

## Original Research

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**Keywords:** COVID-19; document analysis; pandemic crisis; response

**Abbreviations:** AFAD, Turkish Disaster and Emergency Management Presidency; ECDC, European Centre for Disease Prevention and Control; TURKOVAC, Domestic Vaccine of Türkiye; TÜSEB, Turkish Health Institutions Presidency; WHO, World Health Organization

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### Abstract

**Objective:** A substantial amount of work addressing strategies on how to respond to the coronavirus disease (COVID-19) crisis already exists. However, there is simply not enough evidence to support a systematic and all-encompassing approach. This study aims to systematically review and present the roadmap of Türkiye's response to COVID-19.

**Methods:** This study is based on a thematic content analysis of official policy documents to present the roadmap in Türkiye's fight against COVID-19. The analysis included 46 press releases accessed from the Ministry of Health's website. The coding structure was created by the researchers based on the literature. Documents were analyzed by dividing them into 3 periods: the panic period, the controlled normalization period, and the normalization period. Each document was sub-coded under the main themes of "concerns" and "strategies" and interpreted by comparing them with each other.

**Results:** The study results show that different categories and coding structures were formed between periods. Some categories that emerged under the theme of concerns were "vaccine concerns" and "social concerns." Similarly, some categories that appeared under the theme of strategies were "vaccine strategies," "monitoring and surveillance strategies," and "intervention strategies."

**Conclusion:** The results provide policy-makers with an appropriate conceptual framework to deal with the pandemic crisis that may be encountered in the future.

The World Health Organization (WHO) declared coronavirus disease (COVID-19) a public health emergency of international concern on January 30, 2020, after publishing its first awareness report on pneumonia on December 31, 2019. Eventually, it was described as a pandemic on March 11, 2020.<sup>1,2</sup> This pandemic has caused countries to take a different path from the way they have dealt with public health problems before. Since then, many countries have enforced strategies such as social distancing, staying at home, travel restrictions, and limiting social life to stop the spread of the virus, reduce infection rates, and "flatten the curve" by preventing hospital congestion.<sup>3</sup>

Two main strategies are highlighted to take action to reduce or prevent the destructive effects of the pandemic. These are mitigation and suppression. The first focuses on slowing the spread of the pandemic, whereas the second emphasizes taking strict action to stop the pandemic's expansion.<sup>1</sup> For example, Sweden has followed a policy of fighting the pandemic based mainly on soft measures. Monitoring, close monitoring, and the close relationship between society and government constitutes the main lines of Sweden's fight against the pandemic.<sup>1</sup> Unlike Sweden, China has put forward stricter methods of fighting the pandemic. The level of quarantine, isolation, and restrictions to suppress the pandemic was high, overall.<sup>4</sup> In France, strict practices came to the fore with closures and quarantines. In 2011, France prepared its pandemic preparedness plan based on the WHO's pandemic influenza risk management guideline. This plan formed the mainstay of the fight against the pandemic.<sup>5</sup> Türkiye, like most countries, resorted to strict measures such as quarantine, isolation, and restriction in the fight against the pandemic. In 2019, it prepared its own National Pandemic Influenza Preparedness Plan based on the guidelines created by the WHO and the European Centre for Disease Prevention and Control (ECDC). Just before the first COVID-19 case was reported, it established the Coronavirus Scientific Committee, which serves as an advisor for active policy-making and implementation. Recently, many studies reveal how countries are coping with the pandemic. However, there is a paucity of evidence on the systematic and comprehensive aspect of combating the pandemic. This study is based on a systematic review to present the roadmap of Türkiye's fight against COVID-19 in its general framework and to trace the footprints of the campaign through the press releases of the Coronavirus Science Board, which was established on January 10, 2020, within the Ministry of Health.

