Article

The Self-Directed Learning Readiness Level of the Undergraduate Students of Midwife and Nurse in Terms of Sustainability in Nursing and Midwifery Education

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Abstract: Self-directed learning is a necessary skill for students and workers to remain lifelong learners. Being self-directed in learning allows nurses to stay elastic, open to change and sustain their, professional development. The aim of this study was to determine the level of self-directed learning readiness of undergraduate students of nursing and midwifery. This study also investigated whether there were associations between the level of self-directed learning readiness and selected demographic variables such as gender, department, academic level and monthly income in the undergraduate students. Quantitative research method was used in this research. A total of 398 students participated in this survey conducted at the Faculty of Health Sciences of University of Amasya. The Self-Directed Learning Readiness Scale (SDLRS) that was developed by Fisher et al., was used. In the data analysis, descriptive statistics, Kruskal Wallis H test and Mann Whitney U test were applied. In this study, it was revealed that nursing and midwifery students had relatively high self-directed learning readiness. However, students received the lowest score for the self-management dimension, which indicates that students need support in self-management skills. As a result of the Mann Whitney U test, it was put forward that there were statistically significant differences in level of self-directed learning readiness based on gender and department. As a result of the Kruskal Wallis H test, it was found that there was no difference in level of self-directed learning readiness based on monthly income variable.

1. Introduction

Self-directed learning (SDL) is a method of education used increasingly in adult education within tertiary institutions [1]. Self-directed learning has been addressed in the literature in terms of two aspects, the process and personal traits. Some researchers have defined it as a process which focuses on the autonomy of the learner throughout the learning process, while others have defined it as a personal trait focusing on the ability of the learner in arranging the learning process [2]. Knowles (1975) defined it as the process of attempting to learn by taking or not takingthe help of others, knowing one's own learning needs, establishing one's learning targets, defining the human and material sources for learning, selecting and implementing the appropriate learning strategy for the knowledge to be learned and evaluating the learning outcomes [3]. Self-directed learning (SDL) is a method of instruction that can be defined asthe amount of responsibility the learner acknowledges for own learning [1].

The characteristics of the individuals learning on a self-directed basis are defined as lifelong learning and independent learning, having self-regulation skills, having control over their own learning,

defining the learning targets in a correct way, and evaluating their own learning process [4,5]. Boyer and Kelly (2005) addressed the self-directed learning process as a lifelong social system. According to this system, self-directed learning is a cyclical process comprising the inputs, processes, outputs and feedbacks. When the properties of this system are investigated, it is understood that individuals can continue to use the self-directed learning in their professional life as well. Thanks to their self-direction, individuals can determine in which fields they have shortcomings. They can learn on a continual basis to make up for their shortcomings, thus becoming more adequate in their field [6]. Although there are different descriptions for self-directed learning in the literature, Caffarella (2000) listed the common points in these description as individuals assuming responsibility for their own learning, making plans for the learning process, realizing the actual learning and making an evaluation of it. In the age of information, we currently live, selecting the needed information from among the ever-increasing accumulation of information, determining the appropriate strategies and being able to direct one's own learning process are of importance in terms of the effectiveness of the educational process [7].

Self-directed learning readiness is defined as the degree the individual possesses the attitudes, talents and personality features necessary for self-directed learning [8] (p. 182). Many learners' features play a role in their level of self-directed learning readiness. For instance, learner features such as age, gender, and previous experience may act as either a facilitator or barrier to self-directed earning [9]. Moreover, Cadorin et al., (2015) stated that the more clinical experience that nurses have, the more self-directed is their learning [10]. Hence, there is reason to believe that self-directed learning readiness might affect nursing competence [11]. Nurses and midwives work in a complex health care environment, where they permanently face challenges stemming from the ongoing social and scientific changes inherent in the healthcare area [12].

The self-directed learner accepts the freedom to learn what they consider important for themselves. Moreover, self-directed learners acquire abilities in: time management, stress management, assignment preparation, exam preparation, and note-taking [13]. Self-directed learning isanecessary skill for students and workers to remain lifelong learners. In the field of midwifery and nursing, there is increased need for professional nurses to update their knowledge, become autonomous, think independently, and able to make their own assumptions and decisions. Thus, attention has been increasingly paid toself-directed lifelong learning in the education literature, and is considered a critical educational goal [14,15].

