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TRUST IN PUBLIC INSTITUTIONS AND COMPLIANCE WITH MEASURES AGAINST THE COVID-19 PANDEMIC. CASE STUDY ON THE METROPOLITAN AREA OF CLUJ, ROMANIA*

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Abstract

The goal of this article is to analyze the level of citizens' trust in different public institutions during the second wave of COVID-19 pandemic, and the influence of citizens' trust on their compliance with the measures adopted to prevent the spread of the virus. The research was conducted between November and December 2020 on a sample of 700 residents of the Metropolitan Area of Cluj, Romania. During the time of data collection, Romania registered the largest number of daily COVID-19 cases, therefore, citizens' compliance with preventive measures was crucial to contain the spread of the virus. Citizens reported high levels of compliance with preventive measures. However, even though people were recommended to avoid meetings with relatives and friends, and participation to private events with large number of people, respondents reported that they did not fully comply with social distancing requirements. Citizens have the highest level of trust in public institutions at the local level, medical institutions and County Committees for Emergency Situations. The research found that trust in public institutions influences the compliance with preventive measures; however, the influence is weak and the trust in different institutions influences differently policy compliance.

Keywords: trust, public institutions, COVID-19 pandemic, Romania, policy compliance.

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1. Introduction

In the context of the COVID-19 pandemic, trust was recognized as a crucial component of the strategies to combat the spread of the virus when little knowledge existed about the infectious disease. On the one hand, citizens need to trust experts and public officials to help them respond to the pandemic. On the other hand, public authorities need to trust citizens that they will comply with the mandatory restrictions in order to control the pandemic situation. Therefore, trust is a key topic that was researched extensively in many countries since the start of the coronavirus pandemic.

In this context, the goal of this article is to analyze the level of trust in different public institutions in Romania and its influence on the compliance with anti-coronavirus measures adopted. In the first part of the article, we will analyze the findings of the latest research on public trust during the COVID-19 pandemic in different countries and we will draw conclusions on how trust influences policy compliance, as well as the factors that influence public trust during the crisis.

2. Literature review on trust in public institutions during the COVID-19 pandemic

Maintaining the credibility of leaders and, consequently, trust in public institutions is crucial for citizens' compliance with restrictive measures in many fields (Cooper, Knotts and Brennan, 2008; Lalot *et al.*, 2020; Christensen and Laegreid, 2020), and for citizens' guidance in ambiguous situations (Delany-Crowe *et al.*, 2019). Researchers who analyzed the influence of trust on citizens' compliance with distancing measures (Bargain and Ulugbek, 2020; Mazey and Richardson, 2020; Devine *et al.*, 2021; Cairney and Wellstead, 2021) came to the same conclusion that trust, along with others factors, is a critical ingredient of a successful strategy to contain the spread of the virus. Many studies showed the benefits of trust on risk management situations (Wong and Jensen, 2020), on the efforts to contain the transmission of infectious diseases (Elgar, Stefaniak and Wohl, 2020; Henderson *et al.*, 2020), and on the mobilization of population when large sacrifices are required on short-term and long-term benefits are insecure (Kye and Hwang, 2020). Robinson *et al.* (2021), based on a research conducted on U.S. citizens in 2020, showed that trust in public organizations is positively related to residents' intention to comply with protective measures and the policies aimed at containing the spread of COVID-19. Trust in public institutions gives credibility to the warning messages in case of hazardous situations (White and Fu, 2012) and increases preparedness of households (Choi and Wehde, 2020). Devine *et al.* (2021) found that governments that had higher support of citizens adopted less restrictive measures as they sought to manage the spread of the virus through emphasis on citizens' social responsibility. Bargain and Ulugbeck (2020) analyzed the relation between political trust at the level of European regions and the compliance with lockdown policies. The authors found that the decline in human mobility was more significant in high-trust regions in mid-March 2020, and the effect was strong for non-necessary activities.

Yet, the relationship between the level of trust in institutions and support for policy implementation is not clearly established, as there are some authors who argue that trust is not unconditionally beneficial (Cairney and Wellstead, 2021). People might uncritically support restrictive measures without questioning their usefulness or support large and inefficient government spending. Elgar, Stefaniak and Wohl (2020) pointed out that highly trusting citizens may be more susceptible to misinformation about the severity of the pandemic. Trust is a double-edged sword as too much trust may lead citizens to believe that the government manages the COVID-19 pandemic when it is not (Devine *et al.*, 2021). Wong and Jensen (2020) showed that public trust in government competence and fairness may lead people to underestimate risk and thus reduce compliance with distancing measures.

Even though in countries with low level of trust in government, as Hong Kong, individuals and organizations voluntarily changed their behaviors before the government officially introduced restrictive directives regarding social distancing (Hartley and Jarvis, 2020), their response was based on the country's previous experiences with infectious diseases, such as SARS-COV-2. Therefore, even though trust in public institutions is beneficial for citizens' compliance with restrictive measures, we have to interpret its influence within the particular experiences of each country.

Many studies analyzed the factors that influence citizens' trust in public institutions (Kye and Hwang, 2020; Henderson *et al.*, 2020; Van de Walle and Bouckaert, 2003; Berg and Johnsson, 2020; Van de Walle, Van Roosbrock and Bouckaert, 2008; Bouckaert and van de Walle, 2003; Radu, 2020; Schmidthuber, Ingrams and Hilgers, 2020), and highlighted the importance of factors such as: performance of public institutions, decision makers' integrity, credibility and reliability, institutional settings that prevent corruption, transparency, quality of public services and culture, etc. The focus in this section is on the particular factors that influence trust in public institutions during the COVID-19 pandemic.

