



CHALLENGES FACED BY SCHOOL ADMINISTRATORS IN PRIMARY SCHOOLS AFTER DISASTERS

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Abstract

School administrators organise several factors, such as the structure of the school, teachers, staff, students and parents to achieve educational objectives. Managing such a large-scale organization often involves addressing unexpected problems. School administrators face significant challenges in maintaining educational continuity following large-scale crises, such as the February 6, 2023, earthquakes in Türkiye. This study investigates the obstacles encountered by primary school administrators during the post-earthquake period. The research employs a qualitative design, gathering data through semi-structured interviews conducted with 18 school administrators affected by the earthquake disaster. The participants were school administrators working in primary schools located in the central districts of Hatay Province. The collected data were analysed using thematic analysis. The analysis identified various problems resulting from the earthquakes in the region, including the migration of families and students to different provinces, damage to school buildings, lack of internet access and educational materials, inequality in opportunities, and psychological challenges such as stress, anxiety, reduced motivation, and low morale. Additional concerns included uncertainty about the future, as well as difficulties related to accommodation, transportation, communication, teacher assignments, and access to teaching resources faced by school administrators and teachers. Furthermore, the study emphasizes the need to provide psychological support to school staff, students, and teachers; create safe educational environments; reorganize and enhance teaching materials; repair and reconstruct damaged school buildings; develop crisis management programs; and offer both financial and psychological support to affected families. These findings highlight the urgent need for improved disaster preparedness and post-disaster support systems within the educational sector.

Keywords: disaster management in education, crisis management, educational challenges, educational disruption, school administration

Introduction

The 21st century has introduced numerous reforms, innovations, and conveniences to the world of science and education, including the internet, computers, smartphones, digitalization, renewable energies, artificial intelligence and various technological advancements (Edison, 2023; Mallo, 2024; Pandey et al., 2023; Subramanian, 2023; Uzunboyu & Sarigoz, 2015). However, these technological innovations and conveniences can be significantly disrupted by adverse conditions such as power outages, loss of internet connectivity, or damage to buildings and infrastructure, which can severely impede educational processes. One of the most significant challenges of the 21st century that can disrupt or even halt education is natural disasters.

Disasters are natural catastrophes that can bring life to a standstill by causing significant physical, social, and economic hardships for people (Cerna-Turoff et al., 2021; Hassan & Mahmoud, 2021; Hussein, 2024; Musostov et al., 2022; Nashwan et al., 2023; Nefianto, 2023). The United Nations Office for the Coordination of Humanitarian Affairs (UNDHA) defines a disaster as an event that significantly impacts daily life and results in extensive losses (UNDHA, 1992). A disaster is characterized by sudden occurrences that lead to physical, economic, social, and environmental losses, disrupt the flow of life, and produce consequences that the affected community cannot manage with its resources (AFAD, 2014; Ceylan, 2011; McFarlane & Norris, 2006). Therefore, not every adverse event qualifies as a disaster. For an event to be considered a disaster, it must cause significant losses to the community and residential areas, disrupt societal activities, or severely impair them (Gökçe & Tetik, 2012).

Each year, numerous natural disasters occur, such as earthquakes, floods, avalanches, landslides, droughts, famines, extreme cold, volcanic eruptions, erosion, diseases, epidemics, and forest fires (Mezösi, 2022; Paleri, 2022; Thywissen, 2006; Wisner et al., 2004). Among these, earthquakes are undoubtedly the most impactful on human life (Öcal, 2005). Earthquakes are brief natural phenomena originating deep within the Earth's crust that cause vibrations on the surface (Sür, 1993). In other words, an earthquake occurs when vibrations suddenly emerge due to fractures within the Earth's crust, propagating as waves and shaking the surrounding medium and the Earth's surface (AFAD, 2023). Approximately 90% of earthquakes globally occur in regions with young folded mountains, plate boundaries, oceanic trenches, and oceanic ridges (Öcal, 2005). These areas can be categorized as the Pacific Ring of Fire, the Alpine-Himalayan (Mediterranean) Seismic Belt, and the Mid-Atlantic Ridge (Erinç, 1996).

Türkiye, located between the continents of Asia and Europe and along the shores of the Mediterranean, is frequently exposed to natural disasters such as earthquakes, floods, avalanches, landslides, droughts, and wildfires due to its geographical location, physical characteristics, and geological structure (Kadioğlu, 2008; Öcal et al., 2011; Özmen & Özden, 2014). Particularly, Türkiye's location on active and seismogenic fault lines (Kıymaz et al., 2023) has made earthquakes among the most common natural disasters in the country (Gezer & Şahin, 2022). Significant earthquakes such as those in Erzincan (1939), Van (1976), İzmit (1999), Düzce (1999), Van (2011), and Kahramanmaraş (2023), which had substantial impacts or caused extensive destruction, clearly demonstrate the continuous seismic risk in Türkiye (AFAD, 2024).

The aftershocks of the earthquake centred in Kahramanmaraş on February 6, 2023, caused extensive devastation in the region and affected eleven provinces (Kahramanmaraş, Hatay, Gaziantep, Adıyaman, Adana, Diyarbakır, Elazığ, Malatya, Kilis, Osmaniye, Şanlıurfa), leading to significant destruction and losses in these areas (Dincer et al., 2024; ITU, 2023; Kılıç Ekici, 2023; Mimarlar Odası, 2023).

This major earthquake, also referred to as the “disaster of the century,” resulted in thousands of deaths, numerous injuries, and left many people homeless (Daniell, 2014; Kim et al., 2021; Mavrouli et al., 2023; Telli Yamamoto & Altun, 2023). According to a report published by the Disaster and Emergency Management Authority (AFAD), 50,783 people were reported to have lost their lives, and 115,353 were injured as a result of the earthquake (AFAD, 2023). Furthermore, a damage assessment conducted by the Ministry of Environment, Urbanization, and Climate Change determined that the total number of buildings categorized as emergency demolitions, collapsed, or severely damaged amounted to 518,009 (Republic of Türkiye Presidency of Strategy and Budget, 2023).

