


# Effectiveness of resilience training on social self-efficacy of the elementary school girls during COVID-19 outbreak

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Shima Gadari<sup>1</sup>, Jamileh Farokhzadian<sup>2</sup> and Parvin Mangolian shahrbabaki<sup>2,3</sup> 

<sup>1</sup>Department of Community Health Nursing, Razi Faculty of Nursing and Midwifery, Kerman University of Medical Sciences, Kerman, Iran

<sup>2</sup>Nursing Research Center, Kerman University of Medical Sciences, Kerman, Iran

<sup>3</sup>Department of Critical Care Nursing, Razi Faculty of Nursing and Midwifery, Kerman University of Medical Sciences, Kerman, Iran

## Abstract

Children, especially girls, are more vulnerable during crises, who need to acquire skills such as social self-efficacy to meet the challenges of the environment. Given that, much progress has been made in e-learning; its capabilities can be used to promote children's health. This study aimed to determine the effect of virtual resilience training on the social self-efficacy of elementary school girls. This experimental study was performed on primary school girls aged 9–10 years in southeastern Iran. Students were selected by convenience sampling and divided into intervention ( $n = 40$ ) and control ( $n = 37$ ) groups by using randomized allocation. The Children's Social Self-Efficacy in Peer Interaction Scale was used for data collection before, immediately, and one month after the intervention. No significant difference was found between the two groups of intervention and control in the score of social self-efficacy before the intervention. However, the score of students in the intervention group improved immediately and one month after the intervention, and a significant difference was observed between the two groups ( $p = .0001$ ). Virtual resilience training has improved the social self-efficacy of elementary school girls and facing challenges is inevitable in today's world, so resilience training seems necessary to prevent social and psychological harm in such children.

## Keywords

Social self-efficacy, elementary school girls, virtual education, resilience, COVID-19 outbreak

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## Corresponding author:

Parvin Mangolian shahrbabaki, Razi Faculty of Nursing and Midwifery, Kerman University of Medical Sciences, Haft-Bagh Highway Kerman, Iran.

Email: [mangolian167@yahoo.com](mailto:mangolian167@yahoo.com)

## Introduction

The growth and prosperity of any society depends on the existence of knowledgeable, efficient and creative people, so the mental and social health of children plays an important role because they will make the future of a society (Moradi et al., 2016). Today, children are exposed to many dangers, including abuse, poverty, famine, parental neglect, pandemic diseases, war, injustice, parental separation, mental illness, terrorism, natural disasters, environmental destruction, and other environmental and social problems, which have psychologically and socially adverse impacts on them (Ungar, 2011; Waters, 2011). Children are more vulnerable during puberty because they have more adaptation problems during this period. According to research, precocious puberty is more common in girls, who suffer from psychological damage and depression twice as much as boys (Beltz, 2018). Girls aged 9–10 years old experience physiological and hormonal changes, and the systems of their bodies function at a high level, leading to internal stresses (Galamandjuk et al., 2017). It is necessary to pay special attention to the mental health of children who are experiencing fundamental physiological, psychological, social changes as well as severe stressors (Beltz, 2018; Waters, 2011).

According to studies, about 15–32% of the children suffer from psychiatric disorders and about 10–20% of these children need mental health services throughout their lives, and the prevalence of behavioral and mental disorders in primary school children is between 0.5 and 20% (M. Mohammadi et al., 2019; Sarraf et al., 2019). Child psychiatry is just beginning to emerge in developing countries, which is why these countries have so many concerns about children's mental health and epidemiological studies. One study in Iran showed that about 17.9% of the children aged 6–11 years suffered from psychiatric disorders (M. R. Mohammadi et al., 2016). One of the most important issues in children's mental health is gaining the skills needed to overcome the challenges during puberty. Girls need more training to prevent injuries because they are more vulnerable compared with boys (Perou et al., 2013; Sankaranarayanan & Cycil, 2014; Ungar, 2011). One of the requirements for the children aged 6–11 years is to acquire and promote social self-efficacy through resilience training.

