



Presenting a Model of Resilient Schools based on Grounded Theory

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Abstract

Improving the quality of education and empowering students are important issues in educational systems, and it is necessary to identify influential factors for them. One of the factors that can help improve the educational system is enhancing resilience in schools. Resilient schools are those that create conditions for students and teachers to be able to respond to the challenges of school and community and help them achieve educational goals in difficult conditions, by providing necessary space and educational facilities. Therefore, the present article aims in identifying the dimensions and components of resilient schools to present a related model. In this regard, a qualitative method based on the grounded theory approach is used. The statistical population of this research includes faculty members, psychology specialists, and school principals in Kurdistan province. A purposeful sampling method is used to select the sample based on the saturation rule by using sixteen interviews, and for more assurance, it is continued up to twenty interviews. Data collection was conducted through semi-structured interviews and data analysis was done through open, axial, and selective coding methods.. Some intervening conditions (salary and benefits, recruitment and selection of human power, and decentralization) as well as contextual conditions (facilities, leadership, and teaching-learning processes) influence these strategies. Finally, the consequences of these strategies and their impact include mental health, self-awareness, cooperation, participation, and promotion of general health.

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Introduction

Due to the necessity of social changes, the education system is considered one of the large and most complex social organizations in every country and has an inseparable relationship with economic, social, and cultural growth and development (Karimi, Mirzaei, and Entesar Fomani, 2019: 44). Considering different progress factors of societies illustrates that such countries have an efficient and productive educational system (Imam Juma, Keramat and Saki, 2015: 150). Therefore, creating a clear understanding of the different characteristics of effective schools is a necessary precondition for the development of logical school improvement strategies (Kohi, Hashemi, Minaei and Dehghan, 2018: 99). Resilience of schools is one of the factors that plays an effective role in strengthening the educational system and improving students' growth (Ungar, Liebenberg and LibenbLiebenberg and Caleon and King, 2020). schools, more than any other institution except the family, are capable of creating protective conditions for cultivating resilience in individuals (Henderson, 2012: 297). Resilient schools are schools that create an educational environment and provide educational instruments that allow them to create resistance among students and communities that are at risk. Such schools help students achieve educational goals in unfavorable conditions (Steward, 2014: 55).

The term 'student resilience' was used in an international assessment program in 2009 to describe high-achieving students from families with low economic and social backgrounds (Pinskaya et al., 2019: 2; Chirkina et al., 2020: 1245). Although its idea dates back to the early 90s, when Alva (1991)

discussed how students can control and manage difficulties and adverse conditions in education to achieve better results (Ahmad et al., 2018: 40). Several types of research have proved that some students achieve success and experience high academic levels due to being placed in stressful, problematic and threatening situations, which is the process of academic resilience. Such resilience means the ability to overcome the difficulties that students face in achieving their personal, professional, or academic goals (Coronado-Hijon, 2017). Resilience is one of the concepts that is emphasized in positive psychology and is one of the components of psychological capital that expresses people's ability to cope with problems. Resilience doesn't make a person run away from problems, but it gives a person the ability to overcome problems, enjoy life, and better deal with stressful situations (Ozaie, Azimpour, & Imam Juma, 2018: 243).

Resilience is a term that is usually used to describe the ability to turn difficulties into opportunities and to learn from stressful situations (Amsruda et al., 2019: 1) and is defined as a person's ability to solve or overcome difficulties (Abram & Jacobowitz, 201: 2). In psychology, resilience is the positive capacity of individuals to adapt to stress and disaster. A person or society also can adapt to life challenges or difficulties while maintaining mental health and well-being (Morotea et al., 2020: 1). In educational environments, resilience is also considered as a high probability of success in school and other life situations, despite the hardships and difficulties of students' surrounding environment (Ramazanpour, Kuroshnia, Mehryar and Javidi, 2018: 226).

A resilient person is known as an active and productive individual, who can maintain biological, psychological, and spiritual balance in threatening conditions (McCrea, Guthrie, and Bulanda, 2016). Various researchers, such as Clark and Clark (1984), Garmzi (1985), Warner and Smith (1988), and Murray et al, (2003), identified eight main characteristics of resilient people (Kiswarday and Koper, 2012: 96): Having stable relationships with peers, having developed problem-solving skills, considering realistic plans for future, having a positive feeling about the ability to perform tasks correctly, success in one or more areas of life, ability communicating effectively, having a strong attachment to at least one adult, accepting responsibility for themselves and their behavior. It is important to note that to reach their educational potential, students must learn how to adapt to their daily challenges, failures, and problems (Skinner et al., 2020: 290). Students achieve this goal to overcome the problems in two ways (Henderson, 2012: 297):

- First, by benefiting from their strengths, which include being sociable, participating in serving others, using life skills, self-motivation and staying away from unhealthy situations, having a positive view of the future, feeling self-esteem and Self-confidence, creativity, and spirituality.
- Second, by being present in environments that provide environmental protection factors that enhance students' resilience alongside their education.

Students have important capacities, and flourishing such capacities is a necessary condition for the success and

development of today's societies; however, the presence of numerous risk factors in this path has always resulted in short-term and long-term personal and social damage. Many students face problematic social and educational situations in the classroom, at home, and the society, which can lead to their failure in school and destroy their future (Foster, 2013: 2). The benefit of resilience is that when a protective environment is created and the frequency of proving climate increases, school climate, and caregiving, as well as student academic achievement, will improve. In this situation, students will be less vulnerable to the risk of inappropriate behavior (Afzali, Hijazi, Gholamali, Ejei and Afrooz, 2018: 22). Therefore, schools should be considered as the most significant structures in any society where children spend a lot of time. As a result, having proper management of important engineering factors such as the vulnerability and resilience of schools seems essential (Samadian et al., 2019: 1).

Schools, as social infrastructures, are an inseparable part of society and it can be argued that the resilience of society is created in schools (Mirzaei et al., 2019: 14) and schools, more than any other institution except the family, are capable of creating protective conditions for cultivating resilience in individuals (Henderson, 2012: 297). Unger et al. (2019) also indicated that educational institutions can improve the resilience of students in such a way that they are able to respond to the challenges of the school and community. In the context of school, resilience is observed when students continue to succeed and progress after experiencing a risk factor (Unger et al., 2019: 616) and also

continue to adapt positively despite the experiences of significant stress factors in school (Caleon and King, 2020: 24). Kwok, Hughes, and Liu (2007) consider resilience in the educational environment as a high probability of success in school and other life situations, despite the existence of social, cultural and economic obstacles and problems (Yaqubi and Bakhtiari, 2015: 10).

