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## **SCHWARTZ'S VALUE MODEL AS A FACTOR OF COMPLIANCE WITH EPIDEMIOLOGICAL MEASURES IN THE FIRST WAVE OF THE COVID-19 PANDEMIC IN SOUTHEAST EUROPE**

The paper aims to investigate the theoretical assumption that the value system (according to the Schwartz model) is associated with compliance with recommendations to combat the spread of the COVID-19 pandemic. According to the theoretical assumption, persons whose value system emphasises social focus and whose values are self-transcendence and conservation will comply with measures to a greater extent. On the other hand, people whose value system is focused on personal focus and whose values self-direction and openness to change will be less compliant with measures for combating the spread of the virus. The research was conducted in three Southeastern European countries – Bosnia and Herzegovina, Croatia and Serbia using a survey of 1024 students. The Schwartz scale on basic human values was used as a research instrument. The research was conducted at the very beginning of the pandemic (March and April 2020). The results of the hierarchical regression showed that the values of openness to change (personal focus) and conservation (social focus) are significant predictors of compliance with measures and trust in institutions and sex.

**Keywords:** values; COVID-19; trust in institutions; Southeastern Europe; compliance with measures

### **INTRODUCTION**

The COVID-19 pandemic caused by the SARS-CoV-2 virus has stopped the world. The disease first appeared in the Chinese city of Wuhan, after which it spread across

the globe. The countries of Southeast Europe were more easily affected in the so-called first wave of the pandemic. Despite the relatively more minor number of patients than in other European countries, the countries of Southeast Europe have determined measures to combat and prevent the spread of the virus.

During the research (April 1), 963 cases were reported in Croatia<sup>1</sup> since the beginning of the pandemic, 1,060 in Serbia<sup>2</sup>, and 459 cases of COVID-19 infection in Bosnia and Herzegovina<sup>3</sup>.

The measures taken during this research are curfew in Serbia<sup>4</sup> and Bosnia and Herzegovina<sup>5</sup> and a ban on leaving the place of residence in the Republic of Croatia<sup>6</sup>. In all countries, it is recommended to stay at home and reduce the gathering of more people.

Prosocial behaviour in crises such as the COVID-19 pandemic is of paramount importance. Drawing on Shalom Schwartz's theory that assumes that individuals with strong self-transcendence and conservation values largely follow COVID-19 recommendations to help loved ones (Wolf, Haddock, Manstead, & Maio 2020), this paper aims to investigate this theoretical thesis.

### ***Values and adherence to rules in crises***

Values represent an essential concept in the theoretical and research approach of many social sciences and humanities. Unlike attitudes that can change, values come above attitudes because they are enduring and relatively stable and are extremely important to one society (Abercrombie, Hill, & Turner 2008: 431). However, due to the action of various factors and sudden social changes, they can change (Manfredo et al. 2017).

One of the most commonly used theories related to values is undoubtedly that of Shalom H. Schwartz. Values, according to Schwartz et al. (2016: 107), denote: "Emotion-related beliefs, which relate to desired goals that motivate action, that transcend certain actions and situations, serve as standards for evaluating actions, policies, people, and events. They are patterns of a relative hierarchical system sorted by importance". Schwartz's model of values consists of four values of a higher order or dimension (*openness to change, conservation, self-enhancement, self-transcendence*)

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<sup>1</sup> <https://www.worldometers.info/coronavirus/country/croatia/>, accessed May 21st 2020.

<sup>2</sup> <https://www.worldometers.info/coronavirus/country/serbia/>, accessed May 21st 2020..

<sup>3</sup> <https://www.worldometers.info/coronavirus/country/bosnia-and-herzegovina/>, accessed May 21st 2020.

<sup>4</sup> <https://covid19.rs/> accessed May 21st 2020

<sup>5</sup> <https://www.koronavirus.hr/najnovije/34>, accessed May 21st 2020.

organised into ten basic values (universalism, benevolence, tradition, conformism, security, power, achievement, hedonism, stimulation, self-direction) and 19 specific values (see Graph 1). The values are displayed in a circle so that the values that are opposite to each other are negatively correlated. For example, if openness to change is more important to a person, conservation is less important for them.

The dimensions of conservation and self-denial are considered values ‘with a social focus’ while openness to change, and self-profit are regarded as dimensions of values and personal focus (Schwartz et al., 2012). The values of self-interest and openness to change denote ‘absence of anxiety’ and ‘growth’. In contrast, values of maintaining traditional relationships and self-profit mean ‘avoiding anxiety’ and ‘focus on self-protection’ (See Graph 1).



