and other necessary precautions. In Serbia the government instituted a state of emergency for a duration of 7 weeks. This included a daily curfew and several weekend curfews. Though intended to keep the corona virus from spreading, these restrictions are inevitably perceived as stressful since they require major changes of standard operating procedures at the personal-, the family-, and the social-level (Ornell et al., 2020). Thus, it seems safe to conclude that COVID-19 pandemic incites high levels of long term and multifaceted psychological distress (Selye, 1973), since it simultaneously entails one’s fear of contracting the virus but also the apprehension related to aftereffects of the enforced non-medical restrictions.

Pandemic distress: Fear for People and Fear of Economic Disaster

The first type of distress stems from anticipated consequences of exposure to the pathogen and its direct threat to physical well-being of people. Fear of COVID-19 infection is diffuse and non-specific since not much is known about the disease, how long it will last and how it will end. Research has shown that chronic pandemic-related fear may lead to psychiatric disorders (primarily linked to depression and anxiety) that outweigh physical harm of the infection (Holmes et al., 2020). This effect is aggravated in people with existing mental health conditions and in people marked by high negative affect (Wang et al., 2020). Quarantined life is associated with increased rage, anger, and aggression that are most evident through increased family violence (Peterman et al., 2020), and various forms of disinhibited behavior (Brooks et al., 2020; Van Bavel et al., 2020).

Many people lost their jobs due to the outbreak of the pandemic, especially those who were employed in tourism, air transport, and hospitality industries (Holms et al., 2020). The data released by Infostud (the leading Serbian employment website) indicate that during the first week of the pandemic 12% of the workforce were laid off while an additional one third of the workforce was involuntary furloughed (Uticaj pandemije virusa Covid19 na tržište rada u Srbiji [The impact of the COVID-19 virus pandemic on the labor market in Serbia], 2020). Thus, in addition to fear of contracting the disease people were exposed to yet another stressor – losing their steady income– with direct dire consequences

for their economic security. This requires an additional effort for overextended coping mechanisms, already burdened by the fear of infection (Brooks et al., 2020). It was reported that – among Americans, Canadians, Europeans, and Japanese – loss of employment and quarantined life were more conducive for depressive and anxiety disorders than the fear of contracting infection (Nelson et al., 2020; Shigemura et al., 2020).

Psychological Mechanisms of Coping with Stress

Prediction of outcome, adaptability and preservation of mental health is dependent on individual's strategies for mastering, controlling and minimizing effects of stress (Isler et al., 2017). Prevalent strategies used to reduce tension and annoyances caused by a stressful event are recognized as individual's coping mechanisms (Jones & Bright, 2001; Selye, 1973). Empirical evidence points at different types of coping mechanisms (Carver & Connor-Smith, 2010) as they are either problem-focused (oriented towards rational solution of the predicament), emotion-focused (oriented towards anxiety reduction) or avoidant (Endler & Parker, 1990). Coping mechanisms are classified with respect to whether a person uses active or passive coping strategies (control oriented vs. avoidance and giving up; Fluharty & Fancourt, 2020; Specht et al., 2014; Litman, 2006). Also, depending on their outcome coping mechanisms can be classified as either adaptive or maladaptive (Campos et al., 2004).

However, Carver (1997; Carver et al., 1989) posits that (mal)adaptability of coping mechanisms is determined by individual differences which in turn are saturated with cultural specificities. 'Different samples exhibit different patterns of relations' (Carver et al., 2013). Predilection for different coping strategies is heavily dependent on personality traits (Jonason et al., 2020). So far, personality dependent preference for coping mechanisms was investigated by the use of the Five Factor Model (FFM; Kidachi et al., 2007). It was reported that inclination towards particular coping mechanism, but also person's adaptability and resilience/vulnerability, is mostly determined by a combination of Neuroticism, Conscientiousness, and Extraversion (Asendorpf et al., 2001; Lau et al., 2006; Vollrath, & Torgersen, 2000). Nevertheless, Agreeableness was the best predictor of compliance during the COVID-19 pandemic (Willroth et al., 2020). A variable centered study on HEXACO and coping (Volk et al., 2021) reported that all HEXACO traits, save Agreeableness, contribute to preference of coping mechanisms. In that study, Conscientiousness, Extraversion, and Emotionality were associated with more adaptive COVID-19 related coping responses, while the low scores on Conscientiousness, Honesty-Humility, Extraversion, and Openness, predicted maladaptive behavior marked by avoidant coping.

Personality Traits – HEXACO

In this study personality traits were assessed by the HEXACO personality model (Lee & Ashton, 2004) since in addition to five personality traits it also includes Honesty-Humility, a trait germane to socially aversive versus moral behavior. Three HEXACO traits Extraversion (X), Conscientiousness (C), and

Openness (O) are analog to their Five-Factor Model counterparts. HEXACO traits Emotionality (E) and Agreeableness (A) capture rotated content of FFM traits of Neuroticism and Agreeableness (Ashton & Lee, 2007). High scores on Honesty-Humility accompanied by high scores on Agreeableness and Emotionality (moral integrity, tolerance, and empathy) predispose for cooperative, prosocial behavior (H+/A+/E+ axis versus H-/A-/E- axis; Ashton & Lee, 2020). Scores on the remaining three personality traits of the HEXACO model can be interpreted in terms of adaptability expressed through benefits and tradeoffs of high and low scores, as posited by Ashton and Lee (2007). Hence, HEXACO personality profiles inform about the general pattern of personal behavior, but also about individual differences in prosocial and adaptive versus antagonistic, maladaptive behaviors. These differences may become even more accentuated under overwhelming circumstances of natural (earthquakes, hurricanes) or man-made (wars) catastrophes (Zaki, 2020).

HEXACO was utilized in most studies addressing individual differences in prosocial behavior during the COVID-19 pandemic. For instance, it was reported that the negative pole of Honesty-Humility is positively correlated with measures of self-protection and socially acceptable behavior (Columbus, 2020; Zettler et al., 2020). On the other hand, Emotionality and Conscientiousness were positively associated with socially undesirable (selfish) behavior such as hoarding of supplies and frantic purchase of toilet paper (Garbe et al., 2020). Thus, under duress socially antagonistic personality traits may result in prosocial behavior and reversely, prosocial personality traits may lead to antisocial, selfish behavior.

Present Study

Reflecting on these findings one may pose a question whether pandemic stress facilitates expression of distinct HEXACO personality profiles. We assumed that it was more appropriate to rely on person centered approach as under pandemic circumstances (perceived life threat and stringent restrictions of quarantined life, fear of economic consequences) there is a high likelihood for expression of within person variability (Daljeet et al., 2017; Isler et al., 2017), which is quite helpful for differentiation of distinct subgroups of respondents. Personality traits may combine in particular ways within individuals to produce distinctive profiles or types (Asendorpf et al., 2001).

Primary objective of this study was to detect distinct HEXACO profiles, to investigate whether personality profiles predict different coping strategies and to investigate whether predominance of a particular type of fear (Fear for people versus Fear of economic disaster) affects choice of coping mechanisms.

In specific, given the duress of the pandemic quarantine we expected that intensity of altruistic traits Honesty-Humility, Agreeableness, and Emotionality will have a decisive effect on profile composition. In the unique situation of a global threat, we anticipated that latent personality profiles will be best differentiated with respect to prosocial traits: Do I care only about myself or

about other people as well? We assumed that contrasting combinations of scores on these dimensions would also define differences in resilience to stress among personality profiles.

