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EVALUATION OF THE RELATIONSHIP BETWEEN BRICOLAGE AND SELF-EFFICACY IN NURSING STUDENTS

OCENA ZWIĄZKU MIĘDZY BRIKOLAŻEM A POCZUCIEM WŁASNEJ SKUTECZNOŚCI U STUDENTÓW PIELĘGNIARSTWA

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B. Data collection/entry
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C. Data analysis/statistics
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D. Data interpretation
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E. Preparation of manuscript
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F. Literature analysis/search
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Summary

Background. This study was conducted to evaluate the relationship between bricolage and self-efficacy in nursing students.

Material and methods. The study was conducted with undergraduate nursing students between October 1, 2022 and April 1, 2023, using the snowball (chain) sampling method. Data were collected online with the Personal Descriptive Form, General Self-Efficacy Scale and Bricolage Scale and analyzed in SPSS version 22.

Results. The mean scores were as follows: 32.93±7.27 for the Initiation Dimension, 17.79±3.87 for the Persistence Dimension, 9.85±2.51 for the Maintenance Effort Persistence Dimension, 60.57±11.61 for the General Self-Efficacy Scale, and 30.66±5.32 for the Bricolage Scale. The U values of the difference between nursing students in terms of their feeling of being suited to the nursing profession in terms of the Initiation Dimension, Persistence Dimension, Maintenance Effort Persistence Dimension, and General Self-Efficacy Scale scores were determined to be significant at a significance level of $p<0.05$.

Conclusions. It can be said that the general self-efficacy status of nursing students who feel suited to the nursing profession is better than those who do not feel suited to the nursing profession.

Keywords: bricolage, self-efficacy, nursing students, nursing profession, nursing

Streszczenie

Wprowadzenie. Niniejsze badania przeprowadzono w celu oceny związku między brikolażem a poczuciem własnej skuteczności u studentów pielęgniarstwa.

Materiał i metody. Badanie przeprowadzono wśród studentów pielęgniarstwa studiów licencjackich w okresie od 1 października 2022 r. do 1 kwietnia 2023 r. z doborem próby przy użyciu metody kuli śnieżnej (łańcuchowej). Dane zebrano przez Internet za pomocą Osobistego Formularza Opisowego, Skali Ogólnej Własnej Skuteczności i Skali Brikolażu oraz przeanalizowano w SPSS w wersji 22.

Wyniki. Średnie wyniki kształtowały się następująco: 32,93±7,27 dla „wymiaru inicjacji", 17,79±3,87 dla „wymiaru wytrwałości", 9,85±2,51 dla „wymiaru wytrwałości w utrzymaniu wysiłku", 60,57±11,61 dla Skali Ogólnej Własnej Skuteczności oraz 30,66±5,32 dla Skali Brikolażu. Wartości U różnicy między studentami pielęgniarstwa pod względem ich poczucia posiadania predyspozycji do zawodu pielęgniarki/pielęgniarza pod względem „wymiaru inicjacji", „wymiaru wytrwałości", „wymiaru wytrwałości w utrzymaniu wysiłku" i Skali Ogólnej Własnej Skuteczności zostały określone jako istotne na poziomie $p<0,05$.

Wnioski. Można stwierdzić, że ogólny status poczucia własnej skuteczności u tych studentów pielęgniarstwa, którzy czują się predysponowani do wykonywania zawodu pielęgniarki/pielęgniarza, jest lepszy niż u tych, którzy nie czują się odpowiednimi osobami do wykonywania zawodu pielęgniarki/pielęgniarza.

Słowa kluczowe: brikolaż, poczucie własnej skuteczności, studenci pielęgniarstwa, zawód pielęgniarski, pielęgniarstwo

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Introduction

It is essential for nursing science to make innovations in its field and reflect these innovations in its practices in order to enhance the quality of the service it provides in the field of health [1]. Innovation, innovativeness or producing something that does not yet exist with available resources is indispensable for the nursing profession. The concept of innovation can be defined as the change of the existing situation and the willingness to adopt this change in a rapid process [2].

