



Hemşirelik Öğrencilerinde Bilinçli Farkındalık Programının Klinik Stres Klinik Karar Verme ve Kişilik Özellikleri Üzerine Etkisi: Randomize Kontrollü Çalışma Protokolü

The Impact of Mindfulness Program on Clinical Stress, Clinical Decision-Making and Personality Traits in Nursing Students: A Randomized Controlled Study Protocol

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Abstract: In studies conducted with nursing students, clinical practice ranks first among the causes of stress. Factors contributing to this stress include lack of knowledge, insufficient self-confidence, fear of making mistakes, difficulty in clinical decision-making, communication problems, and anxiety. This study was planned to evaluate the effect of mindfulness training on nursing students' clinical practice stress, self-confidence and anxiety in clinical decision-making, and personality traits. This randomized, controlled experimental study will be conducted with nursing students at a state university. The sample will consist of 74 people (37 experimental and 37 control) who meet the research criteria determined by power analysis. The experimental group will receive mindfulness training for four weeks. The control group will continue its routine practice. In the implementation phase of the research, Clinical Stress Questionnaire, Self-Confidence and Anxiety Scale in Clinical Decision Making, Ten-Item Personality Traits Scale, and Perceived Stress Scale will be applied. This is the study protocol for a randomized, controlled experimental study. After the study is completed, the data will be analyzed, and the findings will be reported.

Keywords: Stress, Decision-Making, Personality, Mindfulness, Clinical Protocols

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Öz: Hemşirelik öğrencileri ile yapılan çalışmalarda klinik uygulamalar stres nedenleri arasında ilk sırada yer almaktadır. Bu strese katkıda bulunan faktörler arasında bilgi eksikliği, yetersiz özgüven, hata yapma korkusu, klinik karar verme güçlüğü, iletişim sorunları ve anksiyete yer almaktadır. Bu araştırma bilinçli farkındalık eğitiminin hemşirelik öğrencilerinin klinik uygulama stresi, klinik karar vermede özgüven ve anksiyete, kişilik özellikleri üzerine etkisini değerlendirmek amacıyla planlanmıştır. Randomize kontrollü deneysel bu çalışma, bir devlet üniversitesindeki hemşirelik öğrencileriyle gerçekleştirilecektir. Örneklemi, güç analiziyle belirlenen, araştırma kriterlerine uyan 74 kişi oluşturacaktır (37 deney, 37kontrol). Deney grubuna dört hafta süren bilinçli farkındalık eğitimi verilecektir. Kontrol grubu ise rutin uygulamasına devam edecektir. Araştırmanın uygulama aşamasında Klinik Stres Anketi, Klinik Karar Vermede Özgüven ve Anksiyete Ölçeği, On Maddeli Kişilik Özellikleri Ölçeği, Algılanan Stres Ölçeği uygulanacaktır. Bu çalışma, randomize kontrollü deneysel çalışma için çalışma protokolüdür. Çalışma tamamlandıktan sonra veriler analiz edilip bulgular açıklanacaktır.

Anahtar Kelimeler: Stres, Karar Verme, Kişilik, Bilinçli Farkındalık, Klinik Protokol

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Introduction

Personality can be expressed as a set of characteristics that distinguish the individual from other people and have consistency and continuity. Personality traits define the characteristics that underlie the individual's behaviour and show continuity (1). Five sub-dimensions of personality are mentioned. These are extraversion, neuroticism, openness to experience, adaptability and self-control. Individuals with extraversion are described as sociable, warm-blooded, sympathetic and have high socialisation skills (2). Neurotic individuals are defined as individuals who experience emotional changes frequently, are irritable, pessimistic and prone to depressive feelings and thoughts. On the other hand, individuals with openness to experience are seen as flexible and creative, open to new experiences and development. Individuals who have the personality trait of adaptability are harmonious, conscientious, reliable and humble (3). Individuals with self-control personality traits are seen as high level of self-control, hardworking, high sense of responsibility, reliable and determined (4). These personality traits also affect individuals' perspectives and reactions to the stressful events they encounter in their lives (5). Stress is defined as the strain or distress felt against the people or events we encounter during the day (6). Although the source of stress is the same, the emotional reactions of individuals are different (7). This difference is due to personality traits (2).

In studies conducted with nursing students, it is seen that the first-ranked stress source is clinical practices (8). In a study on the stress levels and personality types of nursing students, it was reported that individuals with neurotic personality traits had higher stress levels, while individuals with extraverted and open-to-experience personality traits had lower stress levels (9). In the study evaluating the relationship between the stress perceived by nursing students in the clinical environment and personality type, it was found that the perceived stress level was higher among students with neurotic personalities. Lower stress levels were found among students with extraversion and agreeableness personality traits (10).

