

*Research Paper***COVID-19 Crisis management and the Portuguese regional governance: Citizens perceptions as evidence***Submitted in 7, January 2022**Accepted in 2, March 2022**Evaluated by a double-blind review system*

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ABSTRACT

Purpose: By analyse the Portuguese first COVID-19 wave, this study aims to evaluate the Portuguese citizens' perceptions on pre-COVID-19 measures, government response during COVID-19 and expectations on the impact of COVID-19 on society.

Methodology: A quantitative approach is used, and the data was collected through questionnaires applied online. Data collection took place between April 23rd and April 30th, 2020. Based on the theoretical Wave Model and using the crisis management COVID-19 structural equation model for the different Portuguese NUTS II regions, an illustrative comparison between different governance outcomes is presented.

Findings: NUTS II do not have the same perceptions on pre-COVID-19 measures, government response during COVID-19 and expectations on the impact of COVID-19 on society. Hypothesis one was statistically confirmed.

Practical implications: Empirically, this study aims to identify inconsistencies in Portuguese citizens' perceptions on crisis management in order to enable future research to address the topic of public management coordination in multiple levels of governance.

Originality: The analyse considers the differences in perceptions of citizens from different Portuguese Regions, based on the administrative Nomenclature of Territorial Units for Statistics level II (NUTS II), namely, North, Centre, Lisbon, Alentejo, Algarve, Azores Autonomous Region and Madeira Autonomous Region.

Keywords: Regional Governance, Collaborative Governance, Crisis Management, Strategic Planning, Citizens Perceptions.

1. Introduction

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A new coronavirus (SARS-CoV-2) was detected in China by the end of 2019. The disease rapidly dispersed around the world. The contaminations rise and deaths defied the response of governments in terms of public health systems (Pouso et al., 2021).

COVID-19 has proved how fundamental is a prepared and well-articulated response from governments. Governments must seek scientific facts to straighten decisions and public policies (Fang et al. 2020). Countries and their communities have presented distinct degrees of response quality, due to the belief that an effective response is achievable by planning, adapted strategy and coordination, rather than a reactive and precipitated approach (Correia, et al., 2020a, 2020b).

A disruptive event such as the coronavirus crisis it is a challenge for governments. In order to manage the present and address the challenges of the future. Evaluate the background before the crises, the current status and what is projected after the crisis is a strategic action for administrations worldwide.

The crisis management that followed resulted in distinctive solutions by the central and regional authorities, often leading to unarticulated responses within the same country. By analyse the Portuguese first COVID-19 waves, this study aims to evaluate the Portuguese citizens' perceptions on pre-COVID-19 measures, government response during COVID-19 and expectations on the impact of COVID-19 on society. The analyse considers the differences in perceptions of citizens from different Portuguese Regions, based on the administrative Nomenclature of Territorial Units for Statistics level II (NUTS II), namely, North, Centre, Lisbon, Alentejo, Algarve, Azores Autonomous Region and Madeira Autonomous Region.

Theoretically this research aims to contribute to the literature of multi-level governance as well as to the literature on collaboration in local governance, namely, the pluralistic interactions at multiple institutional levels. Empirically, this study aims to identify inconsistencies in Portuguese citizens' perceptions on crisis management in order to enable future research to address the topic of public management coordination in multiple levels of governance.

Regarding the paper roadmap, first it is presented the theoretical framework in terms of multi-level governance, crisis management, strategic planning and cooperation in the public sector. After, it is presented the research methodology, followed by the results presentation, discussion and final considerations.