Bricolage, as an extension of innovation, indicates creative and functional innovation by taking advantage of existing resources in cases where resources are limited. Bricolage was first defined by French Anthropologist Levi Strauss in 1966. According to this definition, it is explained as people making innovations by evaluating the resources they have [3]. Baker and Nelson defined bricolage as attempting to cope with new problems by integrating existing resources [4]. The ability of an individual to produce something new, to create a design that does not yet exist by using available resources in line with needs, facilitates the solution process of problems.

One's innovative approach to events has been associated with organizational ethical climate perception, organizational support, quality expectation of care, cooperation, job satisfaction, professional competence, and general self-efficacy [5].

An individual's self-efficacy, creativity and motivation are closely related to the innovation process. As a result, innovative behaviors are considered an important motivational factor [6].

Self-efficacy can be defined as the ability and competence to perform a task by adapting to existing conditions. At the same time, a person's competence is closely related to their individual judgments [7]. Individuals with self-efficacy expect positive returns from the actions they take and easily display their innovative behavior in the next process [8]. Self-efficacy beliefs have an impact on a person's decision to take action. Making an effort during action and struggling against difficulties are important factors that determine a person's behavior. In this context, a person's participation in innovative studies has a positive effect on the perception of self-efficacy and the development of this perception [9].

Based on all these reasons, it is very important for individuals to realize and develop their self-efficacy during the undergraduate education phase, where the foundation of the nursing profession is laid, and to be open to innovation in order to find solutions more easily in times of crisis. Obtaining new material by using existing situations and producing alternatives in patient care are indispensable for the nursing profession.

Aim of the work

In this study, which aims to evaluate the relationship between the concept of bricolage, which is still not very common today, and the self-efficacy of nursing students, answers to the following questions will be sought:

– Does feeling suited for the nursing profession affect self-efficacy?

– What is the general self-efficacy of nursing students?

– Is there a relationship between bricolage and self-efficacy of nursing students?

Material and methods

Type, place and time of research

This research was conducted according to an analytical, cross-sectional snowball (chain) sampling method and an online survey with undergraduate nursing students between October 1, 2022 and April 1, 2023.

Population and sample of the research

The research cohort consisted of students receiving undergraduate nursing education. The sample of the study was 103 nursing students who met the inclusion criteria.

Criteria for inclusion in the study:

– a nursing undergraduate student,

– good mental and spiritual health,

– open to communication and collaboration,

– lack of vision and hearing problems.

Data collection tools

To collect the data, a "Personal Descriptive Form" prepared by scanning the literature, two sub-dimensions "General Self-Efficacy Scale" and "Bricolage Scale" were used.

Personal identifier form

Personal identifier form was created by researchers to determine the socio-demographic characteristics of nursing students. This area of the form includes questions about age, gender, place of residence, grade, high school graduated, feelings of suitability for the nursing profession, belief that the nursing profession is open to innovation, and familiarity with the term "bricolage" (Appendix).

General Self-Efficacy Scale

General Self-Efficacy Scale (Appendix), developed by Sherer et al., consists of 23 items [10]. The validity and reliability of the scale in Turkish was determined by Yıldırım and İlhan [11]. The scale consists of a two-factor structure: General Self-Efficacy and Social Self-Efficacy. Since the first factor of the scale does not fall into the field of specific behavior, the expression "General Self-Efficacy" was used. It refers to the Social Self-Efficacy factor since the social situations in the scale meet the sufficiency expectations. This scale, which was originally a 14-degree Likert type, was later converted to a 5-degree Likert type [12]. In this study, the question "To what extent does it describe you?" was answered on a 5-point Likert scale between "not at all" and "very well". The answers to each question were created by the researchers to be scored between 1 and 5. Items 2, 4, 5, 6, 7, 10, 11, 12, 14, 16 and 17 in the scale are scored reversely. The total score of the scale ranges between 17-85; the higher the score, the stronger the self-efficacy belief. In this study, the Cronbach Alpha coefficient of the scale was found to be 0.898.