Furthermore, we predicted that personality profiles along with Fear for people and Fear of economic disaster would significantly affect choice of coping mechanisms. We assumed that profile differentiation would be predictive of opposed coping strategies: adaptive versus 'less useful' (Carver et al., 2013). Adaptive coping strategies are directed towards problem solution and emotion control in opposition to less useful, avoidant and displacement behaviors (Litman, 2006; Volk et al., 2020). People are prone to seek emotional and social support when their health is endangered (Zaki, 2020). So, we assumed that diffuse Fear for people would be associated with coping strategies entailing emotions, social support and religion; while more tangible Fear of economic disaster would be associated with problem-oriented coping strategies. This assumption is in line with recent reports suggesting that proactive, stressor-oriented coping inhibits negative psychological outcomes (Viseu et al., 2019). As far as we know, this predictive relationship has not been scrutinized during the first wave of COVID-19 pandemic.

This study should throw additional light on individual differences during pandemic distress, indicate which personality types and to what extent contribute to personal resilience and to unselfish, adaptive behavior. Literature abounds with studies investigating contribution of FFM personality traits to vulnerability/resilience types (Asendorpf et al., 2001; Specht et al., 2014; Conte et al., 2017). Also, recent studies utilizing Big Five Inventory (BFI) indicated that C, X, E traits are not always predictors of prosocial behavior under stress. For instance, a recent longitudinal study (Willroth et al., 2020) identified Agreeableness as the best predictor of adaptive behavior during the current COVID-19 pandemic, relative to all other BFI traits. However, not much is known about predictive relationship between the choice of different coping strategies and distinct HEXACO personality profiles under circumstances of a highly stressful and life challenging event.

Method

Participants and Procedure

Data collection commenced on April 16 and ended on April 30, 2020, that is during the fifth and the sixth week of the Serbian state of emergency that was declared on March 15, 2020 and lifted on May 6, 2020 due to the start of the COVID-19 pandemic. This data collection period coincided with the peak of restrictions that were introduced to curb the spread of the COVID-19 pandemic as it encompassed two nationwide weekend curfews starting from Friday 17:00 to Tuesday 5:00 (April 17 to April 21, for duration of 84 hours) and from Friday 17:00 to Monday 5:00 (April 24 to April 27, for duration of 60 hours). A total of 273 participants responded to the on-line survey via Facebook groups. Following inspection of the whole data set, 23 questionnaires were discarded as being either incomplete (containing more than 5% of missing responses) or as outliers on HEXACO dimensions (as assessed by

a significant Mahalanobis distance). Missing responses (mainly on items concerning child's death or sickness) were replaced using the expectation maximization method.

Consequently, our sample consisted of 202 females and 48 males from Serbia; 18 to 74 years old (*Mean* age = 37.75, *SD* = 11.65). Although we initially intended to investigate gender-related differences, this comparison was thwarted by the fact that there were significantly more females (81%) than males in the sample ($\chi^2(df = 1) = 97.34, p < .01$). In order to control for this gender imbalance of our sample, gender was included as a covariate in the ensuing analyses. Most of our subjects reported being fully employed (62.5%) while only 2% reported to have lost their jobs during the state of emergency. The study was approved by the Institutional Ethics Board of Faculty of Legal and Business Studies Dr Lazar Vrkatić, Union University, Belgrade, Serbia.

Measures

Stress

Intensities of two types of stress: Fear for people (concerning people's health) and Fear of economic disaster (concerning economic consequences of the pandemic) were assessed by two 5-point Likert scales specifically designed for the purposes of this study. The Fear for people psychometric scale regarding health-related consequences consisted of 12 items: 6 items assessing fear of herself/himself falling ill and 6 items assessing fear of her/his family and friends being stricken by the disease. For instance: "I am worried that I may get infected by the corona virus"; "I am worried that somebody close to me may die from the corona virus". The Fear of economic disaster was assessed by 7 items. For instance: "I am worried that it will be really hard to get by financially, that it will take a long time for us to recover". Principal axis Exploratory factor analysis (EFA) with Promax rotation of the two scales extracted two correlated ($r = .37$) yet clearly differentiated factors (Fear for people and Fear of economic disaster) accounting for 65.42% of the total variance (Supplementary Materials). Test of the extracted factor structure was performed by Confirmatory factor analysis (CFA) using maximum likelihood parameter estimates with standard errors and a Chi-squared test statistic robust to non-normality. Given a small sample size and high correlations among the items we opted for CFA with correlational parceling where the items that correlate most strongly with each other are assigned to a parcel (Landis et al., 2001; Little et al., 2013; Rogers & Schmitt, 2004). Fit indices ($SB\chi^2 = 141.61, \chi^2/df = 2.21, CFI = .96, RMSEA = .07, SRMR = .04$) suggested acceptable agreement with the data (Hu & Bentler, 1999; Kline, 2011).

Coping

Coping mechanisms were assessed by the Serbian translation of the COPE 60 questionnaire (Carver et al., 2013). Originally, this 5-point Likert scale addresses 15 distinct strategies that people use in stressful situations: active coping, planning, suppressing competing activities, restraint coping, seeking social support for instrumental reasons, seeking social support for emotional reasons, positive reinterpretation and growth, acceptance, turning to religion, focusing on and venting emotion, denial, behavioral disengagement, mental disengagement, alcohol-drug disengagement, and humor. Since COPE 60 has been criticized for extraction of too many factors and the accompanying low reliability of its subscales (Lyne & Roger, 2000; Parker & Endler, 1992) the Principal Axes EFA with Promax rotation has been conducted on the present data set. Seven factors (defined as: Problem-focused coping, Emotion-focused coping, Socially supported coping, Avoidant coping, Substance use, Religious coping, and Humor) accounting for 54.53% of variance were extracted (Supplementary Materials). Due to the unfavorable ratio between the number of items and the number of respondents involved in the study, this structure was tested by CFA with univariate

random parceling (Little et al., 2013). Fit indicators ($SB\chi^2 = 493.19$, $\chi^2/df = 2.01$, CFI = .95, RMSEA = .06, SRMR = .05) suggested a good fit with the data (Hu & Bentler, 1999; Kline, 2011).

Personality

Basic personality traits were assessed by the Serbian version (Međedović et al., 2019) of HEXACO 60 (Ashton & Lee, 2009).

Data Analysis

Descriptive statistics, Cronbach's alphas, Pearson's correlation coefficients, exploratory factor analysis and regression analyses, were calculated by SPSS 25 for Windows. R package "Lavaan" was used for confirmatory factor analysis. Mplus 8.4 Demo was used for latent profile analysis. JASP version 0.14.1 (JASP Team, 2020) was used for calculating Cohen's *d* coefficients. EFA for all psychometric scales, save HEXACO 60, used in this study is available in Supplementary materials.