2. Literature Review

2.1. The link between multi-level governance and crisis management

Crisis management literature presents several definitions for the word crisis. As Fishman state: "the word "crisis" has become a convenient synonym for an "accident," "disruption," "catastrophe," or "disaster" with no attempt to delineate the scope or severity of a given problem." (p. 347, 1999). Although, a crisis may be defined as disruption which causes instability in the entire system, affecting its mainstay and purpose (Burnett, 1998; Mitroff et al., 1987). For Pauchant and Mitroff a crisis is "a disruption that physically affects a system as a whole and threatens its basic assumptions, its subjective sense of self, its existential core" (p. 15, 1992). According to Roux-Dufort (2007) there are four principal reasons to isolate the topic of crisis management in the area of organizational

studies, namely: crisis is an alibi, the word crisis is insufficiently defined in academia, is also an accident and finally, crisis management is a science of the exceptional.

The role of the state has been undergoing changes that tend to follow the constant changes and evolution of the demands and expectations of societies and their agents (sometimes at different speeds). This translates into higher demands on the part of those seeking services, along with the centrality of the quality factor in obtaining these services, which is due in large part to the greater accessibility of citizens to information, through the use of ICT. It is in light of the debate on public administration reform and its role in today's societies that collaborative governance has gained expression. Today, the governs relates to other stakeholders in a constellation of interactions, where its centralized position results from the need to have an arbiter regulating the dynamics of the different agents (Correia et al., 2019b).

Multi-level governance holds an important role in the discussion of collaborative governance, government decision makers and institutional dynamics (Maggetti & Trein, 2018). For Westman et al. (2019) multi-level governance concerns to instruments, structures or mechanisms of guiding involving increasing the association between presumed divided governance arenas. To Hooghe and Marks (2020) is the dissemination of power from the central government. Kern and Bulkeley (2006) synthesize four different types of governance administered throughout Europe: i) govern by authority; ii) govern by provision; iii) govern by empowerment; and iv) self-government. Govern by authority it gives use of public regulation as the classic way of command. Govern by provision is linked to the provision of services and means. This type of governance takes place when benefits (such as funds, infrastructure and supplies) are given to local government by the state. Governance by empowerment involve local governments assuming an active role by embracing relationships of cooperation with the corporate sector and also, with community institutions. Lastly, self-government occurs when the local government has strength and competence to manage its agenda. However, self-government depends on the procedures of managerial organization.

Multi-level governance facilitates the decentralization of procedures to local power. To follow this approach, it is necessary an institutional coordination model strong to support a scenario of crisis management. In order to optimize efforts of countries line-up the institutional coordination is decisive. Nowadays coronavirus crisis has the World Health Organization as higher authority. This institution must keep countries up to date regarding the pandemic development, spreading information on health and good practices. The coordination between the WHO and countries aims to decrease the crisis impacts on domestic systems. Each country has the responsibility to create targeted norms to their specific legislative features and civil society individualities. This case-by-case approach it is important to guarantee a higher effectiveness of policies among citizens (Correia et al., 2020a).

Crisis management and multi-level governance share a set factor worthwhile mentioned. Multi-level governance implies coordination categories, such as vertical, horizontal, and functional coordination, which differ on what kind of domestic institutional body is adopted. In addition, institutional capacity is mandatory on a multi-level governance reality. Another cornerstone is the stakeholder's mobilization to incorporate its lobbies during the decision-making loop since its sketch until its implementation. The factors mentioned above are under different governance forms, namely, procedural contractual

arrangements, informal agreements, directives, benefits, and other forms of informal arrangements.

The decentralizing dynamics on the part of governments intend to involve different actors in public administration, which has been synonymous with a great attraction for the study on the dynamics of network governance. One of the challenges associated with research in this field concerns the need to develop a more rigorous and systematic assessment of the literature on governance networks, so that a set of stable theoretical bases can be assembled that allow the creation of other lines of research aligned with these theories. Network governance can improve democratic practice by providing new routes for actors to deliberate, design and execute public policy. This organizational change has led to a favouring and proliferation of networking and a growing flattening of public organizations, giving them greater flexibility and responsiveness to the growing demands and requests of citizens (Correia et al., 2019b).

