A research on effect of certificate trainings on pre-service teachers' awareness of psychological resilience

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Abstract: The aim of this research is to determine whether certification training has a significant effect on pre-service teachers' awareness. In the research, the awareness level of pre-service teachers who participated in psychological resilience training was compared. The research is a one-group pre-test post-test quasi-experimental research design. The research group consisted of 25 pre-service teachers who participated in the psychological resilience trainings organized by Uşak University Lifelong Learning Center in the spring semester of the 2024-2025 academic year. The research group received resilience awareness training consisting of two sessions and lasting 1.5 weeks. Data were collected using the brief psychological resilience scale developed by Doğan. It was determined that there was a significant difference ($p < .05$) between the psychological resilience awareness levels of the students before and after the certificate training. In the 21st century, certificate trainings will be provided in addition to the university diploma in order to provide the skills that institutions and the business world care about. Certificates will be among the primary reasons for teacher selection.

Keywords: Awareness, Certificate training, Higher education, Pre-service teachers, Psychological resilience.

1. Introduction

In the 21st century, higher education aims to reveal the capacity and talent of the individual and to develop these skills and abilities. Instead of diploma education, where success is measured by standardized tests, project production, problem solving, creativity, patenting and certification come to the fore. In the 21st century, the university is transforming from an institution that transfers knowledge and skills to students into an institution that shapes society and guides social development. Instead of an education program in which students are taught fixed content, the goal is to develop competencies and skills. Teachers need to lead students rather than transfer knowledge. Greater participation in adult education programs is envisaged [2]. It is envisaged that student potential will be discovered and transformed into an individual who builds knowledge and becomes a lifelong learner. These processes are among the reasons for the prolife ration of certificate trainings in higher education [3].

1.1. 21st Century Skills

In the 21st century, instead of transferring knowledge in higher education, it is considered essential to gain the skills needed to solve problems in life. Giving students an awareness of problem solving and lifelong learning has become the new goal of universities. A research-based, problem-solving, project and design-based learning approach is accepted in the new generation of universities. In the 21st century, it is important for businesses and organizations to provide individuals with skills such as collecting information from different sources, understanding relationships, developing new ideas, and gaining deep insight. In the evaluation process in higher education, instead of standard achievement

tests, new generation applications such as portfolios, student work projects, in-class observation forms, rubric evaluation, online exams, and performance evaluation will be used more in order to improve the capacity of the individual and eliminate learning deficiencies [4]. The World Economic Forum emphasizes that some skills and competencies will be among the most preferred in education in the next century [5]:

Table 1.
Priority Skills for the 21st Century.

Technological Competencies	Environmental Competencies	Personal Competencies
Media literacy	Critical thinking	Psychological resilience
Technology literacy	Creativity	Curiosity
Data literacy	Cooperation	Entrepreneurship
Cultural literacy	Contact	Harmony
	Teamwork	Leadership

21st century skills include various characteristics that enable individuals to be good citizens and fulfill their duties in a qualified manner. 21st century skills include various characteristics that enable individuals to be good citizens and fulfill their duties in a qualified manner [6]. These skills include cognitive skills (creativity, critical thinking, problem solving), interpersonal skills (coping with challenges, social skills, communication skills, cultural sensitivity, teamwork) and intrapersonal skills (lifelong learning, self-management, adaptability, psychological resilience) [7]. According to OECD, 21st century skills include the ability to cooperate, interact in groups, solve complex problems, use new generation technological tools, and use language and symbols [8]. 21st century skills are vital in higher education systems. These skills represent the competencies and expertise that individuals need to succeed at work and in life. The concept of 21st century skills in higher education encompasses students' cognitive, social and personal skills. Among these skills, creativity, critical thinking, problem solving, communication skills, collaboration, leadership, time management are considered important [9]. Updating higher education programs to include 21st century skills and providing these skills to students play a critical role in raising well-equipped individuals. In order for academics to provide these skills to students effectively, they need to continuously improve themselves and update their teaching methods [10]. New skills should form an important part of training programs and curricula. This is because, in many higher education systems, diploma programs are not focused on the acquisition of new skills. This process makes it necessary to expand lifelong learning programs [11]. Developing and measuring pre-service teachers' competencies in 21st century skills shows how skills-oriented diploma programs are [12]. Studies examining pre-service teachers' competencies in 21st century skills show the extent to which the new generation of teachers possess these skills [13]. In the 21st century, the primary competencies that prospective teachers should have are critical thinking, problem solving, technology literacy, media literacy, social responsibility projects, environmental literacy, coaching, robotic coding, social adaptation and psychological resilience [14]. It seems possible to raise awareness and develop these competencies through short-term certificate programs. Certificate programs are run by lifelong learning centers within universities.

