Big Five traits, approach-avoidance motivation, concerns and adherence with COVID-19 prevention guidelines during the peak of pandemic in Croatia

Dino Krupić [a], Barbara Žuro [a,b,*], Dajana Krupić [c]

[a] *Faculty of Humanities and Social Sciences, University of Osijek, Croatia*
[b] *Peter McVerry Trust, Dublin, Ireland*
[c] *Centre for Psychological Counselling and Research Norvel, Croatia*

A B S T R A C T

Without the vaccine, the only way to prevent the spread of coronavirus is following Covid-19 preventive guidelines such as keeping social distance, wearing masks and gloves, reducing mobility, etc. Success depends on how many individuals strictly follow the suggestions from epidemiologists. In this study, we examined who and why is adhering to the guidelines. A community sample of 500 participants fulfilled a short Big Five Inventory (BFI), Questionnaire of Approach and Avoidance Motivation (QAAM), and two scales constructed according to the Covid-19 epidemiological guidelines in Croatia. The results of the hierarchical regression analysis indicate that agreeable and conscientious individuals are complying more with preventive measures. In addition, approach, not avoidance, motivation appears to be more important in following the guidelines. Results are discussed in terms of framing messages to explain goals that might be reached by compliant behaviour rather than emphasising the negative consequences of the pandemic. Emphasising negative consequences seems to produce negative emotional states with no beneficial changes on the behavioural level.

1. Introduction

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has spread over the globe very rapidly. Many countries have initiated prevention guidelines such as maintaining social distancing, self-isolation, and community containment to control the spread of the virus. Until establishing collective immunity, guideline adherence is the only way to prevent virus transmission (e.g., West et al., 2020).

To promote such behaviour, national health authorities and government representatives worldwide are frequently warning citizens of the dangerousness of the pandemic. Although such messages aim to increase guideline adherence (Bacon & Corr, 2020; Harper et al., 2020; Pakpour & Griffiths, 2020), their side effect, such as an elevated level of anxiety and fear, may have a deteriorating impact on national mental health (Caki et al., 2021). Thus, this study aims to explore an alternative way to promote guideline adherence.

To meet the aim of this study, we are facing two research problems. First, we will examine the relationship between the Big Five traits, guideline adherence during the Covid-19 pandemic, and Covid-19 related concerns. The second problem is to explore whether guideline adherence is to a greater extent associated with avoidance or approach motivation.

Covid-19 has a vast impact on peoples' behaviour. Since the outbreak, people are avoiding social events and adhering to preventative guidelines. However, not everyone follows the recommended guidelines equally, enabling the spread of the virus. Available data indicates that personality traits within the Big Five model can partially explain the differences in adhering to recommended guidelines (Abdelrahman, 2020; Bacon et al., 2021; Flesia et al., 2020; Kroencke et al., 2020). We further explore the relationship between the Big Five traits, guideline adherence, and concerns related to Covid-19. Specifically, we focus on approach and avoidance motivation that may underlie this relationship.

Available data indicates that extraverts find it challenging to adhere to guidelines to slow down the spread of the Covid-19. Out of all recommendations, social distancing seems to be especially difficult to follow (Carvalho et al., 2020). Based on mobility measures such as location history and self-reports, extraverts report high mobility during

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the pandemic and higher future intended movement (Chan et al., 2020). Difficulty to follow social distancing guidelines is coherent with typical extraversion characteristics such as being outgoing and generally prone to closeness and social contact (Soto & John, 2017).

In contrast to extraverts, researchers found that agreeable individuals demonstrate greater mobility reduction and social distancing (Chan et al., 2020; Muto et al., 2020). Furthermore, Agreeableness, only for women, was associated with the self-reported likelihood of staying at home in the past and future. Bogg and Milad (2020) explain these findings by the greater endorsement of norms and attitudes associated with following the guidelines in agreeable individuals. Agreeable people are keener to behave in a socially desirable way and maintain positive relationships with others (Asselmann et al., 2020). In addition to that, agreeable individuals could also have greater empathy for vulnerable people and therefore be motivated to adhere to public health guidelines to protect others (Zajenkowski et al., 2020). Similarly, Bogg and Milad (2020) found that conscientious individuals were more likely to report a greater adherence to guidelines and a tendency to feel confident in overcoming adherence obstacles, which was also found in Chan et al. (2020) and Carvalho et al. (2020). These unsurprising findings are well in line with the general definition of Conscientiousness as a stable individual difference reflecting the tendency to follow socially prescribed norms and the ability to delay immediate gratification (Roberts et al., 2009).

