



Research Article

The effect of a mural activity on health students' hopelessness and social integration levels¹

Hamza Ateş² and Fatma Avşar^{3*}

Faculty of Health Sciences, Department of Nursing, Tokat Gaziosmanpaşa University, Tokat, Türkiye

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Abstract

The application of artistic works on walls is called mural. Mural painting has been used as an intervention in health-related projects. In this study, visual arts and the concept of metacognition were structured, combined and presented as activities. It was conducted to determine the effect of mural metacognition activities with the students of the Faculty of Health Sciences on the despair and social integration levels of the students during the COVID-19 period. The research was planned as quasi-experimental with a pre-test and post-test design. The project was conducted with 55 students. The study data were collected using an online questionnaire. The questionnaire consists of an information form, the Beck Hopelessness Scale and three sub-dimensions of the Social Integration Scale. Percentage, mean, and t-tests were used to analyze the data. Eighty per cent of the students participating in the study were female, with a mean age of $20,80 \pm 0.9$ years. 60% of the students were studying nursing, 11,1% in midwifery, 15,6% in physiotherapy and rehabilitation, and 13,3% in nutrition and dietetics. 60% of the students evaluated their academic achievement as good. When the total score of the educational integration sub-dimension of the social integration scale was compared, there was a difference between the pre-test and post-test scores ($p=0,035$; $p<0,05$). At the end of the research, nine mural drawing and painting activities were conducted. The mural activity reduced students' hopelessness levels and contributed positively to their educational integration levels. Metacognition can be used as a basic parameter in future mural academic studies on visual art.

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Introduction

Metacognition is the individual's awareness of his/her own thinking processes during his/her activities and his/her ability to control these processes. In order for an activity to be considered in the metacognitive context, it has been defined that it should have some characteristics. Metacognitive activities include planning a learning task, using appropriate skills and strategies, monitoring learners, self-evaluation and self-correction. While these are happening, learners are expected to be aware of distracting stimuli (Goldberg, 2005; Silva Pacheco, 2020). In one study, a mass measurement tool related to metacognition was developed, and in the same study, as a suggestion for future studies, the importance of individual measurements, changes and evaluations was emphasized (Gutierrez de Blume et al., 2024). The

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² Necmettin Erbakan University Medical Faculty Hospital, Konya. E-mail: ateshamza201@gmail.com ORCID: 0009-0006-9592-8179

³ Assist. Prof. Dr., Tokat Gaziosmanpaşa University, Faculty of Health Sciences, Department of Nursing, Tokat, Türkiye. E-mail: fatma.avsar@gop.edu.tr ORCID: 0000-0001-7576-1902

findings of another study on self-confidence and academic motivation made strong recommendations for educational policies and practices, and it was emphasized that training and activities should be structured with metacognitive awareness. It was concluded that this would increase the learning experience and students' awareness (Shukla & Singh, 2024). The source of the current study is the needs and recommendations of this current literature. It is important to observe how an activity in accordance with metacognitive training standards will change the research parameters of individuals. However, when the literature is analyzed in depth, the publications on the use of visual arts as a metacognitive tool were concentrated five years ago and earlier, and there are few current publications (Van de Kamp et al., 2015; Goldberg, 2005; Silva Pacheco, 2020; McCollum, 2019; Burns, 2018).

Visual art activities have been proven to have positive effects on human health (Cakmak et al., 2020; Ozlem, 2020). In a study conducted by Demir (2017), it was stated that art initiatives are effective in many psychosocial problems. The mural used in this research is a painting art technique. A mural is explained as a painting on the wall. The application of works of art on the walls is called mural. The mural is an English word, and since it is the name of an artistic technique, it is used in the same way in Turkish academic publications (Toy & Gorunce, 2018; Sprague et al., 2011). Mural painting activities have been used as an intervention in health-related projects (Sprague et al., 2011). A study found that mural activities positively affected health outcomes in disadvantaged groups (Bhardwaj, 2013). The power of art can be used for health sciences faculty students adversely affected by COVID-19 (Yanik & Yesilcinar, 2021). Students can be considered as disadvantaged groups in this context. The psychosocial health of health sciences faculty students, as well as all health workers, has been negatively affected by the COVID-19 period, and the level of hopelessness has increased (Bayulgen et al., 2021; Yanik & Yesilcinar, 2021).

Social integration can be defined as the state of complementarity between various elements of a community, group or social structure that make up a society. Social integration is a multidimensional concept that deals with the perception of the individual in social relations. It is the whole of perceptions in many dimensions such as family, education, environment, national and spiritual. In order to ensure social integration, socialization, which was neglected during the COVID-19 period, is very important. The quarantine initiatives implemented during the COVID-19 period caused problems with social integration. The perceptions of social integration were negatively affected by health workers who worked very intensively during the process and students who were worried about the future (Çatiker et al., 2020).