Personality traits affect the way we perceive and react to stress, as well as our decision-making processes (11). Decision-making is defined as the process of making the right choice among multiple options, which is influenced by many variables and involves complex mental processes (12). Nurses have to make continuous, critical decisions in the patient care process. These decisions directly affect the care outcomes of patients (13). In the process of nursing education, it is important for nursing educators to plan for students to gain skills to cope with stress in clinical practice and to develop clinical decision-making skills (14).

In a study conducted on personality types and clinical decision-making skills of nursing students, it was determined that the clinical decision-making scores of students showing openness to experience and self-control personality traits were high. The clinical decision-making scores of students with neurotic personality traits were found to be low. No significant relationship was found between other personality types and clinical decision-making. (15). As a result of these studies, it is thought that knowing the personality traits of nursing students is effective for stress management and clinical decision-making skills in clinical practice.

Mindfulness aims to enable the individual to concentrate on the present moment in a non-judgmental way without distraction (16). Mindfulness helps nurses cope positively with stress (17). According to the results of the study, it is seen that it helps nursing students cope with negative emotions such as stress, depression, and anxiety (18). Recently, neuroscientists have initiated studies showing that mindfulness-based interventions lead to changes in brain activity in individuals by affecting skills such as self-regulation, emotion control, and cognitive function and focus. It is also predicted that behavioural changes will occur as a result of these changes (19). In this direction, a new field of study has been added to the literature about how mindfulness intervention changes personality traits and decision-making (20,21).

Qualities such as problem-solving skills, critical thinking, crisis management, self-learning, entrepreneurship, communication skills, being open to innovations, creative thinking, adaptation, team cooperation, coping with stress, empathy, effective decision-making, social responsibility, cognitive flexibility, and leadership are expected from nurses in practice areas (22). These qualities should be

acquired by nurses during their education. Nursing academicians should examine various aspects of students' personalities and obtain valuable information about their behaviours in order to provide nursing students with these qualities. By determining the relationship between personality traits and stress in the clinical area, perceived stress, and clinical decision-making, more appropriate clinical learning environments can be created. Based on the idea that this issue is not sufficiently addressed by nursing educators, our study aimed to determine the effect of mindfulness practice on clinical practice stress, self-confidence and anxiety in clinical decision-making, personality traits, and perceived stress in nursing students.

Research Hypotheses

H01: There is no difference between the intervention group and the control group in terms of clinical stress score.

H02: There is no difference between the intervention group and the control group in terms of self-confidence and anxiety scores in clinical decision-making.

H03: There is no difference between the intervention group and the control group with mindfulness education in terms of personality traits.

H04: There is no difference between the intervention group and the control group in terms of perceived stress scores.

Method

Type of the Study

This study protocol outlines a single-center, single-blind, and statistician-blind, parallel-group Randomized Controlled Experimental design conducted on second-year students enrolled in the Nursing Department of the Faculty of Health Sciences at a state university. The study protocol has been prepared in accordance with the SPIRIT (Standard Protocol Items: Recommendations for Interventional Trials) guidelines.

Population and Sample of the Study

The study's population consisted of 239 students enrolled in the second year of undergraduate nursing education at a state university's Nursing Department during the spring semester of the academic year 2021-2022. Due to the hybrid education format necessitated by the Covid-19 pandemic, the first-year Nursing Foundations course, where fundamental nursing skills are taught, underwent a transition in the laboratory application phase of the clinical practice process. The second-year curriculum of the Nursing Department focuses on discipline-specific internal diseases and surgical courses. In the hybrid education process, the group that received their first-year education online performed their first face-to-face clinical practice this year. These two practice areas, where students have a high tendency to make medical errors, need clinical decision-making skills and increase their stress levels, constitute the beginning of clinical practice. Studies show that the most stressful period for students is the second year of their education (23,24,25). This is because their professional knowledge and skills are not yet fully developed and they are not sufficiently prepared to meet the demands for higher level knowledge and skills (23,25). Based on the results of these studies, our study group consisted of second-year students.

G*Power 3.1.9.7 program was used to determine the number of people to be included in the experimental and control groups that will form the study group. At the end of the power analysis, it was decided to include 37 people in the experimental group and 37 people in the control group. The study has been registered with the ClinicalTrials.gov database under the identifier NCT06259955.

Inclusion and Exclusion Criteria

Participant's;

- Voluntariness to participate in the study

- Lack of any communication problem (language problem) meets the inclusion criteria.
- Failure to attend more than two sessions will result in exclusion from the study.

