

**The effectiveness of stress management training given to first-class health students in
perceiving and coping with stress and developing resilience: A randomized controlled
trial**

08.05.2024

METHODS ABOUT STUDY

Type and purpose of the research

This study, which examined the effect of stress management training given to health students on students' perceived stress, coping methods with stress and psychological resilience.

Setting and time

This study was conducted between March and May 2024 with first-year students studying in the associate degree health departments of the central vocational school of a health-themed university in Türkiye.

Population and sample

The population of the study consisted of 126 first-year health students studying in the associate degree departments of the central vocational school of a health-themed university in Turkey. The sample consisted of students who met the inclusion criteria and voluntarily accepted to participate in the study. The sample size was calculated as at least 51 students in each group (intervention-control) with 5% error, 80% power, and 0.5 effect size with the G*Power 3.1.7 programme (Cohen, 1988; Cohen, 1990; Lai, 2021; Varol et al., 2015). The study was completed with 102 students, 51 intervention-51 control.

Participants

First-year associate degree health students who voluntarily accepted to participate in the study, who were 18 years of age or older, and who were continuing their active education were included in the study. Students who did not meet the specified inclusion criteria were excluded from the study. Figure 1 shows the design of the study (CONSORT scheme). The students participating in the study were not informed which group they were in. Single blinding method was used in the study because the researcher was involved in group allocation, intervention and data collection tasks.

Randomisation

A total of 126 first-year students studying at a vocational school were evaluated by the researcher according to the inclusion or exclusion criteria. As a result, 102 participants were randomised and assigned to the intervention and control groups. In order to reduce selection bias in determining the intervention and control groups, the individuals to be included in the sample were determined using the www.random.org website.

Variables of the study

The dependent variables of the study are perceived stress scale, coping methods with stress scale and short psychological resilience scale. Stress management training is the independent variable. Sociodemographic data of the students were the control variable of the study.

Data collection tools

The research data were collected with a form including sociodemographic characteristics of the students, Perceived Stress Scale, Stress Coping Methods Scale and Brief Resilience Scale.

Sociodemographic Data Form: It is a form consisting of 18 questions questioning the characteristics of the students such as age, gender, the department they study, smoking status, income status, and the people they live with (Gülner et al., 2024; Taş & Yıldız, 2023).

Perceived Stress Scale (PSS-14): Developed by Cohen et al. (1983) and adapted into Turkish by Eskin et al. (2013), the scale consists of a total of 14 items and evaluates the stress perceptions of individuals in the face of certain situations encountered in their lives. The scale has a five-point Likert scale. The scale has two sub-dimensions. The lowest score that can be obtained from PSS-14 is 0 and the highest score is 56. The higher the score obtained by the individuals from the scale, the higher the stress perception. Cronbach's alpha coefficient of PSS-14 was found to be 0.84 (Eskin et al., 2013). In this study, the total score of the scale was used and Cronbach's alpha coefficient was calculated as 0.88 in the pretest and 0.85 in the posttest for the intervention group and 0.82 in the pretest and 0.77 in the posttest for the control group.

Stress Coping Methods Scale (SCMS): The coping methods scale developed by Moos (1993) and adapted into Turkish by Ballı and Kılıç (2016) was used to measure coping methods with stress. The scale consists of a five-factor structure. Consisting of 24 statements, the scale is graded in 5-point Likert type and the answer options are; 1-Never, 2-Rarely, 3-Sometimes, 4-Mostly, 5-Always. The Cronbach Alpha coefficient of the scale was calculated as 0.93 (Ballı & Kılıç, 2016). In this study, the total score of the scale was used and Cronbach's alpha coefficient was calculated as 0.81 in the pretest and 0.83 in the posttest for the intervention group and 0.83 in the pretest and 0.75 in the posttest for the control group.