Social self-efficacy is one of the important constructs for children with good mental health (Coleman, 2003; Henderson, 2013). Perceived social self-efficacy expands social relationships with peers, leads to satisfaction, and prepares one to cope with social challenges and interpersonal incompatibilities (Mahdizadeh et al., 2018; Tras et al., 2013). A person without social self-efficacy doubts his/her abilities and competencies and cannot cope with adverse conditions, leading to social isolation and depression, which are more common in girls than in boys (Ahmad et al., 2014; Bandura et al., 1999; Yeganeh Shamami, 2015). The importance of social self-efficacy in the mental health of children, especially primary school children, has led to the emergence and use of a large number of psychological interventions (Kashani & Bayat, 2010; Nouhi et al., 2017; Perou et al., 2013), including resilience training. Tras et al. (2013) reported a strong significant relationship between social self-efficacy and resilience, with resilient individuals indicating high social self-efficacy (Tras et al., 2013).

Resilience, a construct of positive psychology, means the process of adapting well in the face of stressors, and a person can overcome problems with supportive and adaptive skills and recover from difficulties (Ungar, 2011; Werner, 2007). Benard states that resilient children are very similar to each other, socially empowered, and have characteristics such as assertiveness, self-awareness, self-esteem, problem-solving, empathy, ability to act, self-efficacy, and critical thinking. These children envision a positive future for themselves and are motivated to achieve their goals in life and at school (Benard, 1995; Benard & Slade, 2009). Today, resilience has received so much attention in societies and schools that it has become a widely used and emerging educational method

(Truebridge, 2010). Primary school is the best place to perform psychological interventions because personality is formed in this period more and it is the most important educational period in all educational systems throughout the world (Proctor & Linley, 2013; Waters, 2011).

Resilience training has been used to improve mental disorders in recent years (Masten & Barnes, 2018). Researchers have claimed that people could learn how to overcome stress and challenges with resilience training (Tabibnia & Radecki, 2018). Resilient people are socially capable and possess skills such as self-efficacy, problem-solving, and critical thinking. Many studies have done resilience training in a variety of situations. In this regard, Akbari (2017), by studying the effect of resilience training on the behavioral problems of aggressive and feelings of happiness in nursing students, showed that resilience training can be effective in reducing aggression and increasing happiness in students (Akbari, 2017). Another study found that resilience training was effective on positive thinking, mindfulness, and prevention of depression in Indian children aged 10–14 years (Sankaranarayanan & Cycil, 2014). One study showed that resiliency training increases self-assertion in elementary school boys (Salari Koohfani and Ghasemali Kheirabadi, 2020). In these studies, there are many gaps, such as a limited and different statistical; therefore, the results cannot be generalized to girls aged 9–10 years. However, studies to investigate the effect of resilience on resilience training on social self-efficacy of the girls are limited. Thus, the researchers suggested that the study be conducted on girls aged 9–10 years as well.

Community health nurses can provide services to all communities, including schools. Students including young girls need health care at school, and nurses need to be aware of their special needs to provide comprehensive care (Bohnenkamp et al., 2015). One of the main roles of the community health nurses is to pay attention to the mental health of students because children with good mental health will be able to progress in education. Like in physical health, nurses can promote mental health with good relationships, encouraging healthy behaviors, and recognizing and treating symptoms early (Puskar and Marie Bernardo, 2007). Primary prevention, health promotion, and health education aim to prevent health disorders in children and the community health nurses should train children how to promote the mental and social health (Bohnenkamp et al., 2015). However, studies on the role of training in improving social self-efficacy in girls are very limited, so the current study was conducted to determine the effect of resilience training on social self-efficacy of the girls aged 9–10 years during COVID-19 outbreak in Iran.