To address the severe housing problems in the affected areas, tent cities and container cities were rapidly established with the assistance of countries around the world. Additionally, some families affected by the earthquake relocated to other single-story structures within their villages, resulting in multiple families (3-4-5 families) sharing a common living space. Similarly, many individuals moved in with relatives, friends, or acquaintances in various regions, whi-

le others were relocated to housing or shelters provided by non-governmental organizations. Some families with higher socioeconomic status even migrated to other regions of the country that were not geographically affected by the earthquake (Aras & Seymen, 2024; Çetinkaya & Bilgili, 2024; Giyik, 2024; Sanduvac et al., 2024).

After the earthquake, it became necessary to accommodate people in school buildings and classrooms to meet their urgent shelter needs (Félix et al., 2015; Özge, 2019). This situation prioritized shelter and other physical necessities, leading to education and training being considered secondary priorities (Noviana & Affendi, 2019). However, the schools used as temporary shelters due to the presence of residents were deprived of necessary infrastructure and services, which were subsequently renovated by various institutions after the earthquake.

School administrators made various attempts to address the encountered issues and sought to collaborate with numerous institutions and organizations, including ministries, municipalities, non-governmental organizations, and AFAD. However, due to limitations in available resources and infrastructure, these efforts proved insufficient, adversely affecting both individual living conditions and the continuity of educational processes (Bolaç, 2024; Karatağ, 2021; Khosravi et al., 2021). The school buildings in the country were not designed to be adequately suitable or sufficient for use as emergency response, administrative, or shelter centres during and after the earthquake (Adıgüzel, 2007). Additionally, modern approaches for addressing the problems caused by disasters were not developed quickly enough. Consequently, the earthquakes, which negatively impacted education and training, led to school administrators facing various challenges. Effective and urgent solutions for overcoming these issues have yet to be developed (Demirtaş et al., 2024; Mavi & Tuti, 2023; Mutch, 2015; Ozmen, 2006; Sağır & Guzelgorur, 2024; Şimşek et al., 2024).

As administrative or managerial figures, school principals and assistant principals are responsible for the administrative functioning, assessment processes, and developmental activities of the school in alignment with its objectives (Bıyıkoglu, 2020; Sarıgöz & Özgür, 2024). Although school administrators may not encounter many issues outside of educational activities during normal times, they can face a wide array of different problems during a crisis, disaster, or natural calamity (Aksoy & Aksoy, 2003; Bakioğlu & Savaş, 2001; Tanrıöğen & Savcı, 2011).

According to Döş & Cömert (2012), the fundamental characteristic that distinguishes crises caused by natural disasters from other types of crises is that these events do not provide any prior signs or warnings, thereby catching managers unprepared. Therefore, it is essential for all organizational managers to either receive crisis management training or possess knowledge in crisis management to effectively handle such situations. In particular, school administrators must have proficiency in crisis management to successfully manage crises resulting from natural disasters or earthquakes (Armstrong, 2021; Pepper et al., 2010; Sayuti, 2021; Tokel, 2018). During disaster periods, school administrators are expected to control unpredictable situations post-disaster, make rapid and accurate decisions, and restore the educational process as quickly as possible (Bıyıkoglu, 2020; Ulusoy, 2020).

Research Aim and Research Questions

On February 6, 2023, Türkiye was struck by two major earthquakes measuring 7.6 and 7.7 on the Richter scale, centred in Kahramanmaraş, occurring in rapid succession at 04:17 local time. Before the aftershocks of these earthquakes could be fully addressed, on February 20, 2023, the region experienced two more significant earthquakes with magnitudes of 6.4 and 5.8 centred in Hatay. As a result of these consecutive earthquakes, the safety of the local population was severely compromised, and the provision of shelter and basic needs became increasingly challenging. The destruction of a large portion of the city forced residents to migrate to other cities, rendering educational and instructional activities impossible. The damage to

school buildings, classrooms, and teaching materials, along with issues such as staff, student, teacher, and administrator losses, led to serious disruptions in the educational process. School administrators themselves, affected by the disaster, faced numerous difficulties in managing this challenging period.

This research has aimed to identify the problems faced by school administrators following these disasters and to develop potential solutions. Therefore, the primary research question has been framed as: ‘What are the opinions of school administrators working in primary schools regarding the educational issues that have emerged after the disaster?’ To provide a more detailed understanding, the following research questions have been identified.

1. What are the opinions of school administrators regarding the problems encountered in schools following the disaster?
2. What are the opinions of school administrators on the impact of the earthquake on education and teaching within schools?
3. What are the opinions of school administrators on the measures taken or that could be taken to stabilisation the education after the earthquake?
4. What are the opinions of school administrators on the measures needed to overcome the challenges faced in education post-earthquake and to prepare for similar situations in the future?
5. What are the opinions of school administrators on managing the psychological effects of student and staff losses following the earthquake?

Research Methodology

Research Model

This study, which aims to examine the problems encountered by primary school administrators in school management after the earthquakes that occurred on February 6, 2023 in Turkey, was conducted using the case study model, one of the qualitative research methods. Qualitative research is an umbrella concept that covers various research methods that help explain and understand the meaning of social events (Merriam, 1998). In this study, the qualitative approach was used because it aimed to examine the experiences of school administrators after earthquakes in detail.

Since case study research is a research model in which a situation, event, action, process or one or more individuals are analysed in depth (Yıldırım and Şimşek, 2021), it was used to examine the effects of earthquakes on educational management. After the earthquake, school administrators encountered many physical, psychological, social and legal problems. In order to understand these problems, the research was conducted using the case study model, one of the qualitative research methods.

It is not possible to predict exactly when natural disasters such as earthquakes will occur today. This situation leads to unforeseen crises and institutions, governments and individuals are faced with unexpected problems. Such situations require solving previously unforeseen problems with previously undefined solutions. Therefore, the researchers worked with school administrators using semi-structured interviews as a data collection tool to reveal previously unseen situations.