The psychosocial health of health sciences faculty students, as well as health workers, was negatively affected by the COVID-19 pandemic. The power of art and mural techniques can be used to intervene in the levels of hopelessness and social integration of individuals who are students during the COVID-19 period. This may help students use art as a coping method when they graduate. When students are appointed as health workers, they can use art to improve the quality of their care (Kaya et al., 2016). The mural art activity planned within the scope of this study is a unique application for students. The mural activity addresses an aspect of evidence-based art initiatives that have not been implemented before. Students who have had very difficult days during the COVID-19 pandemic can convey their feelings and thoughts that they cannot express to each other by talking and making art together. There are many initiatives for students in our country (Eyupoglu et al., 2020; Karpaviciute & Macijauskiene, 2016). As in this study, no artistic activity using the mural technique has been encountered. It is thought that it will contribute to the literature in terms of technological, methodological, and theoretical aspects and will be a starting point for the unaddressed aspects in the literature mentioned above.

Aim of Study

The mural initiative planned to be carried out by the students was conducted to determine the effect of the mural activities carried out with the students of the Faculty of Health Sciences during the COVID-19 period on the hopelessness and social integration levels of the students. Objectives in line with the purpose;

It is aimed to determine the decrease in students' hopelessness levels. In measurable terms, it is to determine a statistically significant decrease in the Beck Hopelessness Scale post-test mean scores of the students compared to the pre-test scores.

Determining the increase in students' perception of social integration. In measurable terms, it is aimed to determine a statistically significant increase in the post-test mean scores of the three sub-dimensions of the Social Integration Scale named social-environmental, local and educational integration compared to the pre-test scores. Hypothesis of study;

H1a: Mural activities have an effect on nursing students' hopelessness levels.

H1b: Mural activities have an effect on nursing students' perceptions of social-environmental integration.

H1c: Mural activities have an effect on nursing students' perceptions of local integration.

H1d: Mural activities have an effect on nursing students' perceptions of educational integration.

Method

Research Model

The project was designed as a quasi-experimental one-group with a pre-test and post-test design. The independent variable of the research is mural activities; the dependent variable is hopelessness and social integration.

Sampling

The population of the study consisted of all students studying at the Faculty of Health Sciences according to 2021 student statistics (N=1354). The distribution of the number of students according to the departments is as follows. Emergency Aid and Disaster Department: 142, Nutrition and Dietetics Department: 81, Midwifery Department: 349, Physiotherapy and Rehabilitation Department: 245, Nursing Department: 537 students. A purposive convenience sampling method was used in the study. All students in the population who met the research criteria were included in the sample. Criteria for inclusion of students in the sample: Being an undergraduate student of the Faculty of Health Sciences. Volunteering to participate in the research. Being among the first 55 students who responded to our announcement in writing.

In order to determine the minimum number of students to be included in the sample, power analysis was performed in the GPower 3.1 program before the research. Beck hopelessness scale scores obtained from previous similar studies were used as a reference for power analysis. As a result of the analysis performed by taking $\alpha = 0.05$ power $1 - \beta$ (beta) = 0.90 standard deviation 10%, it was calculated that there should be at least 26 individuals in the sample. In order to determine the students who met the inclusion criteria, a written announcement was made to the entire faculty, and the first 55 students who wanted to participate in the study and who responded to the announcement in writing were included in the study.

Data Collection Tools

The study data were collected using an online questionnaire form prepared by the researchers with the help of Google Forms. The questionnaire consists of two parts. The first part consists of questions questioning the socio-demographic characteristics of the participants and their interest in art (13 questions). The second part includes the Beck Hopelessness Scale (BHS), consisting of 20 items, and three sub-dimensions of the Social Integration Scale (SIS), consisting of 22 items.

Beck Hopelessness Scale: It aims to measure the future expectations and pessimism levels of individuals. The higher the score obtained from the scale, the higher the hopelessness level of the person is considered. The Turkish validity and reliability study of the scale was conducted by Seber et al. (1993). The scale has 20 items, is scored between 0-1, and consists of yes and no answers. The scores that can be obtained from the scale vary between 0-20. In the study conducted by Demir-Barutcu (2022), the Cronbach Alpha reliability coefficient was found to be 0.87. In our study, this ratio was found to be 0.84.