Studies found that trust is constructed in the dynamic relationships between a much broader array of actors, and it is influenced by factors that are out of the range of the control of public institutions. Trust is not only a characteristic of the individual or the organization under scrutiny, but also the product of the characteristics of the assessing person (Robinson *et al.*, 2021). Trust is also constructed based on the comparison with the performance of similar institutions, therefore it is not always under the control of institutions. De Vries, Bakker and Hobolt (2021) showed that the unfolding of the COVID-19 crisis in Italy influenced citizens' support for their governments in other countries. Van Dijck and Alinejad (2020) argued that due to the international nature of the pandemic and easy access to information, people compared responses adopted by their governments with the responses adopted by other governments, and they used the information to assess whether their governments were doing enough to prevent the spread of the virus. These comparisons influenced citizens' level of trust in public institutions.

In the context of the COVID-19 pandemic, social media played an important role in mediating the flow of information between public institutions, experts and the general public (van Dijck and Alinejad, 2020), and interfered in altering the level of trust in public institutions. Even though social media was a venue for misinformation, public officials used social media to communicate trustful information, and governments even concluded partnerships with social media platforms in order to redirect COVID related searches to websites of public authorities in order to increase the access to reliable information, as it happened in Italy (Lovari, 2020). In addition to trustworthiness of information, Henderson *et al.* (2020) found that providing timely information about the level of risk is essential for warning and properly preparing the population, and therefore maintaining citizens' trust in public institutions. Chubarova, May and Nemec (2020) analyzed the public policies adopted to contain the spread of the virus in the Czech Republic, Russia and Slovakia, and found that timing of adopting the policies explained the difference in the success of policies, since the policies did not differ greatly in terms of scope and measures adopted.

Reliability of political leaders as being truly concerned for the wellbeing of the population, collaborating with experts and recognizing the merits of all people are crucial for building trust and the support for containing the spread of the virus (Mazey and Richardson, 2020). However, long lasting restrictive measures lead to behavioral fatigue, as people become tired of complying with restrictive measures and their trust in public institutions can erode. Cairney and Wellstead (2021) found that relaxation is essential to maintain the citizens' trust in government over time.

Several studies identified a shift of trust to other relevant sources of trust that allowed government measures to be respected (Hafner-Fink and Uhan, 2021; van Dijck and Alinead, 2020; Henderson *et al.*, 2020; Clapanova, Sivak and Szakadatova, 2020; Klimovsky and Nemec, 2020). Collaboration with public health experts gave more credibility and increased public support for restrictive measures. In the Netherlands, van Dijck and Alinead (2020) found a rise in the level of trust in government following the first televised address of the Prime Minister, who declared that the measures adopted to deal with the pandemic were discussed with the public health experts. In Slovenia, a country with traditionally low levels of trust in political institutions, Hafner-Fink and Uhan (2021) identified a high level of trust in expert groups of physicians and pharmacists. In general, independent medical commissions or agencies have more credibility than political leaders because previous pandemics or other social events eroded the trust in government (Henderson *et al.*, 2020). Clapanova, Sivak and Szakadatova (2020) found that, in Slovakia, citizens who trusted the pandemic commission were more likely to comply with distancing measures than the citizens who trusted the government.

However, in other countries, in the early stages of the COVID-19 pandemic researchers found a trust boom or 'rally 'round the flag effect' (Schraff, 2020). Falcone *et al.* (2020) conducted a survey on Italian citizens in early March 2020 that showed a rise in government trust; the authors argue that the pandemic left Italian people

with no other option than to put their trust in public institutions. However, Stanzani (2020) found that residents in North-West Italy had a low level of institutional trust, probably because the epicenter of the pandemic was in Lombardy. In South Korea, as the number of COVID-19 cases stabilized in late March 2020 comparatively with the alarming situation in Europe and in the US, the level of trust in government improved (Kye and Hwang, 2020). Schraff (2020) argues that the increasing number of COVID-19 cases lead people to rally around existing political institutions.

Trust is not the only explanatory factor of compliance with anti-coronavirus measures, as there are other factors such as pre-existing health conditions, greater exposure to virus, income inequality and poor access to health services (Elgar, Stefaniak and Wohl, 2020). Since the current research analyzes only the influence of trust on policy compliance, we would not expect to find high values of correlations between the two variables.

In the following part of the article, we will present the pandemic context in Romania at the time the research was conducted in order to highlight the importance of citizens' compliance with restrictive measures. In addition, we analyze the evolution of trust in government at the national level in Romania.

3. Pandemic context in Romania at the time of research

The research was conducted between November and December 2020, at the time Romania crossed the second wave of coronavirus pandemic when the greatest number of new COVID-19 cases were reported. For example, at the peak of this period, around 10,000 cases were reported daily. The number of cases started to increase at the beginning of November 2020 and then declined toward the end of December 2020 (see Figure 1).