According to Toland and Kargen (2011), school and school experiences are highly important in promoting resilience. According to these researchers, students' school relationships and experiences and the effects of school support are highly significant. Environmental conditions of school that promote social competence, warm and active relationships, strong participation, and clear boundaries, rules, and expectations are also important (Hemmati and Ghaffari, 2015: 94). Hence, schools alongside their main function of education, are responsible for transferring the content of preliminary activities to students, parents, and ultimately the society, and after the occurrences, schools play the main role in returning the society to a normal state (Mirzaei et al., 2019: 14). School climate is one of the components that is closely related to the resilience of schools.

It could be argued that the most significant elements of school climate are the nature of relationships between teachers, students, parents, and school staff, the achievements of students, and the characteristics of the evaluation system (Pinskaya et al., 2019: 122). Teachers act as protective factors in two ways: First, they can observe the individual strengths in each student and help students in interactions and

educational processes to develop these strengths. Second, they can design learning activities, classes, and the entire school communities in a way that is rich in protective factors (Henderson, 2012: 298). Werner and Smith (1989) found that teachers often become positive models for students; A model that is outside the circle of students' family members. Moreover, the life story of many people is indicative of the important role that schools and teachers have played to move individuals from danger to resilience (Afzali et al., 2018: 21). Now, according to the abovementioned facts, it could be stated that today, considering the many changes and transformations that are taking place in societies, the need to coordinate with the changes to achieve success is highly felt, and education is an organization that can play an essential role in this field. Any country with a more dynamic education can easily adapt to the changes in today's world and achieve success in various fields. Therefore, in today's societies, special attention is being paid to the improvement of the educational system in different countries. One of the vital components in improving the educational system is the formation of resilient schools. The easier it is to deal with problems and overcome challenges in an educational system, the better the conditions for improving the educational system will be. In the schools of Kurdistan province, the need to form resilient schools is highly felt, because in Kurdistan province, the need for growth and development is high, and for this reason, it is necessary to start from the schools that are considered as the basis for the growth and development of society. Hence, it is necessary to pay attention to the formation of resilient schools for this

province. Therefore, according to the above, the most significant question of the present research is, what are the effective components in the formation of resilient schools to present a model for improving the educational system in the schools of Kurdistan province?

Literature Review

The subject of resilience in schools is one of the important topics in the research on the educational system. Different studies are conducted in this area and effective indicators and factors in the field of resilience in schools and students are proposed. A review of the conducted studies indicates that even though promoting resilience in schools is considered one of the key measures in the educational system, limited studies have been conducted in this field and emphasize the necessity of carrying out a set of measures that lead to resilience, is low. It is worth noting that in some studies conducted on school-related resilience, the researchers often examined resilience as a mental health and well-being factor in students and did not pay attention to its educational and academic aspects. Such researchers solely considered the personality aspect of resilience in students.

Table 1: A summary of the research conducted in the field of resilient schools

Researcher	Findings
Afzali et al. (2022)	The results illustrated that the structural elements present in the school can be investigated in terms of three categories the teacher, the overall context of the school, and the peers. The teacher's role includes some components of supporting student autonomy, student participation, teacher support and encouragement, respectful communication, and clear expectations from students. The second category of the overall context of the school includes six components: equality and justice in school, avoiding labeling, safe learning environment, school climate, meeting the basic needs of students in school and activities beyond the curriculum, and the category of the role of peers includes acceptance and support of students by peers, participation and mutual unity in doing the homework and using the student peace to solve behavioral problems.
Afzali et al. (2018)	Effective factors in the creation of a resilient school are divided into three categories of different elements the school, individual, and family. Among the school factors, the effective communication between teachers and students, physical space, suitable psycho-social atmosphere, and social support; among the family factors, the psychological atmosphere of the family, parenting methods, and parental support; and among the individual factors, personal and emotional capabilities were the most significant factors.
Golestane and Timuri (2018)	Strategies, internal-external motivation, emotional regulation, family function, social support, optimism, and spiritual intelligence are related to teachers' resilience, and these factors lead to the growth of teachers' quality of life and better job performance.
Hemmati and Ghaffari (2015)	Individual-level variables (self-esteem and academic motivation) and family-level variables (social capital of the family) have a significant effect on academic resilience.
Imani et al. (2016)	conducting educational, cultural, sports, and artistic activities, development of entrepreneurial activities, attention to and support of creativity and innovation, development of human and moral relations, management of executive and administrative affairs, use of active and creative methods in the teaching and learning process, making schools and classrooms more equipped and smart, improving general health in school, providing safe conditions in the school, beautifying and creating joy and happiness in school, preventing social harms in school, enhancing the participation of parents and social institutions, developing the participation of staff and teachers, using students in managing school affairs, developing the culture of study, research, and specialized and professional training, and exchanging the experience have an impact on the improvement of the educational system.

Caleon and King (2020)	The scale of resilience includes stress factors from school, family, teachers, and peers, and this structure is not affected by gender and economic and social status. Resilience can play a significant role in motivation, academic progress, and life satisfaction.
Parajuli et al. (2020)	Components of resilience in schools include four dimensions of government and budget (awareness of risks, education and preparedness, human resources and financial resources), school curriculum (curriculum, education, awareness, and diversity), infrastructure (ecosystem and environment, access and use, health and services and structural health) and environment (local culture, social cohesion, structural and economic health).
Ungar et al. (2019)	Seven factors of access to material resources, supportive relationships, creation of a desirable personal identity, the experience of power and control, adherence to cultural traditions, the experience of social justice, and the experience of social cohesion with others are identified as school factors influencing resilience in Students.
Pinskaya et al. (2019)	High and clear expectations about learning outcomes, individual support, and encouragement of students, and the development of students' skills to increase success in society after graduation are some of the strategies used in resilient schools.
Kokores et al. (2017)	Teachers are under increasing pressure inside and outside the classroom; hence, there is a growing need for education and resilience skills that will help increase teachers' well-being.
Rojas (2015)	The variables of academic optimism, parental support, corrective and constructive teacher feedback, self-confidence, positive thinking, and high motivation are among the most significant predictors of academic resilience in schools.