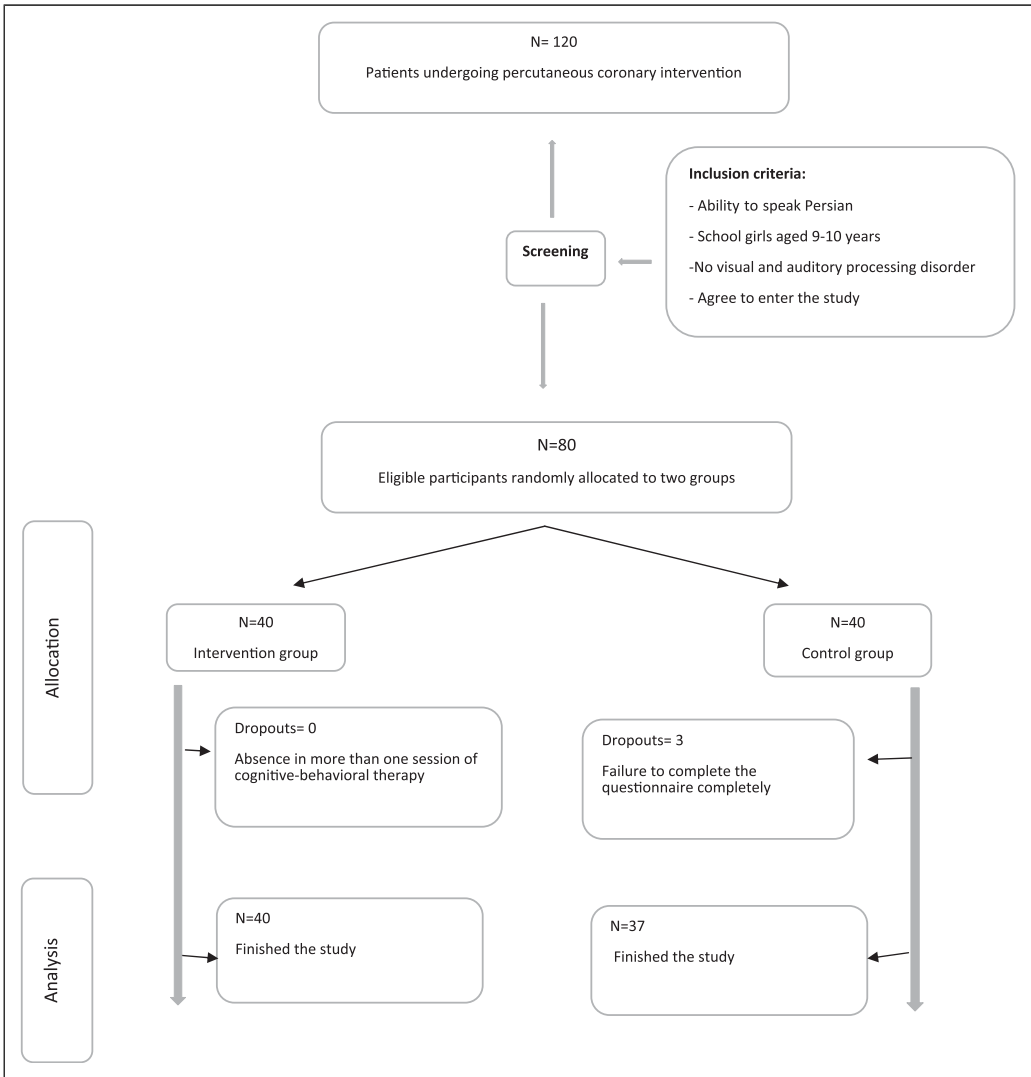
## Methods

### *Study type and setting*

The present study is an experimental study with the two-group pretest–posttest design, which was performed in girls' schools in southeastern Iran. The research setting was two schools that are the main center of the provision of education for the schoolgirls aged 9–10 years old. This study lasted from June 1 to September 15, 2020.

### *Population study and sample*

The target population of this study included all school girls aged 9–10 years ( $N = 120$ ). The sample size was 80 participants by the using the sample size formula (power = 80%,  $p = .05$ ) that were divided randomly into intervention and control groups (45 students in each group). Two girls were excluded from the control group due to incomplete questionnaires. Finally, 40 girls in the intervention group and 37 in the control group were studied (Figure 1).



**Figure 1.** Explanation of sample size and sampling.

**Instrument**

Demographic and background information and Wheeler and Ladd’s social self-efficacy questionnaires were used to collect information.

Demographic and background information questionnaire include parental education level, parental occupation, family income, number of children, birth order, history of referral to a counselor or psychiatrist, parental illness, parental relationship and (who gets custody of the children in case of parental separation?).

Wheeler and Ladd (1982) designed the Children’s Social Self-Efficacy in Peer Interaction Scale. The 22-item scale measures the self-efficacy of the 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> graders to successfully interact

with their peers. Scoring is based on the 4-point Likert scale ranging from very easy (4) to very hard (1). The total score is between 22 (minimum score) and 88 (maximum possible score), with higher scores indicating greater self-efficacy. Wheeler and Ladd's reported internal consistency of 0.73 and reliability of 0/85 for this scale.