Brief Resilience Scale (BRS): The scale is a 5-point Likert-type, 6-item, self-report measurement tool developed by Smith et al. (2008) and adapted into Turkish by Doğan (2015) in order to measure the psychological resilience of individuals. After the reverse coded items in the scale are translated, high scores indicate high psychological resilience. It was reported that the Cronbach's alpha coefficient of the scale was calculated as 0.83 (Doğan, 2015). In this study, Cronbach's alpha coefficient was calculated as 0.84 in the pre-test and 0.89 in the post-test for the intervention group and 0.87 in the pre-test and 0.87 in the post-test for the control group.

Research procedure

In this face-to-face study, students who met the inclusion criteria were randomised and assigned to the groups. In the first interview with the students assigned to the intervention and control groups, students were informed about the purpose of the study and the process, and pre-tests were applied to the students after their consent was obtained. After 1 week, students randomly assigned to the intervention group were given psychoeducation on stress management (Weiss et al., 2024; Throner et al., 2023; Şenocak & Demirkıran, 2023) consisting of 7 modules (Weiss et al., 2024; Throner et al., 2023; Throner et al., 2023; Şenocak & Demirkıran, 2023), each lasting 120 minutes (with a break), on a day determined during the week for 7 weeks. Stress management training was given by the researcher, who has a master's degree in Community Mental Health Nursing and a PhD in Mental Health and Psychiatric Nursing and has received training on stress and coping with stress. Two weeks after the training was completed, post-tests were applied to the intervention and control group students (Table 1). During this process, no intervention was applied to the control group. After the study was completed, the same stress management training was given to the control group.