Midwifes and nurses can use the principles of self-directed learning to improve their occupational skills. Being self-directed in learning allows nurses to stay elastic, open tochange and sustain their professional development, It also helps in the development of implementation skills, self-confidence and professionalism [16]. It can be said that self-directed learning is an important element for sustainability in midwifery and nursing education.

In the literature, there are many studies concerning self-directed learning readiness [14,17–25]. However, of these studies were conducted in Turkey on midwives and nurses. The present study seems to be important in terms of providing contributions in making up the deficiency in this field. Thus, it was considered necessary to conduct a quantitative study intended for determining the SDLR levels of students in the departments of midwifery and nursing at the undergraduate level.

The results of the present study are expected to provide contributions to the improvement of self-efficacy in midwifery and nursing students, to the understanding of the importance of lifelong learning, to the development of the programs for strengthening the tendency for lifelong learning and to the literature.

In of this information, determination of the self-directed learning readiness levels of students in the departments of midwifery and nursing in a public university and the investigation of whether the self-directed learning readiness levels change depending on various variables (gender, department, grade-level and the income level) constituted the problem in the present study. In line with this basic problem, answers were sought for the following questions:

(1) What is the level of self-directed learning readiness among undergraduate nursing and midwifery students?
(2) Does the level of self-directed learning readiness scores of the among undergraduate students of midwifery and nursing differ?

  (a) depending on gender?
  (b) depending on the department they study in?
  (c) depending on their grade-level?
  (d) depending on their income level?

2. Materials and Methods

2.1. Purpose of the Study

The aim of this study was to determine the level of self-directed learning readiness of undergraduates in the Bachelor of Nursing and midwifery program within a public tertiary education institution in Amasya, Turkey. The present study also investigated whether there were associatios between the level of self-directed learning readiness and selected demographic variables such as gender, department, academic level and monthly income.

2.2. The Model of the Study

Quantitative research method was used in this research. Descriptive study designs frequently utilize instruments to collect data. This study implemented a descriptive study design using a survey [25,26]. The hypotheses tested in the present study are as follows:

Hypothesis 1 (H1). *Undergraduate nursing and midwifery students have high and very high levels of self-directed learning readiness.*

Hypothesis 2 (H2). *There is a statistically significant difference between the students' self-directed learning readiness level and their gender.*

Hypothesis 3 (H3). *There is a statistically significant difference between the students' self-directed learning readiness level and the department in which they study.*

Hypothesis 4 (H4). *There is a statistically significant difference between the students' self-directed learning readiness level and their grade-level.*

Hypothesis 5 (H5). *There is a statistically significant difference between the students' self-directed learning readiness level and their monthly income.*

2.3. Population and Sample

The present study was conducted in the Nursing and Midwifery Department of Faculty of Health Sciences of University of Amasya in the spring semester of 2017–2018 academic year. The population of the research included 398students registered in their first, second, third and fourth year of study in an undergraduate curriculum. The total population comprised 295 nursing students and 103 midwifery students. The research sample consisted of all members of the population. The questionnaire was distributed to 398 registered students, 385 of whom consented to participate in the study by returning the completed questionnaire (97 midwifery students and 288 nursing students). A total of 385 completed questionnaires were returned (response rate = 99%) and analyzed.

The sampling technique used is convenience sampling. Convenience sampling is a non-probability sampling method that involves inclusion of conveniently available study participants [26] (p. 351). The

sampling method chosen was suitable for this study in that all available participants were included to determine their level of self-directed learning readiness to achieve the research purpose and answer the research question. This sampling method was also cost-effective and allowed data collection from available population members.

The applications were carried out by the researcher in person between 19 February 2018 and 17 April 2018. The students accepting to take part in the study were informed that the information taken from them would be evaluated only by the person who applied the questionnaire and it would not be examined by anyone else.