1.2. Certificate Programs

In the new century, new competencies can be acquired quickly through certificate programs instead of diplomas, which makes certificate training more attractive. International certificate programs carried out by lifelong learning centers in cooperation with the business world and universities can play an effective role in setting new standards in education from social sciences to fine arts. In this context, it is seen that international certificate programs in higher education in the world are becoming more widespread and gaining importance day by day [2]. The certification of the trainings received through certificates makes them more popular among students. Internationally recognized certificate trainings are becoming widespread under alternative learning programs [15]. In this study, the effectiveness of

the certificate training on psychological resilience awareness, which is given importance in the business world and organizations in the 21st century in the category of personal competence, was evaluated.

1.3. Psychological Resilience

In the new century, the most important individual competencies in the business world are the high awareness of individuals about psychological resilience. Because organizational productivity is closely related to people's focus on being optimistic and happy in their lives [16]. Psychological resilience can be improved by recognizing people's talents and strengths rather than focusing on their problem areas [17]. Psychological resilience is defined as the ability to achieve positive results in challenging and powerful situations, to maintain this situation and to adapt positively to difficult situations [18, 19]. According to Kobasa [20] psychological resilience is the ability to be committed to one's work, to be open to change and to believe that one has control over events Kobasa [20]. Aydoğdu [21] defined psychological resilience as a personality trait that facilitates coping with stressful or traumatic situations, adapting to life and the environment, and supports a sense of control [21]. Psychological resilience is the process of adaptation and survival after difficulties. It is the individual's ability to recover and adapt to possible threats in order to remain robust in the face of adversity. Psychological resilience is the ability to successfully adapt positively to risks that threaten an individual's functioning, existence or development [22-27]. Psychological resilience is also defined with concepts such as "psychological resilience", "resilience" and "mental flexibility" [28].

1.4. Problem Status

In the literature accessed, the relationship between psychological resilience and self-efficacy, optimism, sexual abuse, economic level, stress, self-confidence, demographic characteristics, depression, life satisfaction and personality traits has been examined [29-36]. In the existing research, there is no study on the effect of psychological resilience trainings on pre-service teachers' awareness. In their literature review, Castro and Adler found that short-term "psychological resilience" trainings are mostly applied to military personnel for military purposes [37]. This study examined the effect of the trainings given on the psychological resilience awareness of prospective teachers, which is shown in the field of core competencies in the 21st century [8] and it is thought to contribute to the literature in this respect. The following questions were sought to be answered in the research:

- Is there a significant difference between the awareness levels of pre-service teachers before and after psychological resilience awareness training?
- Is there a significant difference between the awareness levels of pre-service teachers before and after psychological resilience awareness training according to gender?

2. Methodology

2.1. Research Design

This research is a one-group pretest-posttest quasi-experimental design research. In research with this design, groups are formed based on certain variables. An anonymous assignment is not used. In some cases, a pre-test is applied before the experiment, while in other cases it is not [38]. The study design is shown in table 2.

Table 2.
Research Design.

Research Group	Pre-Test	Psychological Resilience Awareness Training	Post Test
Pre-service teachers group	✓	✓	✓

The research is a pretest-posttest study without a control group. A pre-test was administered to the experimental group and a post-test was administered after the psychological resilience trainings.

2.2. Research Group

The research group consisted of a total of 25 pre-service teachers who participated in the certificate training provided by Uşak University Lifelong Learning Center in the spring semester of the 2024-2025 academic year. There were 11 male and 14 female in the research group. The pre-service teachers selected for the research group were selected from individuals who had not received psychological resilience training before.

2.3. Data Collection Tool

In the research, the short psychological resilience scale consisting of 6 items developed by Doğan [1] was used to measure the level of psychological resilience awareness of the experimental group students. The scale is a unidimensional scale and the Kaiser-Meyer-Olkin (KMO) value of the scale was calculated as .85 [1].

In this research, the internal consistency coefficient of the scale (Cronbach's Alpha: .880 > .70) and KMO value (.820 > .060) were calculated and found to be reliable and valid. As a result of the confirmatory factor analysis conducted on the scale, it was determined that the validity of the scale ($x2/sd$ (12.86/7) = 1.83, NFI = 0.96, NNFI = 0.95, CFI = 0.96, IFI = 0.96, RFI = 0.96, GFI = 0.98, AGFI = 0.94, RMSEA = 0.05, SRMR = 0.03) was high compared to the literatüre [39-42].

