RESEARCH

The role of society and family in adolescents' disaster resilience: A qualitative study

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Abstract

Background Resilience is a person's ability to adapt to life problems and crises and is influenced by many factors. Due to the increase in the number and severity of disasters, disaster preparedness policies should be developed at different levels and among multiple groups. More attention should be given to vulnerable groups. The aim of the present study is exploring the role of society and family in adolescents' disaster resilience.

Methods The present study was conducted using a qualitative method with content analysis approach. The participants were 28 high school teachers in Bam city, who were selected based on the purpose, to be the least 10 years of age at the time of the Bam earthquake, willingness and ability to provide experiences, active participation in this study and filling the written consent form. Sampling was continued until data saturation. The data were collected via in-depth and semi-structured interviews and analyzed with the steps suggested by Granheim and lundman method.

Results The data analysis revealed 452 open codes, 192 conceptual codes after integration, 14 subcategories, and 4 categories of factors affecting resilience against disasters. The categories included resilience strengthening and restraining factors in the family and society.

Conclusion The results of the present study revealed the importance of family and society function in adolescent resilience, which can be used to help crisis management practitioners and decision makers plan community preparedness and improving Support Systems especially in schools, before disasters or Situational and predictable crisis.

Keywords Adolescents, Qualitative study, Resilience, Disaster, Earthquake

Background

The number and severity of disasters causing increasing damage have increased thirty-eight times [1]. Iran is a disaster-prone country that has experienced more than 250 natural disasters over the past century [2] and accounts for 90% of the world's natural disaster casualties, while it has only 1% of the world's population [1]. Iran ranks sixth among the top 10 earthquake-prone regions in the world in terms of natural disasters. Nearly 69% of its lands are located on faults. Over the past century, 20 earthquakes of magnitude greater than 6 have been recorded, resulting in 500,000 deaths. The Bam

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earthquake was one of the deadliest earthquakes (Bam city in southeastern Iran, with a history of 2000 years), which had an earthquake of 6.6 on the Richter scale in 2003 with More than 40,000 were killed, 30,000 injured, about 20,000 houses ruined and 45,000 people were displaced [3] and destroyed more than 90% of schools in that city. In a study conducted in Iran on 400 schools in the city of Yazd, the resilience of schools was average and safety had the lowest score among all areas of school disaster resilience [4]. Therefore, considering that more disasters are expected in the near future, disaster preparedness policies should be developed at different levels and among multiple groups, and more attention should be given to vulnerable groups [5] and [6].

Research on natural disasters such as earthquake shows that school-age children, as the most vulnerable group, are facing more natural disasters than ever before, especially when they are at school [7]. Providing knowledge about disaster management in schools is the key to successful and effective disaster management and creating a culture of safety and resilience, which requires time, effort, resources and continuous cooperation between all actors at the community level specially students through formal education [8].

Creating disaster-resistant schools is known as a risk reduction strategy that includes the two principles of risk reduction and the creation of resilience in the school environment [9]. The comprehensive school safety framework aims to reduce the risks of all hazards to the education sector. This framework rests on three pillars, namely, safe school facilities, school disaster management and risk reduction education and sustainable development goals 2015–2030 and the Sendai Framework for Disaster Risk Reduction priorities for action and indicators for the education sector [10] and special attention has been given to resilience in children in disaster risk reduction Sect. [11]. Resilience is the concept of flexibility, recovery and return to the initial state after facing adverse conditions [7, 12] and it is one of the necessities of life to overcome difficult conditions, which can guarantee and improve people's mental health [13].

Resilience includes many ethical, social, environmental, cultural and political dimensions, all of which are not properly understood [14] and is a complex concept that individual, family and society are also effective in cultivating it [15].

Therefore, owing to the highly vulnerable nature of Iran [16], the major impact of disasters on children and adolescents [14], the impact of multiple factors on resilience [13, 17] and the impact of resilience on disaster prevention and risk reduction [14], Limited Exploration of Society and Family Roles and Long-Term Effects of Disaster on Adolescents, It is necessary to conduct a qualitative study in Iranian society, especially in Bam city, an area that has not been extensively explored or understood in the context of disaster recovery, from the perspective of those who have seen the calamity and experienced its consequences, to achieve a deep and comprehensive understanding of effective factors on resilience, recognize different dimensions of it and take help from the results of the study to increase the capacity and ability of adolescents, families and schools in order to promote of resilience at the community level.