There are mixed results for the relationship between Neuroticism and guidance adherence. Chan et al. (2020) found that Neuroticism is positively associated with staying at home, whereas Bogg and Milad (2020) found that lower Neuroticism was related to greater self-reported adherence to formal COVID-19 guidelines. Earlier research has also shown inconsistent findings concerning Neuroticism and health behaviour. For example, individuals who score high on Neuroticism are more often concerned about their health (Van Dijk et al., 2016) and therefore more likely to maintain good health habits because of an anxiety-provoked vigilance (Friedman, 2000; Weiss & Deary, 2019). On the other hand, people high in Neuroticism may engage in health-risk behaviour to seek emotional relief (Mõttus et al., 2012) and turn to undesirable coping behaviour (Cooper et al., 2000). In the context of a pandemic that is unknown and fear-inducing, anxiety might elicit watchful guideline adherence.

There are also conflicting results relating Openness to different types of behaviour during the pandemic. Chan et al. (2020) found that individuals with higher openness are more likely to stay at home as recommended. However, when asked how likely they are to leave their home in the future, those higher in openness report being more likely to leave home in the next five days. On the other hand, some studies found no correlation between openness and guideline adherence (e.g., participating in social distancing and personal hygiene practice) (Abdelrahman, 2020). Open individuals seek out new and unconventional ideas and experiences and tend to be flexible, curious, and creative (McCrae & Costa, 2008). Higher curiosity might make it more difficult for such individuals to follow proposed guidelines. However, Openness is also related to better acute risk perception (Trobst et al., 2000), which could facilitate distinguishing the importance of adequate health behaviour and facilitate guideline adherence. Due to inconsistent findings, further investigation on the role of Neuroticism and Openness in predicting behaviour during the pandemic is necessary.

Given the literature, we expect to confirm the abovementioned findings. Specifically, we expect that Extraversion will be negatively, while Conscientiousness, Agreeableness, and Neuroticism positively associated with guideline adherence.

1.1. The present study

Besides confirming the abovementioned findings, we aim to explore the potential role of approach and avoidance motivation as underlying mechanisms that might explain the relationship between the Big Five

traits, guideline adherence, and Covid-19 related concerns. To do so, we will use the multidimensional framework to study individual differences in approach-avoidance motivation recently proposed by Corr and Krupić (2020). According to this view, the first aspect of approach motivation is *wanting*, which reflects the level of ambition or set of extrinsic goals or desires. The second aspect is seeking, reflecting the tendency to seek opportunities in the environment, which supports attaining the desired goals. The third aspect focuses on persistence in following the plan to attain desired goals (*getting*), and finally, the last aspect is *liking*, which reflects the pleasure system that activates in the presence of attained goal. Avoidance motivation distinguishes between anxiety and fear. *Anxiety* reflects individual differences in experiencing negative emotions when facing potential threats, whereas *fear* reflects individual differences in experiencing negative emotions in the direct presence of the threat.

2. Method

2.1. Participants

Due to lockdown at the moment of conducting this study, five hundred participants (159 males and 341 females) were recruited online using social networks. Since no previous studies were exploring the effects of personality traits and behaviour during Covid-19 at that moment, we did not calculate the power analysis. Instead, we determinate the data collection when the sample reached the size of 500. The average age of participants was 27.92 (SD = 9.30). The sample consisted of 282 students, 178 participants were employed, 23 unemployed, 4 in pension, and 13 were none of the above categories. Finally, 457 participants stated not ever being in self-isolation, 43 participants were self-isolated. Participants were not incentivised for their participation.