Identification of distinct HEXACO personality profiles was performed by latent profile analysis (LPA). LPA is a mixture modeling technique aimed to identify specific groups of cases or individuals (i.e. profiles) possessing similar values on a chosen set of continuous variables in a given sample (Muthén, 2004). Maximum likelihood with robust standard errors was used for parameter estimation (Vermunt & Magidson, 2002) since the omnibus test of multivariate normality based on Small's test indicated significant departure from normality ($VQ3 = 61.87$, $df = 12$, $p < .01$). Outliers were excluded in the preparation data phase. Model specification assumed equal variances and covariances fixed to zero. Optimal number of profiles was detected by iterative comparison of the inspected model with models containing more numbers of profiles in compliance to multiple formal fit indices (Spurk et al., 2020; Tein et al., 2013). Bootstrap Likelihood Ratio Test (BLRT, McLachlan & Peel, 2000) was used as a primary fit index due to its advantage in uncovering unobserved heterogeneity in simulation studies (Nylund et al., 2007). Other likelihood ratio tests: the Vuong-Lo-Mendell-Rubin (VLMR), and the Lo-Mendell-Rubin (LMR, Lo, Mendell, & Rubin 2001) were reported for comparison purposes. Additional insight in the correct number of profiles was obtained by Sample-size Adjusted Bayesian Information Criterion (SABIC; Sclove, 1987). SABIC was chosen as the preferred information criterion over Bayesian Information Criterion (BIC, Schwartz, 1978) due to its superior accuracy and consistency in LPA of small samples ($N < 500$), especially in the case of non-normal distribution (Spurk et al., 2020). Finally, entropy and posterior probabilities for each solution were evaluated to determine profile assignment accuracy (Nylund et al., 2007). Entropy was evaluated using a less stringent criterion proposing values higher than 0.60 as acceptable (Muthén, 2004). Upper limit of profiles' number was also restricted by a recommendation that each profile should contain more than 5% of the total cases (Nylund et al., 2007). Best candidate profiles were compared by examining interpretability of profiles and distinctiveness using standardized scores on HEXACO dimensions. Distances between profile means of the resulting latent subtypes of the optimal LPA solution were assessed by Cohen's *d*. Series of multiple linear regressions with a dummy coding system for profiles were used to test whether personality profile, along with Fear for people and Fear of economic disaster affect the choice of coping mechanism. Each regression was run twice for each outcome with class 1 (Undercontrolled) serving as the reference group in the first equation, and class 3 (Overcontrolled) serving as the reference group in the second equation. Finally, profiles' *z*-scores on the COPE dimensions were used to interpret the differences between latent profiles.

The sample data are available at <https://osf.io/3nzru/>.

Results

Descriptive Statistics

Means, standard deviations, reliability, and correlations among the study variables are presented in Table 1.

Table 1
Descriptive statistics, reliability and Pearson correlations of study variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. H															
2. E	-.05														
3. X	-.03	-.29**													
4. A	.27**	-.13*	.12												
5. C	.15*	.03	.28**	-.04											
6. O	.04	.01	.19**	.07	.10										
<i>Outcome variables</i>															
7. PFC	.01	.00	.22**	-.05	.37**	.20**									
8. EFC	.09	-.14*	.22**	.12	.21**	.14*	.58**								
9. SSC	-.01	.38**	.02	-.07	.14*	.15*	.56**	.36**							
10. Avoid	-.07	.11	-.24**	.07	-.27**	-.28**	-.04	.03	.04						
11. Subst	-.07	.09	-.16*	-.03	-.10	.10	.13*	-.08	.21**	.37**					
12. Relig	.07	.31**	.05	.06	.01	-.09	.13*	-.05	.21**	.20**	.07				
13. Humor	.09	-.24**	.16*	.10	.01	.17**	.27**	.32**	.14*	.24**	.15*	.02			
<i>Covariates</i>															
14. FfP	.11	.37**	-.08	-.03	.11	-.09	.13*	.13*	.25**	.14*	-.05	.22**	-.09		
15. FfE	-.02	.14*	-.05	-.14*	.08	-.01	.14*	.00	.12	.20**	.09	.12	.15*	.36**	
<i>M</i>	3.80	3.22	3.47	3.11	3.80	3.63	3.31	3.45	3.22	1.80	1.47	2.21	2.30	3.00	1.92
<i>SD</i>	0.63	0.68	0.68	0.66	0.66	0.80	0.75	0.77	0.75	0.61	0.85	1.24	0.98	1.28	1.05
<i>Sk</i>	-0.40	-0.16	-0.48	-0.25	-0.32	-0.43	-0.34	-0.31	-0.30	0.88	2.05	0.72	0.60	0.08	1.15
<i>z(Sk)</i>	-2.67	-1.07	-3.20	-1.67	-2.13	-2.87	-2.27	-2.07	-2.00	5.87	13.67	4.80	4.00	0.53	7.67
<i>K</i>	-0.37	-0.13	0.47	-0.09	-0.81	-0.46	-0.14	-0.12	-0.37	0.28	3.67	-0.76	-0.31	-1.27	0.56
<i>z(K)</i>	-1.19	-0.42	1.52	-0.29	-2.61	-1.48	-0.45	-0.39	-1.19	0.90	11.84	-2.45	-1.00	-4.10	1.81
α_c	.69	.77	.79	.76	.80	.82	.90	.87	.87	.76	.94	.94	.87	.96	.91

Note. H = Honesty/Humility; E = Emotionality; X = Extraversion; A = Agreeableness; C = Conscientiousness; O = Openness; PFC = Problem-focused coping; EFC = Emotion-focused coping; SSC = Socially supported coping; Avoid = Avoidant coping; Subst = Substance use; Relig = Religious coping. FfP = Fear for people; FfE = Fear of economic disaster. Sk = Skewness; K = kurtosis; α_c = Cronbach alpha.

* $p < .05$; ** $p < .01$.

Distinct HEXACO profiles

In adherence to BLRT, the primary fit index used in this study, our choice was limited to a direct comparison between 2- and 3-profile solutions (Table 2).

Table 2
Model fit statistics and profile membership for the 2- to 5-profile models

	BIC	SABIC	Entropy	VLMR	LMR	BLRT	Profile percentages
2	3151.57	3091.34	.69	.01	.01	$p < .01$	25.04; 74.95
3	3158.92	3076.50	.76	.04	.05	$p < .01$	37.17; 50.62; 12.21
4	3170.73	3066.11	.74	.38	.39	.03	12.18; 26.38; 47.81; 13.64
5	3188.39	3061.59	.74	.89	.89	.15	5.07; 17.26; 18.57; 12.73; 46.37

Note. BIC = Bayesian information criterion; VLMR = Vuong-Lo-Mendell-Rubin likelihood ratio test; LMR = Lo-Mendell-Rubin likelihood ratio test; BLRT = Bootstrap likelihood ratio test.

The advantage of the 3-profile solution over the 2-profile solution was evidenced by its superior SABIC, entropy, VLMR, and LMR indices. While smaller BIC value seemingly favors the 2-profile solution, the size of the absolute difference between the two BIC values smaller than 10 is considered to be inconsequential for model comparison (Raftery, 1995). Finally, distinctiveness of profile outlines and their interpretability also supported the 3-profile solution as the best approximation of our data. The Resilient profile (51% participants) is preeminently described by its high Extraversion and Conscientiousness; the Undercontrolled profile (37% participants) by its conspicuously low Conscientiousness; and the Overcontrolled profile (12% participants) by its high Emotionality and Conscientiousness, and low Extraversion.

The entropy value of the 3-profile solution indicated that cases could be adequately allocated to the right latent profile. The quality of latent profiles estimated by LPA was demonstrated by the fact that the posterior probabilities for the 3-profile solution calculated as average latent class probabilities for most likely latent class membership were all above .80. Even more so, the first and third group were successfully classified in more than 90% of cases. Table 3 shows that there was not much overlap between profiles and indicates high likelihood that participants were accurately assigned to the correct profiles.

Table 3
Average Latent Class Probabilities Classification, posterior probabilities for the 3-profile model

		Most Likely Latent Class Membership		
		1	2	3
<i>Latent Class</i>	1	.90	.04	.06
	2	.08	.81	.12
	3	.05	.04	.91

Pearson Chi-Square failed to detect any statistically significant gender related differences in profile configuration ($\chi^2/df = 2 = 2.57, p > .05$). Both the Undercontrolled and the Resilient group consisted of 80% of females and 20% of males while the Overcontrolled group consisted of 93% of females and 7% of males.