Methodology

Research approach and strategy:

The present research is qualitative, in which different components of resilient schools are examined and a conceptual model is presented using a grounded theory approach. Grounded theory is a type of qualitative research method that uses a series of systematic procedures in an inductive manner to provide a theory about the studied phenomenon (Strauss & Corbin, 2008). In this qualitative research, a comprehensive model that

includes causal, intervening, central, contextual, and consequential factors, is presented in line with resilient schools.

Field of the study: The statistical population of this research consists of faculty members, psychology specialists, and school principals in Kurdistan province.

Sampling Method: Purposeful sampling was used in order to select the. The researchers aimed in selecting cases that are full of data according to the purpose of the research and help the

researcher in forming the theoretical model, and this work continued until data saturation and clarification of the theory with all details.

Data Collection Tools: Semi-structured interviews were used to collect data. Individual interviews with selected managers continued until data saturation, which was 20 interviews (theoretical saturation was achieved by using 16 interviews and continued to 20 interviews for more certainty). In order to check the validity and reliability of the data, two methods of review by non-participating experts were used, and after receiving the corrective comments, the necessary editing was done and the final model was presented. The process of information analysis in grounded theory is based on three stages open coding (creating concepts and categories), axial coding (identifying the main category, primary conditions, intervening conditions, strategies, and consequences), and selective coding (theory creation). In this research, after collecting data through 20 semi-structured interviews with a sample of experts, preliminary coding of the text of the interviews and extracting concepts and categories was conducted. A total of 225 primary codes were identified from the interviews (open coding), and these open codes were invited into 21 core

codes, and in the next step, related concepts were identified and categorized into 6 categories.

Data Analysis:

During the detailed analysis of data, concepts were created through coding, either directly from the interview transcripts of the in the research (live codes) or according to their common usage. The texts of interviews were systematically reviewed in order to find the main categories, the characteristics category es and, the dimensions of these categories. First, the answers provided by the interviewees were divided into smaller units. This was done after reviewing the interview texts at the sentence or paragraph level. Then the concepts were placed in the framework of larger categories, and after this stage, it was tried to classify the categories in the framework of larger conceptual categories. The process of data analysis was also done using MAXQDA 20 software.

Findings:

According to the explanations regarding the statistical population, 20 academic staff members psychology specialists, and, school administrators of Kurdistreareance were present as the research sample

Table 2- Demographic Features of The Interviewees

Variable		Frequency	Percentage
Sex	Male	11	0/55
	Female	9	0/45
Age	20 to 30 years	1	0/05
	31 to 40 years	7	0/35
	41 to 50 years	11	0/55
	Above 51 years	1	0/05
Years of Service	Less than 10 years	2	0/10
	10 to 20 years	10	0/50
	Above 21 years	8	0/40
Education	Doctorate	8	0/40
	Masters	12	0/60

Table 3: Demographic features of the interviewees

Number	Gender	Age	Working Years	Education
1	Female	43	15	Doctorate
2	Female	40	15	Doctorate
3	Female	30	5	Doctorate
4	Female	38	14	Master's
5	Female	44	21	Master
6	Female	50	26	Master
7	Female	36	12	Master
8	Female	44	22	Master
9	Female	53	27	Master
10	Male	46	25	Master
11	Male	36	7	Doctorate
12	Male	34	15	Doctorate
13	Male	39	13	Doctorate
14	Male	43	20	Doctorate
15	Male	46	21	Doctorate
16	Male	41	19	Master
17	Male	47	23	Master
18	Male	39	17	Master
19	Male	45	22	Master
20	Male	42	20	Master

three types of coding. An example of open coding is shown in Table 3; however, all interview quotes are not inserted in the table.

In grounded theory, data analysis consists of three types of coding, which are open, axial, and selective coding. In the present study, qualitative data analysis was done based on the above

Table 4- Examples of quotations, components, and open codes

Item	Key Notes	Components	Open Codes
1	Regular, planned, and purposeful school communication with parents and students can improve student resilience. It is very important to know the students and be familiar with their morals. Group activities, creating an atmosphere of happiness and excitement, and being friends with students should not be forgotten Teachers' behavior should not be aggressive and violent. Students should not be stressed to learn. Rather, teachers should be kind to students and guide them to find the answers.	<ol style="list-style-type: none"> 1. School communication with parents 2. Communication with students 3. Being familiar with students 4. Creating group activities 5. Creating excitement and a happy atmosphere 6. Being friends with students 7. Avoid aggressive behavior 8. Avoid violent behavior 9. Kind behavior 	<ol style="list-style-type: none"> 1. School communication with parents 2-3-6. Proper communication with students 4. Creating group activities 5. Creating an excited and happy atmosphere 7-8-9. Appropriate behavior with students
2	Due to the lack of funds and necessary facilities, schools are not able to implement effective programs in the area of resilience. Injured students and teachers with low resilience should receive help by referring them to a specialist or school counselor according to the existing conditions and psychological considerations. In this regard, schools can help improve resilience by	<ol style="list-style-type: none"> 1. Lack of funds 2. Lack of facilities 3. Existence of expert advisors in schools 4. Training Classes 5. Teaching life skills 6. Learning life skills 7. Attractive training 8. Improving learning processes 9. Interests of students 10. Reduction of behavioral problems 	<ol style="list-style-type: none"> 1-2. Development of facilities 3. Access to a consultant 4-5. Training Courses 6. Learning life skills 7. Attractiveness of education 8. Improving the learning process 9. Creating interest in students 10. Reduction of behavioral problems

	<p>providing training classes and learning life skills by teachers and students.</p> <p>It is also necessary for teachers to use new educational principles and methods in their education and improve students' learning processes by using attractive education. Improving learning processes can make students interested and thus reduce their behavioral problems.</p>		
3	<p>I can refer to issues such as the centralized educational system, the rule of minority group ideology, the absence of an educational system based on local culture and language, lack of attention to the preparation of educational books according to the needs, lack of employment of human resources based on efficiency and competence, wrong selection and employment of teachers and human resources, lack of short-term, medium-term and long-term goals and regional planning in the education phase, lack of teachers' motivation due to their low salaries and benefits, the rule of people without expertise and knowledge.</p>	<ol style="list-style-type: none"> 1. Centralized educational system 2. The ideology of a group 3. Educational system based on local culture 4. Failure to pay attention to the needs in preparing books 5. Failure to employ human resources based on their merit 6. Wrong selection and employment of human resources 7. Absence of goals and plans 8. Low motivation of teachers 9. Low salaries and benefits 10. The rule of people without expertise 	<p>1-2-3-4. Decentralization 5-6-10. Meritocracy 7. Regional planning 8. Motivation</p> <p>9. Increase salaries and benefits</p>

In the next part of the qualitative analysis, open codes were placed together and some categories were extracted, the results of which are listed in Table 4.