Methods
The aim of the present study is to understand the experiences of earthquake survivors in relation to the role of society and family in adolescents' disaster resilience.

Design
The present study was conducted via a qualitative method with a content analysis approach in Bam city and approval code (IR.MUBAM.REC.1401.005).

Participants
After coordinating with the city's education department, three girls' high schools and three boys' high schools were chosen purposefully from four different parts of the Bam city. The inclusion criteria were the teachers with at least 10 years of age at the time of the Bam earthquake, willingness and ability to provide experiences, active participation in the interview and filling the written consent form. The exclusion criteria were, Participants who have recently experienced physical distress, such as severe heart or mental illness and they who showed their unwillingness to continue the interview during the interview. The collected information was obtained via 28 interviews. In this study, the potential respondents could be parents or adolescents that not included because the majority of the interviewed teachers were married, could be the role of the parents, the adolescents did not have sufficient experience in the subject.

Time and place
The interviews continued from January 2023 to March 2023, were conducted in the school's office or prayer house and the time of the interviews was the volunteer teachers' free time after they coordinated with them and the school principal.

Data collection
The data were collected via an in-depth and semi structured personal interview by researcher. The interviews were fully recorded and notes were taken on important and key issues. The average interview time was 50 min. The researcher fully informed about the nature of the study and explained that whenever the participants are desired, they can withdraw of interview or continue it

in the another time, there was no case to repeat or withdraw the interview. This reassures them that their emotional health is a priority. The questions were based on the question guide about the participants' experience, understanding of the disaster, resilience against the disaster, and factors affecting resilience, and started with open questions (The interview guide is attached). If needed, interrogative questions such as "explain more" or "please tell me if you have a special opinion" were used.

Rigor of the data

To evaluate the data, the acceptability, transferability, repeatability, homogeneity and confirmability criteria of Lincoln and Guba [18] were used. To confirm the acceptability of the data from the review method by the participant (responsible validity method), to confirm the process of doing the work from the panel of experts and to control the extracted codes by several members of the faculty and to evaluate and ensure data transferability, the maximum diversity in terms of age, sex, type of school and educational qualification of the participants was considered.

Data analysis

At the end of each interview day, the pedestrian information was analyzed according to the steps suggested by Granheim and Lundman [19]. Immediately after each interview, the tape was recorded, word for word was used, and the entire text was reread several times to obtain a general understanding of the content of the interview. The text was subsequently divided into semantic units. A summary of the extracted semantic units was initially coded, and the initial codes were classified into subcategories and categories on the basis of their similarities and differences. Finally, the themes were extracted as an expression of hidden content in the data. The data obtained from each interview served as a guide for the next interview; thus the sampling continued until data saturation. Data analysis started after the first interview and continued with the continuation of data collection.

Results

After the analysis, the results revealed that 28 high school teachers in Bam participated in the present study, whose average age was 42.06 ± 1.6 years, and all of them had a bachelor's degree or higher (100%)(Table 1).

Table 1 Frequency distribution of baseline characteristics of participants

Number	Participants	Age	Academic degree	Marital status	Occupation
1	PN1	20–30	Bachelor	Married	Teacher
2	PN2	30–40	Master	Married	Teacher
3	PN3	20–30	Bachelor	Married	Training Assistant
4	PN4	30–40	Bachelor	Single	Teacher
5	PN5	40–50	Master	Single	Principle
6	PN6	20–30	Bachelor	Single	Teacher
7	PN7	40–50	Bachelor	Married	Teacher
8	PN8	40–50	Bachelor	Married	Teacher
9	PN9	40–50	Master	Married	Consular
10	PN10	40–50	Bachelor	Married	Teacher
11	PN11	40–50	Bachelor	Married	Teacher
12	PN12	40–50	Master	Married	Teacher
13	PN13	30–40	Bachelor	Married	Teacher
14	PN14	40–50	Bachelor	Married	Principle
15	PN15	40–50	Bachelor	Married	Teacher
16	PN16	40–50	Bachelor	Married	Principle
17	PN17	40–50	Master	Married	Teacher
18	PN18	40–50	Bachelor	Single	Teacher
19	PN19	20–30	Bachelor	Single	Training Assistant
20	PN20	50–60	Bachelor	Married	Teacher
21	PN21	50–60	Bachelor	Married	Educational Assistant
22	PN122	40–50	Bachelor	Married	Teacher
23	PN23	30–40	Bachelor	Single	Principle
24	PN24	50–60	Master	Single	Teacher
25	PN25	20–30	Master	Single	Principle
26	PN26	40–50	Master	Married	Teacher
27	PN27	40–50	Master	Married	Teacher
28	PN28	40–50	Master	Married	Teacher

