

Research article

The relationship of learned resourcefulness with self-leadership skills: A study with nurse and midwife students

Nilgün Avcı^{a,*}, Gizem Kaya^b

^a Biruni University Faculty of Health Sciences, Department of Midwifery, Istanbul, Turkey

^b Biruni University Faculty of Health Sciences, Department of Nursing, Istanbul, Turkey

ARTICLE INFO

Keywords:

Self-leadership
Learned resourcefulness
Nursing students
Midwifery students

ABSTRACT

Background: It is important for the professionalism that students at the university use their coping skills to solve the problems that may arise before starting the profession, control their behaviours by directing themselves, and motivate themselves in case they face negative situations.

Objectives: This study was carried out to determine the relationship between the selfleadership skills of students studying in nursing and midwifery departments and their learned resourcefulness skills.

Design: The study a descriptive, correlational and cross-sectional pattern.

Settings: The sample of the study consisted of 380 students studying at the Nursing and Midwifery Department of the Faculty of Health Sciences of a foundation university in Istanbul.

Methods: The research data were collected using the information form, the Revised Self-Leadership Questionnaire, and the Rosenbaum Learned Resourcefulness Scale. In the analysis of the data descriptive analysis, parametric or non-parametric comparative analyzes and correlational analyzes were used.

Results: In the study; 84.5% of the participants were female and whose mean age was 20.6-61.6% of the participants were studying in the nursing department. The total score the students got from the Revised Self-Leadership Questionnaire was 131.87 ± 23.49 , and the total score that got from the Rosenbaum Learned Resourcefulness Scale was 120.81 ± 16.77 . The students studying in the third-grade (124.16 ± 13.9) had higher self-control skills compared to the first (118.57 ± 18.8) and the second-grade (119.2 ± 16.7) students, that's, they frequently applied the coping strategies represented in the scale ($p < 0.05$). There was a positive linear relationship between two scale ($p < 0.001$).

Conclusion: Within the framework of the research results, gender, grade and the department studied are related to the level of self-leadership. The level of learned resourcefulness was associated with classroom and stress training. Individuals' self-leadership levels showed a positive relationship with their learned resourcefulness level.

1. Introduction

Increasing demands with rapidly developing science and technology, the economic crisis and the competitive environment are among the most important problems of the 21st century. These problems and the changes experienced create stress in individuals and organizations and it also creates changes in their mission, vision and structures (Garpagaoglu and Güloğlu, 2015). These changes bring along the restructuring (strengthening) studies in organizations and the continuity of these studies. Strengthening studies in organizations ensure the independence of employees and contribute to the emergence of positive

organizational results thanks to strengthened work environments and self-leadership practices (Carson and King, 2005). At this stage, we encounter an important concept: *self-leadership*.

"Self-leadership" first defined by Manz in 1986 is expressed as the process of individual's achieving a successful performance with natural motivating tasks and self-management in order to fulfil the duties that need to be done (Manz, 1986). Self-leadership is a process in which an individual controls and creates their own behaviour (Ioannis, 2019). The effective work of the people in the work team is ensured with self-management by using self-leadership skills (Elloy, 2008). In this process, individuals with self-leadership skills use cognitive and

* Corresponding author at: Kazlıçeşme Mahallesi 10. Yıl Caddesi Protokol Yolu No:45, 34010 Zeytinburnu, Istanbul, Turkey.

E-mail addresses: navci@biruni.edu.tr (N. Avcı), gizemk@biruni.edu.tr (G. Kaya).

<https://doi.org/10.1016/j.nedt.2021.105125>

Received 8 February 2021; Received in revised form 13 July 2021; Accepted 24 August 2021

Available online 30 August 2021

0260-6917/© 2021 Published by Elsevier Ltd.

behavioural strategies in which they direct themselves and control their behaviour in order to be successful (Manz, 1986). And these employees have higher levels of work commitment and effective performance (Inam et al., 2021). When the literature on self-leadership was examined, it was stated that self-leadership improved performance (Marques-Quinteiro et al., 2018) and increased organizational commitment (Cranmer et al., 2019). A study conducted by Marques-Quinteiro et al. (2018) shows that change in the level of self-leadership is positively correlated with change in the performance and job satisfaction levels that adapt over time. In this study that provides new evidence for the idea that individual performance and job satisfaction could be developed through self-leadership training, it was indicated that self-leadership is important for helping employees adapt and improve their performances and job satisfaction, especially during an organizational crisis. Self-leadership, which contributes positively to the individual and organizational performances of individuals, has three different strategies (Houghton et al., 2012; Van Dorssen-Boog et al., 2020). These are behaviour-oriented strategies, natural reward strategies and constructive thinking model strategies. Behaviour-oriented strategies aim to increase the self-awareness of the individual in order to facilitate the management of behaviours. Self-observation, self-goal setting, self-rewarding, self-punishment, and identifying self-reminder cues are among behaviour-oriented strategies (Houghton and Neck, 2002; Neck and Houghton, 2006; Stewart et al., 2011). Natural reward strategies aim to achieve high performance levels by focusing on the activities performed with a positive approach (Houghton and Neck, 2002). This strategy highlights the funny aspects of the functionality of a given task (Ricketts et al., 2012). Constructive thinking model strategies, on the other hand, involve the creation and maintenance of functional patterns of habitual thought (Houghton and Neck, 2002).