Differences between Distinct HEXACO Profiles

The pairwise comparison between profile means of the 3-profile solution (Table 4) indicated that Conscientiousness, Extraversion, and Emotionality were decisive for differentiation of the resulting latent subtypes. Conscientiousness and Extraversion were critical for differentiation among all three profiles while Emotionality differentiated between the Overcontrolled and other profiles. The three remaining HEXACO traits were less helpful for profile separation, as was indicated by Cohen's *d* values not meeting the criterion for the 'large' effect size. Low Agreeableness and low Openness separated the Overcontrolled from two other profiles, but there was no substantial difference between the Resilient and the Undercontrolled with respect to Agreeableness and Openness. Thus, one may argue that the Resilient profile was composed of conscientious extraverts, the Undercontrolled of participants with conspicuously low Conscientiousness, and the Overcontrolled of highly emotional, conscientious introverts (Figure 1).

Table 4

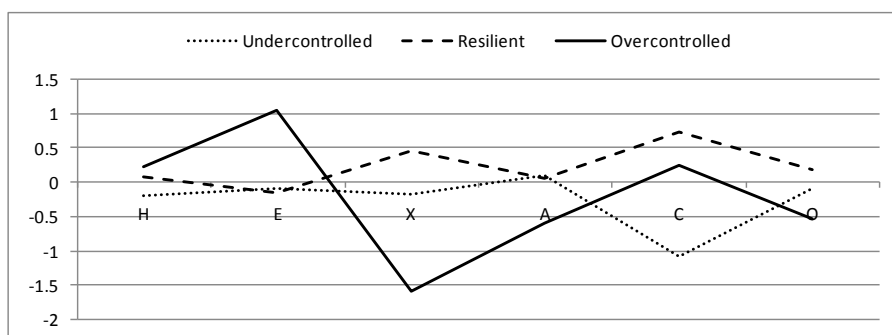
*Cohen's *d* values for the comparisons of profiles on standardized HEXACO dimensions with descriptive statistics by groups*

	Undercontrolled (U)		Resilient (R)		Overcontrolled (O)		U-R	U-O	R-O
	M	SD	M	SD	M	SD			
H	-0.19	1.08	0.09	0.96	0.22	0.79	-0.27	-0.40	-0.15
E	-0.09	0.93	-0.15	0.94	1.06	0.89	0.06	-1.24	-1.30
X	-0.17	0.89	0.46	0.70	-1.60	0.73	-0.80	1.67	2.92
A	0.10	1.00	0.05	0.97	-0.59	0.95	0.04	0.69	0.66
C	-1.08	0.53	0.73	0.51	0.26	0.57	-3.47	-2.46	0.91
O	-0.09	1.08	0.18	0.88	-0.53	1.05	-0.27	0.41	0.77

Note. Values of Cohen's *d* = 0.2 are considered to indicate a 'small' effect size, 0.5 a 'medium' effect size and 0.8 a 'large' effect size. Only 'large' effect sizes were treated as relevant for data interpretation. H = Honesty/Humility; E = Emotionality; X = Extraversion; A = Agreeableness; C = Conscientiousness; O = Openness.

Figure 1

Profiles' means on standardized scores of the HEXACO dimensions



Note. H = Honesty/Humility; E = Emotionality; X = Extraversion; A = Agreeableness; C = Conscientiousness; O = Openness.

Predicting Choice of a Coping Mechanism based on HEXACO Personality Profile and Type of Fear

A series of multiple linear regressions was used to test the hypothesis that personality profile along with quantitative predictors (Fear for people and Fear of economic disaster) affect the choice of coping mechanism. Each regression was run twice for each outcome with the Undercontrolled profile serving as the reference group in the first model, and the Overcontrolled profile serving as the reference group in the second model (Table 5).

Table 5
Results of regression analysis (model fit and standardized coefficients)

		PFC	EFC	SSC	Avoid	Subst	Relig	Humor
M1	$\beta(D_O)$	.06	-.02	.08	-.05	.05	-.03	-.12
	$\beta(D_R)$	.29**	.19**	.10	-.34**	-.10	-.04	.02
M2	$\beta(D_R)$	.18	.23*	-.03	-.26**	-.18	.02	.21*
	$\beta(D_U)$	-.10	.04	-.12	.07	-.08	.05	.16
COVAR	$\beta(FfP)$	.12	.16*	.18**	.04	-.11	.18**	-.14*
	$\beta(FfE)$	.09	-.05	.04	.18**	.13	.05	.21**
	$\beta(\text{gender})$	-.09	-.01	.23**	.11	.04	.10	-.02
MODEL FIT	ADJ R^2	.09	.04	.11	.15	.02	.04	.04
	$F(5, 244)$	5.86**	3.01*	6.87**	9.45**	1.79	3.06*	3.11**
	p	.01	.01	.01	.01	.115	.01	.01

Note. M1 Testing the model with the Undercontrolled profile serving as the reference group; M2 Testing the model with the Overcontrolled profile serving as the reference group; D_O = dummy for Overcontrolled, D_R = dummy for Resilient, D_U = dummy for Undercontrolled; Gender: 0 = males, 1 = females; PFC = Problem-focused coping; EFC = Emotion-focused coping; SSC = Socially supported coping; Avoid = Avoidant coping; Subst = Substance use; Relig = Religious coping; FfP = Fear for people; FfE = Fear of economic disaster.

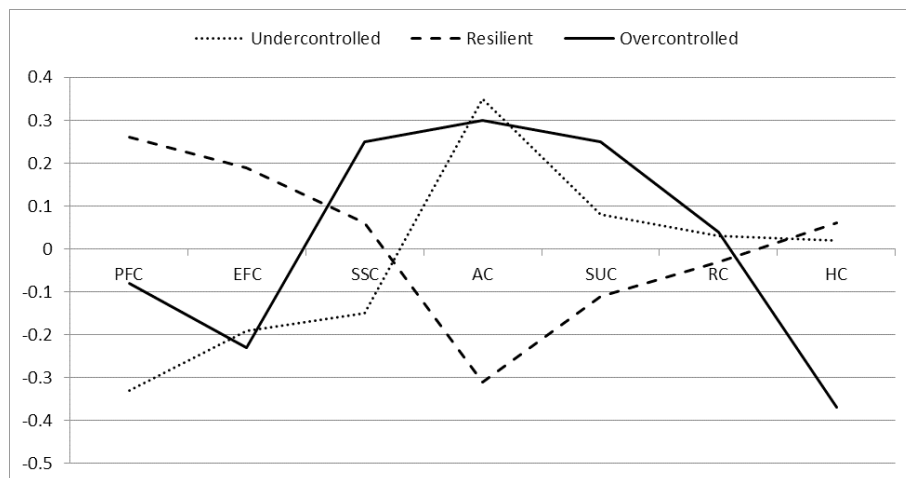
* $p < .05$; ** $p < .01$.

In contrast to the Resilient profile, both the Undercontrolled and the Overcontrolled profiles were marked by avoidance. The Resilient were more problem- and emotion focused relative to the Undercontrolled, and more emotion focused and humor oriented than the Overcontrolled. Fear for people was predictive of emotion-focused coping, seeking of social support, religion, and avoidance of humor. Fear of economic disaster was predictive of humor and avoidance. Female respondents were more prone to seek social support.