Table 2 Examples of codes delivered from the semantic unit

Semantic unit	codes
Nothing increases a person's tolerance as much as reciting some prayers like. It gives a person a strange sense of peace	Repetition of soothing azkar
"Sir, this topic (resilience) is very interesting and important. This year, I want the teachers of one of the lessons to give each group of students an assignment about resilience, that is, ask them to research about resilience	Giving students a research topic in the field of resilience
Our school has a fire extinguisher, so if a fire occurs, they extinguish the fire quickly so that both children and school equipment are less injured. This less damage makes it better to settle the situation after the accident	Availability of facilities and equipment in the school

Table 3 Categories and subcategories of effective factors affecting adolescents' disaster resilience

Category	Sub Category
Society strengthening factors	Acquiring information about disasters
	Availability of facilities and equipment in the school
	The presence of a counselor in the school
	Access to social support
	Individual resilience, which is affected by the others resilience
Society restraining factors	Lack of necessary preparations for resilience
	Lack of sufficient belief in the importance of resilience in schools
	Cost, barrier to the preparation maneuver
	Difficulty of maneuver coordination
Family strengthening factors	The key role of the family in promoting a resilient child
	The need to strengthen spiritual beliefs
	Struggle for resilience
Family restraining factors	The key role of the family in training a child with low tolerance
	Desperation in disasters

In total, 452 open codes, 192 conceptual codes after integration (Table 2), 14 subcategories, and 4 categories were obtained from the data analysis (Table 3).

The role of society
Many social factors can have a strengthening or restraining effect on resilience behaviors, effective response, restoration and compensation for complications caused by disasters.

Strengthening factors
Factors in society that increase the resilience of adolescents and include the five subcategories.

Acquiring information about disasters
The participants, especially the teachers, suggested side studies about disasters, ways to reduce risk, watching movies on the subject of crisis and interaction with earthquake-affected families as sources of information related to disasters, and they believed that the education department and school officials should provide these conditions to increase adolescents' information.

One of the math teachers said:

"By the way, this is the theme of some movies. For example, when an earthquake occurs, a tsunami occurs, a family goes bankrupt, and the whole movie shows how they adapted themselves to these condi-

tions and continued their lives. These movies are truly informative and should be shown to adolescents on the occasion of being displayed" (p. 4).

Availability of facilities and equipment in the school
Most of the participants noted the necessity of having facilities such as first aid rooms, fire extinguishers, smoke sensors and sand buckets in schools to control crisis conditions and reduce damage.

One of the teachers of the girls' school said:

"School facilities are important for example", Our school has a fire extinguisher, so if a fire occurs, they extinguish the fire quickly so that both students and school equipment are less damaged. This less damage makes it better to settle the situation after the accident" (p. 13).

The presence of a counsellor in the school
In this regard, some of the participants suggested the need for a counsellor to cope with problems more easily, reduce mental pressure, increase tolerance, increase adaptability and crisis management, and suggest ways to deal with difficulties or with good intentions. had done.

One of the teachers, who was middle-aged, said in this regard:

"We have counselors in schools, so that whenever students face a problem or, God forbids, a bad accident happens to them, they can go to them at least to reduce their mental pressure, and I think this is very important" (p 9).

Access to social support

The participants emphasized the impact of society and its support on the resilience of the adolescents and things such as various insurance services and nongovernmental organizations at the community level, people's cooperation in the event of disasters to reduce complications, quick notification to collect public donations, the existence of organizations responsible and efficient governments (emergency personnel) for disaster management and assistance to people, the presence of prepared and trained personnel, the social participation of people in crisis situations, the presence of nongovernmental organizations and the belief in strengthening the factors effective in reducing the risk of disasters in society as facilities and facilities. were mentioned in the society.