2.2. Strategic planning and cooperation in the public sector

Bryson (2004) state that strategic planning is a range of notions, procedures and instruments for modelling “what is an organization (or another entity), what is doing, and why”. Strategic planning applied in the public segment has its emphasis in the process of strategy formulation (Poister, 2010).

The strategic planning process has the objective to stimulate strategical thinking, strategical approaches and strategical learning. It combines objective assessment, goals and priorities aiming to create a line of action to guarantee an effective response and strength to civil society (Hatry, 2002).

Current days demands governmental leaders to foresee and handle continuous changes. Governments must approach new scenarios and queries. Hence, strategic planning assumes an important position. The COVID-19 pandemic crisis illustrates how valuable is a strategic attitude. We live uncertain times, thereby, public administrations have to outline varied situations and potential solutions to execute. To design scenarios, authorities must collect several information regarding all public affairs (such as, health, education, justice, public finances, internal administration, external affairs, national security, culture, economy, work, social welfare, housing and facilities, among other important areas) and predict possible scenarios, to prepare a better public response.

The Portuguese public sector has been using a valuable strategic planning instrument to support the crisis context response: the PDCA cycle. This method allows to create up-to-date contingency plan, side-by-side with National Health Authorities.

The Plan-Do-Check-Act (PDCA) cycle shows the process and the stages in managing a crisis (Realyvásquez-Vargas et al., 2018; Song & Fischer, 2020). This cycle is divided into four stages (Moen, 2009).

Stage one is the crisis detection, here we deal with finding the disruption. In this point it is crucial to call every past mechanism used in former crisis. An ally of this initial phase is the governments preventive dimension. Preventive strategic planning will be critical here. The actual crisis is in stage two. Here we may face unplanned variables. Internal and external stakeholders' cooperation and coordination will be decisive for efficient feedback at all levels of operation. Stage three is the adjustment phase, and lastly, stage four is the evaluation and improvement phase. At this point, we have reached the post-

crisis environment, where refinements must be done regarding strategies, resources, planning, actions, future adjustments, and opportunities. This organization methodology allows governments to embrace a well-structured planification and supervision of the current situation.

At the level of central governments there is a growing transfer of funds to regional governments aiming the implementing of national policies. This reinforces the decentralizing tendency of the modern State. Local authorities adopting corporate management models it's a discussion that has been going on for over 30 years. A well implemented local administration reform must be based on efficient mechanisms to catalysed inter-municipal cooperation. It is important that the path to inter-municipal cooperation and collaboration is always accompanied by reflections on the organizational structure and the involvement of workers and politicians and with an ex-ante evaluation, a continuous monitorization and a perspective of continuous improvement. Collaborative governance brings together public and private stakeholders in collective forums with public agencies to engage in decision-making guided by a necessary consensus (Correia et al, 2019a).

2.3. The wave model of crisis management

Society expects for their political leaders to decrease insecurities and to manage any kind of disruptive context. When facing a crisis, leadership is expected to offer adequate response in terms of what is happening, why it is happening, and what needs to be done (Correia et al., 2020a).

The public sector has a deep bureaucratic structure, which makes the necessary flexibility to manage moments of crisis difficult. A key element in times of crisis is a core infrastructure of e-government, allowing a better articulated response among internal and external stakeholders. Consequently, this allows countries leadership to be better prepared to face difficulties arising from a crisis (Pan et al., 2005).