Graph 1 – Circular representation of the value system (Schwartz 1992; 2012; 2017)

The social focus of a value system consists of two higher-order values: *conservation* and *self-transcendence*. The value of higher-order *conservation* means obedience and directing one’s actions to maintain the existing state. This higher-order value consists of three basic values: *conformism*, *security*, and *tradition*. The value of *conformism* means “meeting social norms and avoiding harassing others” (Schwartz 2017: 8). The value of *security* means “avoiding danger and preserving social order and system stability” (Schwartz 2017: 7). *Tradition* as a value means “maintaining and preserving a cultural, family or religious tradition” (Schwartz 2017: 31). The value of *conformism* is divided into two specific values: conformism according to

rules and interpersonal conformism, and the value of a *security* is divided into social and personal (Schwartz 2012).

The value of higher-order self-transcendence consists of the basic values of *benevolence* and *universalism*. The value of *benevolence* is defined as “caring for the well-being of group members” (Schwartz 2017: 9) and is divided into specific values of benevolence-care and benevolence-reliability. *Universalism* means “understanding, respecting, tolerating and protecting the well-being of all people and caring for nature” (Schwartz 1992). The basic value of universalism is divided into the specific values of universalism-tolerance, universalism-concern and universalism-nature (Schwartz 2012).

The personal focus of the value system consists of the value of a higher order of *self-enhancement* and *openness to change*. The value of a higher order of *self-enhancement* consists of basic values: *power* and *achievement*. The value of power consists of two specific values of power over people and power over resources and means “the goal of promoting one’s own interests by controlling what happens and minimising or avoiding threats that cause anxiety” (Schwartz 2017: 6). *Achievement* signifies “personal success by demonstrating competence according to social standards” (Schwartz 2017: 60). The value of higher-order *openness to change* consists of the core values of *self-direction*, *stimulation* and *hedonism*. The value of *self-direction* is divided into two specific values – self-direction in thought and self-direction in action and denotes creativity, curiosity, choosing one’s own goals, independence and self-confidence (Schwartz 2017: 5). Schwartz (2017: 60) describes *stimulation* as a value as “excitement, novelty and change”. The value of *hedonism* signifies “pleasure and sensory gratification” (Schwartz 2017: 60).

A study from Oklahoma, in which a quasi-experiment was conducted after a bomb exploded in a state office building, killing 168 people, showed that this traumatic event at the macro level impacted the value system. The results showed that higher-order self-transcendence and conservation values were significantly associated with concern immediately after the explosions, while those relationships were weaker after one year. According to research from Oklahoma, individuals who had pronounced values of *self-transcendence* and *conservation* helped the casualties to a greater extent after an accident (Frink, Rose, & Canty 2004).

According to theoretical assumptions, values are permanent characteristics that remain stable (Schwartz 1992) even at traumatic events. However, values significantly affect how people will behave in such circumstances and to what extent they will be concerned about such an event (Schwartz, Sagiv, & Boehnke 2000). Scwhartz, Sagiv,

and Boehnke (2000) distinguish two types of concern: concern for oneself and society and the world. According to the mentioned research, persons who have more pronounced values of *self-transcendence* express higher macro-concern. In contrast, persons who have a more pronounced value of *self-enhancement* show higher micro-concern. According to Frink, Rose, and Canty (2004), it can be assumed that events that impact society as a whole will hit people with more emphasis on *self-transcendence* and *conservation*. On the contrary, events with an individual impact will hit people with more focus on *self-enhancement* and *openness to change*.

Myrsky, Juujärvi, and Pessa (2010) investigated compliance with norms in the context of values. According to the results of their research, the values of conformism and security proved to be significant predictors of compliance with social norms.

It is important to emphasise that the values form an integrated system that is manifested so that the strength of the correlation 'moves along the circle'. For example, according to Myrsky and Helka (2001), empathy as a variable has the strongest positive correlation with the value of *universalism* and a negative correlation with the value of *power* as opposed to the value of *universalism* in the circular model. Other values or correlations with empathy increase and decrease as they move within the circle of values so that, in the case of empathy, those closer to the values of *universalism* are positively correlated, and those closer to *power* are negatively correlated.