It has been stated that individuals with self-leadership skills have a higher potential to control themselves, manage their behaviour, reduce stress and cope with stress. As it is known, stress is among the factors that negatively affect the health of the individual. Stress which is a stimulus of the mind causes disruptions in the body and systems of the individual and although it is a part of normal life, it is a response to changing stimuli in our environment. Stress is an important factor in professional healthcare workers. The stress can also be harmful to caregiving professionals due to its chronic and negative effects (Watson et al., 2013; Maykrantz and Houghton, 2020). Nursing, which is among the stressful professions and has an important role in the provision of health services, aims to give the student a professional identity in the education and training process (Smith and Yang, 2017). In this process, students may experience stress due to reasons such as intense exam pace, clinical tasks, time pressure, etc. (Timmins and Kalisz, 2002). The nursing students experience higher levels of stress than other student groups (Reeve et al., 2013; Smith and Yang, 2017). If the level of perceived stress increases, the student's self-confidence and motivation may be more negatively affected (Grobeck, 2016). This negativity is overcome when students implement stress coping strategies (Smith and Yang, 2017) and complete this process in a healthy way (Maykrantz and Houghton, 2020). Thus, they can have a successful working life and a high level of professional satisfaction. This situation can be achieved with the learned resourcefulness level. Learned resourcefulness is defined as a concept that enables the individual to control themselves in stressful situations, to cope with the stress factor, and to regulate his behaviour with emotional and cognitive skills (Rosenbaum, 1989).

It is possible for individuals to overcome the obstacles (internal events) they encounter while achieving the goals they set, with their self-organized behaviours and skills (Rosenbaum and Jaffe, 1983). Learned resourcefulness consists of four basic skills. These skills are using cognitive skills and self-directives to control emotional and physical responses, applying problem-solving skills, having the ability to delay immediate satisfaction and having a general belief that an individual can regulate his or her internal events (Rosenbaum, 1980).

Individuals with high learned resourcefulness are better at managing

stressful and negative situations. In a study conducted, the academic stress experienced by students studying in the first grade of the psychology department has a negative relationship with academic performance and this negative relationship can be managed with learned resourcefulness. Academic performances can be negatively affected by high academic stress in students with low level of learned resourcefulness. The students with a high level of learned resourcefulness are either not affected by this situation or are affected to a lesser extent (Akgün and Ciarrochi, 2003).

Individuals with a high level of learned resourcefulness have the behavioural and cognitive strategies they need to be able to manage themselves. This situation shows that learned resourcefulness has an important effect on the development of self-leadership skills. In a study conducted with students studying at the faculty of education, there was a moderate and positive relationship between self-leadership and learned resourcefulness (Garipagaoglu and Güloğlu, 2015).

In addition to increasing academic satisfaction, job stress and interest in working, self-leadership also ensures that the individual takes responsibility for their own actions, sets goals and puts an effort into achieving these goals, and work toward those goals with self-determination and passion (Choi and Jung, 2015). It is quite significant for professionalism that students studying at the university level use their coping skills to solve the problems that may arise before entering the profession (Tasören et al., 2019), supervise their behaviours by directing themselves, and motivate themselves against negative situations (Garipagaoglu and Güloğlu, 2015). In nursing students, it decreases the stress of clinical practice, promotes positive coping mechanisms and develops their skills mentally, physically and socially (Choi and Jung, 2015). Thus, self-leadership is not only important within itself but it is also important for the society. In this study, the self-leadership skills of the students studying in the departments of nursing and midwifery were measured to determine their relationship with their learned resourcefulness skills.

2. Methods

2.1. Design and participants

The study was conducted between January 01 and April 01, 2020 in a descriptive and correlational design type. The population of the study consisted of the students (N:620) studying at the nursing and midwifery departments of a foundation university in Istanbul. With the power analysis conducted (G*Power3.1.9.4), the sample of the study was calculated as having a 0.05 level of significance, 0.95 confidence interval and 0.95 ability to be universal, and it was found that at least 327 students should be included in the sample. The sample consisted of 380 nursing and midwifery students who accepted to participate in the study and completed the questionnaire.

Criteria for inclusion and exclusion:

Criteria for inclusion in the study:

- Being a nursing and midwifery student registered to university on the dates of the research,
- Volunteering to participate in study,

Exclusion criteria from the study:

- Being under 18,
- Missing information in data collection forms.

2.2. Instrument

The study data were collected with the information form, the Revised Self-Leadership Questionnaire (RSLQ) (Fidan, 2018) and the Rosenbaum Learned Resourcefulness Scale (RLRS) scale (Dag, 1991; Siva, 1991).

2.2.1. Information form

Created by scanning the literature by researchers (Garipagaoglu and Güloğlu, 2015; Lee et al., 2014), this form consists of eight questions including descriptive and professional characteristics (age, gender, department, grade, choosing the profession willingly, plan to work as a nurse or midwife after graduation, status of receiving leadership training, status of training on stress management) of the students who participated in the study. The Form was presented to three faculty members who are experts in their field. After expert opinion, a pilot application was made on ten students and the clarity of the questions was tested. Students participating in the pilot application were not included in the study.

2.2.2. Revised Self-Leadership Questionnaire (RSLQ)

The Turkish validity and reliability evaluation of the scale developed by Houghton and Neck (2002) was conducted by Fidan (2018). The scale (RSLQ) consists of 35 items and 3 dimensions. Dimensions are Behaviour Oriented Strategies (self-goal setting, self-reward, self-punishment, self-observation, self-reminders), Natural Reward Strategies (focusing thought on natural rewards), and Constructive Thinking Strategies (dream of successful performance, self-talk, evaluating thoughts). The higher the score obtained from the scale, the higher the self-leadership skill level of the individual will be. The Cronbach α coefficient of the five-point likert type scale is 0.96 (Fidan, 2018). Cronbach α coefficients of the scale sub-dimensions are; 0.97 - 0.89 - 0.95 (Fidan, 2018). While the Cronbach α value of the overall scale in the study was found to be 0.95, the sub-dimensions were respectively found as 0.90, 0.79, 0.89.