### *Ethics approval and consent to participate*

The ethics committee of Kerman University of Medical Sciences approved the study (Ethics code No. IR.KMU.REC.1398.415) REC.1398.115. Furthermore, the participants were explained that they could withdraw from the study at all stages with no adverse consequences. Moreover, they were ensured about confidentiality of information. At the beginning of the study, all participants and their parents signed the written consent forms. Upon completion of the intervention and collection of the second-phase data, participants of the control group were provided with the educational package with the same structure and topics.

### *Procedure*

Online intervention was performed due to the COVID-19 epidemic. Thus, two separate links were created for intervention and control groups in the WhatsApp and the teachers uploaded the link into the virtual classrooms of the schools. First, the method was explained to the parents and students, who expressed their consent to participate in the study. In the first session, questionnaires were sent into two groups after a complete introduction and detailed explanation about the method, the rules of participating in the workshop and how to hold the sessions. Audio clips were sent to both groups, which explained them how to fill in the questionnaires. After completion of the questionnaires, a researcher trained by a social medicine specialist performed 12 resilience training sessions based on the program of Henderson, Milstein, and Pen for 6 weeks, twice a week (Henderson, 2013; Henderson & Milstein, 1996; Peng et al., 2014).

The researcher notified participants of the workshop time one day before the intervention, so that everyone could be present during the training. The training was conducted in the forms of video and audio clips, videos, animations, child scenarios, text messages, storytelling, and questions and answers. FastStone software was used to record the clips and a PowerPoint related to the educational topic was made, sound clips were inserted into the PowerPoint by using the mentioned software, and then they were sent to the intervention group. The research team approved the educational content and structure of each session. Animations approved by the research team were downloaded from valid sites and used in each session. Sometimes animations were sent before educational clip to brainstorm and find out students' strengths and weaknesses, and they were asked to comment. Storytelling was used in some sessions for more impact and understanding of the subject. The researcher sometimes asked students to do some homework and then settled their problems. After the training, data were recollected in both groups immediately and one month after the intervention. Based similar studies that have conducted 1-month follow-up (Kashani & Bayat, 2010), and due to these studies and the prevalence of COVID-19 pandemic and difficult access to samples, 1-month follow-up was performed. After data collection, the educational materials were provided to the students of the control group in the same manner (Table 1).

## **Results**

The results showed no significant difference between the two groups of intervention and control in demographic and background variables. Demographic and background information questionnaire includes parental education level, parental occupation, number of children, and birth order (Table 2).

**Table I.** Summary of resilience training sessions.

Session	Duration, min	Aim	Content
One	30	Orientation	The researcher introduced herself, was acquainted with the group members, explained the rules of participating in the workshop and goals of the program, and tried to communicate with members. Then she did a pretest and explained the concepts of resilience and social self-efficacy.
Two	30	Self-awareness	The concept of self-awareness was trained, strengths and weaknesses were identified, and self-worth and self-esteem were strengthened with an educational clip. The purpose was to make individuals aware of their feelings, desires, and thoughts and identify their strengths and weaknesses, so they could realize their value and self-esteem.
Three	30	Problem-solving skills	Since problem-solving training took a lot of time, it was conducted in two sessions; interpersonal and social problem-solving was trained by using a clip. The purpose was to achieve successful and efficient problem-solving and understand the problem-solving steps.
Four	25	Problem-solving skills	A story related to problem-solving skills was told in a clip to better understand the importance of the issue. At the end of the session, participants were asked questions about the problem-solving steps and most of them answered correctly.
Five	25	Responsibility	Responsibility was trained by a clip and participants were explained how to divide the tasks into several controllable parts so that they can perform the tasks gradually. The purpose was to familiarize students with responsibility. A short video was sent to the students after the training session.
Six	30	Identify positive and negative thoughts	The focus was to identify positive and negative thoughts with an example and strategies for coping with negative thoughts were described. A clip was provided to train them how to analyze things from a positive perspective and be optimistic about the future. The purpose was how to fight against negative thoughts and view events optimistically. An animation was sent to the students.
Seven	30	Communication	A short video on communication methods was sent to the group 3 hours before the training, and students were asked to submit their comments. Then, a clip was provided about social and interpersonal relationships. The purpose was to familiarize members with the three common types of social communication (aggressive, passive, and assertive) and effective interpersonal relationships. At the end, an animation was sent.