2.4. Data Collection Tool

A structured questionnaire consisted of two parts: Part I: Socio-demographic data and Part II: Fisher's Self-Directed Learning Readiness scale. The first part of the survey was a four-item questionnaire that gathered data on participant gender, department, academic level, and monthly income. To determine the self-directed learning readiness levels of the students, the Self-Directed Learning Readiness Scale (SDLRS) that was developed by Fisher et al., and adapted to Turkish by Şahin and Erden was used [1,27]. The original form of the scale was developed by Fisher et al. by collecting data from instructors charge of undergraduate nursing education at the University of Sydney [1].

This tool comprises a 40-item questionnaire using a five-point Likert scale (1–5) of strongly disagree, disagree, undecided, agree and strongly agree.Overall scores range 40–200; higher scores reflect stronger Self-Directed Learning Readiness Scale/SDLRS. Mean scores >150 indicate a high level of Self-Directed Learning Readiness Scale, while mean scores ≤150 represent a low level of Self-Directed Learning Readiness Scale [1]. The Self-Directed Learning Readiness Scale identified three subscales: self-management, desire for learning and self-control. Self-management subscale described by 13 items and, reflects the characteristics of being able to manage one's own learning. Maximum score obtainable from this subscale scale is 65. Similarly, desire for learning subscale is defined by 12 items relating to the desire for learning. Maximum score obtainable from this subscale is 60. Self-control subscale is defined by 15 items related to the features self-control and being in control of one's own learning. Maximum score obtainable from this subscale is 75.

Adaptation of the Self-Directed Learning Readiness Scale developed by Fisher et al. to Turkish was carried out by Şahin and Erden on 130 classroom teachers [27]. The results of the explanatory factor analysis show that the first factor explained 15.7% of the total variance belonging to the scale, the second factor explained 13.9% and the third one 13.5%. Since the factors of the original scale developed by Fisher et al., had been named by taking the content of the items into account, the same factor names were used in the present study. The first factor was named "self-direction", the second one "desire for learning" and the third one "self-control". The three factors explain 42.5% of the total variance. The Cronbach's alpha coefficient calculated for the internal consistency and reliability of the scale changed between 0.83 and 0.85. Fisher et al. conducted the consistency and reliability study of the scale in Sydney on 201 nursing students studying at the undergraduate level. Fisher et al. found the Cronbach's alpha coefficient to be 0.857 for the sub-dimension of "self-direction", 0.843 for the sub-dimension of "desire for learning" and 0.830 for the sub-dimension of "self-control" [1]. The Cronbach's alpha coefficient was calculated for each sub-dimension to test the reliability of the measurements in the present study, which was found to be 0.881 for the sub-dimension of "self-direction", 0.889 for the sub-dimension of "desire for learning" and 0.908 for the sub-dimension of "self-control". Nunally (1978) emphasized that the coefficient for the reliability measurement needs to be ≥ 0.70 [28]. Tezbaşaran stated that, for a reliability coefficient to be considered adequate for a Likert-type scale, it should be as close to 1 as possible. Based on the reliability coefficients obtained, the scale can be said to be a reliable measurement tool [29] (p.47).

2.5. Analysis of the Data

In the present study, all data were analyzed using SPSS 22.0 for Windows (SPSS Inc., Chicago, IL, USA). The descriptive statistics were used for the data obtained from the demographical characteristics of the students participating in the study. Descriptive statistics such as the mean, the standard deviation, the frequencies, and the minimum and maximum scores were computed. Kolmogorov Smirnov and Shapiro Wilk Tests were utilized on the data to determine whether they were normally distributed. The groups were not normally distributed since the significance values of Kolmogorov Smirnov and Shapiro Wilk tests were both less than 0.05 [30,31]. The data in this study were non-normallydistributed as mentioned in the findings of the Kolmogorov Smirnov and Shapiro Wilk tests ($p < 0.05$). To check whether the distribution of scores was normal, we looked at the values of skewness and kurtosis. In a normal distribution, the values of skewness and kurtosis are 0. If a distribution has values of skewness or kurtosis above or below 0, then this indicates a deviation from normal [32]. The Skewness test value was −8.08, while kurtosis test value was +15.39.