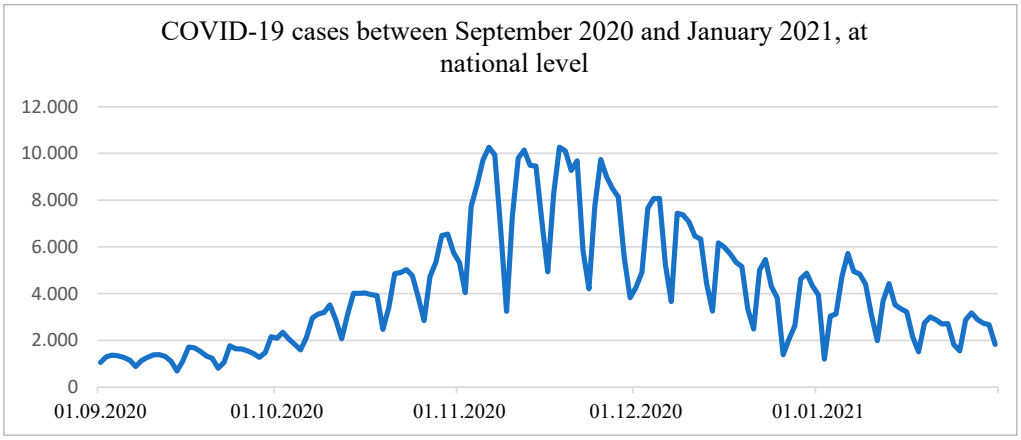

Figure 1: COVID-19 cases at national level between September 2020 and January 2021

Source: Romanian Government, Department for Emergency Situations

During this period, the mandatory measures that all citizens had to comply with were: (a) all people had to wear face masks indoor and outdoor, (b) keeping social distance, (c) prohibition of large gatherings, (d) indoor restaurants were closed (however, outdoor terraces were open), (e) schools were closed, and classes took place online. Additional restrictive measures were imposed locally depending on the infectious rate in each community. It is important to mention that on September 27, 2020 local elections took place in Romania, and on December 6, 2020 parliamentary elections were held. Therefore, it was very important that citizens comply with the measures adopted by the government to prevent the spread of the virus. The restrictive measures were tightened starting with November 18, 2020, and they were relaxed staring with February 14, 2021 (Figure 2). However, the measures were not as restrictive as during the first wave of the pandemic in Romania.

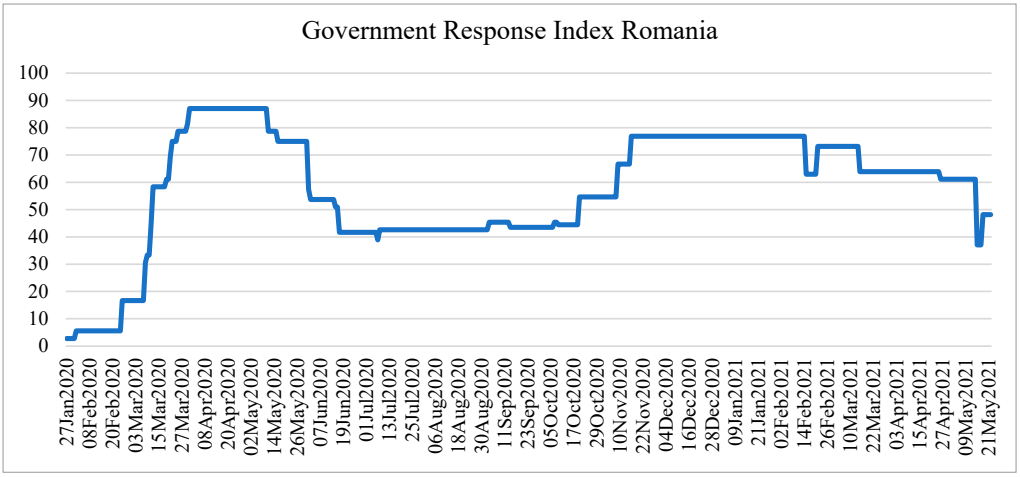

Figure 2: Government Response Index Romania

Source: University of Oxford's Blavatnik School of Government, COVID-19 Government Response Tracker

During the same period, the number of new COVID-19 cases reported at the level of Cluj County, the county the research area is located in, followed the same trend in terms of COVID-19 new cases as the national level. The largest number of new cases was reported in the first part of November, with the peak being on November 16, 2020 (Figure 3). The largest number of cases were reported in Cluj-Napoca, the city residence of the county and the first ring of the communes surrounding the city.

In order to better understand the general context in Romania, we analyzed the statistical data collected through Eurobarometer with regard to support for the government and satisfaction with the restrictive measures adopted to contain the pandemic. According to the Eurobarometer, citizens' support for the Romanian government declined from 50.40% in April 2020 to 44.30% in October 2020, and the opposition

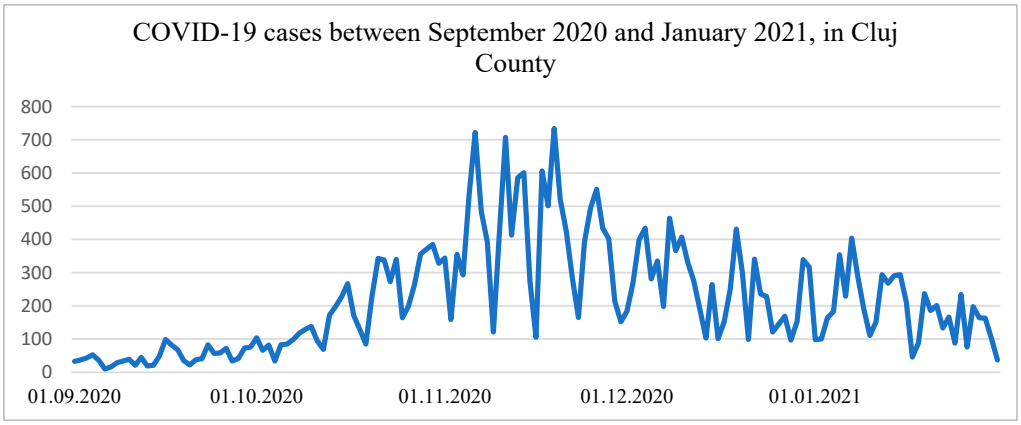

Figure 3: COVID-19 cases in Cluj County between September 2020 and January 2021

Source: Romanian Government, Department for Emergency Situations

increased from 35.30% to 42.20% during the same period (unfortunately no more recent data were made available until the publication of the article).

