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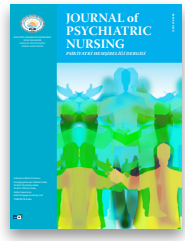

Original Article

Effect of psychological first aid training given to nursing students on psychological resilience and self-efficacy

Nurhayat Kılıç Bayageldi

Department of Psychiatric Nursing, Artvin Çoruh University Faculty of Health Sciences, Artvin, Türkiye

Abstract

Objectives: This study aimed to determine the effects of psychological first aid (PFA) training on the resilience and self-efficacy of nursing students.

Methods: This single-group, semi-experimental study was performed on 68 nursing students who did not receive PFA training and service earlier, had Internet access, and agreed to participate in the study by giving informed consent. The study involved pre-test/post-test and follow-up measurements. The data were collected electronically by creating an online survey platform and using a personal information form, the Psychological Hardiness Scale, and the General Self-Efficacy Scale. The PFA training, which lasted 60 min, was carried out with the students twice a week for 3 weeks. The data were statistically analyzed using descriptive statistical methods (mean, standard deviation, and frequency), t-test, one-way analysis of variance (ANOVA) (F test), and ANOVA in repeated measurements. The relationship between the Psychological Hardiness Scale and the General Self-Efficacy Scale was examined by regression analysis.

Results: The average age of the individuals who participated in the study was 22.71±1.87 years. The post-training (62.16±7.71) and follow-up (63.10±5.70) Psychological Hardiness Scale mean scores of the individuals were significantly higher than the pre-training mean scores (49.64±6.32) ($p<0.001$). The post-training (30.34±4.43) and follow-up (29.41±4.06). The General Self-Efficacy Scale mean scores of the individuals were significantly higher than the pre-training (24.64±3.51) mean scores ($p<0.001$). The regression analysis revealed that 45% of the change in the psychological resilience of individuals was explained by self-efficacy ($R2=0.453$).

Conclusion: The PFA training increased the psychological resilience and self-efficacy perceptions of the participants. Hence, systematic training should be provided to individuals, including the principles of applying PFA.

Keywords: Hardiness; nursing students; psychological; psychological first aid; resilience; self-efficacy.

Psychological first aid (PFA) is a humanitarian intervention for individuals needing help and support in the early post-disaster period.[1–3] It can be provided to individuals of all age groups and cultures after a traumatic event. PFA can be administered immediately after a traumatic event, or it can be provided for days or weeks after the event, depending on the needs of individuals.[4] PFA interventions aim to prevent the progression of traumatic events into long-term distress, help individuals adapt to daily life in a short time by promoting functional recovery, and increase the adaptive coping skills of individuals.[2,4–6] PFA is not a medical diagnosis, medical treatment, emergency psychiatric care, or any of the therapies performed by professionals.[7,8] Several recent studies highlight the potential of PFA as an effective psychosocial support intervention.[9–12] However, the use of PFA among individuals assisting in traumatic situations is limited.[13] All aid providers actively involved in traumatic situations should be able to provide PFA services in disasters.[14,15] However, PFA training for aid providers is insufficient, emphasizing the need to regularly train them in the application of PFA.[13]

Address for correspondence: Nurhayat Kılıç Bayageldi, Department of Psychiatric Nursing, Artvin Çoruh University Faculty of Health Sciences, Artvin, Türkiye

Phone: +90 466 215 10 00 **E-mail:** nurhayatkilic@yahoo.com **ORCID:** 0000-0002-2790-5227

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PFA training programs have been globally organized for professionals, the general public, and students, ranging in duration from a few hours to several days; they include simulation-based case scenarios, videos, handouts, manuals, and various approaches based on PFA models.[6,12,13,16–25] These programs improve the ability of participants to provide appropriate and timely support to traumatized victims, prepare them to cope with disasters, boost their confidence and competence in gaining PFA knowledge and skills, and minimize anxiety and psychological distress in victims.[5,16,17,19,24–31] In addition, PFA-related knowledge may be useful in developing the resilience and self-efficacy of nursing students; however, the evidence on this subject is insufficient.[20,32]