Choice of coping strategies based on HEXACO profiles is illustrated in Figure 2.

Figure 2

Profiles' means on standardized scores of the COPE 60 dimensions



Note. A covariate appearing in the model is evaluated at the following value: Gender = 1.81, Z (Fear for close people) = .00, Z (Fear of economic problems) = .00. PFC = Problem-focused coping; EFC = Emotion-focused coping; SSC = Socially supported coping; AC = Avoidant coping; SUC = Substance use coping; RC = Religious coping; HC = Humor.

Discussion

The data supported our basic assumption that distinct HEXACO personality profiles affect choice of coping mechanisms. Three distinct HEXACO profiles were defined by a combination of scores on Conscientiousness, Extraversion, and Emotionality. These profiles predominately determined individual differences in response to stress, the choice of a coping mechanism, and therefore individual differences in resilience/vulnerability. Contrary to our expectations, of the three altruistic-axis HEXACO traits (H+/A+/E+) only Emotionality (E+) significantly contributed to the differentiation of personality profiles. Overall, our respondents coped more efficiently with a non-specific fear of COVID-19 infection than with a more tangible fear of losing their means of sustenance.

HEXACO Profiles

LPA of HEXACO traits revealed a three-profile solution as optimal. Profile specification was mostly determined by Conscientiousness, Extraversion, and Emotionality. One half of our respondents were classified as the Resilient, marked by their high scores on Conscientiousness and Extraversion. They are people and tasks oriented, prudent in resource utilization and are not prone to risk taking behaviors. So, their adaptive resilience is underpinned by the C+/X+ configuration. Another group (one third) was classified as the Undercontrolled since their personality profile was dominated by low Conscientiousness. They

were lower on Extraversion than the Resilient but higher than the Overcontrolled group, and were considered to be moderate extraverts. They avoid responsibility and are nonchalant and relaxed in interactions with other people, in sharp contrast with the Resilient group. The dominant feature of their profile (C-) leads to a hedonistic life style and poor impulse control, thus fostering non-adaptive resilience. Finally, the Overcontrolled group consisted of respondents who were assessed as emotionally reactive and conscientious introverts. They score significantly lower on Agreeableness and Openness relative to both the Resilient and the Undercontrolled. So, the Overcontrolled are oversensitive to negative stimuli, reserved, ill-tempered, and irritable in relating to other people. Also, they are nonflexible in adherence to their highly set objectives. This particular pattern (E+/X-/C+) makes them highly vulnerable. Although the Overcontrolled profile encompassed the fewest participants, they were clearly segregated from the rest by engagement of all HEXACO traits, primarily by high Emotionality and low Extraversion. Psychological interpretability of this profile pattern additionally supports the validity of the accepted 3-profile solution.

The data did not support our assumption that during pandemic distress differentiation of personality profiles will be heavily influenced by scores on altruistic traits (H+/A+/E+ axis versus H-/A-/E- axis). Only high Emotionality had a pronounced effect on profile differentiation as it significantly demarcated the Overcontrolled group. Negative affect (defensive, anxious, timid) is partially placed in Emotionality, together with empathy, and partially in the negative pole of Agreeableness (offensive, quarrelsome, angry). In this pattern, high Conscientiousness exerts inhibitory influence on the introverts (control, perfectionism, rigidity). Low Agreeableness implicates low tolerance in social interactions. So, high Emotionality (in the C+X- context) and low scores on Agreeableness indicate that negative affect and attachment seeking behavior inhibit cooperation and tolerance and facilitate vulnerability. Cooperative behavior of the Resilient and the Undercontrolled group is in accordance with findings of studies relating to COVID-19 pandemic (Zaki, 2020). It may well be that awareness of equal exposure to a potentially lethal pathogen facilitates penchant for mutual assistance and tolerance (Castillo, 2020; Volk et al., 2020) while inhibiting manipulation and antagonism.

Contemporary studies on personality types and their variance in resilience were chiefly conducted by the use of FFM in non-catastrophic circumstances (Asendorpf et al., 2001). Convergent findings of these studies indicate that resilience is best predicted by high Conscientiousness, high Extroversion, and low Neuroticism (Vollrath & Torgersen, 2000). Given that HEXACO's E+/X-/A- axis entails content of FFM's Neuroticism (Ashton & Lee, 2020) our findings are consistent with findings obtained by the use of the FFM models. A study utilizing the HEXACO approach (Taku & McLarnon, 2018) identified a specific profile of posttraumatic growth resilience ('vulnerable yet stronger') that was characterized by high Emotionality and low Openness. There was no significant contribution of either Honesty-Humility or Conscientiousness to profile differentiation. Since our study was not replicated shortly after the state of emergency was lifted in

Serbia, no direct ‘before and after’ comparisons relevant to stressful effects of the first wave of COVID-19 pandemic can be made. However, our data can be compared to similar studies that were conducted under normal, non-catastrophic circumstances. In a Serbian study of the HEXACO typology (Sadiković et al., 2016) an optimal three-profile solution was also reported. The main differences among the profiles were driven by Conscientiousness, while Emotionality had the weakest impact on profile differentiation. Obviously, these inconsistent profile-related findings can be attributed to inevitable differences among samples and dissimilarities in statistical methodology, but also to unique circumstances of the COVID-19 pandemic covered by our study (Isler et al., 2017).

Coping Mechanisms and HEXACO Profiles

Each distinct personality profile was complemented by a unique pattern of coping mechanisms, somewhat in line with previous studies (Taku & McLarnon, 2018). Focus on the stressor, seeking emotional support and/or planning to resolve and reduce the predicament, accompanied with humor defines adaptability (Aspinwall & Taylor, 1997), a key feature of the Resilient profile. This is in distinction to the Undercontrolled and the Overcontrolled as they both, although in different fashion, turn to avoidant behavior. The Undercontrolled use avoidance as a coping strategy for evasion from any rational approach to problem resolution. The hypersensitive introverts from the Overcontrolled group use avoidance as means to ward off emotions and humor. Hence, presence of high Conscientiousness and high Extraversion and absence of Avoidance are protective in pandemic stress, quite in line with contemporary reports (Fluharty & Fancourt, 2020; Volk et al., 2020). On the other hand, due to its short-term effects Avoidance is the least beneficial coping strategy. This polarity is underpinned by an appetite for active control of conscientious extraverts, resulting in focused and purposeful behavior. Strength of personal control mechanisms and proactivity define the efficiency of an adaptive response to stress. However, it is worth noting that resilience and adaptability do not necessarily go hand in hand, as there might be resilience devoid of any adaptive value (Sadiković et al., 2016). Recently, it was reported that E+X+ pattern was associated with more adaptive COVID-19 coping responses (Volk et al., 2021). In our study, E+X- impedes resilience to distress and therefore harms adaptability. Reactions of hypersensitive people tend to be introverted (Kidachi et al., 2007). Absence of humor in the Overcontrolled was in agreement with reports that presence of negative affect hinders Humor as an effective stress reduction strategy (Kuiper & Harris, 2009).

Earlier studies investigating personality profile dependent preferences for coping strategies utilized FFM s (Isler et al., 2017; Kidachi et al., 2007). Their findings indicate that the choice of coping strategy depends on the N+/C+ conjunction and that the impact of Extraversion is also dependent on the combination of these two traits (Lau et al., 2006; Vollrath & Torgersen, 2000).