Social Integration Scale: It was developed to measure students' perceptions of social integration. Turkish validity and reliability study were conducted by Simsek and Simsek (2013). The whole scale consists of 47 items. Social Integration Scale (SIS) consists of 6 dimensions: integration with social environment (8 items), local integration (5 items), familial integration (7 items), educational integration (9 items), national integration (10 items) and normative-spiritual integration (8 items). In this study, integration with social environment (8 items), local integration (5 items), and educational integration (9 items) sub-dimensions were used. In this study, three sub-dimensions of the scale, which are

appropriate for the content of our research, were used. These are the integration with social environment sub-dimension, local integration sub-dimension, and educational integration sub-dimension. Cronbach's alpha reliability coefficients were found to be 0.85 for the social integration sub-dimension, 0.76 for the local integration sub-dimension and 0.72 for the educational integration sub-dimension (Simsek & Simsek, 2013). In our study, the reliability coefficient was 0.94 for the social integration sub-dimension, 0.79 for the local integration sub-dimension and 0.91 for the educational integration sub-dimension.

Process

The study was conducted in the canteen indoor walls of the Faculty of Health Sciences building of Tokat Gazi Osmanpaşa University in the academic year 2022-2023 (June 2022-January 2023). The pre-test questionnaire application was applied online with the help of Google Forms to 55 participants invited to the study. The mural activity was carried out every week during the day and at a time convenient for the students. The mural activities were carried out manually on nine canteen walls determined by the administration in the building of the Faculty of Health Sciences of Tokat Gazi Osmanpaşa University. Students were informed about metacognition. Before the activity started, the students were motivated to do the activity consciously and be aware of the environment and their teammates. In this stage, the planning, skills, self-evaluation, self-correction and awareness stages of metacognitive activities were taken into consideration (Goldberg, 2005; Silva Pacheco, 2020).

Each activity session lasted an average of two hours. The number of sessions was at least three and at most five times, depending on the content of the selected visual. The students projected the selected visuals on the wall with the help of projection and computer, drew them on the wall with a pencil, and then completed the mural activities by adding the colours and additional shapes they wanted with the help of oil paint and brush. In the selection of the visuals, the students' wishes were prioritized, and themes related to their departments were ensured. They had a social time while painting during the activity. After the activities, the same questionnaire was filled out again as a post-test.

Statistical analysis

Skewness and Kurtosis Tests and Z values were analyzed to determine the normal distribution of the data. Skewness and Kurtosis values were in the range of +2 and -2. It was determined that the data were normally distributed. The data of the study were evaluated on the computer using the SPSS 25.0 (Statistical Package For Social Sciences) programme. Percentage and mean were used in the analysis of the data. A paired sample t-test was used for intra-group comparisons of the pre- and post-tests of the scale. The significance level was accepted as 0.05 in all statistical procedures used in the research.

Results

Eighty per cent of the students participating in the study were female, and their mean age was 20.80 ± 0.9 years. 60% of the students were studying nursing, 11.1% were in midwifery, 15.6% were in physiotherapy and rehabilitation, and 13.3% were in nutrition and dietetics. According to the post-test data, 55.6% of the students were in the third grade, 28.4% were in the second grade, and 15.6% were in the fourth grade. The students evaluated their academic achievement as good by 60% and medium by 40%, and there were no students who evaluated their academic achievement as bad. The income status of 42.2% of the students is equal to income and expenditure; 33.3% of the students' income status is less than income and expenditure; 24.4% of the students' income status is more than income and expenditure. None of the students work anywhere. When the students were asked which type of art they were interested in, five students stated that they were interested in music, and nine students stated that they were interested in painting. The rate of students who are interested in painting is 46,2%. The rate of students who think that they have talent in painting is 26,7%; the rate of those who think that they have partial talent is 44,4%. 13,3% of the students have received a painting education before. The rate of students who think that the art of painting is effective in coping with stress is 91.1% (Table 1).



Figure 1. Visuals of nine mural metacognition works

Table 1. Participants' socio-demographic characteristics and information on art (n=55)

Characteristics		n	%
Gender	Female	36	80.0
	Male	9	20.0
Department	Nursing	27	60.0
	Midwifery	5	11.1
	Physiotherapy and rehabilitation	7	15.6
	Nutrition and dietetics	6	13.3
Grade	Second grade	13	28.8
	Third grade	25	55.6
	Fourth grade	7	15.6
Academic Success	Good	18	40.0
	Middle	27	60.0
Income status	Income less than expenditure	15	33.3
	Income equals expenditure	19	42.2
	Income more than expenditure	11	24.5
Interest in art	Yes	14	31.1
	No	31	68.9
Interest in the art of painting	Yes	21	46.5
	No	5	11.4
	Partly	19	42.1
Having a talent for the art of painting	Yes	12	26.7
	No	13	28.9
	Partly	20	44.4
Receiving education in painting	Yes	6	13.3
	No	39	86.7
Thinking that painting is effective in coping with stress	Yes	41	91.1
	No	1	2.2
	Partly	3	6.7
Total		55	100

At the end of the research, nine mural drawing and painting studies were carried out. The mural works made at the end of the research application are in Image 1. The works were made by the students participating in the project.