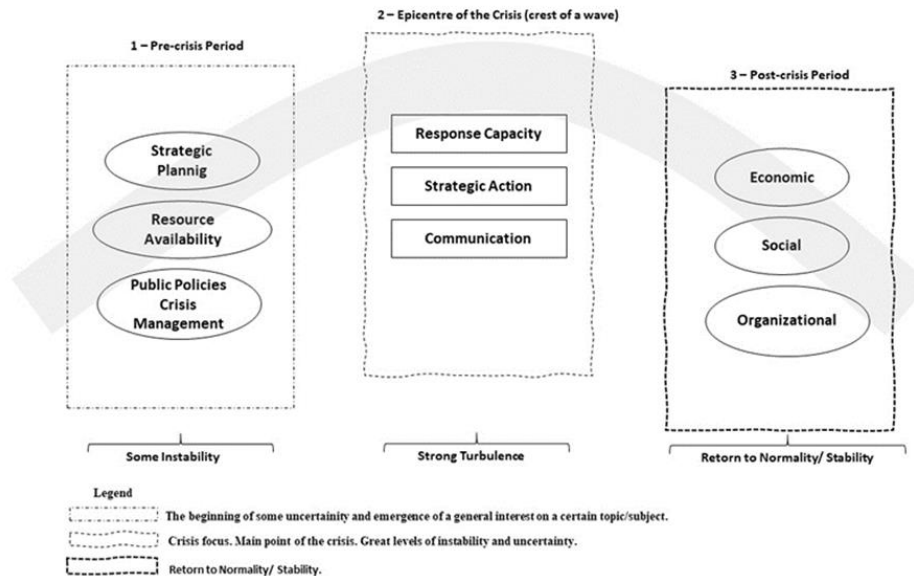
A collaborative network foundation is the core of political implementation. To handle continuing social changes, lack of management means, and organizational interdependence implies that internal and external stakeholders work side by side (Thomson & Perry, 2015).

A recent study (Correia et al., 2020b) has formulated a theoretical model named the wave model of crisis management. This model has the purpose of organize the progress in managing a crisis. Schematized in three periods (pre-crisis period, crisis epicentre and post-crisis scenario) this framework considered different crisis management dimensions (Figure 1).

The theoretical wave model was duly tested in the Portuguese reality, with the crisis management COVID-19 structural model through structural equations modelling (Correia et al., 2020a). The structural model consists of six constructions of crisis management. Each construct is built with key indicators. The first construct is named "Satisfaction with Pre-COVID Measures" and it is composed by the following indicators: i) obtaining official and clarifying information on the evolution of COVID-19 in other countries; ii) feeling of transparency about the Portuguese situation; iii) knowledge about the preventive measures implemented; iv) clarity of rules and procedures to protect and combat the COVID-19 spread. The second construct "Agreement with the Measures during COVID" is anchored in the following indicators: i) level of global agreement with Portuguese governance measures; iii) quality of the Portuguese government measures; iv)

feeling that measures were taken at the right time; v) efficiency of the Portuguese government measures; vi) felling of trust in the Portuguese government measures; vii) felling of helping, as a citizen, to fight the COVID-19 spread; viii) felling that the government is acting accordingly; ix) felling that the situation is under control by the government.

Figure 1. Wave model of crises management



Source: Correia et al. 2020b

The third construct concerns “Satisfaction with Information during the Crisis” with the following indicators: i) quality and reliability of information disclosed on Social Networks; ii) quality and reliability of information disclosed in the Media; iii) quality and reliability of information released by official entities; iv) satisfaction with how information is being transmitted on Social Networks; v) satisfaction with how information is being transmitted on Media; vi) satisfaction with how information is being transmitted by official entities; vii) clarity of the rules and procedures in force to combat the COVID-19 spread and eradication. The four construct concerns “Agreement with the Strategy during the Crisis” and is based in the following indicators: i) resources adequacy and availability; ii) schools and universities closure; iii) public facilities closure; iv) shows and other cultural events cancellation; v) beach restrictions; vi) shopping centres’ closure; vii) border control and closing; viii) reduced supermarket hours; ix) declared “state of emergency” in Portugal. Second to last, “Satisfaction with Mitigation Methods” construct is based in: i) satisfaction with the service provided by Health 24 line; ii) quality of the provision of alternative services available; iii) quality of alternative study methods/teleworking; iv) effectiveness of alternative study methods/teleworking; v) opportunities to establish new study/work methods; vi) perception of individual ability to find alternative study/work strategies and methods. Lastly, “Expectations of the Impact of COVID” construct has the following indicators: i) current level of expectation in the Portuguese capacity to combat and eradicate COVID-19; ii) level of expectation in the ability to recover well-being and standard of living; iii) level of expectation regarding harmful consequences; iv) level of expectation about habits and values changes due to distance and social isolation imposition, and promotion of a certain individualism; v) expectation of adopt some imposed behaviours; vi) expectation of an inversion on the