Thus, non-parametric Kruskal Wallis H test and Mann Whitney U test were utilized in triple and dual comparisons, respectively, to determine whether the self-directed learning readiness scores of undergraduate students of midwifery and nursing differed statistically significantly depending on their gender, the department they studied in, their academic level and their income level.

2.6. Research ethics

Before starting the study, written approval was obtained from the Office of the Chancellor of the University. Volunteerism was taken as the basis in the participation of the students in the study. The students in the target population were informed about the purpose of the study, and they were asked to fill in the data collection tools based on the principle of volunteerism (the right to withdrawfrom the study at any time without penalty). Permission of the institution was obtained before the study and oral approval of the midwifery and nursing students obtained after explaining the purpose of the study. Then, the information regarding the content of the study was given to all students. In addition, the fact that personal information would not be disclosed to third parties and compliance with the principle of "Privacy and Protection of Privacy" ensured.

3. Results

Table 1 shows that 81.30% of the students participating in the study were female and 18.70% were male; 29.09% were at the second academic level, 26.23% the fourth academic level, 23.12% the first academic level and 21.56% the third academic level; and 74.81% were studying in the department of nursing and 25.19% in the department of midwifery. The average monthly income of 42.08% of the students participating was over 1000 TL (Table 1).

Table 2 shows that the "self-management" sub-scale is in the interval of the minimum value of 13 and the maximum value of 65, with a mean score of 49.03 (SD 7.45). The "desire for learning" sub-scale is in the interval of the minimum value of 12 and the maximum value of 60, with a mean score of 59.53 (SD 8.27). The "self-control" sub-scale is in the interval of the minimum value of 15 and the maximum value of 75, with a mean score of 48.10 (SD 7.12). The score obtained from the "desire for learning" sub-scale is the highest, and the score obtained from the "self managenet" subscale is better than that obtained from the "self-conrol" sub-scale. The mean total scores of self-directed learning readiness was 156.65 (SD 20.74), indicating that the self-directed learning readiness of the students was high level.In line with these findings, hypothesis H1 **"*Undergraduate Nursing and midwifery students score high and very high level on self-directed learning readiness*"**was supported.

Table 1. Descriptive characteristics of the participating students.

Variable	Group	n	%
Gender	Female	313	81.30
	Male	72	18.70
	Total	385	100.00
Academic Level	First Grade	89	23.12
	Second Grade	112	29.09
	Third Grade	83	21.56
	Fourth Grade	101	26.23
	Total	385	100.00
Department	Nursing	288	74.81
	Midwifery	97	25.19
	Total	385	100.00
Monthly Income	≤500 Turkish Liras	119	30.91
	500–1000 Turkish Liras	104	27.01
	≥1000 Turkish Liras	162	42.08
	Total	385	100.00

Table 2. Mean, median, minimum, maximum and standard deviation of self-directed learning readiness scale and sub-dimensions.

Variable	Number of Items	n	Mean	Median	Min	Max	SD
Self-management	13 items	385	49.03	49.00	13.00	65.00	7.45
Desire for learning	12 items	385	59.53	60.00	12.00	60.00	8.27
Self-control	15 items	385	48.10	48.00	15.00	75.00	7.12
Self-directed learning (SDL) Total Scores	40 items	385	156.65	157.00	40.00	199.00	20.74

In Table 3, the total scores of self-directed learning readiness and the self-directed learning readiness scores for the sub-scales calculated for the female and male students were presented. According to the results of the Mann Whitney U Test, there was a statistically significant difference between the genders in terms of their self-directed learning readiness scale scores ($p < 0.05$). The average score of the male students obtained for self-directed learning readiness was found to be Mdn = 151.00, which was statistically significantly lower than the average scores the female participants obtained (Mdn = 158.00, z = −3.016, $p < 0.05$, r = −0.154). This represents a small to medium effect for the gender data (it is below the 0.3 criterion for a medium effect size) [32]. The average rank is higher in the female students (216.20) than in the male students (185.19).

Table 3. The results of the Mann Whitney U Test of the self-directed learning readiness scale scores depending on the variable of gender.