The principle of one of the schools said:

"Fortunately, in our country, people care about each other, that is, they give information quickly or give account numbers and collect help so that people who are suffering are less bothered" (p 23).

Individual resilience, which is affected by the others resilience

In this regard, the participants believed that the mental conditions of others, their reactions, the rational behavior of the people around them and elders in the event of a disaster, and their ability to see or hear the performance of people when a disaster occurs in other places affect a person's reaction to a disaster, especially when they pay attention to the many problems of others. In a crisis, it is sometimes accompanied by an increase in resilience.

One of the teachers said:

"Whenever there is a problem with my family or my daughter, I say, look at other people's problems, you will understand that this is not a problem. I remember that I lost my grandmother during the earthquake and that I was very restless, but when I saw the others, how warm and dear they were. Losing made me more impatient, believe me, I was ashamed of my own impatience" (p 10).

Restraining factors

These social factors prevent adolescents' resilience behaviors and include the four subcategories.

Lack of necessary preparations for resilience

In this regard, the participants noted the lack of necessary facilities to strengthen students' resilience and suggestions, such as preparing meetings for scientific visits to centers and organizations responsible for responding and providing relief to people in accidents and disasters and holding a first aid course to prepare for accidents. Students were asked to prepare educational brochures on ways to increase their resilience, and to give them a research topic or a similar assignment in the field of resilience.

One of the participants said:

"This topic (resilience) is very interesting and important. For sure, this year, I want the teachers of one of the courses to give each group of students an assignment about resilience, that is, ask them to research resilience or prepare an educational brochure and pamphlet. booklet" (p 25).

Lack of sufficient belief in the importance of resilience in schools

Regarding the mentioned subcategory, the participants stated that the importance of resilience and its value for students is not given much attention in the programs of the education authorities and schools, and implementing the disabled student plan in schools one day a week and involving the students is suggested. They raised the issue of resilience and its importance.

The educational assistant of one of the schools said:

"There is a project called the disabled person project in some schools of a number of countries, which is excellent. Every day, one of the students has to sit on a wheelchair from the beginning to the end of the day and live as if he has no legs or close his eyes as if he has no eyes because they believe, which helps them adapt; at least they are forced to think about how to deal with them if they do not have these abilities, in addition to the fact that they appreciate what they have. Do you agree?" (p 3).

Cost, barrier to the Preparation maneuver

Some participants in this field, despite believing in the value of conducting maneuvers in schools to address crisis and strengthen resilience, noted that the costs of conducting maneuvers are high and that the extracurricular costs of schools are limited.

One of the managers said while shaking her head:

"Unfortunately, we have a lack of funds, which means that the cost that is considered for extra programs does not include the scope and cost of con-

ducting a maneuver, such as an earthquake or fire" (p 14).

Difficulty of maneuver coordination

Most of the teachers, especially the officials, raised the difficulty of coordinating to hold the maneuver, and related to issues such as the difficult coordination of school programs with the Red Crescent Organization, the fire department, or the emergency organization to find volunteer or elite personnel who can implement and manage the maneuver, the difficulty of coordinating with the teachers of different grades to compensate for the missed class hours, and the final result, which does not require some teachers to allocate the relevant class hours.

One of the teachers said regretfully:

"By the way, it was brought up some time ago, but none of the teachers are satisfied that their class time should be taken away. If the class is after school hours, the students will not come, and the parents will also protest (p 21).

The role of the family

Although the support function of the family is actually a system to develop and strengthen the resilience of its members, the family can be considered a double-edged sword that plays a role in the resilience or vulnerability of its members.

Strengthening factors

These factors increase resilience in adolescents and include three subcategories.

The key role of the family in promoting a resilient child

Many teachers believe that the family has a significant role in promoting a child and can deliver a child with high resilience to society with proper education. Parents, by punishing and encouraging properly in promoting their children, being serious and firm in educational issues, trying to raise independent children, assigning responsibilities to children according to their age, teaching them self-control in difficult situations verbally and practically, correctly managing life's problems, not exaggerating problems, being patient in front of life's adversities, having calmness and decisively approaching in the face of disaster and crisis, logically dealing rather than emotionally with difficult situations in life, relying on one's strengths and abilities or testing different ways to solve problems.