Furthermore, research has shown that the value of conformism is associated with adherence to norms (Lan et al. 2008). The value of universalism has revealed a significant predictor of moral judgment already in people as young as 13 years (Helkama et al. 2005).

According to Wolf, Haddock, Manstead, and Maio (2020), it is to be assumed that a person whose value system is more in social focus will also adhere more to coronavirus control recommendations. However, people with a value system with a more pronounced personal focus will stick less to measures.

### ***Trust in institutions as a factor in compliance with measures***

Trust in institutions is a prerequisite for the normal functioning of society (Levi and Stoker 2000). Likewise, trust in institutions is crucial in citizen participation in democratic processes (Franc, Maglić and Sučić 2020). Thus, research has shown that people who trust institutions are more likely to participate in elections (Hornsey et al. 2006), while people who do not trust institutions are more likely to participate in protest activities (Grasso and Giugni 2016). Suppose we view anti-virus measures as

something that comes from institutions. In that case, it is expected that people who have less trust in institutions will be less likely to comply with measures during the COVID-19 pandemic. Political mistrust also occurs due to significant unexplained events that lead to feelings of helplessness (Edelson et al. 2018), resulting in non-compliance with epidemiological measures recommended by the government. Also, trust in institutions can reduce the perception of environmental and health hazards risks so that people of different ideological orientations will perceive certain risks differently and, consequently, act differently (Shao and Hao 2020).

Trust in institutions is related to the value system, so people who value conservation will have more trust in institutions, while, on the other hand, people who are more open to change will have less trust (Davide, Spini, & Devos 2015; Devos, Spini and Schwartz 2002; Spini and Devos 2012; Pavlović Vinogradac 2020; Pavlović Vinogradac, Pavičić Vukičević and Cajner Mraović 2020).

Consequently, it is assumed that those who have confidence in the institutions will respect the government's epidemiological measures. This finding is confirmed by some previous research related to trust in institutions and adherence to the COVID-19 pandemic measures, according to which distrust in institutions, viewing preventive practices as unnecessary getting mixed messages from various sources about effectiveness play a vital role an individual's decision to adhere to measures. (Caplanova, Sivak and Szakadatova 2020; Wang et al. 2021; Banai, Banai & Mikloušić 2020).

### ***Research on people's compliance with COVID-19 measures***

Since the beginning of the COVID-19 pandemic, several studies have been proven on the will of citizens to respect epidemiological measures. Socio-demographic characteristics have proven to be significant factors, so employees, retirees and the elderly, people who perceive that they are at risk will be more likely to respect epidemiological measures (Geana 2020; Akesson et al. 2020). the measures will be less appreciated by younger people and men, while the measures will be more respected by women, older people and higher education (Solomou and Constantinidou 2020; Almutairi et al. 2020; Zhi Zhao et al. 2020; Nivette et al. 2020; Papageorge et al. 2020; Farias et Pilati 2020). A study on "anti-maskers" (Ančić and Cepić 2021) showed that people who do not want to wear masks tend to be young end educated. They are often supporters of conspiracy theories, lower socioeconomic status, working in the private sector and, in general, people who are existentially vulnerable during a pandemic.

In addition to socio-demographic characteristics, contextual factors have also proved to be significant regarding the appreciation of existing measures (Briscese et al. 2020): belonging to a risk group or the existence of a close person belonging to a risk group for developing more severe disease (Franzen and Wöhner 2020). On the other hand, the study by Kooistra et al. (2020) showed that people who are more afraid of the virus would be less likely to respect the measures and people who are generally more pronounced negative emotions related to the virus. Also, according to Reuben et al. (2021), those who know more about the virus will adhere more to the measure, while those who spend more time on social media will adhere less to the measures (Caplanova, Sivak & Szakadatova 2020). Varella et al. (2021) investigated compliance to measures concerning the chronotype. Their findings reveal nocturnal chronotypes would be less ready to adhere COVID-19 measures because this type of person, have some characteristic like being paranoid, risk-taking and have higher antisocial personality. According to Kooistra et al. (2020), individuals will be more likely to comply with measures given their more pronounced moral obligation to comply with the law, regardless of their position on whether the measures should be adhered to or not.