Variable	Gender	n	Mean	Median	Min	Max	SD	Mann–Whitney U Test			Effect Size
								Mean Rank	z	p	
Self-management	Female	313	49.43	50.00	13.00	65.00	7.19	198.55			
	Male	72	47.28	48.00	18.00	65.00	8.35	168.85	−2.044	0.041	−0.104
	Total	385	49.03	49.00	13.00	65.00	7.45				
Desire for learning	Female	313	60.06	60.00	15.00	74.00	7.99	199.97			
	Male	72	57.22	58.00	21.00	75.00	9.12	162.70	−2.565	0.010	−0.131
	Total	385	59.53	60.00	15.00	75.00	8.27				
Self -control	Female	313	48.75	48.00	12.00	60.00	6.98	203.42			
	Male	72	45.24	46.00	19.00	59.00	7.06	147.72	−3.837	0.001	−0.196
	Total	385	48.10	48.00	12.00	60.00	7.12				
Total Self-directed learning readiness (SDLR) Scores	Female	313	158.25	158.00	40.00	197.00	19.94	201.20			
	Male	72	149.74	151.00	60.00	199.00	22.79	157.34	−3.016	0.003	−0.154
	Total	385	156.65	157.00	40.00	199.00	20.74				

When the self-directed learning readiness sub-scales were examined, a statistically significant difference was found between the genders in terms of their self-direction readiness sub-scale scores ($p < 0.05$). The average score obtained by the male students in the subscale of "self-management" (Mdn = 48.00) was statistically significantly lower than that of the female students (Mdn = 50.00, z = −2.044, $p < 0.05$, r = −0.104). This represents a small to medium effect for the gender data (it is below the 0.3 criterion for a medium effect size). There was a statistically significant difference between the genders in terms of their" desire for learning" sub-scale scores ($p < 0.05$). The males' "desire for learning" sub-scale score (Mdn = 58) was statistically significantly lower compared to the females' score (Mdn = 60, z = −2.565, $p < 0.05$, r =−0.131). (it is below the 0.3 criterion for a medium effect size). There was a statistically significant difference between the genders in terms of their "self-control" sub-scale scores as well ($p < 0.05$). The males'" self-control"sub-scale score (Mdn = 46.00) was statistically significantly lower compared to the females' score (Mdn = 48, z = −3.837, $p < 0.05$, r = −0.196) (it is below the 0.3 criterion for a medium effect size) (Table 3). Based on these results, it can be said that gender has an effect on the self-directed learning readiness scores of the students. Therefore, hypothesis H2 "*There is a statistically significant difference between the students' self-directed learning readiness level and their gender*" was supported.

As can be seen in Table 4, the results of the Mann Whitney U Test show that there was a statistically significant difference between the departments in terms of the self-directed learning readiness scale scores ($p < 0.05$). The median total score obtained from the self-directed learning readiness scale was Mdn = 160.00 for the midwifery students and Mdn = 154.00 for the nursing students, (z = −2.375, $p < 0.05$, r = −0.121). This represents a small to medium effect for the department data (it is below the 0.3 criterion for a medium effect size) [32]. The average rankoverall total score of the self-directed learning readiness scale of the students studying in the department of nursing (185.19) was significantly lower than overall total score of the students studying in the department of midwifery (216.20).

Table 4. Results of the Mann–Whitney U Test concerning the differences between the departments in terms of the self-directed learning readiness scale scores.