process of globalization; vii) expectation on psychological damage in the Portuguese population; viii) feeling that it is necessary to slow down our current lifestyle; ix) feeling that the community spirit and solidarity will be strengthened; xi) feeling that political agents will be better prepared for future situations; xii) feeling that there will be a new wave of this pandemic outbreak soon; xiii) Feeling that there will be political consequences (dismissals) in the governmental structure; xiv) feeling that the importance that should be given to crisis planning and management must be improved so that we can better face the challenges of the future.

3. Methodology

This research follows a quantitative approach, and the data was collected through questionnaires applied online, during the first COVID-19 wave. The survey was distributed using Google Forms between April 23rd and April 30th, 2020. The objective was to collect responses from citizens as many as possible from the different Portuguese administrative Nomenclature of Territorial Units for Statistics level II (NUTS II) to capture the highest diversity of perceptions on COVID-19 crisis management.

The instrument of data gathering was formed by the six constructs of the wave model (Satisfaction with Pre-COVID Measures, Agreement with the Measures during COVID, Satisfaction with Information during the Crisis, Agreement with the Strategy during the Crisis, Satisfaction with Mitigation Methods, Expectations of the Impact of COVID) and its respective scale variables, which were quantified by a Likert scale of one to ten points (on a scale of 1 to 10, 1 corresponds to the lowest value on the scale (very low) and 10 corresponds to the highest value on the scale (very high)).

The investigation sample is composed of 1256 respondents from the different Portuguese Regions, based on the administrative Nomenclature of Territorial Units for Statistics level II (NUTS II), namely, North, Centre, Lisbon, Alentejo, Algarve, Azores Autonomous Region and Madeira Autonomous Region. In particular, 55 participants (4.4%) are from the Alentejo, 26 participants (2.1%) are from the Algarve, 571 participants (45.5%) are from Lisbon, 460 participants (36.6%) are from the Centre, 114 participants (9.1%) are from the North, 20 participants (1.6%) are from the Autonomous Region of Madeira, and 5 (0.4%) are from the Autonomous Region of the Azores.

Data analysis was performed using the IBM SPSS Statistics (v.7). The scale variables contained in the model do not follow normal distributions in all administrative Nomenclature of Territorial Units for Statistics level II (NUTS II), so it is not possible to apply the statistical test Analysis of Variance – ANOVA. For this reason, the non-parametric Kruskal-Wallis test was applied, with the stepwise step-down procedure. The Kruskal-Wallis test allow us to compare three or more independent data groups.

Therefore, the following hypothesis were designed and tested:

H0: NUTS II have the same perceptions on pre-COVID-19 measures, government response during COVID-19 and expectations on the impact of COVID-19 on society.

H1: NUTS II do not have the same perceptions on pre-COVID-19 measures, government response during COVID-19 and expectations on the impact of COVID-19 on society.

4. Results

By applying the non-parametric Kruskal-Wallis test (Table 1 and Table 2), three dimensions of the model do not present differences in perception between the different administrative Nomenclature of Territorial Units for Statistics level II (NUTS II). These dimensions are: “Satisfaction with Pre-COVID Measures”, “Satisfaction with Information during the Crisis”, Agreement with the Strategy during the Crisis” presenting a total median of 7.10, 6.99 and 8.67, respectively.

On the other hand, in the dimension “Agreement with the Measures during COVID”, three groups were identified with different perceptions: Alentejo with the lowest median (median = 6.33), Azores Autonomous Region and Madeira Autonomous Region with the highest median (median = 7.16 and 7.59, respectively) while the other regions allocated if in the intermediate group (Algarve median = 7.04; Lisbon median = 7.09; Centre median = 6.85; North median = 7.05).