Recent studies have reported that nursing students, besides nurses, play a crucial role in supporting health services. Nurses should be provided with PFA training during and after their undergraduate education to better prepare them psychologically for acute and emergency situations and improve the quality of their interventions.[20,31] However, PFA training programs remain inadequate in undergraduate nursing education and not sufficiently integrated into the nursing education curriculum.[32] The literature emphasizes the benefits of PFA knowledge for nursing students; however, the PFA training programs for nursing students are still insufficient, emphasizing the urgent need for interventional studies to demonstrate the effects of PFA training.[20,32]

PFA training can improve the knowledge, self-efficacy, and psychological resilience of nursing students.[20,32] Theoretical and skill-based learning methods can help nursing students improve their general self-efficacy and psychological resilience.[32] Relevant literature has underscored the necessity of studies exploring the relationship between PFA training and psychological resilience[26] and the effects of PFA training on the psychological resilience of nursing students.[32]

A general consensus exists globally that PFA practices should be the first-line approach in emergencies. However, the effects of PFA training on nursing students remain insufficiently understood, necessitating more studies on this subject.[6,13,23] This study aimed to examine the effects of PFA training provided to senior nursing students on their psychological resilience and self-efficacy, thereby contributing to the literature in terms of proving the effectiveness of PFA training. In addition, the findings might provide guidance while implementing this training in a different culture.

What is presently known on this subject?

- At present, PFA training for nursing students is not sufficient
- This highlights the need to provide PFA training to nursing students and report the effectiveness of this training.

What does this article add to the existing knowledge?

- PFA training improved the psychological resilience and self-efficacy of nursing students.

What are the implications for practice?

- A nurse trained in PFA can prevent the progression of trauma into permanent mental disorders and help individuals recover in a short time
- PFA training can improve the competence of nurses to better manage hazardous environments and effectively intervene during challenging tasks.

Materials and Method

Study Type

This was a single-group quasi-experimental study involving pre-test/post-test and follow-up measurements.

Study Hypotheses

H_1: PFA training given to nursing students positively impacts the perception of psychological resilience.

H_2: PFA training given to nursing students positively impacts general self-efficacy perception.

Population and Sample of the Study

The study population included 80 senior nursing students at Artvin Çoruh University, Faculty of Health Sciences. The study sample comprised 4th-year nursing students of the same university who had not previously received PFA training and service had Internet access, and agreed to participate in the study by giving informed consent. The power of the study was calculated in the G*Power V. 3.1.9.6 program, which refers to a study with a similar training model in the literature for the sample size calculation.[20] It was determined that the number of participants in the study should be at least 15 with 95% confidence (1–α), 95% test power (1–β), and dz=1.105 effect size. No sample selection was made in the study, and the aim was to include all students as much as possible using the full census sampling method. Of the senior nursing students, 68 participated in the study, representing 85% of the study population.

Data Collection Tools

Personal Information Form

This form included six questions about the participant's age, sex, previous PFA training or services received, competence in providing PFA services, and their competence to cope appropriately with traumatic events.[20]

Psychological Hardiness Scale

Developed by Işık in 2016, this scale comprises 21 items divided into three subscales: Commitment, control, and challenge. It is a 5-point Likert-type scale wherein the responses vary from "strongly disagree" to "strongly agree." The "self-commitment" subscale (items 1, 2, 3, 5, 6, 18, and 21) involves expressions about participants' own perceptions. The "control" subscale in-

cludes items 4, 10, 11, 12, 15, 19, and 20. The "challenge" subscale includes items 7, 8, 9, 13, 14, 16, and 17. Items 2 and 15 are reverse-scored. Scores in the scale range between 0 and 4 points. Both the scores obtained from the subscales and those obtained from the total score can be processed. A high score obtained from the subscales and the whole scale indicates a high perception of psychological resilience.[33] Cronbach's alpha reliability coefficient was 0.76 for the whole scale and between 0.62 and 0.74 for the subscales in this study. The scores were evaluated based on the total score of the scale, and Cronbach's alpha value for the whole scale was found to be 0.78.