Bricolage Scale

The scale consisting of bricolage activities includes 8 items in total (Appendix). The scale questions are on a 5-point Likert type, including the options "I don't know" and "always". In this scale, which does not include reverse coding, the total score is between 0-40. The higher the score, the more the bricolage activities [13]. The Turkish validity and reliability of the Bricolage Scale developed in 2014 was conducted by Öztaş et al. in 2018 [14]. In Öztaş et al.'s study on the Turkish validity and reliability of the Briclage Scale, the Cronbach's alpha value of the scale was found to be 0.90 [14]. In this study, the Cronbach Alpha coefficient of the scale was found to be 0.921.

Analysis of data

This snowball (chain) sampling type study was conducted online between October 1, 2022 and April 1, 2023. Research forms were given to students who met the inclusion criteria for the study. The forms were filled out online by the participants.

Evaluation of data

Analysis of data: 9 different statistical analyses, including frequency, percentage, Pearson Product Moment correlation analysis, Linear Linear Regression analysis, Durbin Watson test, t test, Mann Whitney U test, Kruskal Wallis H test and Cronbach Alpha analysis, were performed by computer using the SPSS 22.00 package program. When these analyzes were examined, the following results were obtained with Skownes-Kurtosis analysis. It was determined whether the data conformed to normal distribution. According to Skownes-Kurtosis values, being in the range between +1.96 and -1.96 is considered a normal distribution. The skewness and kurtosis values of the General Self-Efficacy Scale and Bricolage Scale variables were within the normal range. It can be said that all values of the scales show normal distribution. Since the findings of the study comply with normal distribution, parametric analyses were used in data with more than 30 groups.

Results

The distribution of the nursing students included in the research according to their descriptive characteristics is given in Table 1.

Table 1. Findings regarding the descriptive characteristics of the nursing students included in the research (n=103)

Characteristics		n	%
Gender	**Female**	67	65.0
	Male	36	35.0
Age	**18-21 years old**	73	70.9
	22-25 years old	27	26.2
	26 years old and above	3	2.9
Residential area	**Big city**	48	46.6
	Province	22	21.4
	District	23	22.3
	Bay	10	9.7
Grade level	**1st grade**	46	44.7
	2nd grade	19	18.4
	3rd grade	21	20.4
	4th grade	17	16.5
High school	**Science High School**	7	6.8
	Anatolian High School	70	68.0
	Multi-Program Vocational High School	3	2.9
	Imam Hatip High School	5	4.9
	Health Vocational High School	18	17.5
Feeling suitable for the nursing profession	**Yes**	91	88.3
	No	12	11.7

Characteristics		n	%
Thinking that the nursing profession is open to innovation	**Yes**	96	93.2
	No	7	6.8
Not heard of the term "bricolage" before	**Yes**	3	2.9
	No	100	97.1

When the table is examined, 65% of the nursing students included in the study are women, 70.9% are 18-21 years old, 46.6% live in a metropolitan city, 44.7% are in their first year, 68% are graduates of Anatolian high school, 88.3% feel suited to the nursing profession, 93.2% think that the nursing profession is open to innovation, and 97.1% had not heard of the term "bricolage" before (Table 1).

When the table is examined, the following mean scores may be observed: 32.93±7.27 for the initiation dimension, 17.79±3.87 for the persistence dimension, 9.85±2.51 for the maintenance effort persistence dimension, 60.57±11.61 for the General Self-Efficacy Scale, and 30.66±5.32 for the Bricolage Scale (Table 2).