2.2. Measures

2.2.1. The 10-item Big Five inventory

(BFI-10; Rammstedt & John, 2007) is a 10-item scale measuring the Big Five personality traits Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness. The BFI-10 has five subscales with two bidirectional items for each of the big-five personality factors. The items are rated on a five-point Likert scale ranging from "*Strongly disagree*" to "*Strongly agree*". As Cronbach's alpha coefficient depends on the length of a questionnaire, it underestimates the reliability of the short types of questionnaires such as this one. Hence, we rely on the results of previous studies that reported retest stability coefficients in the range from 0.65 to 0.87 (Rammstedt et al., 2020).

2.2.2. Questionnaire of approach and avoidance motivation

(QAAM; Krupić et al., 2020) is a 27-item questionnaire designed to measure approach and avoidance mechanisms as underlying personality processes. The questionnaire contains four approach motivation scales consisted of 4 items each: Wanting - reflecting the level of extrinsic aspirations (e.g., "*I would like to be an important person*"); Seeking - planning and searching for new opportunities (e.g., "*I have a wide range of interests*"); Getting - the persistence in attaining desired goals (e.g., "*I persist until I accomplish the goals that I have set*"), and; Liking - reactivity on receiving rewards (e.g., "*I find sources of pleasure in many small things*"). In addition, the avoidance Anxiety scale (7 items) reflects the tendency to experience psychophysiological reactions in stress-provoking situations (e.g., "*I sweat a lot in unpleasant situations*"), while the Fear scale (4 items) reflects the occurrence of experiencing panic symptoms (e.g., "*I have had thoughts that I will die during the panic attack*"). Participants rate how well each of the statements describes them on a six-point Likert scale. Cronbach's alpha reliability coefficients in this study were all above 0.80., specifically, Cronbach's alpha for Wanting, Seeking, Getting, Liking, Anxiety, and Fear were 0.87, 0.85, 0.91, 0.84, 0.86, 0.84, respectively.

2.2.3. Covid-19 concerns and guideline adherence scale

For this study, four items were created to measure concerns regarding the Covid-19 pandemic (e.g., "*I am worried about the possibility of infection*"). The response format follows a 5-point Likert scale ranging from "*Not at all*" to "*Extremely*". To establish psychometric characteristics for this measure, we used exploratory factor analysis (EFA). Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.70. As an extraction method, Principal axis Factoring was used, and the criteria for keeping items was based on an eigenvalue greater than 1. All items in the analysis had factor loadings over 0.4, and a total of 33% of the variance was explained.

Based on local authority safety recommendations, 14 items were written to create a measure of guideline adherence. Again, the EFA was conducted to define the measures. KMO value was 0.84, while the applied extraction method was Principal axis Factoring with oblimin rotation. The criteria for keeping items was based on an eigenvalue greater than 1. Four extracted factors were labelled; Social distancing (6 items) (e.g., "*Maintaining 2-meter distance in open areas?*"), Leaving home (3 items) (e.g., "*Leaving home for socialising or hobby?*"), Wearing masks and gloves (2 items) (e.g., "*Using face mask while going outside?*") and Reducing mobility (3 items) (e.g., "*Avoiding public transportation?*"). They explained 51.37% of the variance. The items are rated on a five-point Likert scale ranging from "*Never*" to "*Always*". Both scales and full descriptions of the EFA can be found in *Supplemental Materials*.

2.3. Procedure

The behaviour and attitudes of citizens can significantly change in different phases of pandemic (Clements, 2020). Therefore, we believe it is important to report in which phase the study was conducted. Fig. 1. indicates that the study was conducted in the middle of the first wave of the corona crisis in Croatia (6th -18th of April). The survey was conducted online by advertising the study on social networks.

3. Results

Descriptive statistics and zero-order correlations are presented in Table 1. Arithmetic means of Covid-19 Concerns and Guideline Adherence Scale indicate a strong response of citizens in terms of reducing mobility (M = 4.54) and social distancing (M = 4.27) within the possible range from 1 to 5. In addition, participants reported moderate concern (M = 2.85) and readiness to wear masks and gloves (M = 2.78). The

lowest value was for leaving homes (M = 2.31).