Variables	Department	n	Mean	Median	Min	Max	SD	Mean Rank	z	p	Effect Size
Self-management	Nursing	288	48.68	49.00	13.00	65.00	7.73	188.61			
	Midwifery	97	50.05	50.00	32.00	64.00	6.50	206.04	−1.336	0.182	−0.068
	Total	385	49.03	49.00	13.00	65.00	7.45				
Desire for learning	Nursing	288	59.10	59.00	15.00	75.00	8.36	187.11			
	Midwifery	97	60.81	61.00	37.00	73.00	7.91	210.49	−1.792	0.073	−0.091
	Total	385	59.53	60.00	15.00	75.00	8.27				
Self-control	Nursing	288	47.42	48.00	12.00	60.00	7.26	182.67			
	Midwifery	97	50.11	50.00	35.00	60.00	6.33	223.68	−3.145	0.002	−0.160
	Total	385	48.10	48.00	12.00	60.00	7.12				
Total Self-directed learning readiness (SDLR) Scores	Nursing	288	155.20	154.00	40.00	199.00	21.40	185.19			
	Midwifery	97	160.98	160.00	111.00	194.00	18.06	216.20	−2.375	0.018	−0.121
	Total	385	156.65	157.00	40.00	199.00	20.74				

When the statistics concerning the sub-dimensions of the self-management learning readiness scale given in Table 4 are examined, it can be seen that the mean rankscore of the nursing students is 188.61 for the sub-dimension of "self-management" 187.11 for the sub-dimension of "desire for learning", which was the highest mean rank score, and 182.67 for the sub-dimension of "self-control", which was the lowest mean rankscore.

When the statistics concerning the sub-dimensions of the self-directed learning readiness scale for the midwifery students are examined, it can be seen that the average rank score was 206.04 for the sub-dimension of "self-management", which was the lowest mean score 210.49 for the sub-dimension of "desire for learning", which was the highest mean score, and 223.68 for the sub-dimension of "self-control" (Table 4).

When the self-directed learning readiness sub-scales are examined, a statistically significant difference was found between the departments and the "self-control" sub-scale scores ($p < 0.05$). The "self-control" the average score of the students studying in the department of nursing (Mdn = 48.00) was statistically significantly lower compared to the score of the students studying in the department of midwifery (50.00, z = −3.145, $p < 0.05$, r = −0.160). This represents a small to medium effect for the department data (it is below the 0.3 criterion for a medium effect size) (Table 4).

There was no statistically significant difference between the departments in terms of their scores in the "self-management" (Mdn = 49.00, z = −1.336, r = −0.068) and "desire for learning" sub-scales (Mdn = 60.00, z = −1.792, r = −0.091). This represents a small effect for the department data (it is below the 0.10 criterion for a small effect size) [32] (Table 4). Based on these results, it can be said that the department they study in has an effect on the self-directed learning readiness scores of the students. In line with this findings, hypothesis H3 **"***There is a statistically significant difference between the students' self-directed learning readiness level and the department in which they study***"** was supported.

In Table 5, the results of the Kruskal–Wallis H Test show that there was a statistically significant difference between the grade-levels in terms of their self-directed learning readiness scale scores (H = 8.864, SD = 20.74, $p < 0.05$). The self-directed learning readiness scale score of the second grade-level students (154.31 (SD 18.71) was statistically significantly lower compared to the score of the fourth grade-level students (161.57, SD 17.47). In addition, in this study, the average SDLR score of the students at each grade level (as well as the overall score) was higher than 150.

Table 5. Results of the Kruskal–Wallis H Test concerning the differences between the academic-levels in terms ofthe self-directed learning readiness scale scores.

Variable	Academic Levels	n	Mean	Median	Min	Max	SD	Mean Rank	H	p
Self-management	First Grade	89	49.10	49.00	26.00	65.00	6.66	190.98		
	Second Grade	112	48.10	48.50	29.00	64.00	7.49	177.22	7.712	0.052
	Third Grade	83	48.22	49.00	13.00	65.00	9.12	186.05		
	Fourth Grade	101	50.66	50.00	30,00	64.00	6.28	217.98		
	Total	385	49.03	49.00	13,00	65.00	7.45			
Desire for learning	First Grade	89	59.19	60.00	21.00	75.00	8.41	188.69		
	Second Grade	112	58.92	59.00	40.00	73.00	7.26	179.54	4.830	0.185
	Third Grade	83	58.88	60.00	15.00	72.00	9.75	192.27		
	Fourth Grade	101	61.04	60.00	37.00	75.00	7.81	212.32		
	Total	385	59.53	60.00	15.00	75.00	8.27			
Self-control	First Grade	89	48.22	48.00	26.00	60.00	7.04	192.49		
	Second Grade	112	47.29	47.00	33.00	60.00	6.49	175.54	10.174	0.017
	Third Grade	83	46.88	48.00	12.00	60.00	8.37	182.42		
	Fourth Grade	101	49.87	49.00	34.00	60.00	6.46	221.50		
	Total	385	48.10	48.00	12.00	60.00	7.12		2–4	
Total Self-directed learning readiness (SDLR) Scores	First Grade	89	156.52	158.00	73.00	199.00	20.22	192.74		
	Second Grade	112	154.31	152.00	107.00	192.00	18.71	173.53	8.864	0.031
	Third Grade	83	153.98	157.00	40.00	192.00	26.16	188.54		
	Fourth Grade	101	161.57	160.00	116.00	197.00	17.47	218.49		
	Total	385	156.65	157.00	40.00	199.00	20.74		2–4	