Table 5- Results of axial coding of research interviews

Axial Temes	F	Open Codes	Interviewee Code
Making the educational environment happy and exciting	13	Creating fun, making schools happy, friendly environment, planning happy programs, creating a favorable environment, creating a lively and exciting atmosphere, environmental conditions, making an attractive environment, the attractiveness of school environment, suitable location and atmosphere, school freshness	C-4/D6/E12/E-16/E-21/F-12/F-18/G-9/I-6/J-5/L-4/K-7/U-9
Facilities	17	Educational facilities, school infrastructure, budget, equipped laboratories, equipped facilities, educational facilities, fair distribution of facilities, development of facilities, investment, availability of equipment, sufficient facilities, equipping schools with facilities	A-15/B-8/E-1/E-3/F-2/H-7/I-7/J-2/J-4/K-1/M-1/N-5/Q-4/R-3/T-2/T-6/U-7
Leadership	9	Leadership ability, managers' collaborative decision-making, leader's ability, selection of qualified managers, planning, employment of qualified managers, management dynamics, skills of managers, collaborative management, managers' behavior	A3/F-16/G-2/H-8/I-5/J-1/J-12/Q-5/T-3
Support for teachers	12	Supporting teachers in the field of family problems, paying attention to teachers' needs, supporting teachers, accessing counselors and psychologists, reducing burnout, developing teachers' well-being, supporting teachers' freedom of action	A-11/D-1/G-13/J-10/P-4/P-7/R-1/S-21/T-8/U-1/U-2/U-3
Decentralization	12	Administrative decentralization, participatory decision-making, comprehensive supervision, educational justice, multiculturalism, having a vision, developing cultural capacities, regional planning, decentralization, political effects, and professional evaluation.	A-5/A-6/B-1/B-3/C-5/F-1/F-6/G-16/I-4/J-9/N-2/N-4
Salary and benefits	8	Solving livelihood problems, teachers' livelihood situation, solving financial concerns, increasing salaries,	A-7/B-5/C-2,3/L-5/N-1/Q-3 /T-1

		developing job benefits, solving economic problems	
Student'	19	Strengthening responsibility, creating motivation, paying attention to students' needs, considering people's needs, reducing behavioral problems, creating interest in students, motivation, teaching creativity, innovation, educational planning, talent identification of students, strengthening self-confidence, paying attention to individual differences	A-9/A-13/B-4/B-14/B-15/C-7/E-7/E-9/F-7/F-1,10,11,15/G-3/I-2/L-1,2/U-11/K-4/S-6
Self-awareness	6	Self-awareness, self-understanding, recognition of individual abilities, control of anger and emotion, strengthening of self-concept, mastery of emotions	D-9/E-6/F-8,9 /G-17/H-4
Education	13	Holding training courses, having training classes, training human resources, training teachers, teaching life skills, training courses, practical training for teachers	A-9/B-7/B-10/C-6/D-3/E-5/E-8/E-16/ F-4/G-5/G-14/K-3/P-2
Promotion of public health	7	Self-care, physical health, availability of health facilities, morning exercise, cleaning the school environment, health status assessment, environmental security	G-11/I-10/L-3/N-8/S-3/N-9/U-12
Teaching-learning processes	14	Applying scientific methods, deep learning, improving the learning process, the attractiveness of education, prioritizing education, improving learning processes, new teaching methods, creativity in teaching, education based on attractive methods, familiarity with teaching methods, high-level learning, Application of cognitive and metacognitive strategies, use of new educational methods	A-3,4,16/B-12,13/C-4/D-1,11/H-5,6/J-7/L-6,7/M-7
Appropriateness of course content	6	The quality of course design, appropriateness of the content, appropriate content, appropriateness of book content, appropriateness of homework, appropriateness of course content	B-6/G-7/M-2/Q-1/R-7/U-6

Proper communication with students	12	Responding to students' needs, appropriate relationships in class, positive social relations, appropriate behavior with students, appropriate communication with students, knowing students, access to counselors, justice in dealing with students, establishing relationships, solving students' problems, recognizing students' differences	B-9/E-19,22/F-13/H-3/G-8/ N-6/M-6/S-9/R-4/Q-3/P-5
Mental health	12	Mental well-being, optimism, mental security, lack of stress, positive thinking, strengthening self-esteem, mental peace, mental health, teachers' mental health	D-8/E-5,10,23/F-19/G-6,12,18/I-11/T-9/S-4/S-8
Promoting the status of teachers	6	Promoting the dignity and status of teachers, maintaining the dignity of teachers, respecting and honoring teachers, the dignity of teachers, giving importance to teachers, the position of teachers	A-8,10/F-5/J-11/H-1/R-2/
Recruitment and selection of human resources	11	Appropriate recruitment system, employment of capable human forces, specialization, competency in recruitment, capable human resources, efficient recruitment, use of specialists, employment of capable teachers, meritocracy	B-2/D-2,5/H-9,12/I-8/J-3/P-1/N-3/T-4/M-3
Learning life skills	8	life skills, preparing students for life, paying attention to educational areas, strengthening problem-solving, research orientation, learning life skills	A-2/B-11/D-10/F-14/G-1/N-7/S-5,7
Cooperation and participation	10	participation and cooperation, cooperation and empathy, providing a basis for participation, encouraging teamwork, coordination, and cooperation, participation, developing human relations, creating group activities, participation-oriented, and strengthening participation.	A-1,14/E-20/ /G-15/H-2/K-6/R-3/Q-6/T-5/U-8
Preparation of extracurricular activities	5	Holding camps, holding competitions, extracurricular activities, creating extracurricular activities, developing extracurricular activities	A-12/E-15/F-17/U-4,5