## 2. GOAL AND PROBLEMS OF PAPER

This paper aims to investigate the statistical significance of four higher-order values (*self-transcendence*, *self-enhancement*, *openness to change* and *conservation*) *sex* and *trust in institutions* as predictors of students' compliance with measures during the COVID-19 pandemic in three Southeast European countries (Bosnia and Herzegovina, Croatia and Serbia). Given the goal of the research, the paper will answer the following research problems:

1. The first research problem is to predict compliance with measures to combat the COVID-19 pandemic concerning sex in three countries of Southeast Europe (Croatia, Bosnia and Herzegovina, Serbia)  
Given the literature review, it is assumed that females will be more compliant with measures to combat the COVID-19 pandemic.
2. Second research problem is to predict compliance with measures to combat the COVID-19 pandemic concerning trust in institutions in the three countries of Southeast Europe (Croatia, Bosnia and Herzegovina, Serbia)  
Given the literature review, it is assumed that persons who trust institutions will have more respect for measures to combat the COVID-19 pandemic.

3. The third research problem is to predict compliance with measures to combat the COVID-19 pandemic concerning higher-order values (conservation, openness to change, self-direction, self-enhancement) in the three countries of Southeast Europe (Croatia, Bosnia and Herzegovina, Serbia)  
Given the literature review, it is assumed that individuals with more pronounced *conservation* and *self-transcendence* values will be more likely to adhere to measures to combat the COVID-19 pandemic.

### 3. METHODOLOGY

The research method was an online survey.

#### *Instrument*

The data collection instrument was a questionnaire that contained questions on socio-demographic characteristics, questions about compliance with measures, trust in institutions, and students' value system. Compliance with measures was measured on a scale of 1 to 5, where 1 indicated complete non-compliance, 2 non-compliance, 3 neither compliance nor disrespect, 4 compliance, 5 full compliance. The variable 'compliance with measures' was generally measured on a single plot to obtain as uniform results as possible. The survey was conducted in three different contexts and three different countries with various measures. Trust in institutions (military, government, school system, courts, parliament, police, political parties, universities, president, health system) was measured on a scale of 1 to 5, where number 1 indicated "complete distrust" and 5 "complete trust". The PVQ-rr scale measured the student value system on basic human values by author Shalom H. Schwartz. PVQ-rr has 57 statements based on which research participants should indicate the extent to which each described person is similar or not similar to them on a scale from 1 to 6 – 1 - not like me at all; 2 - not like me; 3 - a little like me; 4 - moderately like me; 5 - like me; 6-very much like me. Example of a person's description: it is essential for her to build her own views of things on her own. The 57 particles of the questionnaire ultimately form 19 specific values, ten core values, and four higher-order values. The value system is shown in Graph 1.

In this paper, the higher-order value is analyzed: *self-enhancement*, *self-transcendence*, *conservation* and *openness to change*. Coefficients of reliability for the stated value of the higher-order are given in Table 1.

**Table 1.** Values (Schwartz 1992)

High order value	Basic value	Cronbach alpha
Self-transcendence	Benevolence	0,917
	Universalism	0,897
Conservation	Conformism	0,842
	Tradition	0,795
	Security	0,850
Self-enhancement	Power	0,818
	Achievement	0,729
	Hedonism	0,765
Openness to change	Stimulation	0,740
	Self-direction	0,878

### *Sample*

The research was conducted through an online questionnaire using the survey method from March 29 to April 12, 2020. As the most extensive quarantine in this part of Europe was in force, the online mode was the only possible choice of data collection. One of the best populations for online research is the student population (Vehovar, Lozar Mafreda & Callegaro 2015: 25-26). It is familiar with this way of surveying and is most accessible through social networks. Participants were recruited through the social network Facebook. Requests for voluntary participation and links to the online questionnaire were distributed to student Facebook groups. In the introduction to the questionnaire, the participants were explained the purpose of the research. They were guaranteed anonymity as well as the possibility to withdraw at any time during the research.

The research involved 1024 students from Bosnia and Herzegovina (n = 216), Croatia (n = 513) and Serbia (n = 295), with the share of males being 17.9%, which is common in online research since women are more likely to volunteer to complete the questionnaire. The average age of the respondents was 22.12 (SD = 2.82), and the age range was 18 to 45 years. Socio-demographic characteristics of participants can be found in Table 2.