Randomization and Assignment

Groups were determined by an independent statistician in computer environment using <https://www.randomizer.org/>. The assignment was presented to the researcher who performed the intervention after the pre-test. The consort flow diagram of the participants is shown in Figure 1.

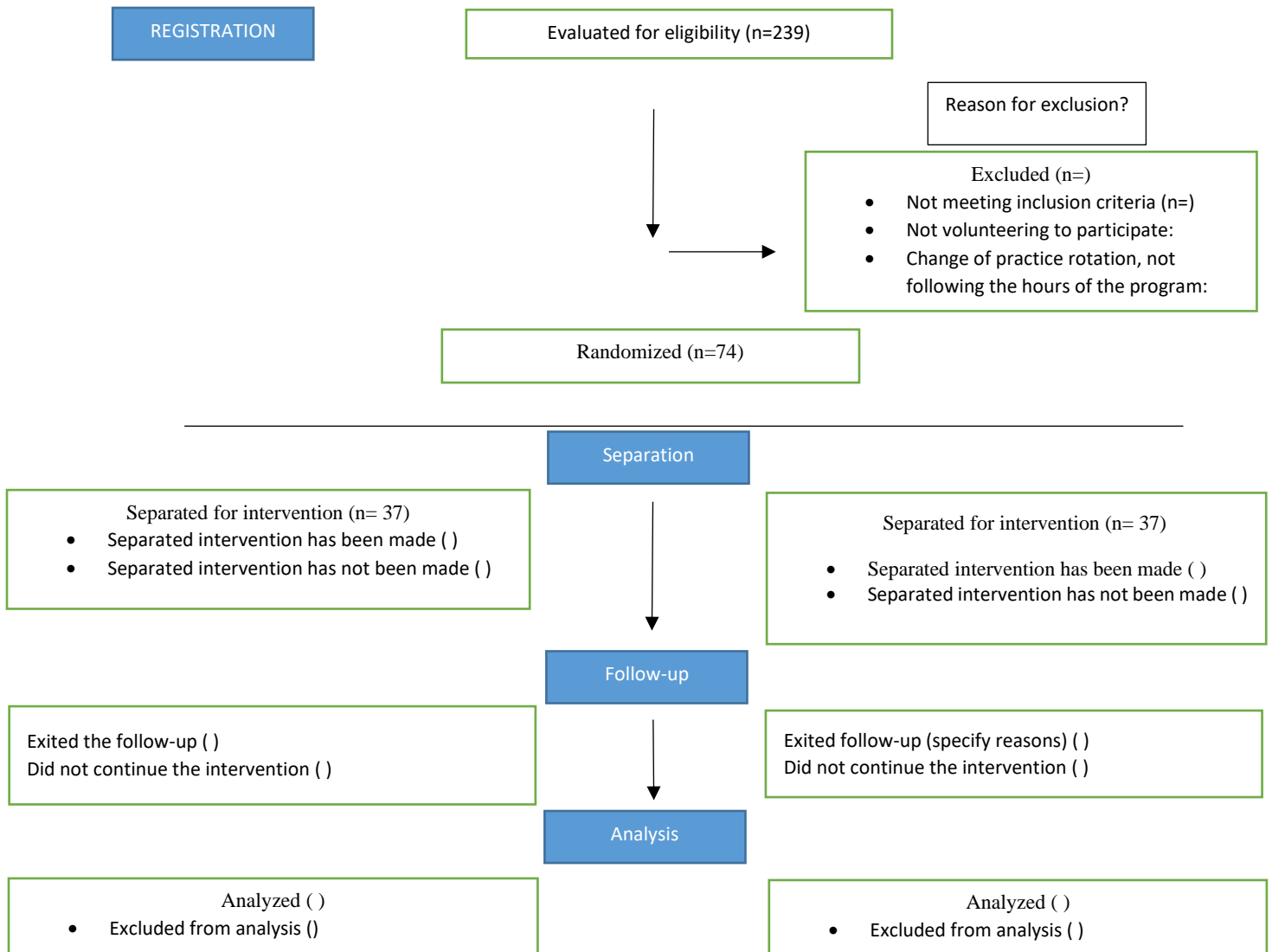


Figure 1. The consort flow diagram of the participants

The study consisted of two groups.

Control Group (Continuing Routine Clinical Practice): Throughout the research, the control group continued with the regular class and clinical practice schedule without any intervention. On the days they attended school for classes, they were summoned for pre-tests and post-tests at the end of the class.