Study Group

The study group consists of 18 school administrators working in primary schools affiliated with the Provincial Directorate of National Education in the central district of Hatay

Province, one of the regions most severely affected by the earthquakes, during the 2022-2023 academic year. Of these administrators, 8 are employed in primary schools and 10 in secondary schools under the Hatay Provincial Directorate of National Education throughout the 2022-2023 academic year. In the research the participants were selected using purposive sampling, taking into account demographic variables such as age, years of professional experience, tenure in administration, educational background, type of institution, and subject area. The selection focused on individuals who were directly involved in managing schools after the disaster to ensure that the data collected would align with the study's objectives and be rich in contextual detail. Purposive sampling is a method used to identify cases believed to provide in-depth information relevant to the study's aims (Patton, 2015). Demographic information for the 18 administrators who participated in the study is presented in Table 1.

Table 1
Demographic information of the participants

Variable	Feature	<i>n</i>
Position	School Principal	8
	Assistant Principal	10
Age	31-40	3
	41-50	8
	51 and above	7
Years of Professional Experience	11-20	10
	21 and above	8
Years of Administrative Experience	0- 5	2
	6-10	4
	11-20	12
Educational Background	Bachelor's Degree	7
	Master's Degree	11
Level of Institution	Primary School	8
	Secondary School	10
Subject Area	Primary School Teaching	7
	Turkish Language Teaching	2
	Social Sciences Teaching	4
	Preschool Teaching	2
	Guidance and Psychological Counselling	1
	Mathematics Teaching	1
	Religious Culture and Ethics Teaching	1

Table 1 reveals that out of 18 school administrators, 8 serve as school principals, while 10 are assistant principals. Among the administrators, 3 are in the age range of 31-40 years, 8 are between 41-50 years, and 7 are 50 years or older. Regarding their years of professional experience, 10 administrators have between 11-20 years, and 8 have 21 or more years of experience. In terms of administrative experience, 2 administrators have 0-5 years, 4 have 6-10 years, and 12 have 11-20 years of experience. When examining the educational background of the administrators, it was found that 7 have a bachelor's degree, while 11 have a master's degree. It was also determined that 8 of the school administrators work in primary schools, while 10 are employed in secondary schools. By subject area, 7 administrators have a background in Class-

room Teaching, 2 in Turkish Teaching, 4 in Social Sciences Teaching, 2 in Preschool Teaching, 1 in Guidance and Psychological Counselling, 1 in Mathematics Teaching, and 1 in Religious Culture and Ethics Teaching.

Data Collection Tools

In this study, a semi-structured interview form prepared by the researchers was used for data collection. In order to determine the questions to be included in this form, the researchers first conducted a semi-structured interview with managers working in earthquake zones. Based on these interviews, a semi-structured draft interview form consisting of 7 questions was created. The opinions of two faculty members in the field of educational sciences were sought regarding the questions in the draft interview form. As a result of these consultations, two questions were removed from the form, identified errors were corrected, and necessary adjustments were made for clarity. After these revisions, a total of five questions were finalized for use in the semi-structured interview form. The final version of the semi-structured interview form was formed by adding personal information questions including demographic and job information of the managers to these questions.

Data Collection Process

The semi-structured interview form was administered by the researchers to 18 school administrators working in different primary schools in the central districts of Hatay Province (Antakya and Defne) in April 2023. The administrators were provided with general information about the topic, the purpose of the research was explained, and it was clarified that participation was voluntary. Open-ended questions were posed to the interviewees, and participants were asked to provide detailed written responses to these questions. No names or identifying personal information were recorded on the interview forms. The data collection process lasted a total of three weeks.

Data Analysis

In the study, the analysis of the collected data was conducted using thematic analysis, a method widely used to identify, analyse, and report patterns within qualitative data (Braun & Clarke, 2006). The combination of a case study design, qualitative data collection, and thematic analysis was chosen to gain a comprehensive understanding of school administrators' perspectives on educational management after the earthquake. The identities of the participants were anonymized, and school administrators were assigned codes such as A1, A2, and A3 to maintain confidentiality. During the data analysis phase, audio recordings obtained during interviews were first transcribed and then transferred to a computer environment for analysis. The transcribed data were coded by researchers. Consensus was reached among researchers on the identified codes, which shaped the study's findings. Thus, the study aimed to systematically identify key themes related to the administrative challenges posed by the earthquakes.

Research Results

*Opinions of School Administrators on Problems Encountered
in Schools After the Disaster*

The findings related to first research question of study are presented in Table 2.

Table 2
Opinions of School Administrators on Problems Encountered in Schools After the Disaster

Themes	Participants	<i>f</i>
Shelter issues, basic needs	A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A12, A13, A14, A15, A16, A17, A18	18
Damage to schools	A2, A4, A6, A7, A8, A12, A13, A16, A17, A18	10
Communication problems, lack of communication	A3, A4, A5, A9, A10, A11, A12, A17, A18	9
Psychological problems, stress	A1, A6, A7, A9, A10, A14, A16, A18	8
Shock and crisis management	A2, A9, A11, A12, A16, A19	6
Teacher transfers, transfers	A4, A5, A13, A15, A16	5
Difficulty in accessing educational materials	A3, A6, A7, A14, A16	5

When examining Table 2, the codes/themes generated from the participants' responses are categorized into seven groups: shelter issues (basic needs), damage to schools, communication problems, psychological problems, shock and crisis management, teacher transfers, and difficulty in accessing educational materials.