### *Limitations*

The most significant limitation of the research is the unrepresentative sample consisting of the majority female and, for the most part, social science students. As international face-to-face research was impossible during the pandemic, data collection was via an online questionnaire. The online survey has its limitations as survey participants are invited to access the link to the survey voluntarily, so the sample cannot

**Table 2.** Socio-demographic characteristics

Bosnia and Herzegovina		Frequency	Structure (%)
Sex	Male	36	16.7
	Female	180	83.3
Field of study	Biomedicine and health	27	12.5
	Biotechnical science	6	2.8
	Social science	90	41.7
	Humanities	15	6.9
	Interdisciplinary area	2	.9
	Natural science	31	14.4
	Technical science	34	15.7
	Art	7	3.2
Croatia		Frequency	Structure (%)
Sex	Male	93	18.1
	Female	420	81.9
Field of study	Biomedicine and health	59	11.5
	Biotechnical science	17	3.3
	Social science	208	40.5
	Humanities	68	13.3
	Interdisciplinary area	22	4.3
	Natural science	28	5.5
	Technical science	82	16.0
	Art	24	4.7
Serbia		Frequency	Structure (%)
Sex	Male	54	18.3
	Female	241	81.7
Field of study	Biomedicine and health	22	7.5
	Biotechnical science	8	2.7
	Social science	94	31.9
	Humanities	43	14.6
	Interdisciplinary area	8	2.7
	Natural science	21	7.1
	Technical science	73	24.7
	Art	24	8.1

be controlled. There is also the possibility that people who are more willing to participate in survey research have a specific value system or different from those who do not usually participate in online research. Furthermore, since the values are researched, there is a possibility that persons who are otherwise willing to help or who have more pronounced values of universalism and benevolence participated more often in the research, which is an additional limitation of the sample. In future research, it would be desirable to measure 'compliance to measures' through multiple variables. Therefore, future research should review the results, especially international study, which is most desirable when the topic is the value system.

## 4. RESULTS

### *Data analysis*

Hierarchical regression analysis was used to verify the statistical significance of the four values of higher order, sex, and trust in institutions as predictors of compliance to measures during the COVID-19 pandemic in three Southeast European countries. Three blocks of variables were used in the analysis. The blocks are formed by the researcher and determine the order in which the blocks will enter the analysis, and this is most often decided based on data from previous research and findings (Field 2009). The first block consisted of the variable gender, the second block the variable trust in institutions during the COVID-19 pandemic, and the third consisted of four variables of higher-order values.

### *Descriptives*

Table 3 shows descriptive indicators of linear combinations of four higher-order values – self-transcendence, self-enhancement, conservation and openness to change. According to the presented data, we can see that the dominant value in all countries is self-transcendence, then openness to change, then conservation, and finally self-enhancement in all three countries.

**Table 3.** Values (descriptive)

Country		M	SD
Bosnia and Herzegovina	Self-transcendence	4.85	1.00
	Self-enhancement	3.53	0.98
	Openness to change	4.68	0.98
	Conservation	4.32	1.02
Croatia	Self-transcendence	5.09	0.76
	Self-enhancement	3.58	0.87
	Openness to change	4.87	0.74
	Conservation	4.32	0.89
Serbia	Self-transcendence	4.94	0.89
	Self-enhancement	3.41	0.91
	Openness to change	4.60	0.85
	Conservation	4.10	0.92

Trust in institutions during the COVID-19 pandemic was formed as an average of trust in each individual institution, and for Bosnia and Herzegovina it is  $M = 2.49$

(SD = 0.89), for Croatia M = 3.13 (SD = 0, 85) and for Serbia M = 2.41 (SD = 0.97). The results show low trust in institutions in all three countries.

For all three states, the conditions of normality, homogeneity and multicollinearity are met.

### ***Compliance with measures in Bosnia and Herzegovina***

By inserting sex as the first block of hierarchical analysis, the coefficient of determination  $R^2 = .209$  was obtained, which explains 2.9% of the variance in compliance with the recommendations. Gender proved to be a significant predictor at the population level ( $F = 6,470$ ,  $df1 = 1$ ,  $df2 = 214$ ,  $p = .012$ ). With the entry of the second block, trust in institutions during the COVID-19 pandemic, the coefficient of determination increased by  $\Delta R^2 = .027$  to  $R^2 = .057$  and is significant at the population level ( $F = 6.379$ ,  $df1 = 2$ ,  $df2 = 213$ ,  $p = .002$ ). Trust in institutions is a slightly better predictor ( $\beta = .165$ ) than gender ( $\beta = .159$ ). By introducing a block of higher-order value, the coefficient of determination increased by  $\Delta R^2 = .604$  to  $R^2 = .121$  and is significant at the population level ( $F = 4.780$ ,  $df1 = 6$ ,  $df2 = 209$ ,  $p < .001$ ). Ultimately, significant predictors proved to be the retention of traditional relationships as the best, followed by one's own gain and gender as the weakest statistically significant predictor of adherence to recommendations. However, it is important to emphasise that the percentage of explained variability increases very little with introducing new variables, and a tiny percentage of variance is explained overall.