*(continued)*

**Table I.** (continued)

Session	Duration, min	Aim	Content
Eight	25	Friendship and making friends	Students discussed about the importance of friendship and making friends. For evaluation of their views, students were asked to describe the features of a good friend. Then, a clip about the importance of friendship and an animation related to the subject were sent to the group. The purpose was to communicate with peers and make friends, because friends play an important supportive role in times of trouble.
Nine	25	Positive and negative emotions	A clip was provided about how to negotiate, how to defend the rights, and how to express positive and negative emotions. Then, an animation was sent.
Ten	25	Relaxation exercises and how to cope with stress	A clip was provided about relaxation exercises and how to cope with stress (muscle relaxation and deep breathing) and solve daily problems. Then, an animation was sent to the group.
Eleven	30	Empathy, helping friends, and family	Students discussed about empathy, caring for, helping friends and family, their perspectives were examined, and empathetic behaviors and methods were encouraged. An animation and a clip related to the topic were sent.
Twelve	30	Review and posttest	The previous sessions were reviewed, the characteristics of a resilient person were described, and the posttest was done.

The results showed that the mean social self-efficacy in the intervention group was  $55.80 \pm 12.49$ ,  $81.67 \pm 7.30$  and  $81.25 \pm 7.06$  before, immediately and a month after the intervention, respectively. Social self-efficacy significantly increased after the intervention. The mean social self-efficacy in the control group was  $58.20 \pm 13.17$ ,  $58.51 \pm 12.88$ , and  $58.70 \pm 12.76$  before, immediately, and a month after the intervention, respectively, which was not statistically significant (Table 3). The results of repeated measures ANOVA showed that group-time variable was significantly responsible for differences in the mean score of social self-efficacy.

The results of Bonferroni post hoc test showed no significant difference between the two groups in the mean score of social self-efficacy before the intervention, but it significantly increased in the intervention group immediately and one month after the intervention compared with the control group (Table 4). In addition, the score of social self-efficacy in the intervention group increased significantly immediately after the intervention compared with before the intervention. The mean score of social self-efficacy was significantly higher one month after the intervention than before the intervention, while it did not change much compared with immediately after the intervention. In other words, despite the completion of the intervention, its effect remained for up to a month (Table 5).

## Discussion

The results of the present study showed a significant increase in the rate of social self-efficacy in girls of the intervention group immediately and one month after the intervention, while there was no

**Table 2.** Comparison of participants' characteristics between the intervention and control groups.

Variable		Group				test <sup>a</sup>	p Value
		Experimental		Control			
		N	%	N	%		
Mother's education	Diploma	11	27.5	10	27	.17	.74
	Academic	29	72.5	27	73		
Father's education	Diploma	18	45	15	40.5	1.11	.73
	Academic	22	55	22	59.5		
Mother's job	Employed	17	42.5	16	43.2	.9	.69
	Housewife	23	57.5	21	56.8		
Father's job	Employed	38	95	35	95	.62	.71
	Retired	2	5	2	5		
Number of children	One	13	32.5	14	37.8	1.1	.76
	Two	21	55	21	56.8		
	Three or more	5	12.5	2	5.4		
Birth order	First	27	67.5	23	62.2	1.4	.93
	Second	11	27.5	13	35.1		
	Third or more	2	5	1	2.7		

<sup>a</sup>Chi-square test.

**Table 3.** Comparison of the social self-efficacy scores at different times between the intervention and the control groups.

Variable	Group				p Value	Eta2
	Experimental		Control			
	M	SD	M	SD		
Before intervention	55.80	12.49			58.2	13.17
Immediately after the intervention	81.67	7.3				
One month after the intervention	81.25	7.06				
Source of change	Sum of squares	df	F		58.51	12.88
Group	12,113.34	1	64.66			
Time	6559.58	1	63.041			
Group-time interaction	5898.54	1	56.69		58.7	12.76
Error	7804.68	75			<.0001	.46
					<.0001	.45
					<.001	.26

significant difference in the control group compared with before the intervention. Furthermore, a significant difference was observed between both groups in terms of social self-efficacy immediately and one month after the intervention. These results indicate that resilience training could



**Table 4.** Comparison of changes the social self-efficacy scores at different times in the intervention and control groups (follow-up Bonferroni test).

Time	Group (I)	Group (J)	(I-J)	SE	p Value
Before intervention	Experimental	Control	-2.4	.67	.052
Immediately after	Experimental	Control	23.16	.65	<.001
One month after the intervention	Experimental	Control	22.15	.64	<.001

**Table 5.** Comparison of changes the social self-efficacy scores at different times within each group (follow-up Bonferroni test).