One of the married teachers said:

"We, parents, have a very important role. The same resilience that you talk about. I, the father, must have high endurance and tolerance for my child to

follow me an example. Anywhere, for example, in difficult life situations, a fight and a family argument, if I can help myself to control, my child learns. If I cry, shout and do any other bad things, he will repeat the same things under the same conditions" (p 11).

The need to strengthen spiritual beliefs

Many participants said that strengthening the spiritual dimension of adolescents, strengthening faith and hope in them, relying on greater power in life, and holy name repetition that gives them peace will increase their resilience and tolerance.

The principle of one of the schools said:

"Nothing increases a person's tolerance as much as some prayers such as holy name repetition. At all", it gives a strange feeling of peace. I remember the Bam earthquake that happened, even those who did not see any damage, such as our family, were extremely impatient, nervous and stressed after the aftershock. My grandmother has said if you repeat Ayat al-Kursi a hundred times a day. Nothing happens. It truly worked miracles, means, it calmed us down and increased our stamina" (p 5).

Struggle for resilience

In this regard, the participants expressed the performance of family members in dealing with problems, crises, and calamities such as keeping calm, trying to save their lives and others, being firm and keeping negative emotions away from themselves, and even inviting others to calm down.

One of the participants who was middle-aged said:

"In critical situations, keeping calm is very helpful; you can make a wise decision yourself, and you do not cause unnecessary panic in others" (p 28).

Restraining factors

Family factors that reduce the resilience skills of adolescents and are in conflict with strengthening their resilience. Include:

The key role of the family in training a child with low tolerance

In this context, teachers believe in things such as families' belief in the need not to make children suffer in childhood, parents' duty to provide maximum facilities for their children, to leave them in welfare As far as possible, it is the human ability to adapt to any situation at any time without the need for practice, the duty of the family to support the children as long as they are alive and not to talk about calamities and crises in front of the children.

One of the teachers with experience in this case said with a nod of regret:

"Sir, there was a meeting of parents and teachers last week. One of the mothers said that we, the parents, have the duty to provide the maximum number of facilities for our children. A person adapts to any situation whenever it is needed, so why make it difficult from now until it is needed sometimes endure" (p 9).

Desperation in disasters

In this context, the participants mentioned the reactions of the family and the people around them in critical situations, such as silence and amazing, failure to think, crying, wailing and complaining, yelling, being helpless, accepting helplessness in the face of the problem and belief in the worthlessness of the world, ingratitude and nervousness.

One of the younger teachers answered with a loud laugh:

"When my family talks about an earthquake or, for example, "I saw a movie last week where a storm hit the city, I immediately myself replace their, and interestingly, I realize that I only do to cry and scream in that situation" (p 4).

Discussion

The present study highlighted the experiences of Bam terrible earthquake survivors in relation to the strengthening and restraining factors effective on adolescents' disaster resilience. Consideration to the society and family can be considered a double-edged sword that play a role in the resilience or vulnerability adolescents, so strengthening and restraining factors together have discussed.

In relation to information resources, the results of the Mutark study in line present study, revealed that the acquisition of information through informal education to adolescents by parents, experienced family members and even those living in a society with a high level of education for example teachers, significantly increases the preparedness of people against calamities and crises [20]. In the line, similar study stated disaster literacy that is the ability to access, understand, and act on information related to disaster management and encompasses knowledge and skills across all phases of disaster, can be improved through community-based disaster education programs such as training plans in schools [21] and Local or national media. This can especially for adolescents be accomplished in different ways and update for example access to various programs (films, books, booklets, applications of Earthquake or every disaster Simulators),

continuous training courses in disaster management for students, teachers and the integration of disaster management courses in school curricula.

In relation to importance of availability to Facilities, in the third international conference on natural disaster risk reduction in 2015, the Sendai framework approved "disaster risk reduction and resilience education" as one of the "comprehensive school safety" facilities [10]. In other similar studies, the installation of fire extinguishers in different places in schools for safe buildings [22], regular inspections of school buildings (year of construction and renovation) and evacuation shelters were considered important school equipment [23]. Reducing risk and subsequently increasing resilience depends on preparedness at all levels, especially with respect to resources. Notably, in addition to theoretical training, it is important to hold a variety of exercises (maneuvers) to address disasters, and a proper response to an incident will be possible when the necessary preparation to face it has been [24, 25].