The first COVID-19 case in Türkiye was announced by the Minister of Health on March 11, 2020.<sup>6</sup> Since the first case was reported, the Turkish Government has endeavored to use resources to their maximum capacity and develop coping strategies. In addition, The National Pandemic Influenza Preparedness Plan, constituted by the Ministry of Health in 2019, served as the main framework of the fight against COVID-19.<sup>7</sup>

Early COVID-19 decisions and actions in Türkiye often applied to January, February, March, April, and May 2020. For instance, a COVID-19 guide was created in January to compile data about the illness from a single source. Restrictions on land and air travel for countries like China, Iran, Italy, South Korea, and Iraq were placed in February. Recreational and social activities were restricted in March, and more countries were subject to travel restrictions. In April, curfews for particular age groups were implemented in various provinces, and the entrances and exits to 31 cities shut down. Central exams rescheduled for May.<sup>6</sup>

Throughout the COVID-19 process, the Presidency of the Republic of Türkiye and many public and voluntary social service organizations played a crucial role in policy-making.<sup>8–10</sup> However, the Coronavirus Science Board has stepped forth among policy committees and has been one of the main actors directing policies to fight against the pandemic.<sup>8,11</sup>

The Coronavirus Science Board was established as an advisory committee with the participation of academician medical scientists working in fields such as infection, microbiology, virology, internal diseases, intensive care, and pulmonary diseases.<sup>12</sup> The number of members, which consisted of 26 scientists at the beginning,<sup>13</sup> increased to 31,<sup>12</sup> then to 38 in the following processes.<sup>14</sup> Also, every decision taken by the board is advisory. The board primarily reports its recommendations to the Ministry of Health, and the enforcement authority of the decisions rests with the Ministry of Health. In addition, recommendations and decisions taken by the board so far have been marked by the government and put into practice.<sup>15</sup> For instance, a speech to the public happened 20 days after the first case, where the president emphasized that they enforced the decisions 1 by 1 in line with the recommendations of the Coronavirus Science Board.<sup>16</sup> Again, in the meeting held toward the end of the pandemic, the president stated that the board was the biggest supporter of pandemic management by displaying an exemplary existence worldwide.<sup>17</sup> On the other hand, the Ministry of Interior has sent an additional circular on COVID-19 precautions to 81 provincial governors in line with the Recommendation of the Coronavirus Science Board and the instruction of the president.<sup>18</sup> Also, in the statement made by the Ministry of Interior, it was reported that the basic procedures and principles regarding the controlled normalization process, which entered into force on March 1, 2021, were determined in harmony with the recommendations of the Coronavirus Science Board.<sup>19</sup> In addition, the measures taken by the Ministry of Interior on many issues such as mask use, New Year's events, travel and curfew restrictions, educational activities, quarantine, and crowded events were based on the recommendations of the Coronavirus Science Board.<sup>20</sup> Therefore, the recommendations and decisions of the Science Board have been guiding policy-makers in the fight against COVID-19 and contributing greatly to the formation of policies.

The Coronavirus Science Board held meetings during the pandemic and made press releases afterward. They made their first press release on July 22, 2020, and have continued to hold meetings and made statements systematically since that date. The press releases included suggestions on issues of general concern and strategies to respond to the virus.<sup>21</sup>

## Methods

This study was carried out with a document analysis, and press releases of the Coronavirus Science Board were examined. Reviewing policy documents allows us to rebuild, maintain, and change our understanding of social reality and struggle.<sup>22</sup> Recently,

the document analysis method has been used frequently in research on health policies.<sup>23–25</sup>

### Document Analysis

Document analysis is a qualitative analysis method used to rigorously and systematically analyze the content of written documents. Like other methods used in qualitative research, a document analysis requires examining and interpreting data to make sense of them, building an understanding of the topic, and developing empirical knowledge.<sup>26</sup>

Documents are classified in various ways. Corbetta (2003) classified them as personal and institutional documents.<sup>27</sup> On the other hand, Dalglish et al. (2020) broadly classified documents as official documents, practice documents, legal documents, work documents, scientific work documents, media and communication documents, and other documents.<sup>28</sup> The press releases of the Coronavirus Science Board examined in this study are considered official health policy documents and were reviewed according to the 4-stage approach proposed by Merriam (2018).<sup>29</sup> These stages are: (1) finding appropriate documents (policy selection), (2) checking the originality of documents, (3) establishing a systematic coding and cataloging, and (4) performing a data analysis (content analysis).<sup>29,30</sup>

### Policy Selection and Checking the Originality

This study is based on the press releases on the “Statement on the Coronavirus Science Board Meeting” in the press releases tab of the website of the Ministry of Health. The first press release was made on July 22, 2020, and the last statement was made on March 3, 2022. Because the last statement was made outside the dates covered by this study, the study limits cover the dates July 22, 2020, and February 17, 2022. Until now, there have been 46 press releases in total. In addition, all documents included in the study are accessible to everyone on the relevant website.<sup>21</sup> Moreover, the originality of the selected documents was verified by 4 expert researchers from different computers by logging in from the same link. There was no change in the document selection after this stage.