Group	Time (I)	Time (J)	(I-J)	Se	p Value
Experimental	One month after the intervention	Immediately after the intervention	-.42	.27	0.3
		Before the intervention	25.45	.63	<.001
		Immediately after the intervention	25.87	.61	<.001
Control	One month after the intervention	Immediately after the intervention	.19	.25	.23
		Before the intervention	.5	.69	.54
		Immediately after the intervention	.31	.66	.45

have a positive effect on the intervention group. It is noteworthy that the effectiveness of training remained stable one month after the intervention.

Madani et al. (2019) studied the effect of the resilience training on the social self-efficacy of Iranian male adolescents. The research was experimental with a pretest-posttest design with a control group and the training was conducted as a group in eight sessions of approximately 75 minutes and on a weekly basis. They reported that this type of training promoted social self-efficacy in the intervention group (Madani et al., 2019). Mahdizadeh et al. (2018) studied the effectiveness of mindfulness based cognitive therapy on social self-efficacy of Iranian adolescent girls. This quasi-experimental study was conducted with a follow-up of 3 months that the experimental group received 10 sessions of 70–90 minutes. The result showed that the intervention increased the social self-efficacy of the intervention group (Mahdizadeh et al., 2018). A quasi-experimental study was conducted in China to evaluate a resilience training program in eight sessions of 120-90 minutes on 30 medical students. They reported that resilience training program had a great impact on promoting medical students' self-efficacy (Peng et al., 2014). Tras et al. (2013) with a descriptive-analytical study in Azerbaijan on 532 students showed a strong significant relationship between resilience and social self-efficacy and resilient individuals had high social self-efficacy (Tras et al., 2013). A quasi-experimental study with a pretest-posttest design aimed to the effect of social skills training on assertive and self-esteem was conducted on student girls aged 9–10 years in Iran. The training program was performed for 10 weeks and 90-minute session per week for the experimental group. After that, posttest and then 1-month follow-up were performed. Based on the results, the level of assertive and self-esteem in the intervention group increased (Kashani & Bayat, 2010). In contrast, the researchers conducted a study to investigate a resilience education program based on the World School Program on Adolescents in the Netherland. The resilience training program was implemented in 16 sessions of 50 minutes. They examined the outcomes of resilience training in adolescents after 6 months, 1 year, 18 months, and 2 years. The results showed that resilience training program had no effect on the prevention of depression, anxiety, hopelessness, happiness, life satisfaction,

and posttest and follow-up. Finally, the researchers state that none of the modulatory variables after the intervention had an effect on depressive symptoms and the results of research and implementation should be discussed and reviewed (Tak et al., 2014). The inconsistency of this study with the results of the present study may be because of the difference in intervention type, educational content, and the study population. In addition, the authors themselves stated that the method should be discussed and reviewed.

This study had several limitations. Direct and face-to-face intervention was not possible due to the COVID-19 epidemic, so online training was used, and the study data were collected self-reportedly.

## Conclusion

The results of this study showed the effectiveness of resilience training in promoting social self-efficacy of female children. Since girls aged 9–10 years are going through puberty, they need to learn social self-efficacy through interventions such as resilience training to prevent psychosocial harm, to be accepted in society and face the challenges of today's world. Therefore, education planners, school principals, and nurses are suggested to pay special attention to the resilience training to promote and improve social self-efficacy in primary school girls during puberty. It is suggested that a study be conducted on the social self-efficacy of boys in puberty and compare it with the results of girls.

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## ORCID iD

Parvin Mangolian shahrbabaki  <https://orcid.org/0000-0003-0539-5390>

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## Author biographies

Shima Gadari is MS in community health nursing. She has experience in conducting quantitative research in quality improvement and organizational behavior.

Jamileh Farokhzadian, BSN, MSN, Ph.D., is an Assistant Professor in the Department of community health nursing in the Razi Faculty of Nursing and Midwifery affiliated with Kerman University of Medical Sciences in Iran. She has experience conducting quantitative and qualitative research in quality improvement, risk management, and organizational behavior.

Parvin Mangolian sharbabaki, BSN, MSN, Ph.D. is an Assistant Professor in the Department of Critical Care Nursing in the Razi Faculty of Nursing and Midwifery affiliated with Kerman University of Medical Sciences in Iran. She has experience in conducting quantitative and qualitative research in children and critical care nursing.