Development of parental involvement	12	Communication with parents, good and comprehensive cooperation, holding meetings between parents and teachers, being familiar with families, communication between parents and teachers, communication with parents, interaction with parents, communication between school and parents, the interaction between parents and school, interaction and cooperation	E-4,13,18/J-8/H-10/K-2,5/M-4/P-3,6/S-10/U-10
Application of course content	7	Effective content, improving the content of textbooks, up-to-dateness of educational content, publishing life skills books, the attractiveness of course content, practical content, application of course content	D-7/E-2/F-3/G-4 /I-1/J-6/T-7

In selective coding, one of the axial coding categories is selected as the main category or phenomenon (the main phenomenon or the core, the same process under study) and is examined in the center of the process and connects

Causal Categories: These categories, which are the result of causal conditions or antecedent conditions, refer to incidents, events, and occurrences that lead to the occurrence or growth and

other categories to each other (Danaiee Fard and Imami, 2007). With the mentioned arrangements in this research, the six dimensions of the research paradigm model are as follows:

expansion of a phenomenon (Strauss, Corbin, 2013). Table 5 illustrates the relationship between extracted codes and causal concepts

Table 6- Causal codes and concepts in the research model

Causal Temes	Open Codes	F.	Interviewee Code
students	Promoting responsibility, creating motivation, paying attention to students' needs, considering people's needs, reducing behavioral problems, creating interest in students, motivation, teaching creativity, innovation, educational planning, talent identification of students, strengthening self-confidence, paying attention to individual differences	19	A-9/A-13/B-4/B-14/B-15/C-7/E-7/E-9/F-7/F-1,10,11,15/G-3/I-2/L-1,2/U-11/K-4/S-6
Proper communication with students	Responding to students' needs, appropriate relationships in class, positive social relations, appropriate behavior with students, appropriate communication with students, knowing students, access to counselors, justice in dealing with students, establishing relationships, solving students' problems, recognizing students' differences	12	B-9/E-19,22/F-13/H-3/G-8/ N-6/M-6/S-9/R-4/Q-3/P-5
Learning life skills	life skills, preparing students for life, paying attention to educational areas, strengthening problem-solving, research orientation, learning life skills	8	A-2/B-11/D-10/F-14/G-1/N-7/S-5,7
Promoting the status and dignity of teachers	Promoting the dignity and status of teachers, maintaining the dignity of teachers, respecting and honoring teachers, the dignity of teachers, giving importance to teachers, and the position of teachers	6	A-8,10/F-5/J-11/H-1/R-2/

Four categories of developing students' abilities, establishing proper communication with students, learning life skills and improving the dignity and status of teachers with 45 open codes were selected as the causal categories of this model. In the opinion of the experts of the present study, one of the reasons that can be considered in the area of achieving sustainable schools, is the development of students' capabilities. In this regard, one of the interviewees

stated that "the educational system in schools should pay attention to the individual differences of students and strengthen the talents of students accordingly" (Interviewee No. 7). The second category of the causal conditions was establishing proper communication with the students, in this regard, one of the interviewees stated that "it is highly important to make a close relationship between teacher and students in the classroom and create a sense of intimacy

between them” (Interviewee No. 5). The third category of causal conditions was the acquisition of life skills, in this regard, one of the interviewees stated that “students in the school environment are unfamiliar with life skills and conflict resolution in adapting to life challenges and crises, so principals and teachers can provide them with the help of experts in the area of life skills” (Interviewee No. 2). The fourth category of the causal conditions of resilient schools is related to the improvement of teachers’ status, in this regard, one of the interviewees asserted, “What is effective in resilience is the emphasis on environmental factors of resilience, for this reason, understanding the importance of the status of teachers and giving importance to their dignity in

education by colleagues, people around and the society can be one of the main reasons for the resilience of schools” (Interviewee No. 1).

Central Category: Due to the fact that none of the research categories was more abstract than the other categories, a name appropriate to the research topic was chosen for the central phenomenon (Danaiee Fard and Imami, 2007). As stated above, the resilience of schools was the central category.

Strategic Categories: These categories provide strategies for controlling, managing, and dealing with the central phenomenon (Strauss, Corbin, 2014). Table 6 illustrates the way of selecting a central category in the research model.

Table 7- Strategic codes and concepts in the research model

Strategic Categories	Open Codes	F	Interviewee Code
Making the educational environment happy and exciting	Creating fun, making schools happy, friendly environment, planning happy programs, creating a favorable environment, creating a lively and exciting atmosphere, environmental conditions, making an attractive environment, the attractiveness of school environment, suitable location and atmosphere, school freshness	1 3	C-4/D6/E12/E-16/E-21/F-12/F-18/G-9/I-6/J-5/L-4/K-7/U-9
Development of parents’ participation	Communication with parents, good and comprehensive cooperation, holding meetings between parents and teachers, being familiar with families, communication between parents and teachers, communication with parents, interaction with parents, communication between school and parents, the interaction between parents and school, interaction and cooperation	1 2	E-4,13,18/J-8/H-10/K-2,5/M-4/P-3,6/S-10/U-10

Preparation of extracurricular activities	Holding camps, holding competitions, extracurricular activities, creating extracurricular activities, developing extracurricular activities	5	A-12/E-15/F-17/U-4,5
Appropriateness of course content	The quality of course design, appropriateness of the content, appropriate content, appropriateness of book content, appropriateness of homework, appropriateness of course content	6	B-6/G-7/M-2/Q-1/R-7/U-6
Support for teachers	Supporting teachers in the field of family problems, paying attention to teachers' needs, supporting teachers, accessing counselors and psychologists, reducing burnout, developing teachers' well-being, supporting teachers, and teachers' freedom of action	1 2	A-11/D-1/G-13/J-10/P-4/P-7/R-1/S-21/T-8/U-1/U-2/U-3
Application of course content	Effective content, improving the content of textbooks, up-to-dateness of educational content, publishing life skills books, the attractiveness of course content, practical content, application of course content	7	D-7/E-2/F-3/G-4 /I-1/J-6/T-7
Education	Holding training courses, having training classes, training human resources, training teachers, teaching life skills, training courses, practical training for teachers	1 3	A-9/B-7/B-10/C-6/D-3/E-5/E-8/E-16/ F-4/G-5/G-14/K-3/P-2

Seven categories of making the educational environment happy and exciting, development of parents' participation, preparation of extracurricular activities, appropriateness of curriculum content, support for teachers, application of curriculum content and education with 68 open codes were selected as the strategic categories of this model.