General Self-efficacy Scale

The General Self-Efficacy Scale was developed by Matthias Jerusalem and Ralf Schwarzer in Germany in 1981 and was originally designed as a 20-item scale. In 1981, the scale was reduced to 10 items and finalized in 1995. Aypay proposed the Turkish version of the scale in 2010. The adapted form is a 10-item, 4-point Likert-type scale where responses vary from "completely wrong" to "completely right." All items in the General Self-Efficacy Scale are scored positively, and the score range is between 10 and 40. A high score indicates high general self-efficacy. Cronbach's alpha value of the scale was found to be 0.86. High scores on the items indicate high overall self-efficacy.[34] In this study, the Cronbach's alpha value of the scale was found to be 0.80.

Implementation of the Data Collection Tools

Due to the coronavirus disease 2019 (COVID-19) pandemic and the transition to distance education in Türkiye, the study data were collected online through Google Forms. The data collection link was shared with the participants through e-mail and WhatsApp. Upon accessing the link, the participants were automatically directed to the study information and informed consent details. Once the participants agreed to participate in the study, they completed the personal information form, Psychological Hardiness Scale, and General Self-Efficacy Scale. The data were collected online using the Psychological Hardiness Scale and General Self-Efficacy Scale after the training program and 3 months later during follow-up. The Google Forms settings allowed participants to submit their responses only once to ensure data security. No participant left the study without any reason; all 68 senior nursing students completed the study.

Developing the Training Guide and Implementing the Training Program

The participants had not received any PFA training during their academic studies. Before creating the training content, the researcher attended several PFA training programs both in Türkiye and abroad. After attending these programs, the researcher developed 6-h training modules using the PFA model proposed by Brymer et al.[1,20,23,35,36]

First, a PFA training brochure was prepared and sent to student WhatsApp groups. Students who were interested or eager to participate in the training were informed through e-mail and phone. They were divided into four groups of 17 randomly selected students during the implementation phase of the training. Then, the days and times for which each group would be available for the training program were determined. The PFA training modules included basic concepts of PFA, basic preparations for providing PFA, eight basic PFA principles based on Brymer et al.'s model (contact and engagement, safety and comfort, stabilization, information gathering, practical assistance, connection with social supports, information on coping support, and linkage with collaborative services), self-assessment of the PFA service provider, self-care, and the ability to empower the helper, cope with stress, and finalize the aid. In addition, cases involving different types of disasters were included in this training module. The training sessions were conducted online for 3 weeks, 2 days a week, with each session lasting 60 min. All training sessions were conducted by the researcher. The researcher used verbal expressions, slide shows, video shows, questions and answers, brainstorming, source notes, and case studies in the training. Cases were prepared according to different types of disasters based on the basic principles of PFA, and group discussions were organized over the cases. Finally, all groups watched a basic PFA application video of approximately 17 min and 39 s and prepared a research summary.

Ethical Consideration

The study was approved by the Ethics Committee of Artvin Çoruh University (Approval number: 07/03/2019-E.4417, date: March 26, 2019, session number: 2019/3). Online informed consent was obtained from all participants. Participation was voluntary, and participants were informed that they were free to withdraw at any time, the study data would be used exclusively for scientific purposes and would not be shared with any institutions, organizations, or persons. The study was conducted in compliance with the principles of the Declaration of Helsinki.