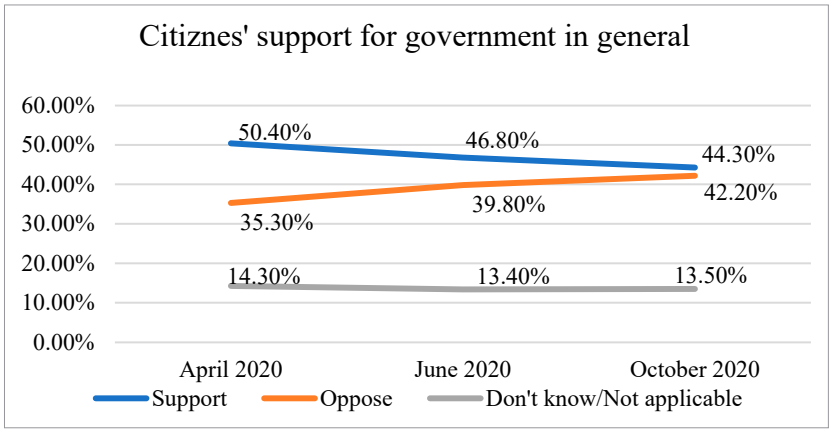

Figure 4: Citizens' support for Romanian government between April and October 2020

Source: Eurobarometer

Eurobarometer shows that citizens' satisfaction with the measures adopted by the Romanian government against the coronavirus pandemic slightly increased in the first part of the pandemic, from 51.80% in April 2020 to 53.30% in June 2020, and then dramatically declined to 37.20% in October 2020. The proportion of people not satisfied with the measures increased by 15% between June and October 2020, probably in the context of the increasing cases of coronavirus reported daily and behavioral fatigue with restrictive measures.

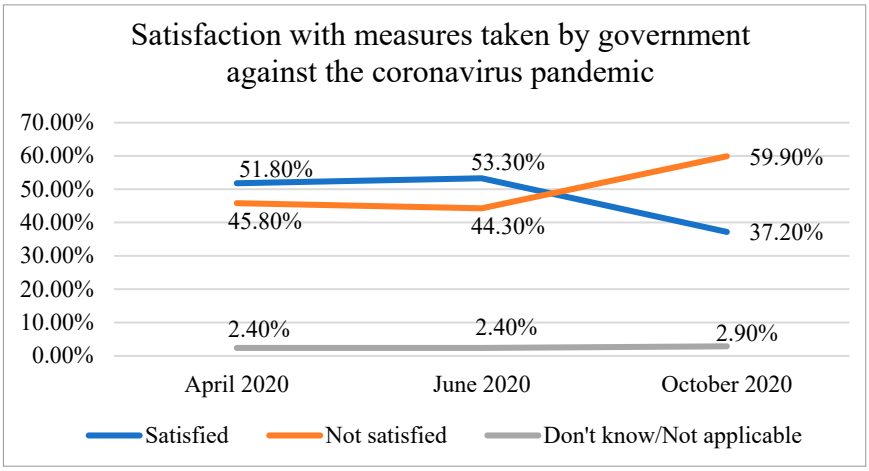

Figure 5: Citizens' satisfaction with measures taken by the government against the coronavirus pandemic between April and October 2020

Source: Eurobarometer

4. Research methodology

In the following part, we will describe the research methodology, research area and instrument design. The research goal was to analyze the trust in different public institutions during the coronavirus pandemic and whether it influences citizens' compliance with government measures to prevent the spread of the virus. We developed a questionnaire on issues related to individual compliance with protective measures, personal beliefs regarding the COVID threat and trust in public institutions. The research was conducted through CATI method (Computer-assisted Technology Information) between November–December 2020. In the following subsections we will describe the research sample and the instrument design.

4.1. Sample

The data was collected from a representative sample of 700 citizens from the Metropolitan Area of Cluj, Romania. The metropolitan area includes the City of Cluj-Napoca and the surrounding communes, namely Aiton, Apahida, Baciu, Bonțida, Borșa, Căianu, Chinteni, Ciurila, Cojocna, Feleacu, Florești, Gilău, Gârbău, Jucu, Petrești de Jos, Săvădisla, Sânpaul, Tureni and Vultureni. According to the Romanian National Institute of Statistics, the total permanent population of Cluj Metropolitan Area was 447,714 at 1st of July 2020 (out of which 327,985 people lived in Cluj-Napoca).

The sample was formed of 47.3% males and 52.7% females, which roughly matches the demographics of the metropolitan area. The sample population was distributed almost equally among four age groups of adult people: 23.7% were 18-29 years old, 23.8% were 30-44 years old, 25.8% were 45-59 years old, while 26.7% were people over 60 years old. In terms of level of education, 9.8% of the surveyed population had