In the area of making the educational environment happy, one of the interviewees indicated that

“unfortunately, many of our schools still have an unfriendly and inflexible environment, and less attention is paid to the aesthetic needs and entertainment of students, hence it is necessary for school principals and staff to make a special effort in refreshing the school environment and making it exciting for students” (Interviewee No. 20).

The next strategy was developing parental participation. In this regard, one of the experts asserted, “I think regular, planned and purposeful communication

between school and teachers with the students' parents can improve resilience in students. Because it is through this communication and participation with parents that necessary conditions for knowing the students better are created" (Interviewee No. 4). The next strategy was providing extra-curricular activities. In this regard, one of the interviewees specified that "according to the age conditions and special characteristics of students, it is possible to develop resilience in schools by creating suitable entertainment and providing extra-curricular activities." (Interviewee No. 5). The next strategy was the appropriateness of the amount of course content. In this regard, one of the interviewees stated that "The course content is not appropriate to the needs of the students, and numerous course content with teachers' requirement to finish this content has undermined the quality of education" (Interviewee No. 13).

The fifth strategy was supporting teachers. In this regard one of the interviewees indicated that "ignoring the needs of teachers, endangering their mental health, imbalance between their salaries and their necessary requirements, and activities outside the scope of their work according to the problems they have in their lives have reduced the resilience of teachers, which

indicates the need to pay more attention to them and provide financial and spiritual support to teachers" (Interviewee No. 10). Making course content more applicable was one of the other strategies considered by the experts of this research, and one of them asserted that "preparing and publishing non-scientific textbooks that are far from the needs of students, do not match with the realities of society" (interviewee No. 2). Another expert stated that "before writing the textbooks, the editorial board should ask the opinions of the students of all regions and the experts teachers, that is, those who are experts, are currently teaching and have a close relationship with the students" (Interviewee No. 6). Training is the last strategy proposed in this research, and in this area, one of the experts specified that "holding training courses for teachers and giving them advice in facing problems and obstacles will be effective factors in strengthening the resilience of teachers" (Interviewee No. 11).

Contextual categories: These categories indicate some special conditions that affect the strategy (Strauss, Corbin, 2014). Table number 7 illustrates the way of selecting these categories in the research model.

Table 8- Contextual codes and concepts in the research model

Contextual Categories	Open Codes	F.	Interview-Code
Facilities	Educational facilities, school infrastructure, budget, equipped laboratories, equipped facilities, educational facilities, fair distribution of facilities, development of facilities, investment, availability of equipment, sufficient facilities, equipping schools with facilities	17	T-2/U-7/Q-4/N-5/M-1/K-1/R-3/J-4/J-2/I-7/E-3/T-6/E-1/B-8/A-15/F-2/H-7
Leadership	Leadership ability, managers' collaborative decision-making, leader's ability, selection of qualified managers, planning, employment of qualified managers, management dynamics, skills of managers, collaborative management, managers' behavior	9	T-3/Q-5/J-12/J-1/I-5/A-3/H-8/G-2/F-16
Teaching-Learning Processes	Applying scientific methods, deep learning, improving the learning process, the attractiveness of education, prioritizing education, improving learning processes, new teaching methods, creativity in teaching, education based on attractive methods, familiarity with teaching methods, high-level learning, Application of cognitive and metacognitive strategies, use of new educational methods	14	A-4/A-3/B-13/B-12/D-1/C-4/D-11/A-16/H-5/H-6/J-7/L-6/L-7/M-7

Three categories of facilities, leadership and, teaching-learning processes with 40 open codes were selected as the contextual categories of this model.

In the opinion of the experts in the present study, the category of facilities is one of the effective contextual factors that are effective on resilient schools. This category is indicative of the extent that schools have educational and welfare facilities. In this regard, one of the interviewees stated that “schools

should be equipped with all the facilities, including libraries, laboratories, and equipment needed for education, so that they can respond well to the various needs of students, including mental, cultural, and political needs” (Interviewee No. 8). The next contextual category that was identified in this research is leadership. The importance of leadership in all school processes is obvious and vital. In this regard, one of the interviewees asserted that “the appointment of competent school

principals who can use leadership capacities in line with planning and participatory management in the school can be the basis for creating and increasing resilience in all school personnel” (Interviewee No. 6). The third contextual category that was found in this research is related to teaching-learning processes, in this regard, one of the interviewees indicated that “the use of appropriate teaching methods can create a high-quality teaching and

learning process in schools. If the teaching-learning processes are well organized and implemented, the resulting efficiency will increase the resilience in schools” (Interviewee No. 4).

Intervening Categories: These categories indicate some special conditions that affect the strategy (Strauss, Corbin, 2013). Table 8 illustrates the way of selecting these categories in the research model.

Table 9- Intervening codes and concepts in the research model

Intervening Categories	Open Codes	F.	Interview-Code
Salary and benefits	Solving livelihood problems, teachers’ livelihood situation, solving financial concerns, increasing salaries, developing job benefits, solving economic problems	8	A-7/B-5/C-2/C-3/N-1/T-1/L-5/Q-3
Recruitment and selection of human resources	Appropriate recruitment system, employment of capable human forces, specialization, competency in recruitment, capable human resources, efficient recruitment, use of specialists, employment of capable teachers, meritocracy	11	P-1/N-3/J-3/I-8/H-9/T-4/D-5/M-3/H-12/D-2/B-2
Decentralization	Administrative decentralization, participatory decision-making, comprehensive supervision, educational justice, multiculturalism, having a vision, developing cultural capacities, regional planning, decentralization, political effects, and professional evaluation.	12	J-9/I-4/G-16/F-1/C-5/B-3/B-1/N-2/F-6/A-6/N-4/A-5