2.2.3. Rosenbaum Learned Resourcefulness Scale (RLRS)

The Turkish validity and reliability evaluation of the scale developed by Rosenbaum (1991) was conducted by Dag (1991) and Siva (1991). This scale aims to evaluate how effectively stressful life events are dealt with. The scale is a 5-likert type and consists of 36 items and 12 factors. These factors are; planned behaviour (11,32,33,34), mood control (5,13,15,17), control of unwanted thoughts (4,6,9,21,35), impulse control and planned behaviour (3,7,12,26,27,28), sufficiency and self-soothing (12,16,24,25), pain management (23,31), procrastination (18,22,29,30), seeking help (7,14,19), interpreting favourably (1,2,4), directing attention (10,11,36), flexible planning (20,21) and supervisory search (8,9,11,16) (Dag, 1991). The eleven items of the scale (4,6,8,9,14,16,18,19,21,29,35) are scored adversely (Bilgiç et al., 2017). In this study, subscales were not used and the whole scale was evaluated. Dag (1991), who confirmed the validity and reliability of the scale, stated that the relevant factor of the scale cannot fully meet the quality of representation due to the inadequate amount of list items on some of the sub-factors that make up the scale. In the studies conducted, the evaluations were done in terms of the total score of the scale and subdivisions were not referred to (Tasci et al., 2007; Bilgiç et al., 2017). The characteristics measured by the Rosenbaum Learned Resourcefulness Scale (RLRS) are the individual's own perceptions of the ability to control emotional responses with thoughts, problem-solving strategies, ability to delay instant satisfaction and regulate internal events (Savasir and Sahin, 1997). The lowest score to be obtained from the scale is 36 and the highest score is 180. The high score obtained from the scale indicates that the level of learned resourcefulness is high and that the individual has high self-control skills, in other words, the coping strategies represented in the scale are frequently applied (Savasir and Sahin, 1997; Dag, 1991; Siva, 1991). The Cronbach α coefficient of the scale is 0.78 (Dag, 1991). As a result of the analyses obtained in the study, the Cronbach α coefficient was found to be 0.82.

2.3. Data collection

Research data was collected online in the form of data collection tools being forwarded to students' e-mail addresses via Google Forms, after obtaining the permission of the Ethics Committee and the

institution. In the process, an online questionnaire was sent by researchers to the students' university e-mail addresses. A letter stating the purpose and scope of the study was sent to the e-mail addresses of the students. If they wanted to participate in the research, firstly they were made to give their consent on the informed consent page. After that, students accessed data collection tools, and students who answered all questions were evaluated as part of the study. The questionnaires were completed of the students in about 15–20 min.

2.4. Ethical considerations

The study was conducted in conformity with the Helsinki Declaration principles. Necessary ethical board approvals and institution authorizations were obtained for conducting the study. Ethical approval was obtained for the study from the XXX University Non-Invasive Research Ethics Committee (Date 02.01.2020 - Number: 2020 / 36-10). In addition, necessary permissions for scale use were obtained from the scale authors regarding the data collection tools used in the study. All participants were informed about the aim of the study, the voluntary nature of participation and that they can withdraw from the study at any time. Descriptive information of the students such as name, surname and school number were not asked in the data collection forms and all data were collected anonymously. Also, participants were informed that the participation to the study and the results of the study would not affect the course assessments.

2.5. Data analysis

The data were analyzed in IBM SPSS Statistics 23 program, at 95% confidence interval, at $p < 0.05$ significance level.

In the analysis of the data; internal consistency coefficient (Cronbach's alpha) was used to test the reliability of the measurements obtained from the scales, descriptive analysis (frequency, percentage, minimum, maximum values, and standard deviation) was used to determine students' descriptive characteristics and scale scores, Parametric (independent samples *t*-test and Oneway ANOVA) or non-parametric (Mann-Whitney U and Kruskal Wallis) comparative analyzes were used to compare the measurements obtained, and correlational analyzes were used to test the relationships between measurements (Fig. 1).

3. Results

3.1. Descriptive and professional characteristics of participants

The mean age of the students participating in the study was 20.6 ± 1.9 years. 84.5% of the students were female, 61.6% studied in the nursing department and 32.6% were first-grade students. 80.5% of the students stated that they chose their department, 82.1% plan to work as a nurse or midwife after graduation, 88.9% did not receive leadership training, and 81.6% did not receive training on stress management (Table 1).

3.2. Descriptive statistics for scale total scores

The total score obtained from the RSLQ scale used in the study was 131.87 ± 23.49 (range 37-175). The total scores obtained from the sub-dimensions of the scale were Behaviour-Oriented Strategies were 66.62 ± 12.12 , Natural Reward Strategies were 19.21 ± 3.84 , Constructive Thinking Strategies were 46.03 ± 8.79 (Table 2).

The total score obtained from the RLRS scale was 120.81 ± 16.77 (range 66-173) (Table 2).

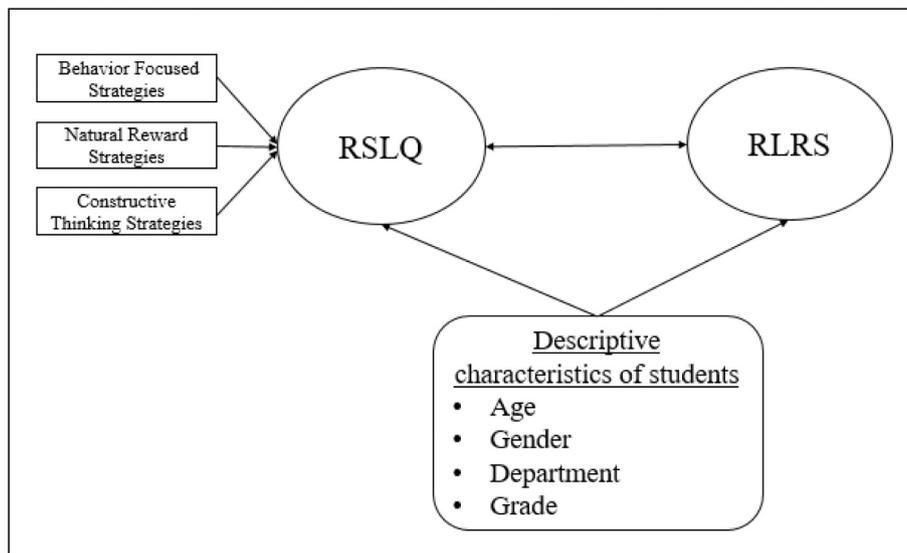


Fig. 1. Research model.

Note: RSLQ: Revised Self-Leadership Questionnaire; RSL: Rosenbaum Learned Resourcefulness Scale.

Table 1
Descriptive and professional characteristics of participants (N = 380).