All participants identified one of the major problems encountered after the disaster as “shelter and the inability to meet basic needs.” Some of the administrators' views on this issue are as follows:

“After the disaster, due to the shelter problem and the shock experienced, many people, including teachers, parents, and students, sought temporary housing solutions.” (A1).
“We faced a shelter problem; those whose cars were not damaged took refuge in their cars in the initial days. People overwhelmed by the shock did not know what to do, and those with means later had to move to other cities.” (A9).
“The inability to plan quickly resulted in delays in receiving aid (rescue, shelter, food, etc.), which caused various difficulties.” (A11).
“In the initial days, people had to take refuge in streets and cars, facing a shelter problem. The shock made it difficult for them to know where to go or what to do. Evacuations to other regions also started late.” (A12).
“Thousands of people either had their homes destroyed or severely damaged. This resulted in a significant issue with shelter. For the survivors, one of the most critical problems was the need for housing.” (A14).

Ten participants described one of the problems encountered after the disaster as “damage to schools.” Participants indicated that due to the significant impact of the disaster, schools, classrooms, and gymnasiums were damaged. Consequently, they reported that the condition of the buildings constituted a major problem, rendering it impossible to continue educational activities.

"The collapse of the school's infrastructure systems, the failure of the sewage system, damage to the water supply, physical inadequacies, and hygiene conditions affected the working environment." (A4).

"The educational activities were severely disrupted due to the damage to school buildings. There were serious shortages in the teaching staff. Panic and fear caused by the earthquake led all stakeholders to experience anxiety regarding the school." (A7).

"The inability to continue education due to damage to school buildings emerged as a major issue, and the need for education, which is as crucial as basic needs, could not be met." (A17).

"The damage to schools and the inability to continue education emerged as a major problem following the disaster." (A18).

Nine participants identified one of the post-disaster problems as "communication problems and lack of communication." They noted that due to the disaster, technological systems collapsed, and internet and GSM operators were unable to respond to calls. These issues resulted in aid reaching people very late or not reaching them at all.

"Failure to communicate with staff and not being able to determine their well-being." (A9).

"Initially, the internet and mobile phones were non-functional, leading to communication problems." (A10).

"Problems in technology and communication when trying to reach teachers and students." (A12).

"One of the most significant issues was the limited technological resources in the region." (A17).

"Due to the evacuation of the region's inhabitants from the city, the necessity of conducting work remotely, the limited use of technology in the area, and the emotional and physical traumas experienced made working conditions extremely difficult." (A18).

Eight participants identified one of the problems encountered after the disaster as "psychological problems (stress)." They noted that the persistent feeling of impending earthquakes, the loss of spouses, children, friends, and relatives, and the experience of being homeless or without shelter inflicted severe trauma, anxiety, and stress on individuals.

"Losing friends and students deeply saddened us and led to a decrease in professional motivation." (A1).

"There was a lack of motivation among teachers, a decline in job commitment, and a state of shock among students leading to an inability to make sense of the situation." (A6).

"Due to the panic and fear caused by the earthquake, all stakeholders experienced anxiety regarding the school." (A7).

"The constant fear of earthquakes led to psychological trauma." (A9).

"The trauma caused by the disaster negatively affected our lives." (A14).

"The emotional and physical traumas experienced made working conditions extremely difficult. At the same time, the uncertainty about the future, leading people to despair, also presents a different issue as we are insufficient in informing the staff, students, and parents." (A18).

Six participants identified 'shock and crisis management' as one of the problems encountered after the disaster. They indicated that the shocks experienced after the disaster negatively affected crisis management skills and that challenges encountered in areas such as shelter, security, and material supply created a shock effect among educators, further negatively impacting the educational process.

"The shock experienced after the earthquake led to inadequacies in crisis management and disrupted the intervention processes in schools." (A2).

"The disruptions in crisis management processes after the disaster led to difficulties in maintaining order and security in schools." (A11).

"People had serious difficulties in making quick and effective decisions, which greatly complicated the educational and teaching process." (A16).

“The lack of sufficient experience and preparation in dealing with crisis situations hindered the implementation of effective management strategies. At this point, there were shortcomings in informing students and families about emergency guidance.” (A19).

“People, overwhelmed by the shock, did not know what to do and later, those who had the means were forced to move to other cities.” (A9).

“Due to the shock, they did not know where to go or what to do.” (A12).

Five participants identified “teacher transfers” as one of the problems encountered after the disaster. The participants noted that, following the disaster, many of teachers, parents, and students tried to find temporary housing solutions, particularly due to shelter and health issues. The participants also noted that a significant number of teachers requested transfers to different regions because of family issues, stress, fear, housing, and health problems.

“Teachers' requests for reassignment to other cities have created a major obstacle in the process of reorganization of educational institutions in the earthquake zone.” (A4).

“Many teachers moved to different regions to address their housing needs.” (A5).

“Many teachers moved to another city, which made it difficult to reorganize education after the earthquake.” (A13).

“Due to the insecurity of the temporary shelters established in the earthquake zone and the uncertainties in the field of education, many teachers requested to be transferred to other cities. This caused educational institutions to experience a shortage of teachers.” (A15).

“Since many students and teachers moved to other cities, we reorganized the school with the remaining students and teachers. The transfers during this whole process complicated the planning and organization processes.” (A16).

Five participants identified one of the post-disaster challenges as 'difficulty in accessing teaching materials'. These participants stated: 'The difficulty in accessing teaching materials after the earthquake caused students to fall behind in their education, created significant challenges for teachers in lesson planning and teaching processes, and led to a decline in overall education quality.

“The access difficulties we experienced after the earthquake, combined with the loss and insufficiency of educational materials, created significant gaps in students' learning processes.” (3).

“Students fell behind in their lessons because they could not find the necessary materials, and this negatively impacted their academic success in the long term.” (A6).

“The inability to procure educational materials caused serious difficulties for teachers in preparing in-class activities and assignments.” (A7).

“The issues we faced in accessing teaching materials after the earthquake caused students to lag in their education. In particular, the loss of library and laboratory materials negatively affected students' ability to carry out projects and research.” (A14).

School Administrators' Opinions on the Impact of the Earthquake on Education and Training

The findings related to second research question of the study are presented in Table 3.