With regard to the “Satisfaction with Mitigation Methods” dimension, three groups with different perceptions were also identified: the Alentejo isolated in the group with the lowest median (median = 5.80) and, on the other hand, Madeira Autonomous Region with the highest median (median = 7). The remaining NUTS II are located in the intermediate group (Algarve median = 5.99; Lisbon median = 6.40; Centre median = 6.43; North median = 6.53; Azores Autonomous Region median = 6.90).

Lastly, the dimension “Expectations of the Impact of COVID” were also identified three groups with different perceptions: Alentejo isolated in the group with the lowest median (median = 6.52) and, on the other hand, Madeira Autonomous Region with the highest median (median = 7.73). The remaining NUTS II are located in the intermediate group (Algarve median = 7.05; Lisbon median = 6.85; Centre median = 6.75; North median = 6.88; Azores Autonomous Region median = 6.73).

Therefore, hypothesis zero (H0) was rejected and hypothesis one (H1) was confirmed, which mean that that citizens from NUTS II do not have the same perceptions on pre-COVID-19 measures, government response during COVID-19 and expectations on the impact of COVID-19 on society.

Table 1. Tests of Normality

| | | Tests of Normality | | | | | | |
|---|---------------------------|---------------------------------|-------|-------------------|-------------------|-------|-------|-------|
| | | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | | |
| | | Statistic | df | Sig. | Statistic | df | Sig. | |
| Satisfaction with Pre-COVID Measures | Alentejo | 0,087 | 55 | ,200 [*] | 0,971 | 55 | 0,204 | |
| | Algarve | 0,138 | 26 | ,200 [*] | 0,919 | 26 | 0,042 | |
| | Lisbon | 0,082 | 571 | 0,000 | 0,967 | 571 | 0,000 | |
| | Centre | 0,099 | 460 | 0,000 | 0,961 | 460 | 0,000 | |
| | North | 0,129 | 114 | 0,000 | 0,931 | 114 | 0,000 | |
| | Madeira Autonomous Region | 0,140 | 20 | ,200 [*] | 0,850 | 20 | 0,005 | |
| | Azores Autonomous Region | 0,200 | 5 | ,200 [*] | 0,969 | 5 | 0,868 | |
| | | Alentejo | 0,110 | 55 | 0,092 | 0,958 | 55 | 0,051 |
| Agreement with the Measures during COVID | Algarve | 0,209 | 26 | 0,005 | 0,846 | 26 | 0,001 | |
| | Lisbon | 0,086 | 571 | 0,000 | 0,958 | 571 | 0,000 | |
| | Centre | 0,095 | 460 | 0,000 | 0,965 | 460 | 0,000 | |
| | North | 0,125 | 114 | 0,000 | 0,956 | 114 | 0,001 | |
| | Madeira Autonomous Region | 0,188 | 20 | 0,063 | 0,942 | 20 | 0,263 | |
| | Azores Autonomous Region | 0,188 | 5 | ,200 [*] | 0,964 | 5 | 0,835 | |
| | | Alentejo | 0,080 | 55 | ,200 [*] | 0,960 | 55 | 0,062 |
| | Algarve | 0,206 | 26 | 0,006 | 0,717 | 26 | 0,000 | |
| Satisfaction with Information during the Crisis | Lisbon | 0,064 | 571 | 0,000 | 0,979 | 571 | 0,000 | |
| | Centre | 0,076 | 460 | 0,000 | 0,968 | 460 | 0,000 | |
| | North | 0,073 | 114 | 0,188 | 0,967 | 114 | 0,006 | |
| | Madeira Autonomous Region | 0,179 | 20 | 0,093 | 0,907 | 20 | 0,056 | |
| | Azores Autonomous Region | 0,273 | 5 | ,200 [*] | 0,866 | 5 | 0,250 | |
| | | Alentejo | 0,132 | 55 | 0,018 | 0,805 | 55 | 0,000 |
| | Algarve | 0,195 | 26 | 0,013 | 0,889 | 26 | 0,009 | |
| | Lisbon | 0,100 | 571 | 0,000 | 0,879 | 571 | 0,000 | |
| Agreement with the Strategy during the Crisis | Centre | 0,123 | 460 | 0,000 | 0,874 | 460 | 0,000 | |
| | North | 0,165 | 114 | 0,000 | 0,848 | 114 | 0,000 | |
| | Madeira Autonomous Region | 0,154 | 20 | ,200 [*] | 0,888 | 20 | 0,025 | |
| | Azores Autonomous Region | 0,255 | 5 | ,200 [*] | 0,908 | 5 | 0,457 | |
| | | Alentejo | 0,083 | 55 | ,200 [*] | 0,983 | 55 | 0,639 |
| | Algarve | 0,188 | 26 | 0,019 | 0,952 | 26 | 0,258 | |
| | Lisbon | 0,056 | 571 | 0,000 | 0,982 | 571 | 0,000 | |
| | Centre | 0,053 | 460 | 0,004 | 0,983 | 460 | 0,000 | |
| Satisfaction with Mitigation Methods | North | 0,070 | 114 | ,200 [*] | 0,978 | 114 | 0,061 | |
| | Madeira Autonomous Region | 0,175 | 20 | 0,111 | 0,907 | 20 | 0,055 | |
| | Azores Autonomous Region | 0,256 | 5 | ,200 [*] | 0,868 | 5 | 0,257 | |
| | | Alentejo | 0,108 | 55 | 0,164 | 0,975 | 55 | 0,305 |
| | Algarve | 0,135 | 26 | ,200 [*] | 0,913 | 26 | 0,031 | |
| | Lisbon | 0,040 | 571 | 0,032 | 0,992 | 571 | 0,002 | |
| | Centre | 0,040 | 460 | 0,079 | 0,984 | 460 | 0,000 | |
| | North | 0,055 | 114 | ,200 [*] | 0,990 | 114 | 0,595 | |
| Expectations on the Impact of COVID | Madeira Autonomous Region | 0,135 | 20 | ,200 [*] | 0,950 | 20 | 0,361 | |
| | Azores Autonomous Region | 0,241 | 5 | ,200 [*] | 0,939 | 5 | 0,861 | |