Variable	n (%) or mean (sd)
Age	20.6 (1.93)
Gender	
Female	321 (84.5)
Male	59 (15.5)
Department	
Midwifery	146 (38.4)
Nursing	234 (61.6)
Grade	
1st	124 (32.6)
2nd	115 (30.3)
3rd	109 (28.7)
4th	32 (8.4)
Choosing of profession willingly	
Yes	306 (80.5)
No	74 (19.5)
Thinking of doing job after graduation	
Yes	312 (82.1)
No	13 (3.4)
Indecisive	55 (14.5)
Status of receiving leadership training	
Trained	42 (11.1)
Not trained	338 (88.9)
Status of training on stress management	
Trained	70 (18.4)
Not trained	310 (81.6)

3.3. Comparison of students' descriptive characteristics with RSLQ scale means

The female students scores the Behaviour-Oriented Strategies statistically significantly were higher than the male students (67.28 ± 11.6 vs. 63.02 ± 13.9, *p* < 0.05). Female students scores a little were higher than male scores (RSLQ's Natural Reward Strategies sub-dimension: 19.37 ± 3.7; 18.35 ± 4.4; Constructive Thinking Strategies: 46.34 ± 8.5; 44.39 ± 10.2; RSLQ total scores: 132.99 ± 22.6; 125.76 ± 27.2), (*p* > 0.05) (Table 3).

The nursing students had higher mean scores in the Natural Reward Strategies sub-dimension of RSLQ (19.52 ± 3.8; 18.72 ± 3.8) and Constructive Thinking Strategies sub-dimension (46.85 ± 8.4; 44.73 ± 9.2) than the midwifery students (*p* < 0.05). Nursing students have higher mean scores of the Behaviour-Oriented Strategies sub-dimension

Table 2
Descriptive statistics for scale total scores (N = 380).

Variable (N = 380)	Number of items	Min	Max	Mean ± sd	α
Revised Self-Leadership Questionnaire (RSLQ)	35 items	37	175	131.87 ± 23.49	0.95
• Behaviour Oriented Strategies	18 items	18	90	66.62 ± 12.12	0.90
• Natural Reward Strategies	5 items	5	25	19.21 ± 3.84	0.79
• Constructive Thinking Strategies	12 items	12	60	46.03 ± 8.79	0.89
Rosenbaum Learned Resourcefulness Scale (RLRS)	36 items	66	173	120.81 ± 16.77	0.82

Note: α = Cronbach Alpha. Min = minimum. Max = maximum. sd = standard deviation.

of RSLQ (67.30 ± 11.7; 65.53 ± 12.7) and the total score of the RSLQ scale (133.67 ± 22.7; 128.99 ± 24.5), (*p* > 0.05) (Table 3).

The third-grade students' total mean scores of RSLQ' s Behaviour-Oriented Strategies sub-dimension (69.10 ± 11.04) and total mean scores of RSLQ scale were higher than first-grade (128.17 ± 23.6) and second-grade students (130.43 ± 24.6) and their self-consciousness development strategies related to their behaviours and self-leadership characteristics were also higher (*p* < 0.05) (Table 3). The total mean scores of the third-grade students' Natural Reward Strategies sub-dimension (19.98 ± 3.5) and Constructive Thinking Strategies (47.55 ± 7.7) sub-dimension of RSLQ were higher than the first-grade students (44.68 ± 8.9) and second-grade students (45.89 ± 9.4), (*p* > 0.05) (Table 3).

The conditions like students' that willingly choosing the department, plan to work as a nurse or midwife after graduation, taking leadership training and stress management were not related to total mean scores in the general and all sub-dimensions of the RSLQ scale (*p* > 0.05) (Table 3).

3.4. Comparison of students' descriptive characteristics with RLRS total mean scores

No significant relation was found between the students' gender, department, their choosing the their department, plan to work as a nurse

Table 3
Comparison of students' descriptive characteristics with RSLQ scale means (N = 380).