2.4. Data Collection Process

25 pre-service teachers were administered the brief resilience awareness scale before the training. Then, two sessions of psychological resilience awareness training lasting 1.5 weeks were given. Training activities are shown in table 3.

Table 3.
Psychological Resilience Certificate Training Activities.

	Activities	Duration
First Session	Short film presentations Slide Show Oral presentation	5 Hours
Second Session	Case study Group drama activity Brainstorming activity	5 Hours

After the trainings, the brief resilience awareness scale was administered to the research group again.

2.5. Evaluation of Data

The data of the short psychological resilience awareness scale applied as pre-test and post-test were analyzed in SPSS 25 program. It was determined that the data were normally distributed (Shapiro-Wilk: .124 > .05). The pre-test - post-test group mean scores were analyzed with the simple paired t test, which is a parametric test. Since the data collection tool is a 5-point Likert-type scale, the average score ranges are as follows [43]: *0 - 1.60: I am not aware at all, 1.61-2.40: I am not aware, 2.41-3.20: I am partially aware 3.21- 4.00: I am aware 4.01-5.00: fully aware.*

3. Results

The results of the pre-test and post-test on the research group and the results of the test according to gender are shown in Tables 4 and 5.

Table 4.
Research Group Pre-test Post-test Results.

Group	Number	X	SS	F	t	P
Pre test	25	3.40	0.957			
Post test	25	4.09	0.567	0.644	1.92	0.004*

Note: *P< .05.

It was determined that the pre-service teacher group who participated in the psychological resilience awareness training had a level of psychological resilience awareness (X= 3.25: I am aware) before the training. After the training (post-test), it was determined that the level of psychological resilience awareness increased to (X= 4.04: I am fully aware). There is a significant difference (P: .004 <.05) between the pre-test and post-test mean scores of psychological resilience awareness of the pre-service teacher group participating in the certificate training. Short-term certificate training was found to be effective in raising awareness.

Table 5.
Comparison of Research Group Pre-Test Post-Test Results by Gender.

Pre test	Number	X	SS	F	t	P
Female	14	3.10	0.797	.081	1.70	.105
Male	11	3.83	1.10			

Post test	Number	X	SS	F	t	P
Female	14	3.69	0.456			
Male	11	4.08	0.743	2.34	1.45	.169

Note: P > .05.

Awareness of psychological resilience before the training was at the level of (X=3.10: I am partially aware) for female and (X=3.83: I am aware) for male. After the training (post-test), psychological resilience awareness increased to the level of (X=3.69: I am aware) for female and (X=4.08: I am fully aware) for male. Although the level of awareness increased in parallel across gender groups, the difference was not significant (P > .05).

4. Discussion

There are findings in the literature that support the effectiveness of short-term certificate trainings when compared with the results of the current research: Balcı [44] investigated to effect of psycho-education program for coping with childhood traumas on psychological resilience. It was determined that there was a significant increase in the awareness levels of the study group after the training [44]. In different studies, the effect of psycho-education program on the resilience level of high school students was determined. After the trainings, it was observed that there was a significant increase in the awareness level of the students in the study group [10, 45]. In his study with primary school students, Kurtoğlu [46] applied a 12-week psycho-education program to the experimental group. After the application, it was determined that there was a significant increase in the resilience levels of the students in the experimental group [46]. In 2014 Peng used a psychological resilience program to improve the psychological resilience levels of students studying at the Military Medical School in China. The training program included activities such as games, role-playing, case analysis and brainstorming. It was determined that the program had a positive effect on the psychological resilience levels of the students [47].

5. Conclusion

In this study, a group of 25 purposely selected pre-service teachers were given a psychological resilience awareness certification training consisting of two sessions lasting 1.5 weeks. During the certificate training, video presentations, slide shows, oral presentations, case study presentations, group

drama activities and brainstorming activities were conducted to raise awareness on psychological resilience. While the pre-training psychological resilience awareness of the research group participating in the training was at the level of (I am aware), the post-training psychological resilience awareness increased to the level of (I am fully aware). A significant difference (P: .004 < .05) was found between the pre-test and post-test mean scores of the psychological resilience awareness level of pre-service teachers participating in the certificate training. The difference between the pre-test and post-test averages of psychological resilience awareness is not significant according to gender.

In the new century, in order for prospective teachers to acquire many competencies and skills in a shorter period of time, participation in certificate trainings will become compulsory in addition to the diploma requirement. Certificate trainings will become widespread in lifelong learning centers of universities to acquire new skills. Having a certificate in 21st century competencies will be among the reasons for preference in teacher selection.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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