Three categories of salaries and benefits, recruitment and selection of human resources, and decentralization

with 31 open codes were selected as the intervening categories of this model. From the viewpoint of the experts in the

present study, one of the effective intervening factors that affect resilient schools is the category of salaries and benefits. In this context, one of the interviewees stated that “Unfortunately, as most researchers have indicated, our teachers are facing serious problems in terms of their livelihood and income, which can cause many problems in the profession of teachers. Therefore, it is appropriate for the government to try to increase salaries and solve the economic problems of teachers. Because a teacher who is involved in his livelihood problems is less able to deal well with the education of students” (Interviewee No. 12). The next intervening category that was identified in this research is the recruitment and selection of human resources, which is how the organization acts in the processes of recruitment, selection, and employment of its human resources. In this regard, one of the interviewees stated that “a teacher needs to have expertise and personality traits suitable for schools. In the first place, the

recruitment and selection system should identify and hire capable teachers in the best way. Employing teachers who love being a teacher can lead to the all-round growth of schools and students” (Interviewee No. 4). The third intervening category that was found in this research is decentralization, in this regard, one of the interviewees stated that “the biggest problem of the current educational system is the high concentration of its structure. In our educational system, a series of directives with low efficiency are still issued daily, which are practically inappropriate and don’t pay serious attention to the different cultures in the country” (Interviewee No. 7).

Consequential Categories: The consequence and result of strategies in facing the phenomenon or in order to manage and control the phenomenon (Strauss, Corbin, 2013). Table 9 indicates the way of selecting consequential categories in the research model.

Table 10- Consequential codes and concepts in the research model

Consequential Categories	Open Codes	F.	Interview-Cod)
Mental health	Mental well-being, optimism, mental security, lack of stress, positive thinking, strengthening self-esteem, mental peace, mental health, teachers' mental health	12	T-9/I-11/S-4/G-18/G-12/G-6/F-19/E-23/E-10/S-8/E-5/D-8
Self-awareness	Self-awareness, self-understanding, recognition of individual abilities, control of anger and emotion, strengthening of self-concept, mastery of emotions	6	F-8/F-9/D-9/E-6/G-17/H-4
Cooperation and participation	participation and cooperation, cooperation and empathy, providing a basis for participation, encouraging teamwork, coordination, and cooperation, participation, developing human relations, creating group activities, participation-oriented, strengthening participation.	10	A-1/A-14/E-20/ /G-15/H-2/K-6/R-3/Q-6/T-5/U-8
Promotion of public health	Self-care, physical health, availability of health facilities, morning exercise, cleaning the school environment, health status assessment, environmental security	7	G-11/I-10/L-3/N-8/S-3/N-9/U-12

Four categories of mental health, self-awareness, cooperation and participation, and promotion of public health with 35 open codes were selected as the consequential categories of this model.

From the viewpoint of the experts in the present study, if our schools become resilient, we can expect positive consequences, including mental health. In this regard, one of the interviewees stated that "if our schools become highly resilient, we can expect that the stress in the school environment will be

minimized and a mental peace will be formed among all the school staff and students" (Interviewee No. 18). The next consequential category that was identified in this research is self-awareness, in this regard, one of the interviewees stated that "in an environment where resilience is high, teachers and students can better control their anger and emotions and deal with the various factors they face in a logical way" (Interviewee No. 8). The third consequential category that was found in this research is cooperation and

participation, in this regard, one of the interviewees stated that “in resilient schools, we can expect teachers to cooperate with each other, as well as with management and parents. Also students will be more active and cooperative” (Interviewee No. 1). The last consequential category emphasized by the experts in this research was the improvement of public health, in this regard, one of the interviewees stated that “the school environment should take necessary measures in line with the

health status and physical health of students and school staff. From cleanliness requirements to environmental and classroom cleaning and holding appropriate sports and physical education activities” (Interviewee No. 14).

By using selective coding, the relationship between the identified categories and the conceptual model is presented in an integral form. Figure 1 illustrates the derived model of research using the grounded theory method.