### The Coding Systematic

All documents were first carefully pre-assessed and read by the researchers. After the pre-assessment process, the documents were divided into 3 periods based on the development of the pandemic process and the contents of the science board statements: the panic period (until vaccination), the controlled normalization period (post-vaccine, until the Omicron variant), and the normalization period (post-Omicron variant).

Each document was sub-coded under the main themes of “concerns” and “strategies” and interpreted by comparing them with each other. While developing the coding structure, it was utilized from the literature.<sup>4,5,31–41</sup>

Table 1 shows the coding framework to identify the concerns on the agenda of the science board meeting and the proposed coping strategies. While “concerns” are defined as texts describing the possibility of negative consequences, “strategies” are texts that show which tools will be used effectively to manage the struggle process. As shown in Table 1, subcategories were developed under the themes of “concerns” and “strategies,” and sub-codes under each of these categories were developed according to 3 different periods. This strategy aims to provide an empirical basis for what concerns Türkiye has experienced in the fight against COVID-19

**Table 1.** Coding structure

Periods	Main themes	Categories
Panic period (March 11, 2020–January 7, 2021)	Concerns	Case concerns Social concerns Health system concerns Vaccine concerns
	Strategies	Monitoring and surveillance strategies Intervention strategies Institutional strategies Referral strategies Vaccine strategies
Controlled normalization period (January 20, 2021–December 1, 2021)	Concerns	Vaccine concerns Case concerns Social concerns Health system concerns Information concerns Drug concerns Mental concerns
	Strategies	Vaccine strategies Referral strategies Monitoring and surveillance strategies Intervention strategies Institutional strategies
Normalization period (December 15, 2021–February 17, 2022)	Concerns	Vaccine concerns Case concerns Social concerns Alleviation of concerns
	Strategies	Vaccine strategies Monitoring and surveillance strategies Intervention strategies

and what strategy-based policies are being addressed against these concerns.

**Data Analysis (Content Analysis)**

The documents were divided into themes, categories, and codes using the content analysis method. Content analysis is the process of organizing the information about the primary questions of the research into categories.<sup>42</sup> This process requires a careful and more focused rereading and reviewing of data.<sup>43</sup> In this study, documents were read multiple times to ensure consistency in themes, categories, and coding.

The first coding was done between February 2022 and April 2022 by the principal researcher according to the predetermined theme, category, and coding structure. Other researchers have cross-coded using the same strategy to evaluate the results. Problems that arose during the coding process were discussed and resolved by the research team members.

**Results**

In this section, the categories and codes under the themes of “concerns” and “strategies” are presented by comparing the differences between the panic period, controlled normalization period, and normalization period.

**Concerns in the Fight Against COVID-19**

The category and coding structure of the “concerns” theme is shown in [Table 2](#).

**The Panic Period**

Concerns about the panic period are grouped under 4 categories. The most reported concerns are case concerns, such as new patients, loss of life, and incidence of cases in risk groups, and social concerns, such as compliance with measures and transportation mobility. Some sample expressions of the concerns in this period are as follows:

*However, in recent months, we are witnessing significant increases in the number of cases and deaths, with a similar course to the whole world.* (November 16, 2020)

*We hope to see the results of our citizens’ more meticulous compliance with the restrictive measures we have implemented in the last few weeks.* (December 17, 2020)

*Watching matches in crowds similar to the ones in stadiums can facilitate transmission and increase the spread rate of the disease.* (July 22, 2020)

*Detailed planning is carried out, including the identification and prioritization of risky groups, the reorganization of our healthcare personnel, who spend all their energy under a heavy patient load, in the vaccination campaign, and logistics management.* (December 2, 2020)

**The Controlled Normalization Period**

The vaccination is started at the beginning of the controlled normalization period. The most reported concerns are vaccine concerns such as “opposition,” “procrastination behavior,” and “hesitancy.” Additionally, unlike the panic period, 3 different categories emerged and were coded as “information concerns,” “drug concerns,” and “mental concerns.” In this period, it was noteworthy that concerns such as “opposition” and “hesitancy” were emphasized together with concerns about information. Here are some examples of expressions of concern during this period:

*There is a global supply shortage for the vaccine and a year’s weariness for the measure. I believe we will get through this together, hand in hand.* (March 10, 2021)

*Someone comes out and says that a 50 million deal was made with China, not 100 million. I have stated the agreements with China many times and in all detail. Apparently, they started a smear campaign based on only the first part of the agreement with China.* (May 5, 2021)

*I would like to address our citizens who are not against vaccination but hesitate to be vaccinated; If you hesitate and hold back, we’ll be missing one, and each shortfall will delay us in reaching our goal of social immunity.* (June 30, 2021)

**The Normalization Period**

The normalization period was the period in which concerns were expressed less than in other periods. In this period, concerns were grouped under 4 categories. Due to the Omicron variant losing its effect over time, a separate category emerged called “alleviation of concerns” in the normalization period. Some example statements of this period’s concerns are as follows:

*Besides its easy transmission, no negative situation has been reported regarding its ability to make patients sick. In this respect, there is no unsettling situation for the Omicron variant.* (December 15, 2021)

*No one should hesitate to say out loud that we can safely use our Turkovac vaccine.* (January 12, 2022)

**Table 2.** “Concerns” category and coding structure

Concerns						
Panic period (March 11, 2020–January 7, 2021)						
Case concerns	Social concerns	Health system concerns			Vaccine concerns	
New number of patients	Sports activities	Pressure on the health system and health workers			Safety of vaccines	
Worldwide spread	Religious activities	Intensity in hospitals			Supply of vaccines	
Number of deaths	Mobility of transportation	Strengthening hospital capacities			Access to vaccines	
Risk level of towns	Social mobility					
Risk groups	Compliance with the measures					
	Social immunity					
Controlled normalization period (January 20, 2021–December 1, 2021)						
Vaccine concerns	Case concerns	Social concerns	Health system concerns	Information concerns	Mental concerns	Drug concerns
Vaccination rates	Risk groups	Back to the days	Pressure on the health	Unofficial	Pandemic fatigue	Supply
Supply	Number of cases	of restrictions	system and health	statements	Social and	Efficacy
Access	Lethality of	Compliance with	workers	Misguided about	psychological	Safety
Safety	mutant viruses	the measures	Intensity in hospitals	the vaccine	effects of the	Access
Efficacy	High	Social mobility	Strengthening hospital	Dissemination of	pandemic	
Protection	contagiousness	Social immunity	capacities	false		
Propensity of society	in mutant	Religious activities		information		
Opposition of society	viruses	Education		Lack of		
Hesitancy of society	Number of	mobility		information		
Procrastination of	deaths	Responsibility		about the		
vaccination	Regional	behavior of		vaccine		
Foreign dependency for	distribution	young people				
supply	Uncertainties					
Efficacy on mutant	about mutant					
viruses	viruses					
	Child case rates					
Normalization period (December 15, 2021–February 17, 2022)						
Alleviation of concerns	Vaccine concerns	Case concerns	Social concerns			
Omicron is not troubling	Vaccination rates	Rapid transmission of the Omicron variant	Compliance with general measures			
Not reflected in	Reminder doses	Number of cases	Compliance with measures in			
hospitalizations	Domestic vaccine	Distribution of age groups in case	education			
No increase in pneumonia rate	hesitancy	distributions	Social mobility			
Trust in domestic vaccine	Safety					
Omicron can reduce the						
danger						
Cases decrease after Omicron						
Omicron looks like flu						

*The increase in the number of cases may turn into a high number of inpatients, even if the hospitalization rate is low. This is the worst scenario we don't want to see.* (January 12, 2022)

### Strategies in the Fight Against COVID-19

Under the “strategies” theme, each category and coding is presented by comparing the differences between the periods. The category and coding structure is shown in [Table 3](#).