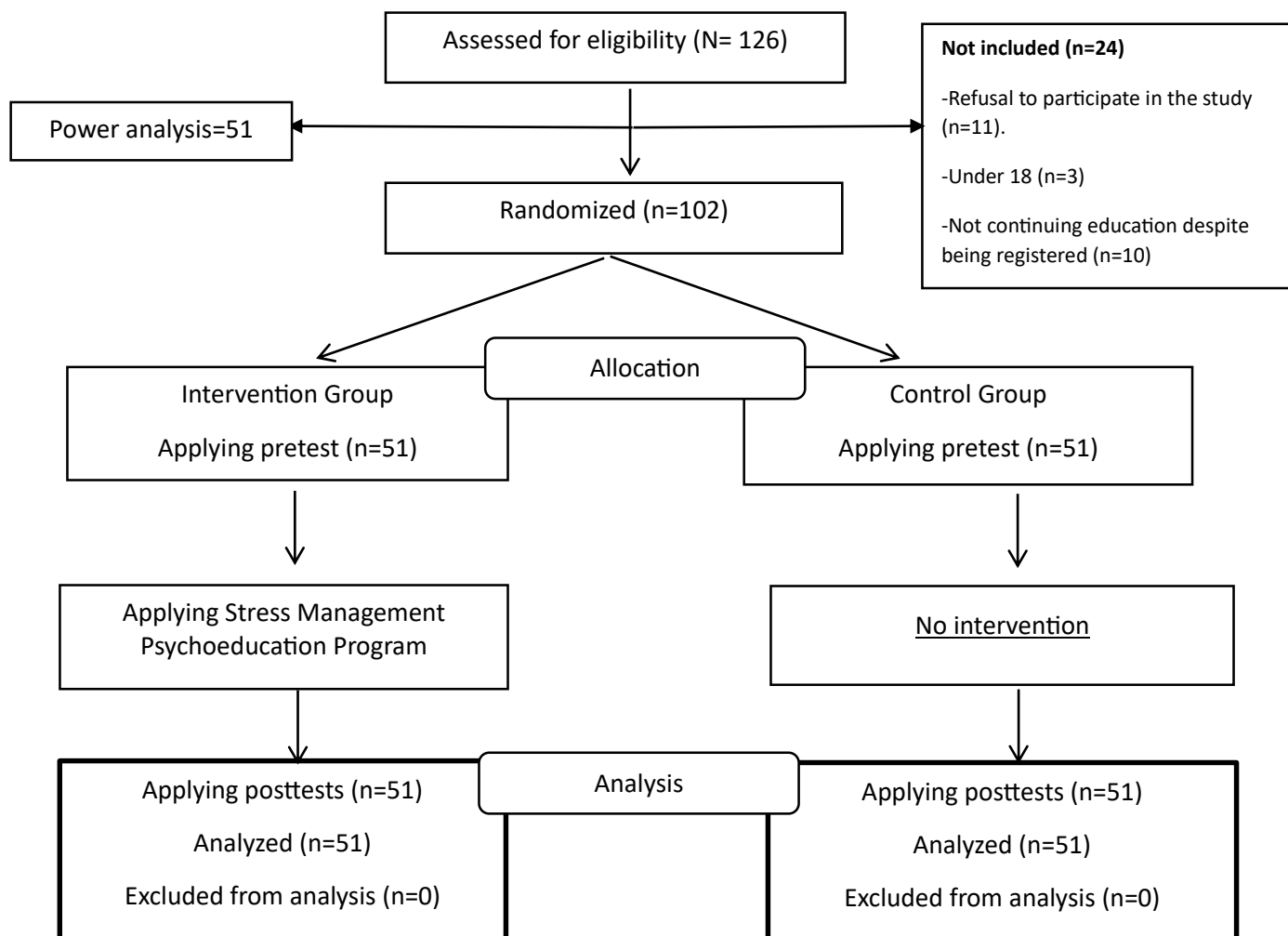


Fig. 1. CONSORT flow diagram.

Table 1. Stress Management Training Content

Modules	Contents
First meeting: Explanation of the purpose of the research and the process, application of pre-tests	
1. Module: Stress and its components	Definition and types of stress, theoretical approaches to stress, symptoms and consequences of stress, mechanism of stress formation
2. Module: Stress Management	The concept of stress management, stress management with constructive, evaluation-oriented, problem-oriented and emotion-oriented approaches.
3. Module: Crisis and its components	Definition and types of crisis, factors that cause the crisis, consequences of the crisis and crisis process
4. Module: Crisis Management	Purposes of crisis management, importance of planning against crisis, crisis management approaches and models
5. Module: Anger and its components	Definition of anger and its examination in the dimensions of emotion-thought-behavior-communication, theoretical approaches to anger, causes, functions, symptoms, types, forms of expression and consequences of anger.
6. Module: Anger Management	Anger management and control, anger management strategies, techniques that can be used in anger management.
7. Module: Psychological resilience	Definition of psychological resilience, challenging situations, developmental processes and capacity, positive psychological outcomes, risk factors, components of psychological resilience in the individual (personal, environmental, relational), equipment that increases psychological resilience.
Final meeting: Evaluation of the sessions and administration of post-tests	

Ethics

For the scales used in the study, permission was obtained from the authors who developed the scales and conducted the adaptation studies into Turkish. Written permission was obtained from the ethics committee of the university where the study was conducted (number 2024/03-04 on 05.03.2024) for ethical compliance and implementation. Informed consent was obtained after explaining the purpose of the study to the students participating in the study. In addition, the ethical principles of the current Helsinki Declaration were adhered to during the study.

Analysing the data

In this study, firstly, power analysis was performed to determine the sample size. Mean and standard deviation were used as descriptive statistics for quantitative variables determined by measurement, and number and percentage were used as descriptive statistics for qualitative variables determined by counting. Chi-square test and Fisher's exact test were used to analyse the similarity of the groups. After the normality analyses showed that the data had a normal distribution, independent sample t test and dependent sample t test were used for comparisons of pre-test and post-test scores within and between groups. Analysis of covariance (ANCOVA) was used to determine the effectiveness level of psychoeducation. In order to determine the effect size, Eta Squared (μ^2) values were taken into consideration and these values were

interpreted by taking the values determined by Cohen (1992) as criteria (small if .01, medium if .06 and above, and large if .14 and above) (Pallant, 2017). Cronbach's Alpha was calculated for reliability analysis. Analyses were performed with SPSS V25 and $p < 0.05$ was considered statistically significant in comparisons.