We performed five separate hierarchical regression analyses, one for each criterion. All models contained three blocks of predictors. In the first block, we entered sociodemographic variables (in our case, only gender and age), the Big Five traits in the second block, and in the last block, we entered QAAM scales. To ease the presentation of the results, we will focus only on the coefficients in the third block of predictors. Overall, all significant effects are below b = 0.20 (except the effect of age in the prediction of social distancing), which indicates that personality has a small contribution in explaining Covid-19 concerns and behaviour. Agreeableness positively predicted Social Distancing, Reduced Mobility, and negatively Leaving Home. Conscientiousness negatively predicted the level of Covid-19 Concerns. On the contrary, Neuroticism positively predicted Covid-19 Concerns, and negatively a tendency to leave home. Unsurprisingly, Extraversion negatively predicted Social distancing, and Reduced mobility, whereas Openness did not relate to any Covid-19 scale.

In addition, the QAAM scales correlated positively to Covid-19 Concerns, Reduced Mobility, and Social Distancing. After controlling the effects of age, gender, and the BFI scales, the third step in the hierarchical multiple regression analysis showed that Wanting, Getting, Anxiety, and Fear predicted an additional 10.7% of variances in Covid −19 Concerns. Getting and Liking predicted 8.3% of Social Distancing and 8.1% of Reduced Mobility, while Wanting and Fear 4.5% of Wearing masks above sociodemographic variables and BFI traits.

As shown in Table 2, some effects of the Big five traits in the second step became insignificant after entering QAAM scales in the third step. To examine the indirect effects of approach and avoidance motivation underlying the relationship between the Big Five personality traits and Covid-19 Concerns and Guideline Adherence, we performed series of mediational regression analyses using model 4 (Fig. 2) of Hayes' Process program (Hayes, 2018). The results of mediational effects are presented in Table 3. Almost all Agreeableness and Conscientiousness relationships are mediated by approach motivation scales, except in the case of negative indirect effects of Anxiety and Fear mediating the relationship between Conscientiousness in the prediction of Covid-19 Concerns.

The suppression effect occurs when the indirect effect has an opposite sign from the direct effect (Shrout & Bolger, 2002), which occurred between Conscientiousness and both Anxiety and Fear in the prediction of Covid-19 Concerns. This effect means that conscientious individuals tend to experience less anxiety and fear-related problems in general. However, the correlation is not perfectly negative, which means that
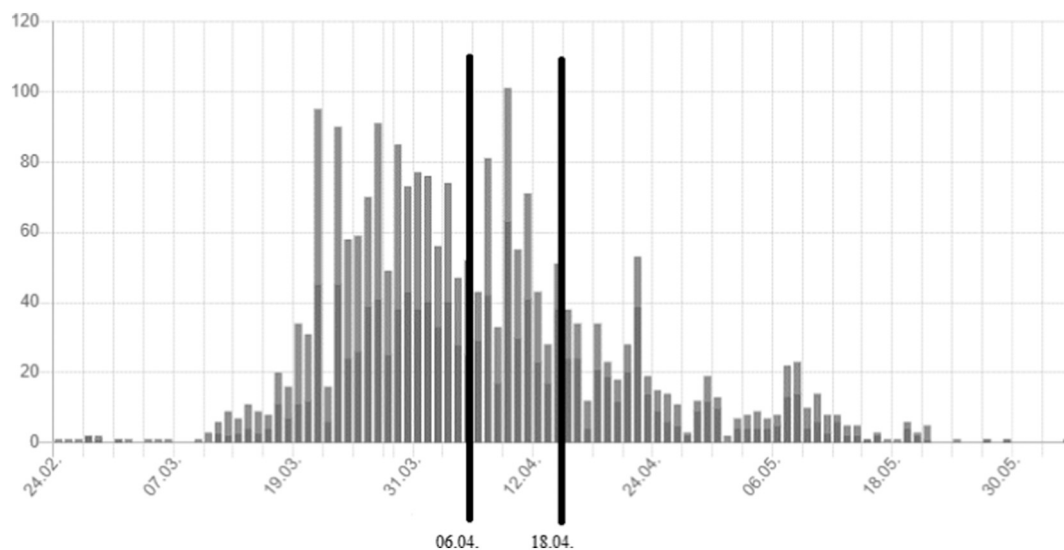

Fig. 1. The number of new daily cases in Croatia for a period of three months. Data collection started on 6th until 18th in April 2020, which was in the middle of the first wave of the COVID-19 pandemic in Croatia.