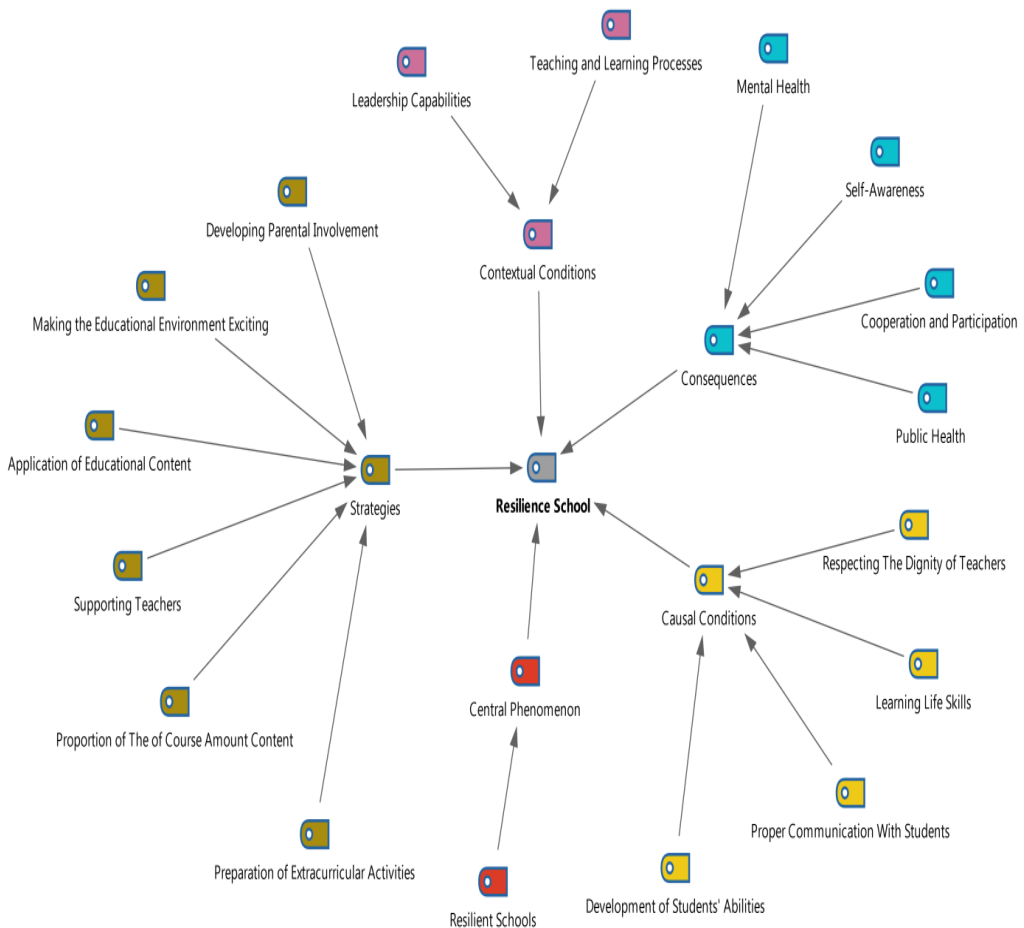


Figure 1- The Model of Resilient Schools Based On Grounded Theory

Conclusion

Nowadays, the world is facing many different crises, both natural and man-made, which have adverse effects on people. Meanwhile, children, teenagers, and the educational system are also affected by the crisis. The resilience of educational communities and school infrastructures is extremely important to protect children against various natural and man-made threats and recover them from post-disaster injuries (Parajuli et al., 2020: 1). One of the strategies that schools can use against these crises is improving the resilience of schools. The present research aimed in presenting a model of resilient schools based on grounded theory. The results of the three stages of open, axial, and selective coding based on grounded theory indicate that there are causal categories (development of student's abilities, establishing proper communication with students, learning life skills, and improving the dignity and status of teachers), the central phenomenon. (resilient schools), strategic categories (making the educational environment happy and exciting, development of parents' participation, provision of extracurricular activities, appropriateness of curriculum content, support for teachers, application of curriculum content, education), intervention categories (salary and benefits, recruitment and selection of human resources and decentralization), contextual categories (facilities, leadership and teaching-learning processes) and finally consequential

categories (mental health, self-awareness, cooperation and participation and promotion of public health). These findings are somewhat in line with the research results of Afzali et al (2021), Golestaneh and Timouri (2019), Imani et al. (2017), Parajuli et al. (2010), and Rojas (2015). Certainly, resilience does not prevent people from experiencing negative and unpleasant events in life and does not protect them from experiencing unpleasant events. Resilient people also have the same stresses and problems as other people. But it seems that resilient people learn how to face the inevitable problems and difficulties of life and cope better with stress and unpleasant events in terms of performance and are more flexible in front of it. They act.

In addition, resilient people have a lot of ability to organize their lives, and this ability distinguishes them from others (Kaveh, 2014: 49). Conditions should be created in schools to strengthen the responsibility of students. In this regard, teachers and principals should create conditions in schools where students' talents are well-identified and flourished, by creating the necessary incentives and paying attention to the needs of students. Teachers should create conditions that lead to the establishment of positive social relations and by knowing the students, try to have a proper relationship with them and help them to solve their problems. Teaching life skills and preparing students for life through research and strengthening problem-

solving in students is one of the reasons for paying attention to the concept of resilience in schools. In this regard, special attention should be paid to teachers and the issue of preserving their dignity and honoring and promoting them should be considered. Schools can promote resilience in students and teachers by creating a happy and friendly environment that strengthens the climate of the school. In this regard, it is necessary for schools to improve their cooperation with students' parents and plan appropriate extracurricular activities for students. Schools can help parents, teachers, and students in this field by providing training courses. Supporting teachers in educational and family fields also leads to the resilience of teachers and as a result the resilience of schools, and therefore it is necessary that this strategy be taken into consideration by the educational system. The issue of the curriculum and the appropriateness of its content and application of the curriculum content can also be one of the important drivers in the field of the resilience of schools. Schools should provide the standard teaching and learning processes for teachers and students by providing educational facilities and equipping schools as well as taking advantage of collaborative leadership. The use of efficient methods in schools based on a suitable, fair procedure and based on merit and specialization paves the way for improving the human forces of schools, and in this regard, it is necessary to pay special attention to the

rights and benefits of teachers. Schools should be able to recognize their needs and create a school-centered field for comprehensive development.

Finally, it can be expected that in resilient schools, the field of mental health and public health will be created, which will lead to increasing self-awareness and strengthening of self-concept among teachers and students, as well as their cooperation and participation. At last, according to the findings, it is suggested to study the pathology of schools in the field of low resilience of teachers and students and to determine and measure the value of using new solutions provided by experts in schools. Moreover, since the present research was conducted in schools by taking into account the requirements, limitations, and obstacles in this educational organization, it is suggested that this issue be investigated in other educational, service, and production organizations in future research .

Ethical considerations

During the implementation of this research and the preparation of the article, all national laws and principles of professional ethics related to the subject of research, including the rights of statistical community, organizations and institutions, as well as authors and writers have

been observed. Adherence to the principles of research ethics in the present study was observed and consent forms were consciously completed by all statistical community

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Conflict of interest

According to the authors of the present article,

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Appendix: Interview Protocol

1) What problems are our schools currently dealing with in the field of education and training systems? How do you define and describe your role in solving these problems and weaknesses?

2: In your opinion, what are the school factors that cause teachers and students to have less mental peace and not have resilience in dealing with problems?

3) What does resilience in school mean from your point of view? How can

the school system play a role in creating and strengthening resilience in school?

4: Why is resilience important in schools? How do you perceive the role of students, principals, teachers, families, and students in increasing or decreasing resilience?

5: What kind of human, cultural, economic, and social infrastructure do schools need in order to create an environment to develop resilience? What programs does the school you work in have for this purpose?

6: When dealing with your students, have you tried to develop resilience in them? Do you think our schools can create a resilient environment based on the existing educational and training approaches?

7: The school and the classroom may be a system that exposes the child to various threats, such as rejection, criticism, bullying, and an inappropriate way of learning; this indicates the urgent need to promote resilience in schools and the creation of a resilient classroom, what should be done according to these issues? How should a suitable resilient school and classroom be managed?

8: How can the school environment develop your ability to adapt to life challenges and adversities, as well as maintain mental health and well-being? Tell us about your experiences. How do the school environment and its factors affect your resilience?

9: Is there anything we didn't discuss in the field of school resilience that you want to talk about it?

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