Table 2. Arithmetic mean and standard deviation values for General Self-Efficacy Scale and Bricolage Scale scores

General Self-Efficacy Scale and Bricolage Scale	n	Minimum	Maximum	Arithmetic mean	Ss.
Starting Size	103	9	45	32.93	7.27
Perseverance Dimension	103	10	25	17.79	3.87
Maintenance Effort Persistence Dimension	103	5	15	9.85	2.51
General Self-Efficacy Scale	103	31	85	60.57	11.61
Bricolage Scale	103	8	40	30.66	5.32

Significant positive relationships were found between the Bricolage Scale and the „Perseverance Dimension" and the „Persistence of Maintenance Effort Dimension" at a significance level of $p<0.05$. According to this result, it can be said that the higher the Bricolage Scale scores, the higher the "Persistence Dimension" and the "Maintenance Effort Persistence Dimension" too (Table 3).

Table 3. Correlation values between General Self-Efficacy Scale and Bricolage Scale scores

Correlation values		Bricolage Scale
Starting Size	**r**	0.062
	p	0.535
Perseverance Dimension	**r**	**0.303***
	p	**0.002**
Maintenance Effort Persistence Dimension	**r**	**0.203***
	p	**0.040**
General Self-Efficacy Scale	**r**	0.184
	p	0.064

Notes: *$p<0.05$.

A Durbin-Watson (DW) test was performed to detect the presence of autocorrelation in the model. Since the DW value was close to 2 at 1.984, it was determined that there was no autocorrelation. For the multi-connection problem tolerance values were examined and it was seen that all tolerance values were greater than (1- R2). The analysis continued after it was clear that there were no autocorrelation and multicollinearity problems (Table 4).

Table 4. Linear regression analysis of the General Self-Efficacy Scale and the Bricolage Scale

Variable	B.	Standard error	Beta	T	*p*
Constant variable	25.012	2.689	-	9.300	0.000
Perseverance Dimension	**0.754**	**0.259**	**0.549**	**2.909**	**0.004**
Maintenance Effort Persistence Dimension	0.208	0.262	0.098	0.794	0.429
General Self-Efficacy Scale	-0.162	0.090	-0.353	-1.805	0.074
R=0.348	R^2=0.121		-	-	-
$F_{(3.99)}$ = 4,550 *p*=0.005			-	-	-

Notes: F: Assumption of homogeneity of variances, R: Correlation Coefficient, R^2: Coefficient of Determination.

As the table indicates, the variables of the "Initiation Dimension", "Persistence Dimension", "Maintenance Effort Persistence Dimension" and General Self-Efficacy Scale were compared with the Bricolage Scale. This gives a significant relationship with (R=0.348, R^2=0.121, p<0.05). The variables of the "Initiation Dimension", "Perseverance Dimension", "Maintenance Effort Persistence Dimension" and General Self-Efficacy Scale explain 12% of the total variance of the Bricolage Scale. According to the standardized regression coefficient (β) and the predictor variable, bricolage in the "Perseverance Dimension" variable was found to be effective, the "Initiation Dimension", "Maintenance Effort Persistence Dimension" and General Self-Efficacy Scale score variables were not found to be effective. When the t test results regarding the significance of the regression coefficients were examined, it was determined that only the "Perseverance Dimension" variable was significant on Bricolage (Table 4).

The t values of the difference between the nursing students' scores in terms of the "Initiation Dimension", "Persistence Dimension", "Maintenance Effort Persistence Dimension", General Self-Efficacy Scale and Bricolage Scale according to their gender were found to be insignificant at a significance level of p>0.05 (Table 5).