Figure 1: Map of Romania

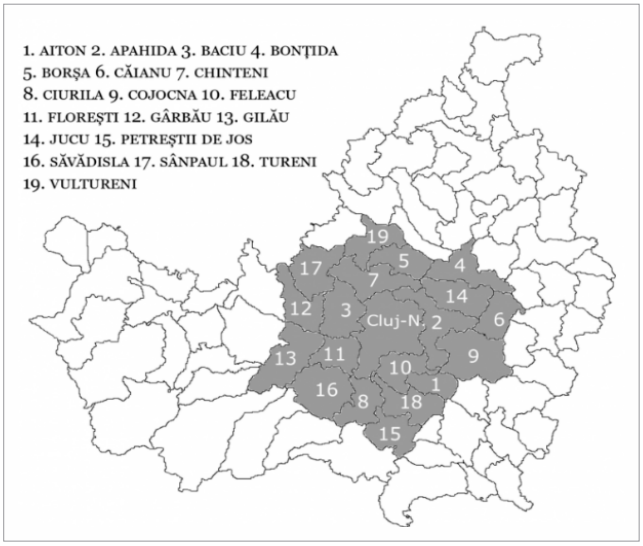

Figure 2: Map of Metropolitan Area of Cluj

primary level education (meaning they graduated primary school), 57.9% had middle level education (they graduated a gymnasium, professional school, a theoretical high school or a post-high school), and 32.2% had higher level education (university, master, doctoral or post-graduate degree).

In terms of occupation, 30.1% of the respondents were pensioners, 3.5% were housewives, 2.8% were unemployed, 11% were pupils or students, 18.6% were workers, 9.3% had non-manual occupations, 18.7% had occupations requiring graduate studies, while 5.9% had management position or own business.

Table 1: Socio-demographic characteristics of the sample population

Statistic	Sample estimate
Male	47.3%
Female	52.7%
Age 18-29	23.7%
Age 30-44	23.8%
Age 45-59	25.8%
Age 60+	26.7%
Primary education	9.8%
Middle level education	57.9%
Higher education	32.2%
Pensioners	30.1%
Housewives	3.5%
Unemployed	2.8%
Pupils, students	11%
Workers	18.6%
Non-manual occupations	9.3%
Occupations requiring graduate studies	18.7%
Management position/ own business	5.9%

Source: Data collected by the author

4.2. Instrument design

The survey included questions about trust in different public institutions that play an active role in preventing and combating the spread of coronavirus, satisfaction with the measures adopted by the government, personal beliefs regarding the risk that COVID-19 represents for the population, compliance with protective measures, sources of information, and the level of personal resilience. We measured trust in six public institutions on a scale from 1 (no trust) to 7 (total trust), namely, institutions at national level (Government, President and Parliament), institutions at local level (City Hall, Prefect, County Council), medical institutions, institutions responsible for public order (Police, Gendarmerie, Army), international organizations (EU, WHO), and County Committees for Emergency Situations[1]. In order to measure citizens' compliance with protective measures, we asked respondents to assess, on a scale from 1 (totally disagree) to 7 (totally agree), their agreement with eight statements that describe compliance with measures that were mandatory or recommended at the time the research was conducted.

1 County Committees for Emergency Situations have the responsibility to adopt measures to prevent the spread of the coronavirus depending on the epidemiologic situation in the municipalities that are part of a county. They are composed of representatives of public institutions from county level that have responsibilities in managing different domains impacted by the coronavirus crisis.

5. Results

5.1. Trust in public institutions

The research results show a moderate level of trust across all public institutions, with the highest level of trust being in institutions at local level (mean value 4.96), medical institutions (mean value 4.96) and County Committees for Emergency Situations (mean value 4.96). Citizens reported the lowest level of trust in institutions at national level (Government, President and Parliament) (mean value 3.63). However, the opinions among respondents with regard to the same institution are diverse because the standard deviation has large values for all institutions analyzed.

Table 2: Trust across public institutions

Trust	Mean	SD	MIN	MAX
Institutions at national level (Government, President, Parliament)	3.63	1.952	1	7
Institutions at local level (City Hall, Prefect, County Council)	4.96	1.816	1	7
Medical system	4.96	1.901	1	7
Institutions responsible for public order (Police, Gendarmerie, Army)	4.82	1.857	1	7
International organizations (EU, WHO)	4.58	1.887	1	7
County Committees for Emergency Situations	4.96	1.768	1	7

Source: Data collected by the author

We looked in more detail at how trust in public institutions varies depending on the socio-demographic characteristics of the respondents, such as gender, age, level of education, occupation and place of residence. We found that the level of trust in public institutions is not significantly different between males and females, with the exception of County Committees for Emergency Situations. In this case, females trusted County Committees for Emergency Situations more than males (mean value for females was 5.14, comparatively with 4.75 in the case of males). However, when we analyzed the level of trust depending on gender and age groups, we found that women of 18-29 years old are trusting less of all public institutions analyzed than women of older ages. Men of 30-44 years old are less trusting of all public institutions comparatively with men belonging to other age groups. When looking at the institutions that have the most important role in managing the pandemic, we found that both men and women over 60 years old have the highest level of trust in medical institutions. Women between 18-29 years old and men between 30-44 years old are the least trusting in medical institutions.

Since communities that compose Cluj Metropolitan Area are multiethnic, we explored differences that exist in public trust levels based on the ethnicity of the respondents. A large minority population of Hungarians live in the metropolitan area, and a small percentage of other ethnic groups, such as Roma people. The research showed that there are significant differences among ethnic groups in the level of trust in institutions at local level, institutions responsible for public order, and County

Committees for Emergency Situations; in all these three cases Hungarians are more trusting than Romanians and other ethnic groups. Romanians have a higher level of trust in international organizations than Romanians and other ethnic groups. The research found similar levels of trust in institutions at national level and the medical system among ethnic groups.

There is no significant difference in the level of citizens' trust in local institutions and international organizations depending on their level of education. However, citizens with lower level of education (gymnasium, seven or eight grades) have higher level of trust in institutions at national level, medical institutions and County Committees for Emergency Situations, compared with citizens having higher levels of education. People who graduated from professional school or 10 grades have the highest trust in institutions responsible for public order.