Table 1
Correlation matrix showing correlation of the BFI and QAAM with COVID-19-related scales.

	1	2	3	4	5	M	SD
1. Covid-19 concerns	–	−0.018	0.198**	0.178**	0.146**	2.85	0.56
2. Leaving home		–	−0.215**	−0.079	−0.171**	2.31	0.71
3. Social distancing			–	0.359**	0.541**	4.27	0.34
4. Wearing masks and gloves				–	0.259**	2.78	0.22
5. Reducing mobility						4.54	0.10
Age	0.023	−0.039	0.122**	0.171**	−0.037	27.92	9.30
Gender	0.223**	−0.143**	0.228**	0.050	0.222**	–	–
BFI extraversion	−0.032	0.003	0.050	0.124**	0.007	3,76	88
BFI agreeableness	−0.111*	−0.094*	0.161**	0.067	0.134**	3,38	82
BFI conscientiousness	−0.105*	−0.069	0.124**	0.158**	−0.012	3,33	77
BFI neuroticism	0.267**	−0.067	0.042	−0.015	0.014	2,79	96
BFI openness	0.055	0.035	0.064	0.030	0.043	3,43	92
QAAM wanting	0.189**	0.030	0.105*	0.087	0.096*	3,75	1,34
QAAM seeking	0.129**	0.046	0.183**	0.099*	0.203**	4,53	1,08
QAAM getting	0.106*	−0.014	0.234**	0.158**	0.208**	4,44	1,11
QAAM liking	0.091*	−0.011	0.249**	0.085	0.256**	4,79	99
QAAM anxiety	0.309**	−0.002	0.130**	−0.020	0.108*	3,32	1,17
QAAM fear	0.284**	0.045	0.076	0.111*	0.012	2,05	1,17
α	0.66	0.61	0.80	0.81	0.79		

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

Table 2
Hierarchical regression analyses.

		COVID-19 concerns	Leaving home	Social distancing	Wearing masks and gloves	Reducing mobility
Step 1	Age	0.035	−0.047	0.134	0.173**	−0.026
	Gender	0.213**	−0.139**	0.232**	0.043	0.209**
	F(2, 447)	10.692**	4.758**	16.475**	7.176**	10.561**
	R^2	0.046	0.021	0.069	0.031	0.045
Step 2	Age	0.063	−0.028	0.116*	0.149**	−0.016
	Gender	0.182**	−0.116*	0.210**	0.025	0.203**
	BFI extraversion	0.006	0.033	−0.049	0.078	−0.057
	BFI Agreeableness	−0.059	−0.106*	0.165**	0.056	0.152**
	BFI conscientiousness	−0.102*	−0.085	0.131**	0.108*	−0.011
	BFI neuroticism	0.198**	−0.091	0.054	0.021	−0.003
	BFI openness	0.064	0.053	0.080	0.014	0.023
	ΔF(2, 442)	6.730**	2.027	4.245**	2.195	2.145
	ΔR^2	0.068	0.022	0.043	0.023	0.023
	R^2	0.113	0.043	0.111	0.055	0.068
Step 3	Age	0.146**	−0.034	0.201**	0.191**	0.057
	Gender	0.163**	−0.128*	0.180**	0.029	0.185**
	BFI extraversion	−0.017	0.035	−0.100*	0.052	−0.117*
	BFI agreeableness	−0.059	−0.118*	0.132**	0.063	0.110*
	BFI conscientiousness	−0.157**	−0.085	0.068	0.071	−0.103
	BFI neuroticism	0.109*	−0.117*	0.024	−0.022	0.010
	BFI openness	−0.008	0.032	0.034	−0.015	−0.031
	QAAM AP-wanting	0.130*	−0.047	0.104	0.134*	0.029
	QAAM AP-seeking	0.071	0.069	0.001	−0.068	0.104
	QAAM AP-getting	0.127*	−0.013	0.142*	0.095	0.153*
	QAAM AP-liking	0.013	0.010	0.147**	0.049	0.119*
	QAAM AV-anxiety	0.135*	0.013	0.095	−0.056	0.043
	QAAM AV-fear	0.120*	0.076	0.003	0.162**	−0.041
	ΔF(6, 436)	9.973**	0.742	7.534**	3.645**	6.936**
	ΔR^2	0.107	0.010	0.083	0.045	0.081
	R^2	0.220	0.052	0.195	0.100	0.149

AP – Approach motivation; AV – Avoidance motivation.
* $p < .05$.
** $p < .01$.

there are (on average) fewer conscientious individuals in the sample who are also experiencing fear and anxiety. When that smaller proportion of conscientious individuals is statistically controlled, the regression weight of Conscientiousness slightly increases, which can be seen in the increase of regression weight of Conscientiousness from the second to the third step.