There was a statistically significant difference between the academic-levels and the "self-control" sub-scale scores as well (H = 10.174, SD = 7.12, $p < 0.05$). The "self-conrol" score of the second academic-level students (47.29, SD 6.49) was statistically significantly lower compared to the score of the fourth grade-level students (49.87 (SD 6.46). There was no statistically significant difference between the academic-levels in terms of their scores in the sub-scales of "self-direction" and "desire for learning" ($p > 0.05$) (Table 5). In this case, hypothesis H4 "*There is a statistically significant difference between the students' self-directed learning readiness level and their grade-level*" was supported.

In Table 6, the results of the Kruskal Wallis H Test show that there was no statistically significant difference between the monthly income groups in terms of their self-directed learning readiness scale scores and its sub-scales scores ($p > 0.05$). In this case, hypothesis H5*"There is a statistically significant difference between the students' self-directed learning readiness level and their monthly income"* was not supported.

Table 6. The Results of the Kruskal Wallis H Test concerning the differences between the monthly income and the self-directed learning readiness scale scores.

Variables Monthly Income		n	Mean	Median	Min	Max	SD	Mean Rank	H	p
									Kruskal–Wallis H Test	
Self-management	≤500 Turkish Liras	119	48.96	49.00	13.00	65.00	8.20	191.31	4.404	0.111
	500–1000 Turkish Liras	104	49.97	50.50	18.00	63.00	7.15	211.52		
	>1000 Turkish Liras	162	48.48	49.00	26.00	65.00	7.04	182.35		
	Total	385	49.03	49.00	13.00	65.00	7.45			
Self-control	≤500 Turkish Liras	119	59.07	59.00	15.00	75.00	9.44	188.63	0.901	0.637
	500–1000 Turkish Liras	104	60.02	60.00	23.00	73.00	8.14	201.74		
	>1000 Turkish Liras	162	59.56	59.00	30.00	75.00	7.43	190.60		
	Total	385	59.53	60.00	15.00	75.00	8.27			
Desire of Learning	≤500 Turkish Liras	119	47.36	48.00	12.00	60.00	7.56	184.27	1.410	0.494
	500–1000 Turkish Liras	104	48.57	48.00	19.00	60.00	7.21	201.91		
	>1000 Turkish Liras	162	48.33	48.00	24.00	60.00	6.73	193.69		
	Total	385	48.10	48.00	12.00	60.00	7.12			
Total Self-directed learning readiness (SDLR) Scores	≤500 Turkish Liras	119	15.39	154.00	40.00	199.00	23.26	186.88	2.132	0.344
	500–1000 Turkish Liras	104	158.56	159.50	60.00	193.00	20.81	206.54		
	>1000 Turkish Liras	162	156.36	155.50	80.00	197.00	18.67	188.80		
	Total	385	156.65	157.00	40.00	199.00	20.74			

4. Discussion and Recommendations

The aim of this study was to determine the level of self-directed learning readiness of undergraduate students in the Bachelor of Nursing and midwifery program within a public tertiary education institution in Amasya, Turkey. This study also investigated whether there were association between the level of self-directed learning readiness and selected demographic variables such as gender, department, academic level and monthly income in the undergraduate students.