		Revised Self-Leadership Questionnaire (RSLQ)							
		Behaviour Oriented Strategies		Natural Reward Strategies		Constructive Thinking Strategies		RSLQ	
		Mean ± sd	Med.	Mean ± sd	Med.	Mean ± sd	Med.	Mean ± sd	Med.
Gender									
Female	321	67.28 ± 11.6	68.00	19.37 ± 3.7	20.00	46.34 ± 8.5	48.00	132.99 ± 22.6	135.00
Male	59	63.02 ± 13.9	63.02	18.35 ± 4.4	19.00	44.39 ± 10.2	46.00	125.76 ± 27.2	128.00
		U = 7857.00. <i>p</i> = 0.037		U = 8303.50. <i>p</i> = 0.131		U = 8606.50. <i>p</i> = 0.265		U = 8139.00. <i>p</i> = 0.086	
<i>Mann-Whitney Test</i>									
Department									
Midwifery	146	65.53 ± 12.7	67.00	18.72 ± 3.8	19.00	44.73 ± 9.2	46.50	128.99 ± 24.5	132.00
Nursing	234	67.3011.7	68.00	19.52 ± 3.8	20.00	46.85 ± 8.4	48.00	133.67 ± 22.7	135.00
		U = 15,731.0. <i>p</i> = 0.194		U = 15,042.0. <i>p</i> = 0.049		U = 14,853.0. <i>p</i> = 0.032		U = 15,220.50. <i>p</i> = 0.074	
<i>Mann-Whitney Test</i>									
Grade									
1st	124	64.98 ± 12.1	64.00	18.51 ± 3.9	19.00	44.68 ± 8.9	45.50	128.17 ± 23.6	128.50
2nd	115	65.37 ± 12.5	66.00	19.16 ± 3.8	19.00	45.89 ± 9.4	47.00	130.43 ± 24.6	132.00
3rd	109	69.10 ± 11.4	70.00	19.98 ± 3.5	20.00	47.55 ± 7.7	49.00	136.63 ± 21.0	140.00
4th	32	69.00 ± 12.2	69.00	19.53 ± 4.4	20.50	46.69 ± 9.2	48.50	135.22 ± 24.8	137.50
		$\chi^2 = 8.877. p = 0.031$		$\chi^2 = 3.627. p = 0.305$		$\chi^2 = 4.274. p = 0.233$		$\chi^2 = 8.255. p = 0.041$	
<i>Kruskal-Wallis Test</i>									
Choosing of profession willingly									
Yes	306	66.46 ± 12.4	67.00	19.13 ± 3.9	19.00	45.95 ± 9.1	47.00	131.55 ± 24.3	133.50
No	74	67.27 ± 10.7	69.00	19.54 ± 3.3	20.00	46.39 ± 7.6	47.00	133.20 ± 19.7	134.50
		U = 11,000.5. <i>p</i> = 0.704		U = 10,794.5. <i>p</i> = 0.532		U = 11,320.0. <i>p</i> = 0.998		U = 11,109.0. <i>p</i> = 0.802	
<i>Mann-Whitney Test</i>									
Thinking of doing job after graduation									
Yes	312	66.49 ± 12.4	67.00	19.13 ± 3.9	19.00	45.69 ± 8.9	47.00	131.30 ± 24.1	133.00
No	13	69.85 ± 10.7	68.00	20.00 ± 3.5	20.00	50.92 ± 7.1	50.00	140.77 ± 19.9	142.00
Indecisive	55	66.58 ± 10.9	68.00	19.58 ± 3.3	20.00	46.84 ± 7.9	49.00	133.00 ± 20.2	135.00
		$\chi^2 = 0.823 p = 0.663$		$\chi^2 = 0.868 p = 0.648$		$\chi^2 = 4.632. p = 0.099$		$\chi^2 = 1.500. p = 0.472$	
<i>Kruskal-Wallis Test</i>									
Status of receiving leadership training									
Trained	42	65.31 ± 16.9	68.00	19.17 ± 5.1	20.00	44.50 ± 12.5	48.00	128.98 ± 33.5	141.00
Not trained	338	66.78 ± 11.4	67.00	19.22 ± 3.07	19.00	46.23 ± 8.2	47.00	132.23 ± 21.9	133.50
		U = 6889.50. <i>p</i> = 0.755		U = 6571.50. <i>p</i> = 0.431		U = 7019.50. <i>p</i> = 0.907		U = 6896.00. <i>p</i> = 0.763	
<i>Mann-Whitney Test</i>									
Status of training on stress management									
Trained	70	66.54 ± 14.7	70.50	19.29 ± 4.6	20.00	45.40 ± 10.8	48.50	131.23 ± 28.9	138.50
Not trained	310	66.64 ± 11.5	67.00	19.20 ± 3.7	19.00	46.18 ± 8.3	47.00	132.02 ± 22.1	132.00
		U = 9959.50. <i>p</i> = 0.283		U = 9953.50. <i>p</i> = 0.278		U = 10,572.0. <i>p</i> = 0.737		U = 10,090.0. <i>p</i> = 0.360	
<i>Mann-Whitney Test</i>									

or midwife after graduation, and their training on leadership and the total mean scores of RLRS ($p > 0.05$) (Table 4).

The students were studying in the third grade (124.16 ± 13.9) had higher self-control skills compared to the first (118.57 ± 18.8) and the second grade (119.2 ± 16.7) students as they frequently applied the coping strategies represented in the scale ($p < 0.05$) (Table 4).

The students who received training on stress management had higher mean scores on the RLRS (125.13 ± 18.4 ; 119.84 ± 16.2) than the students who did not receive education, and these situations were found to be statistically significant ($p < 0.05$) (Table 4).

A positive linear relationship was found between the total scores of the RLRS and the RSLQ ($r = 0.595$; $p < 0.001$). A statistically significant relationship was determined between Behavioural-Oriented Strategies sub-dimension ($r = 0.557$, $p < 0.001$), Natural Reward Strategies sub-dimension ($r = 0.615$, $p < 0.001$) and Constructive Thinking Strategies sub-dimension of RSLQ ($r = 0.533$, $p < 0.001$) and RLRS (Table 5).

4. Discussion

It is important for the candidates of profession to fulfil their self-leadership skills by supervising themselves and controlling their behaviours. At the same time, it is extremely important for them to use their skills to cope with the difficulties and stressful situations they will encounter while on their way to a career. Knowing the thoughts of

profession candidates of nursing and midwifery students on these two issues, and controlling the situations they experience with their characteristics will contribute positively to them when they start the profession.

Self-leadership is important for the individual to control and direct his/her behaviours (Ioannis, 2019). The total score and sub-dimension mean scores obtained from the RSLQ used in the study to determine the self-leadership levels of the individuals were above the mean. This result shows that the participants exhibit a behaviour above expected in the areas such as self-goal setting, self-reward, self-punishment, self-observation, self-reminders, focusing thought on natural rewards, dream of successful performance, self-talk, evaluating thoughts, etc. Similarly, in a study conducted with nursing students in South Korea (2011), the students' self-leadership scores were above the mean (Yang and Moon, 2011). In the study, in accordance with the literature, the scores obtained from in general RSLQ and all sub-dimensions of it were above the mean. These results show that students' self-leadership behaviours are above mean. The high mean scores for behaviour-oriented strategies can be explained by the high level of self-awareness of students and directing their behaviours with self-aware.