Table 3
School Administrators' Opinions on the Impact of the Earthquake on Education and Training

Themes	Participants	<i>f</i>
Migration of students to different regions	A2, A4, A6, A9, A10, A12, A13, A14, A16	9
Inaccessibility to education/educational disruptions	A5, A7, A8, A11, A12, A14, A15, A18	8
Inequality and imbalance in educational opportunities	A2, A4, A5, A6, A8, A10, A13	7
Issues with motivation and morale (stress, anxiety)	A9, A11, A13, A16, A17	5
Concerns about the future	A1, A3, A8	3
Cultural and social effects	A2, A5, A7	3

As illustrated in Table 3, the opinions of school administrators regarding the participants' responses are categorized under six themes. These themes include the migration of students to different regions, inaccessibility to education/educational disruptions, inequality/imbalance in educational opportunities, issues with motivation and morale (stress, anxiety), concerns about the future, and cultural and social effects.

Nine participants described the impact of the earthquake on education and training as related to the "migration of students to different regions." They reported that students had to relocate to other cities for educational purposes, which resulted in trauma for the students. Some of the participants' comments on this issue are as follows:

"Due to the fact that more than half of our students requested transfers, the integrity of the classes has been compromised." (A12).

"The necessity of residing in tents due to damaged or potentially collapsing housing or relocating to other cities has adversely affected the psychological well-being of students, teachers, and administrators." (A13).

"The migration of students to different regions under traumatic conditions has led to a decrease in motivation." (A18).

Eight participants identified the impact of the earthquake on education and training as related to "inaccessibility to education/educational disruptions." They indicated that due to the destructive nature of the earthquake and the necessity for people to prioritize their basic needs, education and training were relegated to a secondary or even tertiary concern. This situation significantly disrupted and hindered educational activities. Some of the participants' comments on this issue are as follows:

"Due to the earthquake experienced in our country, Maslow's hierarchy of needs has come to the forefront. People have prioritized issues such as physical safety over education and training. Consequently, education has been negatively affected due to being pushed to the background." (A4).

"People's primary needs took precedence. Unfortunately, education had to be significantly reduced. To sustain their lives, individuals had to prioritize their needs for food and shelter. Additionally, families did not wish to be separated from their children, nor did the children wish to be separated from their families due to the effects of the earthquake." (A10).

"The destruction or significant damage to school buildings following the earthquake, along with the severe losses experienced, negatively impacted people both physically and psychologically as well as socially. This has affected education and training, leading to a disruption in educational activities." (A11).

“Those who continued to reside in their current locations were mostly unable to access education.” (A18).

Seven participants characterized the impact of the earthquake on education and training as “motivation problems.” These participants expressed this situation as “The stress and anxiety experienced during the crisis period reduced teachers’ work motivation. Similarly, students were observed to be demoralized and lacking in motivation, which negatively affected their interest in lessons and their success.” Some of the participants' comments on this issue are as follows:

“The uncertainty and security concerns experienced in the educational environment seriously reduced motivation and reduced the effectiveness of the educational process.” (A9).
“The trauma and stress experienced by teachers and students caused major motivation problems in the educational process.” (A11).
“Disruptions and uncertainties in the educational environment reduced the overall motivation of both teachers and students and made the education and training process more challenging.” (A13).
“Motivation and morale issues became one of the greatest challenges in the education and training process following the earthquake.” (A16).

Three participants expressed their views on the impact of the earthquake on education and training as related to “concerns about the future of education and training due to the trauma experienced by individuals.”

“The most significant impact of this disaster on the education and training process is the emergence of a generation struggling to envision their future due to disrupted psychological well-being.” (A18).

Three participants framed their perspective on the impact of the earthquake on education and training under the theme of “cultural and social effects.”

“The reduction in cultural activities and social interactions became a notable issue in the post-earthquake educational environment. The deterioration in social relationships among students and the lack of cultural programs weakened the sense of community and had negative effects on the education and training process.” (A5).

*School Administrators’ Opinions on the Actions to be Taken for the
Stabilisation of Education After the Earthquake*

The findings related to third research question of the study are presented in Table 4.

Table 4
School Administrators' Opinions on the Actions to be Taken for the Stabilisation of Education After the Earthquake

Themes	Participants	<i>f</i>
Providing psychological support to students and teachers	A2, A3, A6, A7, A8, A10, A11, A12, A13, A14, A15, A16, A17, A18	14
Creating a safe educational environment	A5, A6, A7, A8, A9, A10, A11, A13, A14, A15, A17, A18	12
Reorganizing teaching materials and resources	A2, A4, A5, A7, A8, A10, A11, A13, A16, A17, A18	11
Reconstructing school buildings	A1, A2, A3, A6, A9, A10, A11, A12, A14, A16	10
Developing crisis management and emergency response programs	A1, A4, A5, A8, A11, A13, A16, A17	8
Meeting the needs of education staff	A1, A3, A4, A7, A8, A9, A12	7
Providing communication and support services to families	A10, A12, A15, A16, A17	5

In Table 4, the views of the participants as school administrators on what can be done to normalize education following the earthquake are categorized under seven themes. These themes are: “providing psychological support to students and teachers,” “reconstructing school buildings,” “meeting the needs of education staff,” “reorganizing teaching materials and resources,” “developing crisis management and emergency response programs,” “providing communication and support services to families,” and “creating a safe educational environment.”

Fourteen participants identified “providing psychological support to students and teachers” as a crucial measure for the normalization of education post-earthquake. Additionally, ten participants emphasized the need for “reconstructing school buildings,” while seven participants highlighted the importance of “addressing the needs of education staff.”

“Shelter should be provided near the schools for teachers, and container facilities should be made available near schools for parents who wish to return their children to school.” (A1).

“Additional payments and benefits should be provided to personnel working in the earthquake-affected region.” (A12).