According to mediational analysis, Approach Motivation and the lack of Avoidance Motivation underlie the relationship between Agreeableness and Conscientiousness with Covid-19 Concerns and Guideline Adherence.

4. Discussion

The aim of this study was to examine what type of motivation underlies the relationship between the Big Five traits and guideline adherence for slowing the spread of Covid-19 during the peak of the pandemic in Croatia. Overall, we found that age, gender, Big Five traits, and approach-avoidance motivation are modestly associated with Covid-19 concerns and guideline adherence. The results for the Big Five traits are consistent with previous studies since Agreeableness and Conscientiousness related positively, and Extraversion negatively to
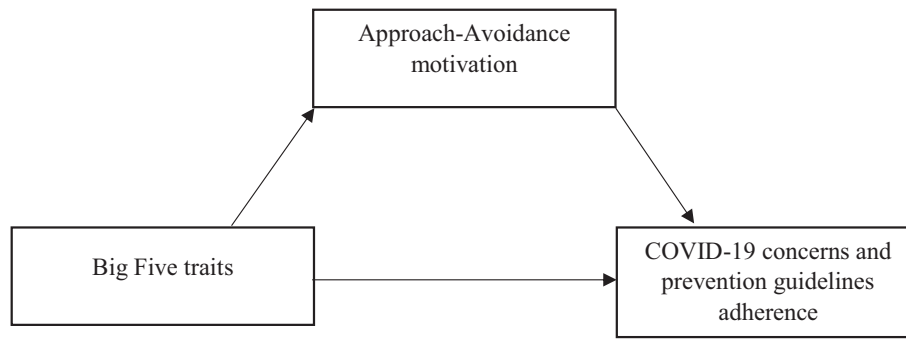
Fig. 2. The analytic framework employed in this study to assess indirect effects of approach-avoidance motivation underlying the relationship between the Big Five traits and Covid-19 scales.

Table 3
Standardized indirect effects of the BFI on COVID-19 concerns and guideline adherence.

Predictor	Mediator	Criterion	Indirect b	Bootstrap 95% CI		Effect
				Lower bound	Upper bound	
Conscientiousness	AP-getting	COVID-19 concerns	0.078	0.032	0.123	Partial
Conscientiousness	AV-anxiety	COVID-19 concerns	−0.068	−0.102	−0.039	Full
Conscientiousness	AV-fear	COVID-19 concerns	−0.033	−0.061	−0.010	Full
Neuroticism	AV-anxiety	COVID-19 concerns	0.109	0.065	0.159	Partial
Neuroticism	AV-fear	COVID-19 concerns	0.083	0.045	0.124	Partial
Agreeableness	AP-liking	Social distancing	0.071	0.031	0.116	Partial
Conscientiousness	AP-Getting	Social distancing	0.094	0.045	0.140	Full
Conscientiousness	AP-getting	Wearing masks and gloves	0.047	0.006	0.091	Partial
Agreeableness	AP-liking	Reducing mobility	0.077	0.037	0.125	Full

Note: AP –Approach motivation; AV – Avoidance motivation.

guideline adherence, specifically in reducing mobility and social distancing. In the following text, we focus on the most salient effects of personality traits and approach-avoidance motivation.