Learned resourcefulness is important in individuals' stress management. As the level of learned resourcefulness increases, the individual manages this process better by using behavioural and cognitive strategies (Rosenbaum, 1989; Garipagaoglu and Güloğlu, 2015). In the study,

Table 4
Comparison of students' descriptive characteristics with RLRS scale means (N = 380).

	n	Rosenbaum Learned Resourcefulness Scale (RLRS)		
		Mean	±sd	p
Gender				
Female	321	120.81	±16.9	t = 0.009
Male	59	120.83	±15.9	p = 0.993
<i>Independent Samples t testi</i>				
Department				
Midwifery	146	119.94	16.6	t = 0.802
Nursing	234	121.36	16.9	p = 0.423
<i>Independent Samples t testi</i>				
Choosing of profession willingly				
Yes	306	120.70	± 16.92	t = 0.269
No	74	121.28	±16.28	p = 0.788
<i>Independent Samples t testi</i>				
Thinking of doing job after graduation				
Yes	312	120.69	±17.1	F = 0.242
No	13	118.77	±16.2	p = 0.785
Indecisive	55	122.00	±15.4	
<i>One way Anova Testi</i>				
Status of receiving leadership training				
Yes	42	120.07	±17.0	t = 0.303
No	338	120.91	±16.8	p = 0.762
<i>Independent Samples t testi</i>				
Status of training on stress management				
Yes	70	125.13	±18.4	t = 2.398
No	310	119.84	±16.2	p = 0.017
<i>Independent Samples t testi</i>				
Grade				
	n	Mean ± sd	Median	$\chi^2 = 10.821$
1st	124	118.57 ± 18.8	115.00	p = 0.013
2nd	115	119.20 ± 16.7	118.00	
3rd	109	124.16 ± 13.9	122.00	
4th	32	123.87 ± 16.2	126.00	
<i>Kruskal-Wallis Test</i>				

Table 5
Correlation relationship between RSLQ and RLRS (N = 380).

Variable	n	r	p
RLRS	380	0.595	0.000
RSLQ			
RSLQ Sub-Dimensions with RLRS			
RLRS	380	0.557	0.000
RSLQ-Behaviour Oriented Strategies			
RLRS	380	0.615	0.000
RSLQ-Natural Reward Strategies			
RLRS	380	0.533	0.000
RSLQ-Constructive Thinking Strategies			

the total score obtained from the RLRS scale was above the mean. High scores indicate that the individual's level of self-control increases, thus he can generally use stress-coping strategies (Savasir and Sahin, 1997; Dag, 1991). The students who have high scores overcome the stressful situations they face, by controlling themselves with the sense of self-confidence they have and so they cope with the stress factor. In a study in the literature, university students with high level of learned resourcefulness have higher self-confidence, and their motivation and academic success also show positive development (Goff, 2011).

Self-leadership is a process through which an individual can control and regulate his or her behaviours (Ioannis, 2019). When students' self-leadership levels are compared with their gender, female's self-leadership levels were higher than both the total and sub-dimensions of RSLQ compared to male students. The self-consciousness development strategies of female students regarding

their behaviours are higher. The participants included 84.5% female and 15.5% male students. Since the majority of students in the sample are female, it can be considered that their self-leadership scores are higher than that of men. In the literature, there are also studies (Yang and Moon, 2011; Lee et al., 2014) stating the opposite of the data of this study by expressing that male students get higher scores than females, but the gender factor does not make a significant difference on self-leadership level. It is an estimated result that the general leadership quality expected from male is higher than that of female due to gender roles. However, social dynamics also enable female to internalize leadership by strengthening their perceptions. Individuals' abilities, skills and leadership perceptions may vary in relation to time and culture factors. It can be thought that the difference among them is due to these reasons.

In the comparisons between the self-leadership levels of the students and their departments, the nursing students had higher levels of self-leadership in both sub-dimensions and in the total of the scales than those in the midwifery students. Statistically, only the natural reward strategies and constructive thinking model showed a significant difference. In the literature, students who are studying in the nursing department have high self-leadership mean scores (Yang and Moon, 2011; Lee et al., 2014). However, there is no study in this field for midwifery students. For this reason, these two sections could not be compared with the literature. The result of the study can be related to the higher number of nursing students in the sample than midwifery students.

The nursing and midwifery candidates who will take part in the professional healthcare team will be able to work effectively thanks to gaining the ability to manage themselves by using self-leadership skills (Elloy, 2008). When the mean scores of the students from RSLQ are compared with their classes, the third-grade students have the highest mean score, followed by fourth grade and mean scores of the first and second grades students were lower. Studies conducted with nursing students in Korea (Yang and Moon, 2011; Lee et al., 2014) report that third-grade university students have higher self-leadership levels than fourth grade students. This case is compatible with the literature information (Maykrantz and Houghton, 2020) that self-leadership develops in ways like learning, education and etc. As the grades of nursing and midwifery students increase, their self-development and self-management efforts increase in direct proportion to the experience gained, so the level of self-leadership also increases (Yang and Moon, 2011).

The higher the learned resourcefulness levels, the better the levels of coping with stress (Akgün and Ciarrochi, 2003). When the mean scores of the students in the RLRS are compared with their grade level; the highest mean score was in third-grade students. When the mean scores of the students in the RLRS are compared with their grade level, it was seen that the highest mean score was in third-grade students. This is followed by fourth grade students. Mean scores of the first- and second-grade students, on the other hand, are determined as lower. The data were also found to be statistically significant. Third-grade students had higher self-control skills than others. The result of the study is also consistent with the study in the literature (Bilgiç et al., 2017). This shows that as the grade progresses, students' strategies to cope with problems are more developed. However, it is thought that since fourth grade students are nurses or midwives who are approaching the profession, the mean scores of them decreased slightly compared to the third-grade students, due to additional stress factors such as the increase in the intensity of practicing in clinics and finding a job after graduation.

Stress is a concept that comes across all the time, and many students may need support to improve their resistance to stress. Instead of focusing on eliminating stress factors, there is a need for programs designed to improve students' coping skills (Sawatzky et al., 2012; Lee et al., 2014; McCarthy et al., 2018). In the comparison made according to the stress training status of the students, the learned resourcefulness levels of the individuals who received stress training were higher, and

this situation was statistically significant. In line with this result, the high RLRS score of the students is an indicator of the potential victory against stress and that individuals can cope more easily with stressful situations. Especially the trainings to be taken during the university period can enable the stress, which is an important problem, to be controlled and individuals to control themselves. For this reason, it would be beneficial to add lessons about stress management to the curriculum and to support students in this area by academicians (McCarthy et al., 2018).