Similar studies, in line with the present study, have concluded that the main weaknesses in these exercises and maneuvers are lack of access to knowledgeable and volunteer people, lack of coordination intersectional, lack of comprehensive rules and regulations, fragmentation, inadequacy of the existing laws and regulations, limitations of financial resources especially for students and adolescents. So despite being useful, this important approach has not focused on many organizations, offices or schools [24, 25], which in this study was due to schools focusing more on curriculum issues; problems with intersectional coordination; a lack of specialized and continuous training; a limited budget; and little financial support.

In the context of the counselor's presence in the school especially high schools, reason to adolescence is critical age, similar studies have shown that the counselor has improved the level of resilience by training the collective activities skills and creating good relationships between adolescents with the surrounding people [26] and by teaching self-care to the adolescents, which provides an opportunity to recognize their strengths and growth abilities [27].

In relation of family function, in other words, social support and good communication patterns, are from the most important factors affecting resilience according with our results and some studies [28–33]. This finding shows that parents' behavior, as an important reinforcement, can affect children 's behavior and development in every age, because they are the practical model and the family is the first center of education.

In the relation to need to strengthen spiritual beliefs in adolescents, in confirmation of our results, Mateos, Santos and Silva revealed one of important protective intrafamily factors for development stage is spirituality [33]

although, Family members may not share spiritual beliefs with adolescents and may be unaware of the importance of spiritual well-being for adolescents [34] but Religion and spirituality were considered sources of resilience, serving as an inner strength to remain resilient despite vulnerability [35].

Consideration to the adolescents are much more vulnerable than previous generations and their religiosity levels are lower than those observed in similar cohorts in previous decades [36], therefore, educational programs and books should be prepared to recognize and strengthen the spiritual dimension and examples of its power in facing problems and increasing resilience with emphasis on methods that are attractive to adolescents.

Limitation of study was recalling sad memories of the past that we manage it by ethical research practices and careful survey design such as exclude Participants who have recently experienced physical distress, such as severe heart or mental illness be excluded to protect their mental well-being as their recent experiences could influence their responses and emotional state, and interview concentration on themes of resilience, coping mechanisms, and recovery, Rather than focusing on the complications of the disaster, because are less likely to trigger overwhelming emotions.

Conclusion

The results of the present study, offer a new perspective on disaster resilience in adolescents, emphasizing a comprehensive, community-based approach It revealed, the factors affecting resilience, are different and society and family play a significant role in strengthening or weakening it. Because the study was conducted with a qualitative approach, it provides a more accurate understanding and comprehensive perspective compared to previous studies that may have considered these factors to be uniform or ignored their different effects. Among them, we can point to spirituality and the effect it on disasters resilience promotion and emphasizing its strengthening in adolescents. A unique finding of this study is the important role that disaster preparedness literacy, that is important for improving individuals' knowledge and understanding of disasters, as well as increasing their ability for disaster management.

Implications

Results of this study by providing insights into the specific role of society and family in adolescents' resilience, can help create more effective interventions, improving disaster response strategies, informing policy decisions, enhance update, Suitable and attractive educational practices and enhance disaster literacy in parents and adolescents, reinforcement support systems and recovery plans, strengthen family and community structures for adolescents in during and the aftermath of earthquakes and other natural disasters. Also these results are useful for disaster management practitioners and decision makers especially in schools.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12889-025-22197-2.

Supplementary Material 1

Supplementary Material 2

Data availability
All the data (used and analyzed) in this study are available from the corresponding author on request.

Declarations

Ethics approval and consent to participate
Permission was obtained from the ethics committee of MUBAM, with an approval code (IR.MUBAM.REC.1401.005). All participants provided informed consent written. The researcher fully informed about the nature of the study and explained that whenever the participants are desired, they can withdraw of interview or continue it in the another time, there was no case to repeat or withdraw the interview. This reassures them that their emotional health is a priority.

Competing interests
The authors declare no competing interests.

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