^a. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Table 2. Non-parametric Kruskal-Wallis test

| | | Satisfaction with Pre-COVID Measures | Agreement with the Measures during COVID | Satisfaction with Information during the Crisis | Agreement with the Strategy during the Crisis | Satisfaction with Mitigation Methods | Expectations on the Impact of COVID |
|---------------------------|--------|--------------------------------------|--|---|---|--------------------------------------|-------------------------------------|
| Alentejo | N | 55 | 55 | 55 | 55 | 55 | 55 |
| | Median | 6,65 | 6,33 | 6,50 | 8,51 | 5,80 | 6,52 |
| Algarve | N | 26 | 26 | 26 | 26 | 26 | 26 |
| | Median | 7,17 | 7,04 | 7,47 | 8,82 | 5,99 | 7,05 |
| Lisbon | N | 571 | 571 | 571 | 571 | 571 | 571 |
| | Median | 7,17 | 7,09 | 6,84 | 8,67 | 6,40 | 6,85 |
| Centre | N | 460 | 460 | 460 | 460 | 460 | 460 |
| | Median | 7,08 | 6,85 | 6,93 | 8,64 | 6,43 | 6,75 |
| North | N | 114 | 114 | 114 | 114 | 114 | 114 |
| | Median | 7,03 | 7,05 | 7,03 | 8,98 | 6,53 | 6,88 |
| Madeira Autonomous Region | N | 20 | 20 | 20 | 20 | 20 | 20 |
| | Median | 7,81 | 7,59 | 7,34 | 8,74 | 7,00 | 7,73 |
| Azores Autonomous Region | N | 5 | 5 | 5 | 5 | 5 | 5 |
| | Median | 7,17 | 7,16 | 7,28 | 8,66 | 6,90 | 6,73 |
| Total | N | 1251 | 1251 | 1251 | 1251 | 1251 | 1251 |
| | Median | 7,10 | 6,99 | 6,90 | 8,67 | 6,40 | 6,83 |