We report a gender-related difference in choice of coping strategies. Quite aligned with previous reports, women were prone to seek social support (Eisenbarth, 2019). Women are more apprehensive and prone to guilt and therefore inclined to seek emotional and social support. In contrast, males excel in emotional inhibition and are adept in detaching themselves from emotionally charged situations (Carr, 2020; Lawrence et al., 2006). However, this finding and its interpretation should be taken with caution, due to the heavy gender related bias of our sample.

Coping Mechanisms and Fear for People versus Fear of Economic Disaster

Preference of coping mechanism is also influenced by predominance of a particular type of fear. Fear for people significantly predisposes to Social support, Religion, Emotion-focused strategies and avoidance of Humor. Fear of economic disaster (surprisingly) predisposes to Avoidance and Humor. As anticipated, in wars and natural catastrophes Fear for people activates cooperative coping strategies (Bauer et al., 2016). ‘Partition of fear’ and mutual emotional support nurture the feelings of being in control and active problem solving (Lau et al., 2006). In this study, preference for Social support was a hallmark of female respondents. On the other hand, Fear of economic disaster activates coping mechanisms that neither demand active control and personal focus nor the necessary presence of affiliated people. Humor implies positive affect and optimism. It is a displacement behavior relaxing presence of negative emotions (Abel, 2002). It seems that a direct threat to one’s economic security activates coping mechanisms which are relying on displacement activities for fear reduction. Most people are familiar with the prospect of losing their jobs. On the other hand, fear of getting infected with COVID–19 is hypothetical, something the most have no prior experience with. Paradoxically, but quite in line with our data, people deal more efficiently with a hypothetical fear of COVID–19 than with the well-known consequences of economic ruin (Fluharty & Fancourt, 2020). Evidence collected during the early stages of COVID–19 pandemic (March–May, 2020), especially in heavily affected countries (Spain, Italy), indicates that people were fighting distress by seeking social and emotional support and by sticking to their everyday routines. Senior population opted for strict adherence to recommended sanitary procedures (Castillo, 2020). In Great Britain, majority of people turned to binge-watching as a coping mechanism. This was understood as a direct consequence of self-isolation, quarantine, and the widespread penetration of streaming service providers (Dixit et al., 2020). A rare study on coping with stress during NATO bombardment of Serbia in Spring of 1999, reports that civilians attempted to manage their fear and anger by turning to ‘entertainment’ (Humor) and Substance use (Răcz, 2016). Self-isolation, availability and inevitable dependence on electronic media (such as increasing prevalence of on-line jobs) provide numerous opportunities for swapping reality with its virtual simulacrum, and for turning to unproductive Avoidance strategy for dealing with stress.

Limitations

There are several imperfections of the current study hampering generalizability of our findings. First, the data collection was performed on-line, via various Facebook groups, with basically no control over questionnaire administration. Second, the sample was small as our expectation that people will readily participate in an on-line study during a curfew were not justified. Third, pronounced gender imbalance of our sample necessitated control of this variable in the ensuing statistical analysis. Finally, the study was not replicated in the period immediately after the lifting of the state of emergency (May–June, 2020). Therefore, its findings cannot be indisputably attributed to circumstances caused by the first wave of the pandemic in Serbia (March–April, 2020). Given that, at the time this paper is written, COVID-19 pandemic is far from over, some future study may add a longitudinal dimension to our data. In spite of these limitations, our study suggests that distinct combinations of HEXACO Conscientiousness, Extraversion, and Emotionality are central for coping during a global catastrophic disaster.

Conclusion

Pandemic distress activates general protective personality resources (control, proactivity, affectivity) that are recruited for coping with non-pandemic causes. Proclivity for prosocial, reciprocal behavior does not differentiate between personality types and coping patterns that are recruited for stress management in a pandemic situation.

These protective potentials entail efficient use of available resources and low risk tolerance (Conscientiousness), temperamental proclivity for social interaction (Extraversion), and an affinity for negative affect and emotional attachment (Emotionality). Increased resilience is associated with high Conscientiousness and high Extraversion (high control and proactivity): C+/X+ versus C– makes the difference between adaptive and non-adaptive resilience. However, E+/C+/X– (strong control, absence of proactivity and negative affect) may result in increased vulnerability and maladaptability. Absence of Avoidance is the paramount feature of adaptive resilience. Impact of Emotionality in non-adaptive stress response, and involvement of prosocial traits in conditions of restricted social interactions should be a subject matter of some future studies. These complex topics might be successfully approached through a person-centered approach (Daljeet et al., 2017).

References

- Abel, M. H. (2002). Humor, stress, and coping strategies. *Humor*, 15(4), 365–381.
- Asendorpf, J. B., Borkenau, P., Ostendorf, F., & Van Aken, M. A. (2001). Carving personality description at its joints: Confirmation of three replicable personality prototypes for both children and adults. *European Journal of Personality*, 15(3), 169–198. <https://doi.org/10.1002/per.408>

- Ashton, M. C., & Lee, K. (2007). Empirical, theoretical, and practical advantages of the HEXACO model of personality structure. *Personality and Social Psychology Review*, 11(2), 150–166. <https://doi.org/10.1177%2F1088868306294907>
- Ashton, M. C., & Lee, K. (2009). The HEXACO–60: A short measure of the major dimensions of personality. *Journal of Personality Assessment*, 91(4), 340–345. <https://doi.org/10.1080/00223890902935878>
- Ashton, M. C., & Lee, K. (2020). Objections to the HEXACO model of personality structure—And why those objections fail. *European Journal of Personality*. <https://doi.org/10.1002/per.2242>
- Aspinwall, L. G., & Taylor, S. E. (1997). A stitch in time: Self-regulation and proactive coping. *Psychological Bulletin*, 121(3), 417. <https://psycnet.apa.org/doi/10.1037/0033-2909.121.3.417>
- Bauer, M., Blattman, C., Chytilová, J., Henrich, J., Miguel, E., & Mitts, T. (2016). Can war foster cooperation?. *Journal of Economic Perspectives*, 30(3), 249–74. <https://doi.org/10.1257/jep.30.3.249>
- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *The Lancet*, 395(10227), 912–920. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8)
- Campos, M., Iraurgi, J., Paez, D., & Velasco, C. (2004). Coping and emotional regulation of stress events. A meta-analysis of 13 studies. *Boletín-de-Psicología*, 82, 25–44.
- Carr, D. (2020). Mental health of older widows and widowers: Which coping strategies are most protective?. *Aging & Mental Health*, 24(2), 291–299. <https://doi.org/10.1080/13607863.2018.1531381>
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the brief cope. *International Journal of Behavioral Medicine*, 4(1), 92–100. https://doi.org/10.1207/s15327558ijbm0401_6
- Carver, C. S., & Connor-Smith, J. (2010). Personality and coping. *Annual Review of Psychology*, 61, 679–704. <https://doi.org/10.1146/annurev.psych.093008.100352>
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (2013). COPE inventory. *Measurement Instrument Database for the Social Science*. Retrieved from <https://www.midss.org/sites/default/files/cope.pdf>
- Carver, C. S., Scheier, M. F., & Weintraub, J. K., (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267–283. <https://psycnet.apa.org/doi/10.1037/0022-3514.56.2.267>
- Castillo, C. C. D. A. (2020). Analysis of the stress, anxiety and healthy habits in the Spanish Covid-19 confinement. *Health Science Journal*, 14(2), 707. <https://doi.org/10.36648/1791-809X.14.2.707>
- Columbus, S. (2020). Who Hoards? Honesty-Humility and Behavioural Responses to the 2019/20 Coronavirus Pandemic. *PsyArXiv* <https://doi.org/10.31234/osf.io/8e62v>; Supplementary Materials retrieved from <https://osf.io/xm6kg/>
- Conte, J. M., Heffner, T. S., Roesch, S. C., & Aasen, B. (2017). A person-centric investigation of personality types, job performance, and attrition. *Personality and Individual Differences*, 104, 554–559. <https://doi.org/10.1016/j.paid.2016.09.004>
- Daljeet, K. N., Bremner, N. L., Giammarco, E. A., Meyer, J. P., & Paunonen, S. V. (2017). Taking a person-centered approach to personality: A latent-profile analysis of the HEXACO model of personality. *Journal of Research in Personality*, 70, 241–251. <https://doi.org/10.1016/j.jrp.2017.08.003>
- Dixit, A., Marthoenis, M., Arafat, S. Y., Sharma, P., & Kar, S. K. (2020). Binge watching behavior during COVID 19 pandemic: A cross-sectional, cross-national online survey. *Psychiatry Research*, 289, 113089. <https://dx.doi.org/10.1016%2Fj.psychres.2020.113089>