Twelve participants identified “creating a safe educational environment” as a key measure for normalizing education following the earthquake. The participants emphasized the establishment of educational institutions away from the earthquake-affected areas to ensure that students receive education in a secure setting. Some of their views on this topic are as follows:

“Creating large educational campuses away from the city and the destruction.” (A5).

“First and foremost, safe school environments need to be constructed as soon as possible. Starting education in new school buildings within a secure environment will facilitate normalization for all school stakeholders.” (A7).

“Additionally, it is important to establish earthquake-resistant structures that can facilitate educational activities without fear as soon as possible.” (A18).

Eleven participants expressed their views on what can be done to normalize education following the earthquake as “reorganizing teaching materials and resources.” Some of their comments on this issue are as follows:

“I think that after the earthquake, our teaching materials need to be updated. It is important for the content of educational materials to be more supportive and adaptable due to the trauma experienced by our students.” (A2).
“Updating and reorganizing teaching materials is critical for ensuring that our students' educational processes continue without interruption. Moreover, old materials should be reassessed and rapidly procured with support from local resources.” (A7).
“Our physical materials were damaged after the earthquake; for this reason, strengthening the digital infrastructure will be a vital step in providing uninterrupted education to students.” (A10).
“The rapid procurement of new materials and the reorganization of existing resources will enhance the efficiency of the educational process.” (A13).

Eight participants expressed their views on measures for normalizing education following the earthquake as “developing crisis management and emergency response programs,” while five participants suggested “providing communication and support services to families.”

“Comprehensive crisis management plans need to be prepared for quick and effective response in large-scale disasters like earthquakes.” (A5).
“Regular review and drills of crisis management and emergency response programs ensure that everyone knows what to do in potential emergencies and speeds up the response process.” (A11).
“Effective communication with families and the provision of support services will help reduce the stress experienced by both students and their families following the earthquake.” (A10).
“Informational meetings and psychological support services for families should be provided to ensure they are informed about a safe educational environment.” (A17).

*School Administrators' Opinions on the Actions to be Taken for
Overcome Challenges in Education Following the Earthquake and to be
Prepared for Similar Situations in the Future*

The findings related to fourth research question of study are presented in Table 5.

Table 5
School Administrators' Opinions on the Actions to be Taken for Overcome Challenges in Education Following the Earthquake and to be Prepared for Similar Situations in the Future

Themes	Participants	f
Providing earthquake education	A2, A3, A4, A6, A7, A8, A11, A12, A13, A16	10
Ensuring flexibility and adaptation in the education and training process	A5, A8, A9, A12, A16, A17	6
The importance of communication	A10, A12, A13, A15	4
Development of leadership skills	A3, A14, A16	3
Psychological and sociological support	A6, A17, A18	3
Construction of resilient buildings	A9, A16	2
Establishment of information and support programs for families	A12, A17	2

Table 5 shows that the participants’ responses regarding the steps needed to overcome challenges in education following the earthquake and to be prepared for similar situations in the future are categorized under seven themes. These themes are “providing earthquake education,” “ensuring flexibility and adaptation in the educational process,” “the importance of communication,” “development of leadership skills,” “psychological and sociological support,” “cons-

truction of resilient buildings,” and “establishment of information and support programs for families.”

Ten participants identified “providing earthquake education” as a crucial step to overcome the challenges faced in education after the earthquake and to be prepared for future similar situations. Participants also emphasized the need for raising awareness among staff and students about disasters through training and seminars.

“Schools, as well as all government institutions, should focus on civil defence training, and every adult should receive first aid training.” (A3).

“Given the reality of living in an earthquake-prone country, intensive earthquake training should be provided. The physical structures of schools should be redesigned according to earthquake resilience.” (A7).

“The measures taught to students as part of civil defence in schools also need to be reassessed.” (A10).

“The issue of earthquake training needs to be addressed more comprehensively. It should not be limited to the earthquake drill conducted on February 28.” (A12).

Six participants expressed their opinions on the actions to be taken for overcome challenges in education following the earthquake and to be prepared for similar situations in the future under the theme of “ensuring flexibility and adaptation in the educational process.” Similarly, some of the participants noted: “In disasters such as earthquakes, considering the stress and uncertainties experienced by students and teachers, adopting a flexible approach in education helps us manage the educational process more effectively.”

“Ensuring flexibility in the educational process will help our students and teachers quickly adapt to changing conditions.” (A8).

“Maintaining flexibility in the educational process requires updating the curriculum and lesson plans according to emergency situations.” (A12).

“It is essential to adopt a flexible approach to enable teachers and students to quickly adjust to educational materials and methods.” (A17).

Four participants, on the other hand, expressed their views under the theme of “the importance of communication.” These participants stated that one of the most critical aspects of disasters is communication and that communication technologies play a significant role in delivering aid to those trapped under debris.

“We must definitely place great importance on communication.” (A10).

“The communication infrastructure needs to be made resilient to disasters.” (A12).

“All students should be alerted about the necessary precautions before and after an earthquake through communication tools and training.” (A15).

Three participants expressed their views on the subject in terms of “development of leadership skills.” These participants noted that enhancing leadership skills would enable school administrators and teachers to work or act more co-ordinately.

“Development of leadership skills is vital for school administrators to provide proper guidance during crises.” (A3).

“Improving these skills allows school administrators and teachers to act in a more coordinated and effective manner during crises.” (A14).

“Leadership training enhances administrators' strategic thinking and rapid decision-making abilities. This significantly contributes to crisis management and the overall functioning of the school.” (A16).

Three participants also expressed their views on overcoming challenges in education following the earthquake and preparing for similar situations in the future as “psychological and sociological support.” Similarly, the participants mentioned that given the severe destruction caused by the earthquake, it is essential to provide psychological support to the entire affected population to make them feel secure.

“Safe educational environments should be created, and students need to be supported psychologically.” (A3).
“Although not all traces of the disaster can be erased, prioritizing psychological and physical health is important. The reality of the earthquake region should not be forgotten while presenting all the conditions in the area.” (A17).