Table 5. Nursing students' differences in General Self-Efficacy Scale and Bricolage Scale scores according to descriptive characteristics

Characteristics		Starting Size	Perseverance Dimension	Maintenance Effort Persistence Dimension	General Self-Efficacy	Bricolage Scale
		X±Ss	X±Ss	X±Ss	X±Ss	X±Ss
Gender	Woman	33.25±6.507	17.99±3.780	9.60±2.323	60.84±11.060	31.03±4.049
	Male	32.33±8.576	17.42±4.066	10.33±2.788	60.08±12.711	29.97±7.121
	TEST	t=0.611 *p*=0.543	t=0.709 *p*=0.480	t=-1.429 *p*=0.156	t=0.312 *p*=0.755	t=0.823 *p*=0.415

Characteristics		Starting Size	Perseverance Dimension	Maintenance Effort Persistence Dimension	General Self-Efficacy	Bricolage Scale
		X±Ss	X±Ss	X±Ss	X±Ss	X±Ss
Age	18-21 years old	33.51±6.219	18.03±3.944	9.81±2.390	61.34±10.984	30.86±4.260
	22-25 years old	31.52±9.492	17.41±3.755	10.11±2.806	59.04±13.049	30.22±7.587
	26 years old and above	31.67±9.452	15.33±2.887	8.67±3.055	55.67±14.978	29.67±5.859
	TEST	KW=0.297 *p*=0.862	KW=1.490 *p*=0.475	KW=0.906 *p*=0.636	KW=0.811 *p*=0.667	KW=0.009 *p*=0.995
Residential area	Big city	32.27±8.215	17.33±4.012	9.90±2.868	59.50±12.851	31.79±3.402
	Province	33.00±5.928	17.41±3.487	9.14±1.935	59.55±9.117	29.23±5.051
	District	33.70±5.996	18.83±3.881	10.09±1.905	62.61±9.797	30.57±6.501
	Bay	34.20±8.417	18.40±4.006	10.70±2.908	63.30±14.430	28.60±8.972
	TEST	KW=0.960 *p*=0.811	KW=2.666 *p*=0.446	KW=2.683 *p*=0.443	KW=2.795 *p*=0.424	KW=4.388 *p*=0.222
Grade level	1st grade	34.35±7.002	18.35±4.105	10.02±2.463	62.72±11.893	31.17±4.635
	2nd grade	32.47±6.040	16.63±3.287	8.89±2.492	58.00±10.296	30.79±2.463
	3rd grade	33.14±5.102	18.57±2.993	10.48±2.112	62.19±8.201	29.90±7.035
	4th grade	29.35±10.277	16.59±4.473	9.71±2.953	55.65±14.400	30.06±7.013
	TEST	KW=3.296 *p*=0.348	KW=4.926 *p*=0.177	KW=5.238 *p*=0.155	KW=5.764 *p*=0.124	KW=2.130 *p*=0.546
High school	Science High School	31.86±9.873	18.00±4.435	9.71±3.302	59.57±16.092	30.71±5.992
	Anatolian High School	33.39±6.826	17.83±3.792	9.99±2.464	61.20±10.937	31.01±4.886
	Multi-Program Vocational High School	26.33±9.018	14.33±3.512	7.33±2.517	48.00±15.000	32.67±.577
	Imam Hatip High School	32.20±5.263	15.60±2.608	8.80±1.483	56.60±8.444	28.80±1.095
	Health vocational high School	32.89±8.260	18.72±4.142	10.11±2.518	61.72±12.337	29.44±7.477
	TEST	KW=1.991 *p*=0.737	KW=4.672 *p*=0.323	KW=4.009 *p*=0.405	KW=3.381 *p*=0.496	KW=6.773 *p*=0.148
Feeling suitable for the nursing profession	Yes	33.45±7.312	18.31±3.699	10.04±2.472	61.80±11.352	30.73±5.564
	No	29.00±5.768	13.83±2.791	8.42±2.392	51.25±9.353	30.17±2.918
	TEST	**U=336.000 *p*=0.031**	**U=194.000 *p*=0.000**	**U=330.500 *p*=0.026**	**U=260.000 *p*=0.003**	**U=443.000 *p*=0.286**