Experimental Group (Receiving Mindfulness Education): The researcher implemented an education program created through literature review and mindfulness coaching education twice a week for the participants. It was planned that participants should not have more than two absences from the education

program, and in cases of absence, makeup sessions would be arranged with the instructor. The education program is illustrated in Figure 2 below.

Session	Theme	Evaluation
1.Session Session duration: 40 minutes	Introduction to Mindfulness Breath Awareness "Breathing is a tool. The breath itself is awareness" Thich Nhat Hanh	What distinguishes this meditation for you, making this activity beneficial? (Start) How does it make you feel? (End)
2.Session Session duration: 40 minutes	Body Scan "Everything is possible because you are alive" Thich Nhat Hanh	What did you come with? What do you feel in your body? (Start) Which points of your body did you feel in this meditation? Did a different sensation arise? (End)
3.Session Session duration: 40 minutes	Eating Awareness "Listen to unpleasant emotions! Remember that thoughts are not facts! Be grateful every day! Breathe and smile!" Shamash Alidina	Do you notice the taste, smell and shape of what you eat? (Start) What do you feel during the exercise? Can you describe the sensations that the taste in your mouth evokes? (End)
4.Session Session duration: 60 minutes	Autopilot Disengagement "You can't stop the waves, but you can learn to surf." Jon Kabat-Zinn	Can you share an action that you repeat every day? What goes through your mind as you do this action? (Start) What did you observe about yourself during the practice? (End)
5.Session Session duration: 60 minutes	Mindful Movement Walking Exercise "For you, there is more right than wrong; start from where you are." - Jon Kabat-Zinn	What do you feel when you walk during the day? (Start) How did you feel in the mindful walking exercise? (End)
6.Session Session duration: 60 minutes	Compassion Practice "If you want others to be happy, practice compassion. If you want to be happy, practice compassion." Dalai Lama "If compassion doesn't include yourself, it's incomplete." Jack Kornfield	What does compassion mean to you? (Start) How did the practice of compassion feel? (End)

Figure 2. Mindfulness Programme Contents

Blinding

Blinding could not be implemented during the application of mindfulness education as the education was provided by the researcher. The research data were collected by another researcher who was unaware of the group distribution of the students. The data were coded and processed as Group A and Group B. During the statistical analysis phase, the data were transferred to a computer by an independent statistician, who remained blinded until all analyses were completed. Blinding was implemented in data collection, statistical analysis, and reporting to mitigate potential bias in statistics and reporting.

Data Collection

The pre-test and post-test of the study were collected by an independent person outside of the researcher.

Competence of the Researcher

After completing the 8-week course on mindfulness, the researcher was qualified to provide training by Breathing Mind through the Mindfulness Coaching programme, which consists of 100 hours of theory and 40 hours of practice, approved by the International Coaching Federation.

Data Collection Tools

The Clinical Stress Questionnaire-PCSQ

The questionnaire, consisting of 20 items across four sub-dimensions, was developed by Pagana (1989) to measure the stress experienced by nursing students in clinical practice, utilising a five-point Likert scale. The questionnaire is grouped under four dimensions consisting of threat, struggle, harm and benefit feelings. The Threat sub-dimension of the Nursing Stress Scale (NSS) includes expressions such as "I felt

overwhelmed, saddened, moved, anxious, scared, and intimidated/overwhelmed." The Coping sub-dimension encompasses expressions like "I was stimulated, cheered up, hopeful, enjoyed, excited, enthusiastic, and happy." The Harm sub-dimension involves expressions such as "I got angry, felt sad, experienced guilt, felt disgusted/repulsed, and was disappointed." The final sub-dimension, Benefit, includes expressions like "I relaxed and felt confident." Likert scale options range from 0 - none, 1 - a little, 2 - moderate, 3 - much, to 4 - very much. The questionnaire yields a minimum score of 0 and a maximum score of 80. A lower score indicates a lower level of stress, while a higher score indicates an increased level of stress. The Turkish validity and reliability of the Nursing Stress Scale were conducted by Şendir and Acaroğlu (2008), with an internal consistency coefficient of .70, and it was reported that factor analysis supported the original structure (26).

Nursing Anxiety and Self-Confidence with Clinical Decision-Making Scale- NASC-CDM:

Developed by Krista A. White (2014), this scale is designed in a six-point Likert format and consists of two sections, aiming to assess nursing students' anxiety and self-confidence in clinical decision-making (24). The scale comprises 27 questions, with two sub-dimensions independently scored. The minimum score that can be obtained from both sub-dimensions is 27, and the maximum score is 162. Each sub-dimension includes three sub-dimensions: "Using resources and active listening to obtain information (13 questions)," "Using acquired information to identify the problem (7 questions)," and "Knowing and taking action (7 questions)." The adaptation of the scale into Turkish was carried out in 2017 by Bektaş and colleagues. The total Cronbach's alpha value of the self-confidence section of the scale is 0.97. The Anxiety section of the scale has a total Cronbach's alpha of 0.96 (27).