Data Analyses

The study data were analyzed using Statistical Package for Social Sciences 25.0 for Windows. Descriptive statistical methods (number, percentage, mean, and standard deviation) were used to evaluate the data. Compliance with the normal distribution in the data was examined using a Q-Q plot drawing. Skewness and kurtosis values are typically expected to be ±1 or even close to 0 for the normal distribution of the data.[37] Normal distribution was examined using conformity-normality tests and kurtosis-skewness values. The data conformed to the normal distribution; therefore, the independent-sam-

Table 1. Demographic characteristics of participants

Demographic characteristic	n	%
Sex		
Female	35	51.4
Male	33	48.6
Age (year) 22.71±1.87 (range: 20–30)		
≤23	55	80.9
24+	13	19.1
How do you evaluate your ability to provide psychological first-aid services to individuals affected by traumatic events?		
I am completely competent	8	11.8
I am partially competent	52	76.4
I am completely incompetent	8	11.8
Do you think you are competent in appropriate coping skills against the negative effects of trauma?		
I am completely competent	8	11.8
I am partially competent	37	54.4
I am completely incompetent	23	33.8

Table 2. Changes in psychological hardiness and general self-efficacy scale scores over time

Time scale	Before the training Mean±SD	After the training Mean±SD	Follow-up Mean±SD	F	p
Psychological hardiness scale	49.64±6.32	62.16±7.71	63.10±5.70	95.422	<0.001
General self-efficacy scale	24.64±3.51	30.34±4.43	29.41±4.06	76.967	<0.001

SD: Standard deviation

ple t-test was used for comparing the mean scores of the two groups, whereas one-way analysis of variance (F test and ANOVA) was used for comparing the mean scores of more than two groups in the evaluation of quantitative data. In repeated measures, the statistical significance of change over time was examined using ANOVA. Regression analysis was performed to determine the extent to which self-efficacy influences psychological resilience and to identify the factors contributing to variations in psychological resilience. The results were evaluated at a 95% confidence interval and $p<0.05$ significance level.

Results

Table 1 shows the demographic characteristics of 68 individuals participating in the study. Of these, 51.4% were female and 80.9% were aged <24 years. In addition, 76.4% stated that they were "partially competent" to provide PFA services to individuals affected by traumatic events, and 54.4% stated that they were "partially competent" to cope appropriately during traumatic events.

Table 2 shows the changes in the Psychological Hardiness Scale and General Self-Efficacy Scale scores over time. The changes in the Psychological Hardiness Scale scores over time were analyzed using repeated-measures ANOVA. Further analysis revealed a significant difference in the mean Psychological Hardiness Scale scores of the individuals after the training program ($p<0.001$). Further analyses conducted to determine the group causing the difference showed that the mean scores of the participants after the training (62.16±7.71) and during follow-up measurements (63.10±5.70) were significantly higher than those before the training (49.64±6.32) ($p<0.001$). In addition, the mean Psychological Hardiness Scale scores of the participants continued to increase in the follow-up measurements; however, no significant difference was observed when comparing the scores with the post-training mean scores ($p>0.05$).

The changes in the General Self-Efficacy Scale scores over time were analyzed using repeated-measures ANOVA. Further analyses revealed that the mean General Self-Efficacy Scale scores of the individuals showed a significant difference after the training program ($p<0.001$). Further analyses conducted to determine the group showing differences revealed that the mean General Self-Efficacy Scale scores of the participants after the training (30.34±4.43) and during follow-up measurements (29.41±4.06) were significantly higher than those before the training (24.64±3.51) ($p<0.001$). In addition, the mean General Self-Efficacy Scale score of the participants after the training was significantly higher than the mean score during follow-up measurements ($p<0.001$).