- Eisenbarth, C. A. (2019). Coping with stress: Gender differences among college students. *College Student Journal*, 53(2), 151–162.
- Endler, N. S., & Parker, J. D. (1990). State and trait anxiety, depression and coping styles. *Australian Journal of Psychology*, 42(2), 207–220. <https://doi.org/10.1080/00049539008260119>
- Fluharty, M., & Fancourt, D. (2020). How have people been coping during the COVID-19 pandemic? Patterns and predictors of coping strategies amongst 26,580 UK adults. *PsyArXiv* <https://psyarxiv.com/nx7y5/>. <https://doi.org/10.31234/osf.io/nx7y5>
- Garbe, L., Rau, R., & Toppe, T. (2020). Influence of perceived threat of Covid-19 and HEXACO personality traits on toilet paper stockpiling. *Plos One*, 15(6), e0234232. <https://doi.org/10.1371/journal.pone.0234232>
- Holmes, E. A., O'Connor, R. C., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., ... & Ford, T. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *The Lancet Psychiatry*, 7(6), 547–560. [https://doi.org/10.1016/S2215-0366\(20\)30168-1](https://doi.org/10.1016/S2215-0366(20)30168-1)
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modelling: A Multidisciplinary Journal*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Isler, L., Fletcher, G. J. O., Liu, J. H., & Sibley, C. G. (2017). Validation of the four-profile configuration of personality types within the Five-Factor Model. *Personality and Individual Differences*, 106, 257–262. <http://dx.doi.org/10.1016/j.paid.2016.10.058>
- JASP Team (2020). JASP (Version 0.14.1) [Computer software]. Retrieved from <https://jasp-stats.org/>
- Jonason, P. K., Talbot, D., Cunningham, M. L., & Chonody, J. (2020). Higher-order coping strategies: Who uses them and what outcomes are linked to them. *Personality and Individual Differences*, 155, 109755. <https://doi.org/10.1016/j.paid.2019.109755>
- Jones, F., & Bright, J. (2001). *Stress: Myth, theory and research*. Prentice Hall
- Kidachi, R., Kikuchi, A., Nishizawa, Y., Hiruma, T., & Kaneko, S. (2007). Personality types and coping style in hemodialysis patients. *Psychiatry and clinical neurosciences*, 61(4), 339–347. <https://doi.org/10.1111/j.1440-1819.2007.01716.x>
- Kline, R. B. (2011). *Methodology in the Social Sciences. Principles and practice of structural equation modelling (3rd ed.)*. Guilford Press.
- Kuiper, M. E., de Bruijn, A. L., Reinders Folmer, C., Olthuis, E., Brownlee, M., Kooistra, E. B., ... & van Rooij, B. (2020). The intelligent lockdown: Compliance with COVID-19 mitigation measures in the Netherlands. *Amsterdam Law School Research Paper*, 20; *General Subserie Research Paper*, 2020-02. Retrieved from SSRN: <https://ssrn.com/abstract=3598215> or <http://dx.doi.org/10.2139/ssrn.3598215>
- Kuiper, N. A., & Harris, A. L. (2009). Humor styles and negative affect as predictors of different components of physical health. *Europe's Journal of Psychology*, 5(1), 1–18. <https://doi.org/10.5964/ejop.v5i1.280>
- Landis, R. S., Beal, D. J., & Tesluk, P. E. (2000). A comparison of approaches to forming composite measures in structural equation models. *Organizational Research Methods*, 3(2), 186–207. <https://doi.org/10.1177%2F109442810032003>
- Lau, B., Hem, E., Berg, A. M., Ekeberg, Ø., & Torgersen, S. (2006). Personality types, coping, and stress in the Norwegian police service. *Personality and Individual Differences*, 41(5), 971–982. <https://doi.org/10.1016/j.paid.2006.04.006>
- Lawrence, J., Ashford, K., & Dent, P. (2006). Gender differences in coping strategies of undergraduate students and their impact on self-esteem and attainment. *Active Learning in Higher Education*, 7(3), 273–281. <https://doi.org/10.1177%2F1469787406069058>
- Lee, K., & Ashton, M. C. (2004). Psychometric properties of the HEXACO personality inventory. *Multivariate Behavioral Research*, 39(2), 329–358. https://doi.org/10.1207/s15327906mbr3902_8

- Litman, J. A. (2006). The COPE inventory: Dimensionality and relationships with approach and avoidance-motives and positive and negative traits. *Personality and Individual Differences*, 41(2), 273–284. <https://doi.org/10.1016/j.paid.2005.11.032>
- Little, T. D., Rhemtulla, M., Gibson, K., & Schoemann, A. M. (2013). Why the items versus parcels controversy needn't be one. *Psychological Methods*, 18(3), 285–300. <https://psycnet.apa.org/doi/10.1037/a0033266>
- Lo, Y., Mendell, N. R., & Rubin, D. B. (2001). Testing the number of components in a normal mixture. *Biometrika*, 88(3), 767–778. <https://doi.org/10.1093/biomet/88.3.767>
- Lyne, K., & Roger, D. (2000). A psychometric re-assessment of the COPE questionnaire. *Personality and Individual Differences*, 29(2), 321–335. [https://doi.org/10.1016/S0191-8869\(99\)00196-8](https://doi.org/10.1016/S0191-8869(99)00196-8)
- McLachlan, G., & Peel, D. (2000). *Finite mixture models*. Wiley.
- Mededović, J., Čolović, P., Dinić, B. M., & Smederevac, S. (2019). The HEXACO personality inventory: Validation and psychometric properties in the Serbian language. *Journal of Personality Assessment*, 101(1), 25–31. <https://doi.org/10.1080/00223891.2017.1370426>
- Muthén, B. (2004). Latent variable analysis: Growth mixture modeling and related techniques for longitudinal data. In D. Kaplan (Ed.), *The SAGE handbook of quantitative methodology for the social sciences* (pp. 345–368). SAGE.
- Nelson, B., Pettitt, A. K., Flannery, J., & Allen, N. (2020). Psychological and Epidemiological Predictors of COVID-19 Concern and Health-Related Behaviors. *PsyArXiv* <https://doi.org/10.31234/osf.io/jftze>
- Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural equation modeling: A Multidisciplinary Journal*, 14(4), 535–569. <https://doi.org/10.1080/10705510701575396>
- Ornell, F., Schuch, J. B., Sordi, A. O., & Kessler, F. H. P. (2020). “Pandemic fear” and COVID-19: mental health burden and strategies. *Brazilian Journal of Psychiatry*, 42(3), 232–235. <https://doi.org/10.1590/1516-4446-2020-0008>
- Parker, J. D., & Endler, N. S. (1992). Coping with coping assessment: A critical review. *European Journal of Personality*, 6(5), 321–344. <https://doi.org/10.1002/per.2410060502>
- Peterman, A., Potts, A., O'Donnell, M., Thompson, K., Shah, N., Oertelt-Prigione, S., & van Gelder, N. (2020). Pandemics and violence against women and children. *Center for Global Development working paper*, 528. Retrieved from <https://www.un.org/sexualviolenceinconflict/wp-content/uploads/2020/05/press/pandemics-and-violence-against-women-and-children/pandemics-and-vawg-april2.pdf>
- Rácz, K. (2016). Trauma or entertainment? Collective memories of the NATO bombing of Serbia. *Südost Europa*, 64(4), 520–543. <https://doi.org/10.1515/soeu-2016-004>
- Raftery, A. E. (1995). Bayesian model selection in social research. *Sociological Methodology*, 25, 111–163. <https://doi.org/10.2307/271063>
- Rogers, W. M., & Schmitt, N. (2004). Parameter recovery and model fit using multidimensional composites: A comparison of four empirical parceling algorithms. *Multivariate Behavioral Research*, 39(3), 379–412. https://doi.org/10.1207/S15327906MBR3903_1
- Sadiković, S., Fesl, D., & Čolović, P. (2016). Tipovi ličnosti na novoj teritoriji: analiza latentnih profila u prostoru tri psiholeksička modela ličnosti [Personality types on new ground: Latent profile analysis based on three psycholexical models of personality], *Primenjena psihologija*, 9(1), 41–61. <https://doi.org/10.19090/pp.2016.1.41-61>
- Schwarz, G. (1978). Estimating the dimension of a model. *The Annals of Statistics*, 6(2), 461–464.
- Sclove, S. L. (1987). Application of model-selection criteria to some problems in multivariate analysis. *Psychometrika*, 52(3), 333–343. <https://doi.org/10.1007/BF02294360>
- Selye, H., (1973). The evolution of the stress concept. *American Scientist*, 61(6), 692–699.