Trust in public institutions varies depending on the occupation of the respondents. We found the highest level of trust among pensioners who trust the medical system the most, institutions responsible for public order, and County Committees for Emergency Situations, while unemployed people have the highest level of trust in institutions at local level. The lowest level of trust was found among housewives, pupils and students.

We analyzed the variance of trust in public institutions depending on the respondents' place of residence. Even though we aimed to collect data from all communities that are part of the Metropolitan Area of Cluj, we collected responses only from 14 out of 20 communities[2]. For all communities we compared the mean values of trust in public institutions in order to identify statistically significant differences between communities. Only the values of trust in County Committees for Emergency Situations were homogenous among all communities, while for the rest of public institutions the mean values of trust were statistically different. The next step was to divide the communities in three categories depending on the intensity of trust: (a) mean values between 5.00 and 7 correspond to high level of trust, (b) mean values between 3.00 and 4.99 correspond to medium level of trust, and (c) mean values between 1 and 2.99 correspond to low level of trust (see Table 3). The findings show a predominant medium level of trust in international organizations in 11 out 14 communities, while in 8 out of 14 communities there is a predominant medium level of trust in the medical system and in institutions responsible for public order. The trust in institutions at national level is low in 5 out of 14 communities, while trust in institutions at local level has higher values in 8 out of 14 communities.

Many previous studies highlighted that citizens' satisfaction with government performance is a good predictor of citizens' trust in government. The present research confirmed this finding, as we found moderate levels of correlation between

2 Communities for which we collected responses are: Cluj-Napoca, Apahida, Baciu, Bonțida, Căianu, Chinteni, Cojocna, Feleacu, Florești, Gilău, Jucu, Petrești de Jos, Săvădisla and Tureni.

Table 3: Trust in public institutions in the member communities of the Metropolitan Area of Cluj

Trust in public institutions	High level of trust (5-7 mean values of trust)	Medium level of trust (3-4 mean values of trust)	Low level of trust (1-2 mean values of trust)
Institutions at national level (Government, President, Parliament)	1 community (Cojocna)	8 communities (Cluj-Napoca, Apahida, Baciu, Căianu, Chinteni, Floresti, Petrestii de Jos, Tureni)	5 communities (Bontida, Feleacu, Gilau, Jucu, Săvădisla)
Institutions at local level (City Hall, Prefect, County Council)	8 communities (Cluj-Napoca, Căianu, Chinteni, Cojocna, Feleacu, Gilău, Petrestii de Jos, Săvădisla)	6 communities (Apahida,Baciu, Bontida, Floresti, Jucu, Tureni)	-
Medical system	6 communities (Cluj-Napoca, Apahida, Bontida, Caianu, Chinteni, Cojocna)	8 communities (Baciu, Feleacu, Floresti, Gilau, Jucu, Petrestii de Jos, Săvădisla, Tureni)	-
Institutions responsible for public order (Police, Gendarmerie, Army)	5 communities (Bonțida, Caianu, Cojocna, Gilau, Savadisla)	8 communities (Cluj-Napoca, Apahida, Baciu, Chinteni, Feleacu, Floresti, Jucu, Tureni)	1 community (Petrestii de Jos)
International organizations (EU, WHO)	2 communities (Bonțida, Căianu)	11 communities (Cluj-Napoca, Apahida, Baciu, Chinteni, Cojocna, Feleacu, Florești, Gilău, Jucu, Petrești de Jos, Tureni)	1 community (Săvădisla)
County Committees for Emergency Situations	8 communities (Cluj-Napoca, Apahida, Bonțida, Căianu, Chinteni, Cojocna, Feleacu, Petrești de Jos)	6 communities (Apahida, Florești, Gilău, Jucu, Săvădisla, Tureni)	-

Source: Data collected by the author

citizens' satisfaction with the effectiveness of measures adopted by public authorities to contain the spread of the coronavirus and trust in all public authorities (see Table 4). The highest correlation coefficients are with trust in institutions at national level and County Committees for Emergency Situations (0.515**).

Table 4: Correlation between trust in public institutions and effectiveness of anti-COVID measures

		Institutions at national level (Government, President, Parliament)	**Institutions at local level** (City Hall, Prefect, County Council)	**Medical system**	**Institutions responsible for public order** (Police, Gendarmerie, Army)	**International organizations** (EU, WHO)	**County Committees for Emergency Situations**
Effectiveness of anti-COVID measures	Pearson Correlation	.515**	.476**	.431**	.451**	.381**	.515**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001	<.001
	N	700	700	700	700	700	700

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Source: Data collected by the author

5.2. Citizens' compliance with mandatory measures and recommendations against COVID-19

Respondents assessed that they comply to a high degree with the mandatory measures imposed by the authorities (mean value 6.58). They regularly wear a face mask (mean value of 6.72), go shopping only when absolutely necessary (mean value of 6.08), respect recommendations and advice of specialists and authorities (mean value of 6.41), and they avoid to participate to different private events or having lunch at a restaurant (mean value of 5.42). Even though respondents encouraged others to keep social distance (mean value of 6.09), they scored less when it comes to avoiding meetings with friends and relatives. Standard deviations show that the responses are more similar with regard to wearing a mask regularly. However, responses are more diverse regarding the compliance with restrictions on social gatherings, as the values of standard deviations are larger for meetings with friends and relatives (2.236) and avoiding events that involve socializing in a group (2.002).