Table 4. - *Correlations*

	2	3	4	5	6	7
1	.173*	.178**	.075	-.225**	-.157*	.221**
2		.076	.193**	-.174*	.030	-.051
3			.025	-.113	-.099	.123
4				-.564**	.155*	-.317**
5					-.098	-.294**
6						-.635

\*\*  $p < 0,01$  ; \*  $p < 0,05$  (one-way); 1 – Compliance with measures; 2 - Sex; 3 – Trust in institutions; 4 – Self-transcendence; 5- Self-enhancement; 6 – Openness to change; 7 – Conservation

**Table 5.** Standardised and non-standardised coefficients of analysed blocks of predictors of criteria for compliance with measures with testing of their significance

	Non-standardised coefficients		Standardised coefficients		
	B	Std. err.	$\beta$	t	p
1 (Constant)	3.816	0.268		14.240	<.001
Sex	0.364	0.143	.171	2.544	.012
2 (Constant)	3.534	0.288		12.262	<.001
Sex	0.338	0.142	.159	2.383	.018
Trust in institutions	0.137	0.055	.165	2.477	.014
3 (Constant)	3.445	0.364		9.454	<.001
Sex	0.306	0.141	.144	2.162	.032
Trust in institutions	0.094	0.057	.114	1.634	.104
Self-transcendence	0.043	0.116	.054	0.371	.711
Self-enhancement	-0.147	0.070	-.180	-2.098	.037
Openness to change	-0.113	0.106	-.138	-1.065	.288
Conservation	0.252	0.086	.322	2.916	.004

### *Compliance with measures in Croatia*

By inserting sex as the first block of hierarchical analysis, the coefficient of determination  $R^2=0.008$  was obtained, which explained 0.9% of the variance in compliance with the measures. Sex proved to be a significant predictor at the population level ( $F = 4,033$ ,  $df1 = 1$ ,  $df2 = 511$ ,  $p = .045$ ). With the entry of the second block, trust in institutions during the COVID-19 pandemic, the coefficient of determination increased by  $\Delta R^2 = .040$  to  $R^2 = .048$  and is significant at the population level ( $F = 12.768$ ,  $df1 = 1$ ,  $df2 = 506$ ,  $p < .001$ ). Sex loses its predictor significance, and trust in institutions becomes a significant predictor ( $\beta = .201$ ). By introducing a block of higher-order value, the coefficient of determination increased by  $\Delta R^2 = .040$  to  $R^2 = .088$  and is significant at the population level ( $F = 8.098$ ,  $df1 = 6$ ,  $df2 = 506$ ,  $p < .001$ ). Ultimately, maintaining traditional relations as the best and trust in institutions proved to be significant predictors. Also, the percentage of explained variability increases very little by adding variables to the model.

**Table 6.** Correlations

	2	3	4	5	6	7
1	.088*	.208**	-.017	-.122**	-.177**	.257**
2		.103*	.153**	-.190**	-.151**	.085
3			.008	-.181**	-.311**	.336**
4				-.564**	.076	-.266**
5					.008	-.325**
6						-.699**

\*\* p<0,01; \*p<0,05 (one-way); 1 – Compliance with measures; 2 - Sex; 3 – Trust in institutions; 4 – Self-transcendence; 5 – Self-enhancement; 6 – Openness to change; 7 – Conservation

**Table 7.** Standardised and non-standardised coefficients of analysed blocks of predictors of criteria for compliance with measures with testing of their significance

	Non-standardised coefficients		Standardised coefficients	t	p
	B	Std. err.	$\beta$		
1 (Constant)	4.442	0.118		37.568	<.001
Sex	0.128	0.064	.088	2.008	.045
2 (Constant)	4.085	0.139		29.318	<.001
Sex	0.098	0.063	.068	1.560	.119
Trust in institutions	0.131	0.028	.201	4.620	<.001
3 (Constant)	4.073	0.202		20.201	<.001
Sex	0.058	0.064	.040	0.912	.362
Trust in institutions	0.070	0.032	.107	2.208	.028
Self-transcendence	-0.031	0.052	-.042	-0.599	.550
Self-enhancement	-0.042	0.033	-.066	-1.294	.196
Openness to change	-0.031	0.047	-.041	-0.659	.510
Conservation	0.171	0.039	.272	4.353	<.001