- 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), 281–282. <https://dx.doi.org/10.1111%2Fpcn.12988>
- Specht, J., Luhmann, M., & Geiser, C. (2014). On the consistency of personality types across adulthood: Latent profile analyses in two large-scale panel studies. *Journal of Personality and Social Psychology*, 107(3), 540–556.
- Spurk, D., Hirschi, A., Wang, M., Valero, D., & Kauffeld, S. (2020). Latent profile analysis: A review and “how to” guide of its application within vocational behavior research. *Journal of Vocational Behavior*, 103445. <https://doi.org/10.1016/j.jvb.2020.103445>
- Taku, K., & McLarnon, M. J. (2018). Posttraumatic growth profiles and their relationships with HEXACO personality traits. *Personality and Individual Differences*, 134, 33–42. <https://doi.org/10.1016/j.paid.2018.05.038>
- Tein, J. Y., Cox, S., & Cham, H. (2013). Statistical power to detect the correct number of classes in latent profile analysis. *Structural Equation Modeling: A multidisciplinary Journal*, 20(4), 640–657. <https://doi.org/10.1080/10705511.2013.824781>
- Poslovi.infostud (2020, April 10) *Uticaj pandemije virusa Covid19 na tržište rada u Srbiji [The impact of the Covid19 virus pandemic on the labor market in Serbia]* <https://poslovi.infostud.com/vesti/Uticaj-pandemije-virusa-Covid19-na-trziste-rada-u-Srbiji/54601>
- Van Bavel, J. J., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., ... & Drury, J. (2020). Using social and behavioural science to support COVID-19 pandemic response. *Nature Human Behaviour*, 4, 460–471. <https://doi.org/10.1038/s41562-020-0884-z>
- Vermunt, J. K., & Magidson, J. (2002). Latent class cluster analysis. In J. Hagenaars, & A. McCutcheon (Eds.), *Applied latent class analysis* (pp. 89–106). Cambridge University Press.
- Viseu, J. N. R., de Jesus, S. N., Leal, A. R. C., dos Santos, P. S. L. G., Ayala-Nunes, L., & Matavelli, R. D. (2019). Coping and social support as moderators: Relationship between financial threat and negative psychological outcomes. *Current Psychology*, 2, 1–13. <https://doi.org/10.1007/s12144-019-0157-z>
- Volk, A. A., Brazil, K. J., Franklin-Luther, P., Dane, A. V., & Vaillancourt, T. (2020). The influence of demographics and personality on COVID-19 coping in young adults. *Personality and Individual Differences*, 168, 110398. <https://doi.org/10.1016/j.paid.2020.110398>
- Vollrath, M., & Torgersen, S. (2000). Personality types and coping. *Personality and Individual Differences*, 29(2), 367–378. [https://doi.org/10.1016/S0191-8869\(99\)00199-3](https://doi.org/10.1016/S0191-8869(99)00199-3)
- 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), 1729. <https://doi.org/10.3390/ijerph17051729>
- Willroth, E. C., Smith, A. M., Graham, E. K., Mroczek, D., & Ford, B. (2020). Personality Predicts Compliance with COVID-19 Preventive Behaviors Recommended by the US Centers for Disease Control and Prevention. *PsyArXiv*. Retrieved from <https://psyarxiv.com/mu3ja/download?format=pdf>
- Zaki, J. (2020). Catastrophe compassion: Understanding and extending prosociality under crisis. *Trends in Cognitive Sciences*, 24(8), 587–589. <https://doi.org/10.1016/j.tics.2020.05.006>
- Zettler, I., Schild, C., Lillholt, L., & Böhm, R. (2020). Individual differences in accepting personal restrictions to fight the COVID-19 pandemic: Results from a Danish adult sample. *PsyArXiv*. <https://doi.org/10.31234/osf.io/pkm2a>

Prvi talas pandemije COVID–19: Uticaj HEXACO profila ličnosti na mehanizme prevladavanja i prilagođavanja u stresu

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Osnovni cilj rada bio je ispitati da li HEXACO profili ličnosti predviđaju individualne razlike u strategijama prevladavanja stresa tokom prvog talasa pandemije COVID–19. Analizom latentnih profila utvrđeni su karakteristični strukturalni obrasci adaptibilnosti odgovora na stres, na nekliničkom uzorku. Identifikovana su tri tipa ličnosti koji značajno utiču na razlike u izboru mehanizama za prevladavanje stresa. Otporni (savesni ekstraverti) koriste strategije usmerene na suočavanje sa stresorom (problemom i emocijama, uz korišćenje humora); Nekontrolisani (nesavesni) koriste Izbegavanje, usmereno na bekstvo od problema; Prekontrolisani (emocionalno reaktivni, savesni introverti) izbegavaju humor, kao i upravljanje sopstvenim emocijama. Kombinacija skorova na Savesnosti pravi značajnu razliku između adaptibilne i maladaptibilne otpornosti na stres. Visoka Emocionalnost, međutim, u kombinaciji sa Introverzijom i visokim skorovima na Savesnosti, doprinosi i maladaptibilnosti i vulnerabilnosti. Odsustvo strategije Izbegavanja je kriterijum adaptibilne otpornosti. Dakle, individualne razlike u odgovoru na stres su prvenstveno definisane crtama zaduženim za kontrolu, aktivitet i afektivitet.

Ključne reči: strahovi vezani za pandemiju COVID–19, HEXACO, analiza latentnih profila, strategije prevladavanja stresa

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