Two participants drew attention to the importance of “constructing resilient buildings.” In this regard, the participants stated that the physical structures of schools need to be thoroughly reviewed and it is important to ensure that a large part of the schools is perceived as safe and sturdy by students and parents.

“First and foremost, we need to build very solid buildings.” (A9).
“The earthquake regulations must be applied in the best possible way during the construction of buildings.” (A16).

Similarly, two participants highlighted the importance of the “establishment of information and support programs for families” on this subject.

“Establishing information and support programs for families is a crucial step, especially in the post-disaster period. Additionally, support programs for families enable them to contribute more effectively to their children's educational process.” (A12).
“Information and support programs for families ensure that during disaster situations, families are well-informed about their children's educational processes and are equipped to provide the necessary support.” (A17).

Opinions of School Administrators on How to Manage the Psychological Issues That Have Arisen Due to the Deaths of Students and Staff in the Earthquake

The findings related to fifth research question of the study are presented in Table 6.

Table 6
School Administrators' Opinions on How to Manage the Psychological Issues That Have Arisen Due to the Deaths of Students and Staff in the Earthquake

Themes	Participants	<i>f</i>
Establishment of psychological support centres	A2, A4, A6, A7, A8, A9, A10, A11, A12, A13, A14, A15, A16, A17, A18	15
Enhancement of leadership and crisis management training	A3, A5, A6, A8, A10, A11, A14, A16, A17, A18	10
Support from guidance counsellors	A1, A2, A4, A7, A9, A11, A15, A17, A18	9
Establishment of psychological support areas in school buildings and facilities	A5, A7, A12, A13, A15, A16, A18	7
Face-to-face education	A1, A5, A6, A13	4
Collaboration and information with families	A2, A7, A16, A18	4

As shown in Table 6, the participants' responses are categorized under six themes. These are "establishment of psychological support centres," "enhancement of leadership and crisis management training," "support from guidance counsellors," "establishment of psychological support areas in school buildings and facilities," "face-to-face education," and "collaboration and information with families."

Fifteen participants expressed their views on the importance of "establishing psychological support centres" to address earthquake trauma.

"Robust and effective psychological support is essential. Given the negative impact of stressful events on students' mental health, there is a heightened need for psychological interventions and services for children and their families." (A6).

"Psychological support centres play a critical role in managing trauma following the earthquake. These centres can help students and staff cope with conditions such as post-traumatic stress disorder." (A9).

"The first step in this regard should be providing psychological support." (A12).

"Psychological and social support should be extended over long periods." (A17).

"Trauma should be minimized in schools with regular psychological support teams." (A18).

Ten participants indicated that the issue could be addressed through "increasing leadership and crisis management training." These participants suggested that earthquake trauma could be mitigated, particularly through leadership and crisis management training provided to school administrators.

"Ongoing training in leadership and crisis management for school administrators is crucial for ensuring effective and timely decision-making during crises." (A5).

"In major disasters such as earthquakes, it is imperative for administrators to maintain composure and effectively direct their teams. Thus, broadening the scope of such training is of paramount importance." (A8).

"The development of crisis management skills enables administrators to effectively guide and support the school community in dealing with such situations." (A14).

"These trainings provide administrators with opportunities to enhance their communication and coordination skills during a crisis, allowing them to better guide and support the school community." (A17).

Nine participants expressed their views on addressing earthquake trauma through the "support of guidance counsellors."

"Training programs should be developed for guidance counsellors on actions to take following natural disasters to mitigate the psychological effects of earthquakes." (A2).

"A teaching approach should be designed that prioritizes empathy and considers students as individuals. This should be guided by professional guidance experts and focus on more activity-based learning to alleviate future anxieties." (A4).

"Psychological support is crucial in this process. Every school should have a psychological counsellor, and psychological support should be provided to all school stakeholders." (A7).

"Professional psychological support should be offered. Families should be visited by relevant professionals, and their needs should be addressed." (A9).

"The losses experienced have caused many traumatic effects. Managing and coping with this is not a simple task, so professional support and guidance should be provided. Each individual should be supported separately. To mitigate these psychological effects, engaging in enjoyable daily routines, connecting with others who have experienced similar situations, sharing emotions, and participating in personal therapy can be beneficial." (A11).

Seven participants emphasized the significance of the “establishment of psychological support areas in school buildings and facilities.” Some of the views expressed by these participants are presented below:

“Psychological support and relaxation areas can be created within school buildings. These areas should be designed to provide a calming environment, such as incorporating soothing lighting, comfortable seating, and meditation spaces to help students and teachers reduce their stress.” (A7).

“A safe and welcoming environment will help students cope with stress, so these areas should be integrated into school buildings and facilities.” (A16).

Four participants expressed their views on this topic as conducting “face-to-face education.” These participants indicated that overcoming the earthquake trauma can be achieved through face-to-face education.

“Once school reopens, seeing each other will help both teachers and students begin the healing process. Therefore, it's crucial to start face-to-face classes as soon as possible.” (A1).

“By transitioning to face-to-face education, this challenging situation can be overcome.” (A5).

“Students meeting with their peers, playing together, and engaging in shared activities will help reduce the trauma they experienced due to the earthquake.” (A6).

Four participants also emphasized the importance of “collaboration and information with families” in this context. Some of their views are as follows:

“As a school, we should organize regular informational meetings and seminars for families. In these meetings, we should provide information to families on recognizing their children's trauma, communicating effectively, and creating a supportive environment.” (A2).

“Effective collaboration with families will undoubtedly support students' psychological well-being.” (A7).

“We should offer regular educational seminars and individual counselling sessions to inform families. Additionally, we need to prepare an informational guide that provides necessary resources and strategies to help families cope with their children's trauma.” (A18).