### ***Compliance with measures in Serbia***

By inserting sex at the first block of hierarchical analysis, the coefficient of determination  $R^2 = 0.208$  was obtained which explains 2.9% of the variance of adherence to measures. Sex proved to be a significant predictor at the population level ( $F = 8.531$ .  $df1 = 1$ .  $df2 = 293$ .  $p = .004$ ). With the entry of the second block, trust in institutions during the COVID-19 pandemic, the coefficient of determination increased by  $\Delta R^2 = .045$  to  $R^2 = .074$  and is significant at the population level ( $F = 11.630$ .  $df1 = 2$ .  $df2 = 293$ ).

= 292.  $p < .001$  ). Confidence in institutions is a slightly better predictor ( $\beta = .214$ ) than gender ( $\beta = .151$ ). With the introduction of the higher-order value block. the coefficient of determination increased by  $\Delta R^2 = .499$  to  $R^2 = .123$  and is significant in the population. level ( $F = 6.746$ .  $df1 = 6$ .  $df2 = 288$ .  $p < .001$ ). Ultimately, significant predictors proved to be maintaining traditional relations as the best followed by openness to change gender and trust in institutions as the weakest statistically significant predictor. Also, the percentage of explained variability increases very little by adding variables to the model.

**Table 8.** Correlations

	2	3	4	5	6	7
1	.170**	.228**	-.015	-.073	-.268**	.229**
2		.084	.153**	-.123*	-.110	.001
3			.023	-.103	-.249**	.281**
4				-.564**	-.056	-.167**
5					.107	-.470**
6						-.581**

\*\*  $p < 0.01$ ; \*  $p < 0.05$  (one-way); 1 – *Compliance with measures*; 2 – *Sex*; 3 – *Trust in institutions*; 4 – *Self-transcendence*; 5 – *Self-enhancement*; 6 – *Openness to change*; 7 – *Conservation*

**Table 9.** Standardised and non-standardised coefficients of analysed blocks of predictors of criteria for compliance with measures with testing of their significance

	Non-standardised coefficients		Standardised coefficients		
	B	Std. err.	B	t	p
1 (Constant)	3.966	0.204		19.424	<.001
Sex	0.322	0.110	.169	2.929	.004
2 (Constant)	3.581	0.224		15.972	<.001
Sex	0.288	0.108	.151	2.672	.008
Trust in institutions	0.179	0.047	.214	3.780	<.001
3 (Constant)	3.756	0.303		12.386	<.001
Sex	0.268	0.108	.140	2.474	.014
Trust in institutions	0.115	0.051	.136	2.243	.026
Self-transcendence	0.006	0.076	.007	0.075	.940
Self-enhancement	0.045	0.055	.055	0.815	.416
Openness to change	-0.208	0.077	-.237	-2.686	.008
Conservation	0.195	0.063	.243	3.118	.002

## 5. DISCUSSION AND CONCLUSION

According to the presented results, gender proved to be a significant predictor of compliance to the measures related to COVID-19 in a way that women in Bosnia and Herzegovina and Serbia in a way that women were more compliant with the measures. This result is similar to that of the author Buljan Flander and co-workers (2020), where women in Croatia proved to be significantly more concerned about the coronavirus and perceived that they respected the measures of the headquarters to a greater extent. These results are also expected in line with previous studies of compliance during the COVID-19 pandemic.

The results also partially confirmed the theoretical assumption. They showed that the values of *conservation* and *openness to change* are significant predictors of compliance with the measures for combating the COVID-19 pandemic. The results showed that as the importance of *conservation* grows, so does compliance with measures to combat coronavirus and prosocial behaviour in the studied countries. On the other hand, people who value *openness to change* have less compliance with measures in Serbia. Trust in institutions has also proved to be a significant predictor of compliance with the measures of the headquarters: those who have more confidence in the institutions in Serbia and Croatia perceive that they have more followed the measures of the coronavirus headquarters. Trust in institutions has not proved to be a significant predictor in Bosnia and Herzegovina.