#### The Panic Period

Five categories emerged under the theme of “strategies” in the panic period. The most emphasized strategies are “monitoring and surveillance strategies” and “intervention strategies.” Some of the examples of statements about strategies for this period are as follows:

*With the filiation application in Turkiye, detected cases, as well as their contacts, are screened, and those who have symptoms are tested.* (July 22, 2020)

*Today, many countries have started to reapply restrictions on social movements, including lockdown measures. And it was decided*

*to recommend the implementation of concrete measures to prevent the spread of the disease.* (November 16, 2020)

#### The Controlled Normalization Period

In the controlled normalization period, 5 categories emerged under the theme of “strategies.” Due to the application of the vaccine in this period, more emphasis was placed on “vaccine strategies.” Within “vaccine strategies,” there are strategies such as “vaccination priority setting,” “increasing vaccine capacities,” “vaccine effectiveness research,” “innovative vaccine development and production studies,” and “transfer of vaccine technologies.” Some example statements of strategies for this period are as follows:

*Following our healthcare workers, the vaccinations of our citizens living in nursing homes and nursing homes for the disabled and the elderly have been completed. This group, for which we have the highest responsibility to protect, was first vaccinated. Citizens aged 90 and over 85 were vaccinated gradually at their homes. In addition, if there were citizens over the age of 65 living in the same household as the citizens we vaccinated at their homes due to their advanced age, their vaccinations were also carried out at there.* (January 27, 2021)



**Table 3.** “Strategies” category and coding structure

Strategies				
Panic period (March 11, 2020–January 7, 2021)				
<i>Monitoring and surveillance strategies</i>	<i>Intervention strategies</i>	<i>Institutional strategies</i>	<i>Referral strategies</i>	<i>Vaccine strategies</i>
Following global developments Filiation Population immunity and incidence screening program Keeping track of scientific developments Follow-up of vaccine developments Mobile tracking app Digital vaccine tracking system	Extensive test Restriction Quarantine	Inter-agency cooperation International knowledge sharing Organization of vaccination centers	Preparation of guides and guidelines Web-based information sharing Vaccine appointment system	Vaccine production and development Vaccination priority setting Distributive justice Vaccine registration system Air conditioning tools Emergency use approval
Controlled normalization period (January 20, 2021–December 1, 2021)				
<i>Vaccine strategies</i>	<i>Monitoring and surveillance strategies</i>	<i>Intervention strategies</i>	<i>Referral strategies</i>	<i>Institutional strategies</i>
Vaccine prioritization Increasing capacities Prioritization of health care workers Prioritization of risk groups Early procurement and vaccination program Extensive vaccination Emergency use approval Leading to vaccination Vaccine effectiveness research Innovative vaccine development and production work International vaccine agreements Transfer of vaccine technologies Vaccine certificate agreements Digital supply of vaccine certificate Prioritization of training staff Prioritization of students Invitation to volunteer to work on vaccine development	Following global developments Risk mapping on a provincial basis Risk map coloring Close monitoring of mutants Strengthening the digital health infrastructure Tracking contagious in education HES code application Gene sequencing work	Transportation restrictions Limited normalization in education General controlled normalization Reducing restrictions in low-risk provinces Strict measures against mutants Measures regarding holy days Limited normalization in business life Pilot screening in schools Contagious measures in prisons	Vaccine tracking and appointment system Web-based information sharing Invitation to social fight Sharing information about vaccination Encouragement of inter-provincial competition Publication of vaccination guides Publication of normalization guide in education Online child vaccination request	Inter-agency cooperation Decentralized decision program
Normalization period (December 15, 2021–February 17, 2022)				
<i>Mitigating interventions</i>		<i>Vaccine strategies</i>	<i>Monitoring and surveillance strategies</i>	
Flexibility in quarantine and isolation rules Normalization in education Removal of PCR obligation in contacts		Domestic vaccine emergency use approval Domestic vaccine dissemination	Planned screening program	

As of March 1, we have passed into the controlled and gradual normalization period, which we call “on-the-spot decision”. Not only the Ministry of Health but also our state and people are fighting the pandemic together with all its elements. (March 10, 2021)

**The normalization period**

In the normalization period, strategies were aimed at complete normalization, as the concrete evidence increased for the effectiveness of vaccines and confidence in the vaccine. In this period, “vaccine strategies,” “monitoring and surveillance strategies,” and, unlike in other periods, strategies for “mitigating interventions” were emphasized. Thanks to the introduction of the domestic vaccine TURKOVAC and the decrease in foreign dependency on the vaccine, 2 basic strategies regarding the vaccine were emphasized. These are “domestic vaccine emergency use approval” and “domestic vaccine dissemination.” Some example statements of strategies for this period are as follows:

*Mask use, compliance with hygiene rules, and full compliance with ambient ventilation rules are required in our schools. Face-to-face education will continue in our schools.* (January 5, 2022)

*Our vaccine, Turkovac, has been distributed to all provinces, and its distribution to the districts has begun. Two weeks later, the vaccine will be distributed to family physicians. Also, the use of our domestic vaccine is recommended at the highest level for all our citizens.* (February 17, 2022)

**Discussion**

This policy analysis aims to systematically examine the official statements of the Coronavirus Science Board to reveal the general framework of Turkiye’s roadmap in the fight against the pandemic and to trace the footsteps of the conflict. The analysis results show that Turkiye’s fight against COVID-19 consists of 3 periods.