Table 5: Compliance with measures against COVID-19

Compliance with restriction measures	Mean	SD
I meet with my friends and relatives who live in a different household.	3.64	2.236
I go shopping only when it is absolutely necessary.	6.08	1.642
I participated in different private events (weddings and parties) and I had lunch at restaurant.	1.54	1.388
I avoid any kind of events and situations that involve socializing in a group.	5.42	2.002
I encourage others to practice social distancing.	6.09	1.635
I wear a mask regularly.	6.72	0.832
I generally comply with all the mandatory measures imposed by the authorities.	6.58	1.004
I generally comply with recommendations and advice of specialists and authorities.	6.41	1.187

Source: Data collected by the author

In order to analyze in more detail citizens' compliance with measures against the spread of coronavirus, we computed a new variable as a general descriptor of compliance with anti-COVID measures. We calculated the new variable, Compliance, using the following formula:

Compliance = (go shopping when necessary + wear mask + comply with mandatory measures + comply with recommendations + encourage others) / 5

We decided for this combination of variables because Cronbach's alpha is 0.703, which indicates a high level of internal consistency for our scale. Keeping all variables in the new variable would have provided us with a lower value of Cronbach's alpha. The new variable takes values from 1 (minimum) to 7 (maximum).

In order to identify differences in citizens' compliance with anti-COVID measures, we compared the mean values of the new variable with socio-demographic characteristics of the respondents. We found no statistically significant difference between women and men, as both groups have similar levels of compliance (6.3092 for men, and 6.4355 for women). As we would have expected, the degree of compliance increases with the age of the respondents. The most diligent are women over 60 years old (mean value 6.5705) and men over 60 years old (mean value 6.5095) probably because they are more vulnerable to the coronavirus and are more concerned with their health. The lowest values of compliance are reported by men between 18 and 29 years old (mean value 6.1617) and women between 18 and 29 years old (mean value of 6.2187); however, since the maximum scale is 7, these values are still high.

The research showed statistically significant differences between type of occupation and compliance with anti-coronavirus measures. Pensioners, housewives and unemployed people comply more diligently. People who are employed or are students reported lower levels of compliance; however, their scores are still high since the mean values are above 6. No statistically significant difference was found between the level of compliance with anti-COVID measures and level of education of the respondents. Ethnicity influences compliance, as Hungarian citizens comply slightly more (mean value 6.6377) than Romanian citizens (mean value 6.3142) and other ethnic groups (mean value 6.3731).

Compliance with anti-coronavirus measures varies depending on their place of residence. Residents of Săvădisla (6.9794), Bonțida (6.9415) and Tureni (6.9379) reported the highest level of compliance, while residents of Cojocna reported the lowest level of compliance (mean value 4.3546). The city of Cluj-Napoca has an average mean value of 6.3994 (see Table 6). Results need to be interpreted with caution because we have a disproportionate number of questionnaires for different communities, and we measured citizens' assessments of their compliance and not actual compliance.

Table 6: Mean value of compliance with measures against COVID-19, by community

	Place of residence	Mean	N	Std. Deviation
1.	Săvădisla	6.9794	11	.13295
2.	Bonțida	6.9415	5	.29053
3.	Tureni	6.9379	4	.10901
4.	Căianu	6.7752	6	.10553
5.	Feleacu	6.7170	5	.15770
6.	Apahida	6.6519	19	.51682
7.	Gilău	6.4005	14	.64301
8.	Cluj-Napoca	6.3994	531	.85172
9.	Florești	6.3451	64	.78006
10.	Jucu	6.1198	2	.61322
11.	Chinteni	6.0230	5	1.05646
12.	Baciu	6.0126	22	1.16063
13.	Petrești de Jos	6.0114	3	1.48811
14.	Cojocna	4.3546	10	1.33361

Source: Data collected by the author

5.3. Influence of trust on compliance with restrictive measures

The analysis showed that trust in public institutions does influence the compliance with anti-coronavirus measures, however, the influence is weak. Respondents who trust international organizations comply more with measures (Pearson correlation 0.318**), as well as those who trust institutions responsible for public order (Pearson correlation 0.233**). The reasons for compliance might differ; individuals who trust international organizations might better understand national mandatory anti-coronavirus measures as being similar with measures adopted in other countries, and that these measures are part of internationally coordinated efforts to contain the spread of the virus. Individuals who comply with measures because they trust institutions responsible for public order might do it because they understand they need to follow the mandatory rules or out of fear of being sanctioned.

We analyzed in more detail the influence of trust in public institutions on the compliance with specific anti-coronavirus measures (see Table 8). Overall, the influence of trust is weak. Citizens who act in accordance with mandatory measures imposed by authorities are those who trust the largest number of public institutions, such as

Table 7: Correlation between trust in public institutions and effectiveness of anti-COVID measures

		Compliance with measures	Institutions at national level (Government, President, Parliament)	Institutions at local level (City Hall, Prefect, County Council)	Medical system	Institutions responsible for public order (Police, Gendarmerie, Army)	International organizations (EU, WHO)	County Committees for Emergency Situations
Compliance with measures	Pearson Correlation	1	.093*	.116**	.195**	.233**	.318**	.187**
	Sig. (2-tailed)		.014	.002	<.001	<.001	<.001	<.001
	N	700	700	700	700	700	700	700

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Source: Data collected by the author

Table 8: Correlation between trust in public institutions and compliance with restrictive measures