Discussion

Turkey is a country that frequently experiences disasters due to its geological and topographic structure, climate change, and unplanned urbanization. Every year, thousands of lives are lost, and billions of dollars in material losses occur, negatively impacting the country's development. These losses highlight the importance of reducing disaster damage. In this context, raising public awareness about disasters is crucial in mitigating their effects. Indeed, when compared to other countries, it is evident that societies with low awareness levels are significantly less resilient to disasters (Şengün & Küçükşen, 2019).

Students are taught in schools about the necessary precautions during and after an earthquake. However, the recent earthquake clearly demonstrated that this training is either inadequate or ineffective. To minimize the negative effects of earthquakes, AFAD officials should provide practical earthquake training in all schools and ensure that this training continues effectively until the entire society is adequately prepared and resilient (Özkorkmaz et al., 2023; Rogayan & Dollete, 2020; Şahin et al., 2018; Tuncer et al., 2021; Wei et al., 2020).

A study examining the crisis management skills of school administrators, conducted by Töre (2020), found that while private school administrators exhibited ‘very high’ crisis management skills, public school administrators had relatively lower competencies. Similarly, Şimşek et al. (2024) evaluated the crisis management skills of school administrators (principals and

assistant principals) before and after an earthquake. Their findings indicated that administrators perceived their crisis management skills to be at a 'high' level, demonstrating a positive attitude toward these skills.

Thus, conducting a comprehensive analysis of the challenges school administrators face after earthquakes, as well as evaluating the measures they take, will contribute to a deeper understanding of the impact of disasters on educational institutions and help assess administrators' crisis management capabilities.

Arslan (2023) highlighted that one of the main challenges for school administrators after earthquakes is disruptions in the transportation system caused by student migration to other cities. The study emphasized the need for an efficient and accessible transportation system to address this issue. Meanwhile, Demirtaş et al. (2023) identified post-earthquake communication deficiencies, inadequate psychosocial support, and trauma management issues. These findings align with the current study and indicate that similar difficulties arise in different disaster scenarios.

Polat & Sarıçam (2024) explored the problems faced by teachers after earthquakes, concluding that improving teachers' housing conditions, strengthening city infrastructure, and increasing psychological support in schools are necessary. Likewise, Sağır & Güzelgörür (2024) suggested that housing opportunities should be provided for teachers and that psychosocial support should be enhanced for both teachers and students in the context of post-earthquake crisis management. Erol & Özdemir (2024) categorized teachers' challenges after the Kahramanmaraş earthquakes as housing, nutrition, fear, and anxiety, which align with the difficulties faced by school administrators.

Despite the existing literature on natural disasters and earthquakes, the available studies remain insufficient. Therefore, further research should be conducted on disaster preparedness, and preventive measures should be implemented before disasters strike. Otherwise, disaster-related problems may cause severe damage and escalate into situations that are difficult to overcome.

Conclusions and Implications

This study presents a detailed analysis of the challenges faced by school administrators following a disaster. Based on the perspectives of the 18 school administrators who participated in the study, it was concluded that post-disaster challenges are largely similar and that proposed solutions converge on common points.

The study found that school administrators face several fundamental issues after a disaster, including accommodation, transportation, damaged school buildings, communication breakdowns, psychological distress, crisis management difficulties, teacher assignments, and limited access to teaching materials.

Another major issue is that education becomes a lower priority in the aftermath of a disaster. The study concluded that the immediate need for basic necessities and the limited access to education lead local communities to migrate to other regions, both for shelter and for their children's education. This results in adaptation problems and exacerbates issues such as student migration, lack of access to education, inequality of opportunity, motivation and morale problems, future anxiety, and cultural and social disruptions—further illustrating the devastating effects of earthquakes on education.

To restore normalcy in education, the study emphasized the need for psychological support, the creation of safe educational environments, restructuring teaching materials, repairing school buildings, developing crisis management programs, and providing support services for families.

To better prepare for future disasters, the study highlighted the importance of earthquake training for school staff, students, and parents. Additionally, it identified deficiencies in schools' communication infrastructure and physical conditions, emphasizing the need for solutions to psychological and sociological challenges.

To support post-earthquake recovery, the study recommended providing psychological support for administrators, teachers, and students, ensuring safe learning environments, reorganizing educational materials, supporting students' families according to their needs, and addressing all other essential requirements.

The study also underscored the necessity of meeting students' and staff members' needs by establishing psychological support centers, seeking assistance from guidance counselors, and fostering collaboration between schools and families.

Recommendations

To minimize engineering errors—one of the primary causes of loss of life and property in disasters—and to address the challenges school administrators face after disasters, all construction industry professionals (including engineers, technicians, foremen, and workers) should receive disaster preparedness training. The Union of Chambers of Architects and Engineers should actively participate in these initiatives.

Since disasters are often unpredictable and unavoidable, they should be acknowledged as a part of daily life. A culture of disaster preparedness should be instilled in society. Measures such as establishing temporary shelters, strengthening communication infrastructure, ensuring that school buildings comply with earthquake regulations, avoiding multi-story school buildings, reassessing building durability, and conducting damage assessments should be implemented. Any structures found to be defective or insufficient should be repaired immediately.

To ensure that students and school personnel are prepared for earthquakes, earthquake drills should be conducted in schools. These drills should not be superficial but rather comprehensive, featuring realistic scenarios and hands-on practice.

Seminars should be conducted for residents in earthquake-prone regions, as well as for school administrators, teachers, staff, and students. These seminars should be led by faculty members from relevant university departments and should focus on crisis management and emergency response skills. Furthermore, ongoing, practical, and high-quality training programs should be implemented to raise awareness and enhance crisis management communities.

Declaration of Interest

The authors declare no competing interest.

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Received: September 12, 2024 Revised: November 06, 2024 Accepted: February 05, 2025

Cite as: Sarigöz, O., Yıldırım, B., & Bingöl, G. (2025). Challenges faced by school administrators in primary schools after disasters. *Problems of Education in the 21st Century*, 83(1), 101–123. <https://doi.org/10.33225/pec/25.83.101>

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