The National Pandemic Influenza Preparedness Plan, prepared by the Ministry of Health in 2019 before COVID-19 in Turkiye, formed the main framework of the fight against COVID-19.<sup>7</sup> Also, before the first case was seen, the Coronavirus Science Board, established under the Ministry of Health on January 10, 2020, became the first task force to act as an advisory board in the fight against the pandemic.<sup>8,11</sup> Similar committees have been established in various countries, like Italy<sup>44</sup> and Singapore.<sup>35</sup>

In this study, the coding structure for concerns was generally related to vaccination, cases, social life, and the health system. Strategies, on the other side, involve vaccine strategies, monitoring and surveillance strategies, intervention strategies, referral strategies, and institutional strategies. The WHO has created a strategic preparedness and response plan to COVID-19 for countries in 2020 and 2021. The COVID-19 response plan is divided into 10 fundamental pillars in 3 broad groups. These pillars are infodemic management, risk communication and community engagement, surveillance, contact tracing and case study, travel, trade and points of entry, laboratories and diagnostics, infection prevention and control, clinic management, maintenance of primary health systems, coordination and planning, operational support and logistics, and accelerated research and innovation.<sup>40</sup>

The strategies coded in this study generally correspond to the ones put forward by the WHO. For instance, in the operational support and logistics pillar, the primary focus of the Coronavirus Science Board is to work closely with countries at the regional level to understand their detailed needs and contexts and adapt technical and operational support, accordingly. Other results show that Türkiye closely follows global developments as part of its monitoring and surveillance strategies and carries out studies on international vaccine agreements and the transfer of vaccine technologies within the scope of vaccine strategies. Similar strategy examples are apparent in various countries—such as, in China, social distance, staying at home,<sup>4</sup> technological infrastructure that will provide access to reliable information,<sup>41</sup> and case tracking and guidance<sup>38</sup>; in Italy, the establishment of a monitoring and surveillance center,<sup>36</sup> and case tracking and isolation<sup>45</sup>; in Iran, inter-agency collaborations,<sup>46</sup> online information sharing and referral, social distancing, and staying at home<sup>37</sup>; and, in Japan, widespread testing<sup>47</sup> and travel restrictions.<sup>48</sup>

### Limitations

To demonstrate how a nation is responding to the COVID-19 outbreak, we only included the decisions of the Coronavirus Science Board in this analysis. Examining reports, publications, and written and visual official records will enable a more detailed examination. In addition, the COVID-19 pandemic is still ongoing. This study covers a specific cross-section of the pandemic process.

### Conclusion

The COVID-19 process has been a period in which technological opportunities were used intensively, and follow-up and reporting procedures worked very quickly. For instance, the Coronavirus Science Board of the Ministry of Health tried to take advantage of all the opportunities in this process and made a significant contribution to the implementation of appropriate policies with efficient recommendations. On the other hand, public health crisis preparedness is not a newly created separate response system in times of a crisis. Also, the most important result of the study is the framework put forward by a scientific organization such as the Coronavirus Science Board in the fight against the global pandemic. Hence, in the future, countries will need a comprehensive “vaccine strategy,” an effective “monitoring and surveillance strategy,” an effective “intervention strategy,” a versatile “institutional strategy,” and an appropriate “guidance strategy.” One of the best features of science boards is that they provide more participation by contributing to the decisions taken and policies based on evidence. This ensures that both the majority of the public

and the political groups have a positive attitude toward the decisions and the policies implemented.

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**Author contributions.** Şafak Kiran (ŞK) conceived the study. Sedat Bostan contributed to the design of the study. Both authors collected and analyzed the data. ŞK wrote the first draft of this paper. Both authors revised the content of the paper and interpretation of the findings. ŞK drafted the manuscript. Both authors made substantial contributions to revising the manuscript and provided final approval of the version to be published.

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