Characteristics		Starting Size	Perseverance Dimension	Maintenance Effort Persistence Dimension	General Self-Efficacy	Bricolage Scale
		X±Ss	X±Ss	X±Ss	X±Ss	X±Ss
Thinking that the nursing profession is open to innovation	Yes	33.28±6.952	17.94±3.841	9.82±2.449	61.04±11.404	30.67±5.419
	No	28.14±10.205	15.71±3.988	10.29±3.402	54.14±13.384	30.57±3.952
	TEST	U=226.000 *p*=0.149	U=206.000 *p*=0.087	U=330.500 *p*=0.942	U=197.000 *p*=0.068	U=299.000 *p*=0.625
Not heard of the term "bricolage" before	Yes	27.00±7.000	17.67±3.786	10.67±1.528	55.33±11.015	28.67±10.970
	No	33.11±7.235	17.79±3.893	9.83±2.531	60.73±11.640	30.72±5.154
	TEST	U=75.500 *p*=0.143	U=138.500 *p*=0.821	U=112.000 *p*=0.452	U=106.500 *p*=0.393	U=117.000 *p*=0.514

The KW values of the difference between the scores of the nursing students in terms of their "Initiation Dimension", "Persistence Dimension", "Maintenance Effort Persistence Dimension", General Self-Efficacy Scale and Bricolage Scale according to their ages, places of residence, grade level and the type of high school they graduated from were found to be insignificant at a significance level of $p>0.05$ (Table 5).

U values of the difference between nursing students in terms of their feeling of being suited to the nursing profession in terms of the "Initiation Dimension", "Persistence Dimension", "Maintenance Effort Persistence Dimension" and General Self-Efficacy Scale scores were found to be significant at a significance level of $p<0.05$. These findings show that there is a difference between nursing students in terms of their "Initiation Dimension", "Persistence Dimension", "Maintenance Effort Persistence Dimension", and General Self-Efficacy Scale scores, depending on whether they feel suited to the nursing profession (Table 5).

It may be observed that the average scores of the nursing students who feel suited to the nursing profession are higher in the "Initiation Dimension", "Persistence Dimension", "Maintenance Effort Persistence Dimension", and General Self-Efficacy Scale than for those who do not feel suited to the nursing profession (Table 5). As a result, it can be said that the general self-efficacy status of nursing students who feel suited to the nursing profession is better than those who feel unsuited.

The U values of the difference between the scores of the nursing students in terms of the "Initiation Dimension", "Persistence Dimension", "Maintenance Effort Persistence Dimension", General Self-Efficacy Scale and Bricolage Scale, depending on whether they think that the nursing profession is open to innovation and whether they have heard the term "bricolage" before, were found to be insignificant at a significance level of $p>0.05$.

Discussion

In this study, which was conducted to evaluate the relationship between bricolage and self-efficacy in nursing students, 65% of students were female and 70.9% were between the ages of 18-21 (Table 1). In studies conducted on self-efficacy with nursing students, the majority of the students are female and in a similar age range [15-19].

The total score average of nursing students on the General Self-Efficacy Scale and its subscales is 60.57±11.61 (Table 2). The highest obtainable score on the scale is 85, which shows that students exhibit above-average general self-efficacy. Similar to this study findings, in a study conducted by Açıksöz et al. with nursing students, the students' self-efficacy perception was found to be high [15]. In a study by Göger and Çevirme, examining the

effect of self-efficacy level on educational stress in nursing students, the students' self-efficacy total score average was found to be high at 61.46±11.94 [17]. An investigation of the literature also reveals studies that examine the self-efficacy levels of nursing students using different scales. In Bıyık Bayram's study, the self-efficacy value of nursing students was determined to be at a medium level [16]. In a study by Çıtlık Sarıtaş et al., it was stated that the level of self-efficacy was high [20], and in a study by Dikmen et al., it was stated to be above the medium level [21]. The concept of self-efficacy, which is expressed as an individual's belief in their competence in coping with difficult and stressful life situations [22], is important for nursing students who will work in a hospital environment and encounter different patient profiles to have this belief and to have high levels of self-efficacy.