| | Satisfaction with Pre-COVID Measures | Agreement with the Measures during COVID | Satisfaction with Information during the Crisis | Agreement with the Strategy during the Crisis | Satisfaction with Mitigation Methods | Expectations on the Impact of COVID |
|------------------|--------------------------------------|--|---|---|--------------------------------------|-------------------------------------|
| Kruskal-Wallis H | 6,853 | 14,315 | 9,050 | 12,489 | 12,647 | 16,504 |
| df | 6 | 6 | 6 | 6 | 6 | 6 |
| Asymp. Sig. | 0,335 | 0,026 | 0,171 | 0,052 | 0,049 | 0,011 |

5. Final considerations

The crisis management that followed the COVID-19 resulted in distinctive solutions by the central and regional authorities, often leading to unarticulated responses within the same country. Regarding public health policy, the decision-making structure in Portugal has three levels of authority: the National Health Authority (Ministry of Health and the Directorate General of Health), the Regional Health Authority (Regional Health Administration) and the Local Health Authority (Local Health Units, Hospitals and Local Healthcare Centres Groups) (Silva et al., 2021). By analyse the Portuguese first COVID-19 wave, this study aimed to evaluate the Portuguese citizens’ perceptions on pre-COVID-19 measures, government response during COVID-19 and expectations on the impact of COVID-19 on society. The analyse considers the differences in perceptions of citizens from different Portuguese Regions, based on the administrative Nomenclature of Territorial Units for Statistics level II (NUTS II), namely, North, Centre, Lisbon, Alentejo, Algarve, Azores Autonomous Region, and Madeira Autonomous Region.

It was established two hypotheses, H0: NUTS II have the same perceptions on pre-COVID-19 measures, government response during COVID-19 and expectations on the impact of COVID-19 on society; and H1: NUTS II do not have the same perceptions on pre-COVID-19 measures, government response during COVID-19 and expectations on the impact of COVID-19 on society. Hypothesis one was statistically confirmed.

The Portuguese response to the first wave was considered extraordinary. Portuguese citizens supported the government measure and consequently respected the established norms, contributing to the pandemic control (Silva et al., 2021). Although, every Portuguese region had its own response to COVID-19 reality. Even though presenting different perceptions, it is important to highlight that all Portuguese regions portrayed positive perceptions on pre-COVID-19 measures, government response during COVID-19 and expectations on the impact of COVID-19 on society with medians above five points (the lowest was 5.80).

This type of exercise is crucial for domestic systems to better understand multilevel governance. By assessing the perceptions of citizens of different regions, the governments of each country, whether at the national or regional level, can create differentiated measures that are more suited to their needs and particularities. The dimensions considered are broad enough, covering several aspects on crisis management, to deepen the analysis of multilevel governance in Portugal through case studies for each region. It is important to take into consideration the culture specifications of each of the NUTS II regions. Therefore, future researcher should focus on the third wave experienced in Portugal, with data already collected between January 25th and February 1st, 2021, through a questionnaire applied online. In order to better understand the perceptions of citizens regarding regional governance, it is also proposed the possibility of carrying out an individualized structural model for each NUTT II, in order to make broader comparisons between Portuguese regions, also deepening each of the cultures of

Portuguese regions: North, Centre, Lisbon, Alentejo, Algarve, Azores Autonomous Region and Madeira Autonomous Region.

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