The Ten-Item Personality Inventory (TIPI):

Gosling et al. (2003) developed this scale to assess personality traits. It consists of ten items expressing personality traits and was tested on 112 participants, including both students and non-students. These personality traits are listed as follows: 1. Extraverted 2. Critical, quarrelsome, 3. Dependable, self-disciplined, 4. Anxious, easily upset, 5. Open to new experiences, complex, 6. Reserved, quiet, 7. Sympathetic, warm, 8. Disorganized, careless, 9. Calm, emotionally stable, and 10. Traditional, uncreative. The scale is in a seven-point Likert type. Participants are expected to read each expression and select the one that best describes themselves on a scale from 1 to 7 (1. Completely agree, 2. Partially disagree, 3. Slightly disagree, 4. Undecided, 5. Slightly agree, 6. Partially agree, 7. Completely agree). The adaptation of the scale into Turkish was conducted by Atak (2013) with a total of 320 participants, both university students and non-students, with an average age range of 18-25. Cronbach's alpha reliability coefficients for the scale were 0.83 for the Openness to Experience subdimension, 0.81 for Agreeableness, 0.83 for Emotional Stability, 0.84 for Conscientiousness, and 0.86 for Extraversion. (28)

Perceived Stress Scale (PSS)

Perceived Stress Scale (PSS), developed by Cohen, Kamarck, and Mermelstein in 1983, has a Cronbach's Alpha value of 0.86. Bilge, Ögce, Genç, and Oran's (2007) Turkish adaptation yielded a Cronbach's alpha of 0.81. The PSS comprises two subscales and a total of eight items. The perceived stress subscale includes items 1, 2, 3, 7, and 8, while the coping with perceived stress subscale includes items 4, 5, and 6. The scale is prepared in a five-point Likert type (0 never, 4 very often), with three reversed items (items 4, 5, 6) and five straightforward items (items 1, 2, 3, 7, 8). Scores range from 0 to 20 for the perceived stress subscale, 0 to 12 for the coping with stress subscale, and 0 to 32 for the total scale. The scale and subscale scores are used for evaluation. Higher scores on the perceived stress subscale indicate higher levels of perceived stress (29).

Ethical Considerations of the Study

The research has obtained approval from the Gazi University Ethics Committee with the reference number 08, dated April 19, 2022, and has been endorsed by the Gazi University Faculty of Health Sciences. Permission was obtained from Gazi University Faculty of Health Sciences, where the students were

enrolled. Prior to the study, the students involved were notified, and those who wished to participate provided written permission.

Discussion

Personality traits affect the way we perceive, cope with and react to stress. In a study looking at the perceived stress levels of university students according to personality types, neurotic individuals were found to have high perceived stress levels and low coping levels, while extraverted individuals had low perceived stress levels and high coping levels (30). Knowing the personality characteristics of students will make it easier for us to help students who are negatively affected by stress (31).

Clinical practice stress is a common experience for students from every class throughout their educational journey (32, 33). In order to cope with this situation, it is essential for nursing academicians to plan various interventions to impart stress coping skills and enhance clinical decision-making abilities during the education period (34). Educators have implemented interventions such as orientation programs, simulation educations, and laboratory practices focused on addressing the knowledge deficiency aspect of clinical stress among nursing students (35, 36, 37). These interventions contribute to a problem-focused coping strategy. Stress has both a problem-focused aspect and an emotional aspect. In emotion-focused coping, managing emotions related to the stressful event is crucial. When anticipating that individuals will encounter unknown situations and experience stress throughout their lives, emotion-focused coping becomes important (38). There is also a need for emotion-focused coping methods in dealing with clinical practice stress.

There are various factors affecting decision-making processes. These factors include personal characteristics, characteristics of the decision-making environment, previous experiences, knowledge and stress levels (39). When the factors affecting the clinical decision-making skills of nursing students are examined, there are factors such as the class in which they are educated, interpersonal relationships, self-confidence, liking the clinical environment they are in and anxiety (40, 24). There are many study results showing that mindfulness is effective on anxiety and self-confidence (41, 42, 43).

Ethical Statement: Ethics committee approval for this study was obtained from Gazi University Ethics Committee (Date: 19.04.2022 and Decision No: 08). This article was scanned by Turnitin software.

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