Agreeableness seems especially important in following recommended guidelines to reduce mobility and keeping social distance. This is a reasonable finding since agreeable individuals are cooperative (Koole et al., 2001) and tend to avoid conflicts with others, which makes them more flexible and willing to accept changes to the daily routine in difficult circumstances (Ome, 2013). Some of the messages from Croatian health authorities and public media emphasised the importance to care for others. It appears that agreeable individuals may be especially sensitive to such messages (Song & Shi, 2017) as they are prosocially oriented (Graziano et al., 2007) and empathically concerned about the others (Butrus & Witenberg, 2013), which is found to promote adherence during pandemic (Kuiper et al., 2020; Pfattheicher et al., 2020). Another important finding is that approach motivation, specifically, the reactivity to rewards (i.e., Liking), mediates the relationship between Agreeableness and Covid-19 Social Distancing and Reducing Mobility. The results are in line with previous studies exploring the relationship between reactivity to rewards and prosocial motivation (e.g., Krupić et al., 2016), which is associated with the workings of endogenous opioids as their common neurobiological foundation (Krupić & Corr, 2017).

Conscientiousness predicts Social Distancing and Wearing Masks and Gloves. This finding is congruent to a large body of research showing that conscientious individuals pay more attention to their health (e.g., Bogg & Roberts, 2013) and use more adaptive behaviour in health-related programs (Sanatkar et al., 2020). In addition to these explanations, we found that conscientious individuals are more disciplined in wearing masks and gloves and keeping a distance from others due to their tendency to pursue attaining long-term goals (Getting as mediator), which is also consistent with previous studies (e.g., Murray, 2005). Detected suppression effects indicate that conscientious individuals are generally less concerned by the consequences of Covid-19

but follow recommendations to a greater extent, which is an ideal combination. This could be explained by their higher level of self-esteem and social problem-solving skills (Koruklu, 2015), making them more goal-directed and less anxious during the pandemics.

In contrast to previous studies (Abdelrahman, 2020; Chan et al., 2020), we did not find significant effects of Openness and Neuroticism in adhering to preventive guidelines. We only found that emotionally unstable individuals tend to express more concerns over the pandemic, but that is not accompanied by greater guideline adherence. The only effect of avoidance motivation that we found is that individuals prone to experience fear are more likely to wear masks and gloves, but no effects were found for reducing mobility, which is diametrically opposed to the case of Conscientiousness.

4.1. Limitations

The main limitation of this study is the usage of non-validated instruments for COVID-19 Concerns and Guideline Adherence. Many researchers wanted to react on time and conduct research during the peak of the pandemic, so we did not have any purpose-built Covid-19 questionnaire available. Instead, we created these scales according to recommendations by the local authority therefore, the content of the scales used in this study should be compared to the content of other measures for further generalization of results. However, it is important to note that this approach has its strengths since Covid-19 restrictions might vary in different countries. Finally, results should be viewed in the context of the onset of the pandemic, when the coronavirus was a new and still unknown virus. Certainly, the behaviour drastically changes as the knowledge about the virus increases (Clements, 2020). Finally, it is important to note that personality traits were measured with a 10-item scale and longer versions may produce different results. Although, BFI-10 showed high psychometric quality and can adequately assess the Big Five domains (Rammstedt et al., 2020), the full version of the instrument contains a larger number of items and greater variability of the results.

Therefore, it is expected that these results could yield even stronger effects when the original version of the BFI is used.

4.2. Implications

This study has important implications for attempts to fight Covid-19 and policymaking since results can contribute to the understanding of why are people responding differently to the calls by authorities. Designing and delivering personality-tailored prevention strategies and programs may be necessary for national mental health during pandemics. According to our study, agreeable and conscientious participants are more compliant with the guidelines. The reasons for their behaviour are more under approach- than avoidance-motivation, which would be useful in framing messages by national health authorities. As our data suggest, avoidance motivation leads only to a higher likelihood of wearing masks and gloves, which from the epidemiological perspective, is less efficient in comparison to the reduction of social contacts in preventing Covid-19. Therefore, it would be more efficient if public health messages are framed in a way to increase approach motivation (e. g., establishing goals such as decreasing the number of new cases or shortening the lockdown period, or enabling economic activity), instead of increasing the public perception of the potential dangerousness of Covid-19, as this would only worsen national mental health without reducing mobility.

CRediT authorship contribution statement

Dino Krupić: Conceptualization, Formal analysis, Methodology, Writing – original draft, Writing – review & editing. **Barbara Žuro:** Conceptualization, Writing – original draft, Writing – review & editing. **Dajana Krupić:** Conceptualization, Writing – review & editing.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.paid.2021.110913.

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