Both awareness and self-leadership have a strong focus on self-regulation and are beneficial for stress tolerance and performance improvement (Sampl et al., 2017). Studies in the literature indicate that self-leadership practices reduce student stress levels and enable students to use their stress-coping skills more (Watson et al., 2013; Maykrantz and Houghton, 2020). In the study, the level of learned resourcefulness, which is closely related to the stress factor, in nursing and midwifery students has a positive linear relationship with self-leadership level. A similar study conducted with university students in the literature is consistent with the result of the study (Maykrantz and Houghton, 2020). Thus, the level of learned resourcefulness increases, self-leadership skills increase. Self-leadership is a skill that can be taught and practical (Maykrantz and Houghton, 2020). The high learned resourcefulness level of individuals contributes positively to the development of self-leadership skills. In this way, thanks to the self-leadership skill they have, individuals manage stress and will be more successful with their ability to act in a planned manner and their self-control.

4.1. Limitations

The limitation of this study is conducting the study with the students of a single discipline constituting the healthcare team constitutes. Also, the study data is limited to the students who were included in the sample at the time of the research and cannot be generalized to all students.

5. Conclusion

Within the framework of the research results, gender and the department were related to the level of self-leadership, and that the level of learned resourcefulness was related to receiving stress training. The grade variable had a significant relationship with both self-leadership and learned resourcefulness. As the self-leadership skills of individuals increased, their learned resourcefulness levels also increased. The other variables (choosing the profession willingly, plan to work as a nurse or midwife after graduation, receiving leadership training) were not related to self-leadership and learned resourcefulness.

Funding source

This project unfunded by any internal or external sources.

Ethical approval

Necessary ethical board approvals and institution authorizations were obtained for conducting the study. Ethical approval was obtained for the study from the XXX University Non-Invasive Research Ethics Committee (Date 02.01.2020 - Number: 2020 / 36-10). Participants were informed about the aim of the study, which was conducted with students who agreed to participate in the study.

CRedit authorship contribution statement

Nilgün Avcı: Study conception and design, Data collection, Data analysis and interpretation, Drafting of the article, Critical revision of the article.

Gizem Kaya: Study conception and design, Data collection, Data analysis and interpretation, Drafting of the article, Critical revision of

the article.

Declaration of competing interest

None of the authors of the above manuscript has declared any conflict of interest.

References

- Akgün, S., Ciarrochi, J., 2003. Learned resourcefulness moderates the relationship between academic stress and academic performance. *Educ. Psychol.* 23 (3), 287–294. <https://doi.org/10.1080/014434103200060129>.
- Bilgiç, S., Temel, M., Çelikkalp, Ü., 2017. Assessment of learned resourcefulness, self-efficacy and Hope levels of nursing students: a case study Tekirdag. *J. Health Nurs. Manag.* 4 (3), 117–126. <https://doi.org/10.5222/shyd.2017.117>.
- Carson, C.M., King, J.E., 2005. Leaving leadership: solving leadership problems through empowerment. *Manag. Decis.* 43 (7/8), 1049–1053. <https://doi.org/10.1108/00251740510610044>.
- Choi, Y.H., Jung, C.S., 2015. Relationship between self-leadership, self-efficacy and empowerment in nursing students. *J. Korea Acad.-Ind. Coop. Soc.* 16 (7), 4604–4613.
- Cranmer, G.A., Goldman, Z.W., Houghton, J.D., 2019. I'll do it myself: selfleadership, proactivity, and socialisation. *Leadersh. Org. Develop. J.* <https://doi.org/10.1108/LODJ-11-2018-0389>.
- Dag, I., 1991. Reliability and validity of Rosenbaum's learned resourcefulness schedule for university students. *J. Turk. Psychiatry* 2 (4), 269–274.
- Elloy, D.F., 2008. The relationship between self-leadership behaviors and organization variables in a self-managed work team environment. *Manag. Res. News* 31 (11), 801–810. <https://doi.org/10.1108/01409170810913015>.
- Fidan, M., 2018. Turkish version of revised self-leadership questionnaire on sample of university students. *Int. J. Leadersh. Train.* 2, 1–16. <https://dergipark.org.tr/en/pub/ijolt/issue/37035/426032>.
- Garipagaoglu, B.Ç., Güloğlu, B., 2015. The role of learned resourcefulness and locus of control on the self-leadership skills of teacher candidates. *Bolu Abant İzzet Baysal Univ. J. Fac. Educ.* 15 (2), 147–162. <https://doi.org/10.17240/aibuefd.2015.15.2-5000161317>.
- Goff, A., 2011. Stressors, academic performance, and learned resourcefulness in baccalaureate nursing students. *Int. J. Nurs. Educ. Scholash.* 8 (1), 1–20. <https://doi.org/10.2202/1548-923X.2114>.
- Grobecker, P.A., 2016. A sense of belonging and perceived stress among baccalaureate nursing students in clinical placements. *Nurse Educ. Today* 36, 178–183. <https://doi.org/10.1016/j.nedt.2015.09.015>.
- Houghton, J.D., Neck, P.C., 2002. The revised self-leadership questionnaire. *J. Manag. Psychol.* 17 (8), 672–691. <https://doi.org/10.1108/02683940210450484>.
- Houghton, J.D., Wu, J., Godwin, J.L., Neck, C.P., Manz, C.C., 2012. Effective stress management: a model of emotional intelligence, self-leadership, and student stress coping. *J. Manag. Educ.* 36 (2), 220–238.
- Inam, A., Ho, J.A., Sheikh, A.A., Shafiqat, M., Najam, U., 2021. How self leadership enhances normative commitment and work performance by engaging people at work? *Curr. Psychol.* 1–14.
- Ioannis, P., 2019. Factor validity and reliability of the revised self-leadership questionnaire in a Greek sample. *J. Phys. Educ.* 6 (2), 41–48. <https://doi.org/10.15640/jpesm.v6n2a5>.
- Lee, Y.S., Park, S.H., Kim, J.K., 2014. Nursing students' self-leadership, self-efficacy, interpersonal relation, college life satisfaction. *J. Korea Contents Assoc.* 14 (6), 229–240. <https://doi.org/10.5392/JKCA.2014.14.06.229>.
- Manz, C.C., 1986. Self-leadership: toward an expanded theory of self influence processes in organizations. *Acad. Manag. Rev.* 11 (3), 585–600. <https://doi.org/10.2307/258312>.
- Marques-Quinteiro, P., Vargas, R., Eifler, N., Curral, L., 2018. Employee adaptive performance and job satisfaction during organizational crisis: the role of self-leadership. *Eur. J. Work Organ. Psychol.* 28 (1), 85–100.
- Maykrantz, S.A., Houghton, J.D., 2020. Self-leadership and stress among college students: examining the moderating role of coping skills. *J. Am. Coll. Heal.* 68 (1), 89–96. <https://doi.org/10.1080/07448481.2018.1515759>.
- McCarthy, B., Trace, A., O'Donovan, M., Brady-Nevin, C., Murphy, M., O'Shea, M., O'Regan, P., 2018. Nursing and midwifery students' stress and coping during their undergraduate education programmes: an integrative review. *Nurse Educ. Today* 61, 197–209. <https://doi.org/10.1016/j.nedt.2017.11.029>.
- Neck, C.P., Houghton, J.D., 2006. Two decades of self-leadership theory and research: past developments, present trends, and future possibilities. *J. Manag. Psychol.* 21 (4), 270–295. <https://doi.org/10.1108/02683940610663097>.
- Reeve, K.L., Shumaker, C.J., Yearwood, E.L., Crowell, N.A., Riley, J.B., 2013. Perceived stress and social support in undergraduate nursing students' educational experiences. *Nurse Educ. Today* 33 (4), 419–424. <https://doi.org/10.1016/j.nedt.2012.11.009>.
- Ricketts, K.G., Carter, H.S., Place, N.T., McCoy, T., 2012. A look inside: self-leadership perceptions of extension educators. *J. Ext.* 50 (5). <https://www.joe.org/joe/2012october/a3.php>.
- Rosenbaum, M., 1980. A schedule for assessing self-control behaviors: preliminary findings. *Behav. Ther.* 11, 109–121. [https://doi.org/10.1016/S0005-7894\(80\)80040-2](https://doi.org/10.1016/S0005-7894(80)80040-2).
- Rosenbaum, M., 1989. Self-control under stress: the role of learned resourcefulness. *Adv. Behav. Res. Ther.* 11 (4), 249–258. [https://doi.org/10.1016/0146-6402\(89\)90028-3](https://doi.org/10.1016/0146-6402(89)90028-3).