Ančić and Cepić (2021) find in their research that those who respect the measures are voters of the ruling party in Croatia (right-wing oriented), with trust in institutions, which has proven to be a significant factor. However, it should be argued that trust in institutions has proved to be a significant factor in respondents in Serbia, where the left option is in power. At the same time, the *openness to change* inherent in the left option is negatively correlated with compliance to measures. However, it would be expected to correlate positively given the ruling option in that country. According to the presented results, the results in Croatia and Bosnia and Herzegovina (where the right option is in power) show that the value of conservation is a significant factor in compliance with the measures, as well as trust in institutions, which supports the thesis set by Ančić and Cepić (2021). Several other studies have addressed this topic. Thus, according to Cheng (2020), the measures will be more respected by people with left-wing political views, while according to Farias and Pilate (2020), they will be more respected by right-wing parties. According to the results of a similar study conducted by Painter and Qiu (2020), persons in republican states will comply with

measures to a greater extent than those in democratic states. However, given the different findings of different studies, it is necessary to pay additional attention to this topic.

Furthermore, since a tiny part of the variance is explained in this research, it is necessary to research the topic of compliance with measures further and consider factors other than the value system and trust in institutions. That is, to explore the same phenomenon from different perspectives, for example, through an institutional theory of trust in institutions, as opposed to a cultural theory more appropriate to a value system. Future research should undoubtedly consider the nature of individual measures, their effectiveness and other factors related to the functionality of institutions during a pandemic.

The results of this work certainly have practical implications. Decision-makers and policymakers may keep in mind that people who care about maintaining traditional relationships are likely to *a priori* adhere more to the measures and recommendations made. *Conservation* contains the core values of security, conformism, and tradition (Schwartz 1992). Thus, people who meet social norms, avoid conflicts and dangers, preserve cultural, family, and religious traditions will to a greater extent respect the recommendations related to pandemic control.

Therefore, policies should adapt to those who comply less with the measures. In this case, those who are more important to be open to change, i.e., care about independence in thought and action, encouragement and hedonism (Schwartz 1992). Descriptively, these are people marked by curiosity, creativity, choosing their own goals, excitement, novelty, pleasures and a sense of satisfaction. Policies that could be effective in a pandemic situation should adapt the recommendations to the characteristics of such people so that they, on the one hand, meet their needs and, on the other hand, combat the spread of viruses and protect vulnerable groups. This can be achieved by taking into account what is important to such people when developing epidemiological measures. Of course, safety is one of the basic human needs, and its satisfaction should be unquestionable for everyone. Still, the modalities of this satisfaction can vary, among other things, precisely as a result of a person's value system.

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## **SCHWARTZOV MODEL VRIJEDNOSTI KAO ČIMBENIK PRIDRŽAVANJA EPIDEMIOLOŠKIH MJERA U PRVOM VALU COVID-19 PANDEMIJE U JUGOISTOČNOJ EUROPI**

### **Sažetak:**

Rad ima za cilj istražiti teorijsku pretpostavku prema kojoj je vrijednosni sustav (prema Schwartzovom modelu) povezan s poštivanjem preporuka koje za cilj imaju suzbijanje širenja pandemije COVID-19. Prema teorijskoj će pretpostavki osobe čiji vrijednosni sustav ima naglasak na socijalnom fokusu, a koji čine vrijednosti vlastito odricanje i zadržavanje tradicionalnih odnosa, u većoj mjeri poštivati preporuke. S druge će strane osobe čiji je vrijednosni sustav usmjeren na osobni fokus, a koji čine vrijednosti vlastiti probitak i otvorenost za promjene, manje poštivati preporuke za suzbijanje širenja virusa. Istraživanje je provedeno u tri države jugoistočne Europe – Bosni i Hercegovini, Hrvatskoj i Srbiji metodom ankete na uzorku od 1024 studenta. Kao instrument istraživanja korištena je Schwartzova skala o univerzalnim ljudskim vrijednostima. Istraživanje je provedeno na samom početku pandemije (ožujak i travanj 2020.) Rezultati hijerarhijske regresije pokazali su kako su vrijednosti otvorenost za promjene (osobni fokus) i zadržavanje tradicionalnih odnosa (socijalni fokus) značajni prediktori poštivanja preporuka kao i spol te povjerenje u institucije.

**Ključne riječi:** vrijednosti; pandemija COVID-19; poštivanje preporuka; jugoistočna Europa

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