The average score of the nursing students on the bricolage scale was determined as 30.66±5.32 (Table 2). Since a maximum of 40 points can be obtained with the researchers' responses to the Bricolage Scale, it shows that the nursing students who participated in this study actively engage in bricolage. In the literature, there are mostly studies conducted with nurses practicing their profession. In the studies conducted by Ayhan and Yılmaz, Kronkoft et al. and Öztaş et al. the total score of the nurses' bricolage scale was determined to be high [1,14,23]. Nursing students, who will be the health professionals of the future, adopt an innovative approach and use their current scientific knowledge and clinical experience. Performing bricolage activities using resources is important in terms of providing quality care.

Significant positive relationships were found between the Bricolage Scale and the General Self-Efficacy Scale sub-dimensions of the "Perseverance Dimension" and "Maintenance Effort Persistence Dimension" at a significance level of $p<0.05$. It was determined that the higher the Bricolage Scale scores, the higher the "Perseverance Dimension" and "Maintenance Effort Persistence Dimension" scores too (Table 3). Bandura claims that self-efficacy, which is cognitive in nature, means being open to changes in the future [24]. The nursing profession, as a scientific discipline, attracts students who will take on new roles and form innovative perspectives as they practice the profession, thanks to increasing knowledge and developing technology. It can be said that the implementation of the concept of bricolage, which is referred to as combining the existing resources with the power of creativity, when the available resources are limited, also positively affects self-efficacy.

No significant difference was observed between the gender of nursing students and their Bricolage Scale (Table 5). Studies have been conducted with nurses showing that the average bricolage score is higher in male nurses [23] or female nurses [25]. When the average scores of the General Self-Efficacy Scale obtained according to the gender of the students in our study are examined, the difference between the scores is not statistically significant (Table 5). In a study by Dikmen et al., it was stated that the self-efficacy scores of female students were higher than those of male students [21]. In a study conducted by Zhang et al., the self-efficacy level of male nursing students was determined to be higher than female students. When we examine the literature, there are many studies with findings similar to ours. In research conducted by Pozam and Zaybak, examining the self-efficacy of nursing students regarding their clinical performance, no significant difference was found between the self-efficacy score averages according to gender [18]. In a study by Abdal et al., it was stated that there was no relationship between self-efficacy scores and gender [26]. In research conducted by Albagawi et al., Okçin and Gerçeklioğlu, Kızılcı et al. and Bilgiç et al., there is no significant difference between self-efficacy level and gender [27-30]. This situation can be explained by the fact that, although the nursing profession is associated with the female gender, there are also male nurses in the nursing profession and male students embrace the profession as much as female students.

A non-significant relationship was found between the Self-Efficacy Scale and the Bricolage Scale according to the students› grade levels (Table 5). In a study by Karadağ et al., the mean self-efficacy score of first-year nursing students was found to be higher than that of fourth-year nursing students [31]. In research conducted by Sevindik et al., it was determined that the self-efficacy score average of 4th grade students was higher than that

of 1st grade students [32]. In a study by Koraş Sözen et al., the self-efficacy total score averages of 1st and 2nd grade students were found to be statistically higher than the 3rd and 4th grade students› average scores [33]. In research conducted by Çıtlık Sarıtaş et al., no statistically significant difference was found in the self-efficacy total score averages of nursing students according to grades [20]. Studies conducted with different student groups also state that there is no significant difference between grades [28,34,35]. It is thought that the difference in the study results arises from the education model in the schools, cultural differences, sociodemographic characteristics and experiences of the students.

According to our study results, it was determined that the general self-efficacy status of nursing students who felt suited to the nursing profession was better than those who did not feel suited to the nursing profession (Table 5). In a study by Açıksöz et al., it was stated that there was a significant difference between the Self-Efficacy Scale average scores of nursing students in terms of whether they felt suited to the profession [15]. In similar studies conducted with students, the average self-efficacy score of students who voluntarily chose their department was found to be high [20,21,28,36]. It can be said that students› own willing choice to study a profession that suits them has a positive impact on self-efficacy.