A linear multiple regression analysis with full logarithmic transformation was conducted to explain the reason for the change

Table 3. Linear regression analysis results

Model	B	t	p	R^2	F	p	VIF	DW
Stable	2.398	4.424	**0.000**	0.453	20.054	**0.000**		1.718
Self-efficacy	0.583	7.689	**0.000**				1.003	
Age	-0.084	-0.566	0.573				1.010	
Sex								
Female	0.004	0.187	0.852				1.007	

Dependent variable: Psychological hardiness. VIF: Variation inflation factor; DW: Durbin–Watson test.

in the psychological resilience of participants. The model was statistically significant (p<0.001; F=20.054). The results of the analyses (Table 3) revealed that the sex and age of participants had no statistically significant effect on their psychological resilience. In addition, 45% of the change in the psychological resilience of individuals was explained by self-efficacy (adjusted R2=0.453). The coefficient of the significant independent variable in the model was 2.398. A 1% change in self-efficacy caused a 2.39% increase in psychological resilience. The normality assumption of the errors in the model was examined using a P-P plot and histogram, and autocorrelation was examined using Durbin–Watson test statistics. The results revealed no autocorrelation problem in the model, and the errors were normally distributed. The assumption of no correlation between independent variables was examined using variation inflation factor (VIF), and all VIF values were found to be <5.

Discussion

The results regarding the mean Psychological Hardiness Scale and General Self-Efficacy Scale scores of the participants before, after, and at follow-up of the training were discussed in this section. Few studies have addressed psychological resilience and general self-efficacy of PFA training for nursing students or students of different departments. Therefore, there was a limitation in the discussion section.

The mean scores of the participants' Psychological Hardiness Scale scores after the training and during follow-up measurements were significantly higher than those before the training (p<0.001). This result supported H1 (Table 2). Zhang et al.[32] determined the effects of PFA training on the knowledge, competence, general self-efficacy, and psychological resilience of nursing students and reported an improvement in the psychological resilience of nursing students after the training. Eweida et al.[38] examined the effects of PFA on the psychological distress and psychological resilience capacity of 64 nursing students amid the COVID-19 pandemic and reported an improvement in the psychological resilience of students in the experimental group. Similarly, Farchi et al.[17] investigated the effects of the Emergency Cognitive PFA model, defined as the SIX-Cs model, on general self-efficacy, occupational self-efficacy, psychological resilience, and perceived stress of 232 high-school students. They explained that PFA training effectively improved the psychological resilience of students. Cheung[35] examined the effectiveness of PFA training in response teams in critical incidents and disasters, and found that the psychological resilience perceptions of students in the intervention group did not increase over time; however, the psychological resilience of students in the control group increased from 1 to 3. Everly et al.[28] conducted a study with more than 1,500 individuals, including nurses, within the scope of the Johns Hopkins RAPID-PFA model development and reported that the training in the model contributed to the development of psychological resilience of participants. Besides the aforementioned findings, many studies showed that PFA knowledge could increase psychological resilience in individuals.[36,39] PFA focuses on the concept of resilience in individuals and plays a crucial role in the development of both the recipient and the provider of the aid as well as social resilience. The PFA model can improve the resilience of individuals, especially healthcare professionals, nursing students, and others.[17,39–41] Everly and Kennedy[39] highlighted the universal acceptance of PFA to increase psychological resilience after adverse events. In the present study, the participants were provided information on stress and crisis management practices during the PFA training. Furthermore, the activities for self-care and empowering the helper were performed. All these practices are thought to increase the psychological resilience of individuals.

In the present study, the mean General Self-Efficacy Scale scores of the participants after the training and during follow-up measurements were significantly higher than those before the training (p<0.001). Hence, this result supported H2 (Table 2). Zhang et al.[32] conducted a study with 103 nursing students, with a similar design to the present study, to assess the effects of PFA training on knowledge and competence, general self-efficacy, and resilience, and found that the General Self-Efficacy Scale scores of nursing students increased after the training. Kiliç and Şimşek[20] investigated the effect of PFA training on disaster preparedness perception and self-efficacy. They reported that the mean General Self-Efficacy Scale scores of nursing students in the experimental group increased significantly after the training and during the follow-up measurements.