- Rosenbaum, M., 1991. *Learned Resourcefulness: On Coping Skills, Self-control, and Adaptive Behavior*. Springer Publishing Company, New York. [https://doi.org/10.1016/0191-8869\(91\)90217-Y](https://doi.org/10.1016/0191-8869(91)90217-Y).
- Rosenbaum, M., Jaffe, Y., 1983. Learned helplessness: the role of individual differences in learned resourcefulness. *Br. J. Soc. Psychol.* 22, 215–225. <https://doi.org/10.1111/j.2044-8309.1983.tb00586.x>.
- Sampl, J., Maran, T., Furtner, M.R., 2017. A randomized controlled pilot intervention study of a mindfulness-based self-leadership training (MBSLT) on stress and performance. *Mindfulness (NY)* 8 (5), 1393–1407. <https://doi.org/10.1007/s12671-017-0715-0>.
- Savasir, I., Sahin, N.H., 1997. *The Valuation in Cognitive-Behavioral Therapy: The Scales Used Frequently*. Turkish Psychologists Association Publications, Ankara.
- Sawatzky, R.G., Ratner, P.A., Richardson, C.G., Washburn, C., Sudmant, W., Mirwaldt, P., 2012. Stress and depression in students: the mediating role of stress management self-efficacy. *Nurs. Res.* 61 (1), 13–21. <https://doi.org/10.1097/NNR.0b013e31823b1440>.
- Siva, A.N., 1991. *Coping With Stress, Learned Powerfulness, and Depression Among Infertile People*. Hacettepe University, Ankara.
- Smith, G.D., Yang, F., 2017. Stress, resilience and psychological well-being in Chinese undergraduate nursing students. *Nurse Educ. Today* 49, 90–95. <https://doi.org/10.1016/j.nedt.2016.10.004>.
- Stewart, G.L., Courtright, S.H., Manz, C.C., 2011. Self-leadership: a multilevel review. *J. Manag.* 37 (1), 185–222. <https://doi.org/10.1177/0149206310383911>.
- Tasci, K., Gök Özer, F., Kostu, N., 2007. Determination of strategies for coping with stress used by nurses who work at Pamukkale University Hospital. *J. Anatolia Nurs. Health Sci.* 10 (2), 41–48.
- Tasören, A.B., Akcan, G., Yildiz, N.G., 2019. Does parental maltreatment and thought control ability predict coping strategies: a study with university students (oral presentation). In: IX. International Congress on Psychological Counseling and Guidance in Higher Education Proceedings, Istanbul.
- Timmins, F., Kalisz, M., 2002. Aspects of nurse education programmes that frequently cause stress to nursing students—fact-finding sample survey. *Nurse Educ. Today* 22 (3), 203–211. <https://doi.org/10.1054/nedt.2001.0698>.
- Van Dorssen-Boog, P., De Jong, J., Veld, M., Van Vuuren, T., 2020. Self-leadership among healthcare workers: a mediator for the effects of job autonomy on work engagement and health. *Front. Psychol.* 11, 1420.
- Watson, R., Yanhua, C., Ip, M.Y., Smith, G.D., Wong, T.K., Deary, I.J., 2013. The structure of stress: confirmatory factor analysis of a Chinese version of the stressors in nursing students scale (SINS). *Nurse Educ. Today* 33 (2), 160–165. <https://doi.org/10.1016/j.nedt.2012.02.013>.
- Yang, N.Y., Moon, S.Y., 2011. Relationship of self-leadership, stress and satisfaction in clinical practice of nursing students. *J. Korean Acad. Nurs. Adm.* 17 (2), 216–225. <https://doi.org/10.1111/jkana.2011.17.2.216>.