Conclusions

No publications have been found in which the Bricolage Scale was used in relation to nursing students. We are of the opinion that nurses and nursing students can work together on bricolage applications in the clinical field, so that the students can become solution-oriented professionals while still at the undergraduate stage. Accordingly, it can be expected that nursing students' self-confidence and sense of professional belonging will increase, and the position of nurses in the healthcare team will be strengthened.

In line with the findings obtained as a result of the research:

- theoretical knowledge can be supplemented at school by adding the concept of bricolage to the nursing curriculum;
- the concept of bricolage and field applications can be disseminated by organizing in-service training, courses, seminars and congresses;
- in order to develop these practices, identification of clinical needs and search for solutions can be supported by nursing research;
- introducing the concept of bricolage to the health literature, especially when performed by nurses, will strengthen the scientific aspect of the profession.

Our study is a pioneer for future research in the field of nursing. We strongly believe that it will contribute to the existing literature and raise awareness about the integration of bricolage into work areas within the scope of an innovative approach.

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consent of all students who voluntarily agreed to participate in the study was obtained in the first part of the form. Each phase of the study was implemented within the scope of the Declaration of Helsinki.

Artificial intelligence (AI) was not used in the creation of the manuscript.

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Appendix

SOCIODEMOGRAPHIC DATA

1. What is your age?

18-21

22-25

26-29

30 and above

2. What is your gender?

Female

Male

3. Where do you live?

Big city

Province

District

Bay

4. Your grade?

1st grade

2nd grade

3rd grade

4th grade

5. Which high school did you graduate from?

Science High School

Anatolian High School

Multi-Program Vocational High School

Imam Hatip High School

Health Vocational High School

6. Do you feel suitable for the nursing profession?

Yes

No

7. Do you think the nursing profession is open to innovation?

Yes

No

8. Have you heard the term "bricolage" before?

Yes

No

GENERAL SELF-EFFICACY SCALE

Factor 1: Getting Started

7. If a task seems too complicated, I don't even try it.

Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )

6. I avoid facing difficulties.

Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )

17. I don't think I can deal with most of the problems I will encounter in life.

Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
12. I avoid trying to learn new things that seem difficult to me.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
4. I am not very successful in achieving the important goals I set.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
10. If I'm not successful at first when trying something new, I give up quickly.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
11. When I encounter unexpected problems, I cannot easily overcome them.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
5. I leave everything unfinished.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
2. One of my problems is that I can't start a job on time.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
Factor 2: Persistence
15. I am a confident person.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
13. Failure increases my resolve.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
16. I give up easily.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
3. If I can't do a job on the first try, I try until I succeed.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
14. I am not always very confident in my abilities.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
Factor 3: Maintenance Effort-Persistence
8. When I have to do something I don't like, I push myself until I finish it.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
9. When I decide to do something, I get to work immediately.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
1. When I make plans, I am confident that I can carry them out.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )

BRICOLAGE SCALE
1. We are confident in our abilities to find workable solutions to new challenges using our existing resources.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
2. Without hesitation, we will tackle broader challenges with as much of our own resources as we can.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
3. We use any available resources that seem useful to find a solution to a new problem or seize a new opportunity.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
4. We overcome new challenges by combining our existing resources and other resources within our reach.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
5. When dealing with new problems or evaluating opportunities, we take action by considering that we will find useful solutions.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )

6. By combining our existing resources, we tackle a wider variety of new challenges than others can imagine.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
7. When we encounter new problems, we create useful solutions with our existing resources.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )
8. We combine resources to meet new challenges, even though they were not originally designed to solve a specific problem.
Strongly Disagree ( ) Disagree ( ) Undecided ( ) Agree ( ) Strongly Agree ( )