Farchi et al.[17] conducted a study with 232 high-school students and reported that the SIX-Cs model was useful in developing general self-efficacy. Kang and Choi[13] developed a simulation-based PFA training program for disaster relief workers and investigated the effect of this program on PFA knowledge, PFA performance, and self-efficacy. They found that the self-efficacy of aid providers increased significantly after the simulation-based training. Park and Choi[24] conducted a study with mental health workers. They reported a significant increase in the self-efficacy scores of the participants (n=30) in the experimental, comparison, and control groups after the PFA training. They showed that self-efficacy significantly improved in the experimental group compared with the other groups. Said et al.[31] examined the effects of PFA training programs on the psychological preparedness of 150 nurses for emergencies and disasters, and found that the self-efficacy levels of nurses in the intervention group increased significantly after the training. The findings of various studies[20,32] supported the results of the present study. Self-efficacy depends on self-assessment of how well a task is accomplished in a given situation.[24] The best way to strengthen the perception of self-efficacy is regular training.[4] This builds knowledge, confidence, and self-efficacy. At some point, self-efficacy measurement is an alternative determinant of the effectiveness of the training and self-perceived ability.[4] In this study, skills training was also provided within the scope of PFA training and participants were taught exercises to cope with stress and improve self-care skills. It was thought that the extended training would increase the knowledge and self-efficacy of the participants. Self-efficacy is an individual's belief in their ability to cope with challenging events in life. Individuals with high self-efficacy perceptions can think positively and hence are more resilient during any traumatic event.[3,42–44] High self-efficacy perception also positively impacts the motivational processes of individuals in any situation. In addition, self-efficacy perception may increase the psychological resilience of individuals in difficult situations by affecting their emotional, motivational, and behavioral processes.[45]

Limitations and Strengths of the Study

This study had some limitations. It lacked a control group to determine the effectiveness of the PFA training more clearly. In addition, the training was provided to nursing students without any trauma experience, and the study was conducted with nursing students from only one university. However, the study had certain strengths. First, this was the first study in Türkiye to examine the effect of PFA training on the psychological resilience of nursing students. Further, it was the second study in Türkiye in which PFA training was provided to nursing students and reported. The researcher participated in many domestic and international PFA training programs, which helped develop PFA training modules.

Conclusion and Recommendations

PFA training provided to nursing students positively impacted their psychological resilience and general self-efficacy. Accordingly, it can be argued that PFA training programs strengthen and improve psychological resilience and self-efficacy. Therefore, training and practices that can improve the psychological resilience and general self-efficacy of nursing students who will start their professional life in a short time, work in an intensely stressful environment from time to time, or take part in any disaster situation should be developed. A nurse trained in PFA practice can minimize the psychological impact of any traumatic event and accelerate the recovery of individuals. They can also increase the resilience of individuals and societies by making early and continuous psychological assessments of survivors after disasters. Nurses with PFA knowledge can strive to reduce their own stress and anxiety levels in intense stressful situations and increase their resistance and resilience. Moreover, PFA knowledge can alleviate the risks experienced by nurses involved in disaster response other than themselves and contribute to the empowerment of nurses. Therefore, the necessary knowledge and skills should be provided to nurses before disasters occur, and training programs should be organized to ensure psychological readiness to work in disaster situations so as to ensure the continuity of functionality during the provision of services. As in all nursing fields, the most important component for psychiatric nursing practices to be effective in traumatic experiences is to ensure readiness. Psychiatric nurses are important health-care professionals who protect community mental health in the event of a disaster, identify risks, and reduce the psychological effects of trauma using effective interventions. PFA skills can help these psychiatric nurses in disaster situations. Stress can affect the functionality of not only the affected person but also of everyone they are with and work with. Hence, everyone should know how to apply PFA to themselves and their teammates to maintain functionality.

Based on the findings of this study, it is suggested that experimental studies with large samples and control groups should be conducted to prove the long-term impacts of PFA training on nursing students. In addition, face-to-face and online PFA training programs should be organized, and their effectiveness should be reported.

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