		I meet with my friends and relatives who live in a different household.	I go shopping only when it is absolutely necessary.	I participated to different private events (weddings and parties) and I had lunch at restaurant.	I avoid any kind of events and situations that involve socializing in a group.	I encourage others to practice social distancing.	I wear a mask regularly	I generally comply with all the mandatory measures imposed by the authorities.	I generally comply with recommendations and advice of specialists and authorities.
Institutions at national level (Government, President, Parliament)	Pearson correlation	.118**	.034	.112**	.056	.129**	.035	.071	.035
	Sig. (2-tailes)	.002	.369	.003	.142	.001	.349	.060	.350
	N	700	700	700	700	700	700	700	700

Institutions at local level (City Hall, Prefect, County Council)	Pearson correlation	-.032	.003	.072	.048	.180**	-.019	.153**	.060
	Sig. (2-tailes)	.401	.942	.058	.209	.000	.610	.000	.111
	N	700	700	700	700	700	700	700	700
Medical system	Pearson correlation	.004	.119**	.077**	.070	.180**	.084	.131**	.143**
	Sig. (2-tailes)	.909	.002	.040	.063	.000	.027	.001	.000
	N	700	700	700	700	700	700	700	700
Institutions responsible for public order (Police, Gendarmerie, Army)	Pearson correlation	-.010	.102**	.054	.088**	.214**	.148	.194**	.159**
	Sig. (2-tailes)	.797	.007	.156	.020	.000	.000	.000	.000
	N	700	700	700	700	700	700	700	700
International organizations (EU, WHO)	Pearson correlation	-.030	.189**	-.028	.051	.306**	.114	.252**	.204**
	Sig. (2-tailes)	.434	.000	.457	.180	.000	.003	.000	.000
	N	700	700	700	700	700	700	700	700
County Committees for Emergency Situations	Pearson correlation	-.003	.025	-.004	.096*	.225**	.031	.200**	.171**
	Sig. (2-tailes)	.932	.503	.909	.011	.000	.741	.000	.000
	N	700	700	700	700	700	700	700	700

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Source: Data collected by the author

institutions at local level, medical institutions, and institutions responsible for public order, international organizations and County Committees for Emergency Situations. Trust in international organizations influences citizens to comply with mandatory and recommended measures, and also makes citizens encourage others to practice social distancing. Surprisingly, we found no correlation between trust in public institutions and wearing a mask regularly, which indicates that people comply with this measure because it is mandatory or they understand that the mask protects them from contacting the virus, and not because they trust a public institution. We found few and weak influences of trust in public institutions and the requirements to keep the social distance (avoiding meetings with friends and relatives, participating in events with a larger number of people, participating in weddings and parties, or eating at restaurant).

These results highlight once more the importance of trust in public institutions. Even though the influence is weak, the findings are still important because we already know that citizens take into consideration other factors when deciding to comply with restrictive measures. For example, Corbu *et al.* (2021), based on an online survey of Romanian citizens, found that individuals' compliance with anti-coronavirus measures is influenced by news consumption, feelings of uncertainty and confidence in conspiracy theories, in addition to trust in institutions.

6. Conclusions

The present research explored trust in public institutions and citizens' compliance with anti-coronavirus measures in the Metropolitan Area of Cluj, Romania. At the time the research was conducted, Romania went through the second wave of the coronavirus pandemic, when the largest number of infections with COVID-19 were reported daily, therefore compliance with mandatory measures and recommendations was very important to contain the spread of the virus.

The research showed that the level of trust in public institutions is moderate toward high, and the most trusted institutions are institutions at local level, medical institutions and County Committees for Emergency Situations, while the least trusted institutions are institutions at national level. These findings confirm previous research that citizens do not unitarily evaluate the government institutions, but they have specific opinions about specific public institutions (Robinson *et al.*, 2021). We also found that citizens' satisfaction with the measures adopted to prevent the spread of the virus influences moderately trust in public institutions.

The findings of our research confirmed that citizens' socio-demographic characteristics, such as age, ethnicity, education and occupation, influence their trust in institutions and policy compliance. For example, trust in public institutions and compliance with anti-coronavirus measures increase with the age of the respondents. Elderly people (both men and women) comply more diligently with the restrictive measures and have a higher level of trust comparatively with other age groups. A

possible reason might be that they have no other option to compensate for their vulnerability, but to put their trust in public institutions (Falcone *et al.*, 2020).

The research showed that, in general, citizens comply with mandatory measures and recommendations to prevent the spread of the coronavirus. However, we obtained a lower score of compliance with keeping social distancing, as some of the respondents declared that they continued to meet with friends and relatives and participated in events that involved a larger number of people. These results need to be interpreted with caution because the respondents might have offered socially desirable answers, and the actual compliance with restrictive measures might be even lower.

The present research confirmed that trust in public institutions influences compliance with restrictive measures. Even though the overall degree of influence is low, the finding is still important because we know that there are also other factors that influence citizens' compliance with anti-coronavirus measures. We found that trust in public institutions has different degrees of influence on compliance. For example, citizens who trust international organizations, such as EU and WHO, or institutions responsible for public order have higher scores of compliances with restrictive measures, while trust in institutions at national level has the lowest influence on citizens' compliance. Wearing a mask regularly is not influenced by trust in any institution, suggesting that people comply with this rule because it is mandatory and understand its benefits.

The research has methodological limitations because it measures individuals' assessments of policy compliance, and not actual compliance. In addition, we measured recalled behaviors that might be affected by limitation of memory and social desirability. However, the research results are in accordance with the findings of other researches conducted in Slovakia (Caplanova, Sivak and Szakadatova, 2020), in a group of 58 countries (Pak, McBryde and Adegboye, 2021), and Italy and France (Lalot *et al.*, 2020).

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