The Beck Hopelessness Scale total score of the students was compared between pre-test ($\bar{X}=4.06\pm3.81$) and post-test ($\bar{X}=3.77\pm3.47$) scores ($p=0.606$). Three sub-dimensions of the social integration scale were analyzed. The pre-test ($\bar{X}=27.91\pm6.92$) and post-test ($\bar{X}=27.73\pm7.42$) scores of the total score of the social integration sub-dimension were compared ($p=0.866$). The pre-test ($\bar{X}=15.71\pm3.72$) and post-test ($\bar{X}=15.91\pm4.02$) scores of the students' local integration subscale total score was compared ($p=0.716$). Students' educational integration sub-dimension total score pre-test ($\bar{X}=27.35\pm7.69$) and post-test ($\bar{X}=29.53\pm7.31$) scores were compared ($p=0.035$) (Table 2).

Table 2. Participants' mean scores for the sub-dimensions of the BHS and SIS (n=55)

Scales and subscales	Mean± SS	t	p
BHS			
Pre-test	4.06±3.81	0.520	0.606
Post-test	3.77±3.47		
SIS-Social-environmental Integration Sub-dimension			
Pre-test	27.91±6.92	0.170	0.866
Post-test	27.73±7.42		
SIS, Local Integration Sub-dimension			
Pre-test	15.71±3.72	0.367	0.716
Post-test	15.91±4.02		
SIS, Educational Integration Sub-dimension			
Pre-test	27.35±7.69	2.170	0.035
Post-test	29.53±7.31		

BHS: Beck Hopelessness Scale, SIS: Social Integration Scale

When examining Table 2, these results indicate a statistically significant improvement in participants' adaptation levels related to the intervention, while no notable change was observed in the other sub-dimensions.

Discussion

Within the scope of this research, it was tried to provide an evidence-based practice in the field of health sciences of mural artistic activities. In a qualitative social integration study conducted on university students, it was suggested that programmes that increase social integration in schools should be carried out. In the same study, it was stated that there were no interventional studies on social integration (Akşab, 2018). This study is important in terms of supporting this aspect of the literature. Artistic activities to be started at the undergraduate level can be used as a coping method for busy healthcare professionals. In a study conducted by Kilic (2018), it was found that the level of social integration was higher at the undergraduate level compared to other education levels. In our study, we tried to benefit from this advantage of undergraduate students and to facilitate the transition to professional life.

The most striking result of this study was that the total score of the educational integration sub-dimension of the students showed a significant increase in the post-test score compared to the pre-test score ($p < 0.05$). In the study evaluating the total social integration scale, it was found that women had a lower level of social integration than men (Kilic, 2018). In the literature, the opposite interpretation of this study is found in the sub-dimensions of the scale. In one study, it was found that students' social integration levels were directly proportional to the quality of education and academic achievement. In the same study, it was found that students' perceptions of educational and local integration were low, and the difference was in favour of male students (Ozgan ve Is, 2017). In our study sample, 80 per cent of the participants were women. This may be the reason for the difference in our study. In another study, the educational dimension was also found to be lower than in our study. The reason was interpreted as the school being inadequate in meeting student expectations, supporting students in showing their talents, and helping them solve problems (Simsek & Simsek, 2013). In our study, this situation can be considered as the opposite. With this study, the school gave students the opportunity to show their talents. It can be concluded that students are valued, pragmatic attempts are made to produce solutions to students' problems, and it is an example to support students in showing their talents. In this study, the null hypothesis H1d was accepted. Hypotheses H1a, H1b, and H1c are rejected.

Another striking finding in our study was the level of hopelessness. Demir-Barutcu (2023) evaluated the level of hopelessness as low (8.41 ± 5.22) in a study they conducted with the students of the faculty of health sciences. In the same study, it was interpreted that the reason why this rate was lower in nursing students compared to other departments was that the anxiety of finding a job in the future was less compared to other departments. In our study, the rate of hopelessness was found to be almost half as low as in this study. In our study, more than half of the participants were nursing students (60%). The low level of hopelessness can be interpreted in this way. In addition, in another study, the factors affecting the hopelessness levels of nursing students were examined, and it was concluded that the level of

hopelessness was higher in women than in men (Cunkus et al., 2021). On the other hand, there are studies in the literature that found a level of hopelessness similar to our study (Tercanlı & Demir, 2012).

The current study does not directly measure metacognition. In one study, a three-session museum visit was carried out for nursing students as a visual art activity. Differently, the study does directly measure metacognition (Lovell et al., 2021). Studies arguing that metacognition is an important critical thinking tool in the field of art engineering and among doctoral students have been brought up in the current literature. Health is one of the fields where critical thinking is most needed. It may also be important for health professionals to think critically (Caratozzolo, 2022; Liu, 2023). Metacognitive change in visual art practices should be studied and emphasized more frequently in the current literature.

Finally, the mural activity in our study decreased the hopelessness level of the students, although not at a significant level. When the Beck Hopelessness Scale total score of the students was compared, there was no significant difference between the pre-test and post-test scores ($p>0.05$). Although not significant, the decrease in hopelessness level is very valuable. In a study, it was emphasized that environmental stressors should be taken under control for nursing students to cope with hopelessness. It was also emphasized that the most important environmental support is social support. It was suggested that social opportunities should be created for students to spend time and communicate with their peers (Cunkus et al., 2021). It is predicted that our study will provide important findings for future studies in terms of being an initiative that deals with hopelessness and social integration together and includes a social and artistic initiative, just as stated in the literature.

Conclusion

At the end of the research, nine mural drawing and painting studies were carried out. There was a decrease in the hopelessness levels of the students, but not at a significant level. The environmental integration and local integration levels of the students did not change, and the educational integration levels increased significantly. Mural activity decreased students' hopelessness levels and contributed positively to their educational integration levels.

We invite those working in the field of art to help us use art as a tool to solve social problems and to participate in interdisciplinary work.

Recommendations

The effect of art on health can be used more as an evidence-based practice in future studies. Especially for nurses who have to work under an intensive care load, art activities can be used as a coping mechanism. The activities that start in the student period can ensure that the process is reflected in the clinics and care processes. Also, metacognition can be used as a basic parameter in future mural academic studies on visual art. For this, the Metacognitive Awareness Inventory could be a good measurement tool (Schraw & Dennison, 1994). New current scale validity and reliability analyses can also be performed.

Limitations of Study

The biggest limitation of this study is that it is single-centred. The results can only be generalized to this sample. The number of participants is limited. The reason for limiting the mural activities to 55 participants is that the activities made by the participants are costly, and the project budget is limited. The current study does not directly measure metacognition. The main reason for this is to limit the number of items in the questionnaire so as not to tire the participants.

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research was approved by the Tokat Gaziosmanpaşa University Social and Humanities Research Ethics Committee with the decision numbered E-33490967-044-175362 and dated 17.06.2022.

Biodata of Author(s)



Nurse, **Hamza Ateş** graduated from İstanbul Avrupa Vocational School in 2017. I graduated from Tokat Gaziosmanpaşa University, Department of Nursing in 2022. I know German and English languages. I am currently working as a nurse in Konya. My mural project was supported by the Scientific and Technical Research Council of Türkiye. **Affiliation:** Meram Medicine Faculty. **E-mail:** ateshamza201@gmail.com **ORCID:** 0000-0001-7576-1902



Assist. Prof. Dr, **Fatma Avcı** graduated with a degree of Bachelor of Science (B.Sc) in Nursing from Ankara University, Ankara, Turkey in 2012. She received her PhD. degree in Public Health Nursing from Gazi University in 2016. She studied at Health and Well-being, Turku University Applied Sciences, Finland, in 2018 for four months. She studied at the Centre of Development & Evaluation of Complex Interventions for Public Health Improvement, Cardiff University in Wales, the UK, for almost one year from 2018 to 2019. She has worked at Tokat Gaziosmanpaşa University as an assistant Prof Dr since 2020. She continues his academic life by carrying out extensive public health projects. Research interests: Bullying, Assertiveness, Peer Support Strategies, School Children Wellbeing, Health Promotion, Health promotion models, Inequalities/Vulnerable and Disadvantaged groups, Project managements. **Affiliation:** Tokat Gaziosmanpaşa University **Email:** fatma.avcar@gop.edu.tr **ORCID:** 0000-0001-7576-1902

Personel web site: <https://unis.gop.edu.tr/akademisyen/fatma.avcar>

Research Gate: <https://www.researchgate.net/profile/Fatma-Avcı>

AcademiaEdu: <https://independent.academia.edu/avcarfatma>

Google Scholar: <https://scholar.google.com/citations?user=Q36WT20AAAAJ>

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