Our findings show that the nursing and midwifery students had high self-directed learning readiness. A reason for this high mean scoring could be that Turkish policy for education emphasizes student centered learning approach. Many studies can be found the literature with similar results to the present study [1,14,19,23]. In studies that have been previously conducted on nursing students in Saudi Arabia [23], Taiwan [33], and Iran [34], students' self-directed learning readiness levels have been reported to be high. According to Owen, individuals with higher levels of self-direction readiness can select their learning targets, the activities they will perform and the sources they will reach in a more effective way [35].

Our result matched with El seesy et al., who stated that the mean percentage scores of overall self-directed learning readiness of the nursing students at KAU was relatively high [36]. Moreover, El-Gilany who reported that majority of Saudi nursing in Al Gouf University have high level of self-directed learning [23]. Similarly, Abu-Moghli et al. and Safavi et al., mentioned that the majority of Jordanian and Iranian nursing students had high level of SDLR [34–37]. However, these results contradict the study of Yuan et al. who found that Chinese baccalaureate nursing students reported low level of SDLR [38]. Moreover, Lestari and Widjajakusumah in Indonesia indicated that students had low to moderate scores for self-directed learning readiness [39]. However, our results contradicted with the study of Wang et al. Compared to the study of Wang et al., where most participants were associate degree nursing students [40], the total scores and subscales scores of the SDLR scale in our study were higher, asserting that bachelor nursing students have greater capability for self-directed

learning. Moreover Yang et al. explored the SDLR of Chinese undergraduate nursing students [11]. With the exception of the self-control dimension, the overall scores and all subscale scores in our study were higher than theirs, implying weaker self-control abilities in undergraduate nursing and midwifery students in Amasya Province. In addition, about half of the students were reported to have low levels of self-directed learning readiness in the study conducted in Indonesia by Lestari and Widjajakusumah (2009) [39]. Ezzat Alkorashy and Abuassi also suggested that the majority of the students had lower levels of self-directed learning [41]. Some studies in the literature suggest that self-directed learning readiness is not suitable for everyone. Dyck's self-directed learning readiness project showed that it was not suitable for everyone and that it caused anxiety and disappointment in some students [42]. Thus, it is necessary to adapt the teaching methods to encourage the self-directed learning. Some researchers have stated that problem-based learning and learning in small groups could support self-directed learning [38–43]. Thus, the faculties of nursing and midwifery are suggested to use the mentioned teaching methods to develop the self-directed learning abilities.

Self-directed learning readiness in this study was assessed regarding three components self-management, desire for learning, and self-control. Regarding the result of three components, it was noticed that the highest mean score percentage of readiness were found for students response to desire for learning component followed by self-management component, while nursing student readiness to self-control component was the lowest. Subscale indicates that students need support in self-control skills and there might be areas of improvement in the self-control domain. This result is in congruent with Williams etal., who mentioned that the highest mean sore was in the desire for learning component while moderate score for each self-control and self-management component [44]. On the other hand, this result contradicts Smedley who mentioned that nursing student in Australia scored least for self-management subscale, better for the desire for learning and the highest for self-control [19]. Moreover, Soliman and Alshaikh found that the high score in Saud University student was for self-control domain while the least score was for self-management domain [45]. Indeed, El Seesy et al. found the highest mean score percentage of readiness for student response to self-control component followed by self-desire component while nursing student readiness to self-management component was the lowest [36].

The present study revealed that there was a statically significant difference between genders with overall score of self-directed learning readiness. The score the male participants obtained from the self-directed learning readiness scale was statistically significantly lower compared to that of the female participants. This agrees with McCollin in USA, and Yuan et al. in China, who found that there was staticallydifference between gender data and overall self-directed learning readiness score [38,46]. The study conducted by Thomas also suggested gender as one of the possible factors affecting the desire for self-directed learning [47]. McCollin stated that the factor of gender affected student-centered behaviors [46]. It has been stated that the gender may have different effects in different situations. Contrary to our findings, Roberson and Merriam in USA, Chen etal.in Taiwan, Smedley in Australia, and El-Gilany in Saudi Arabia found that there was no statically significant difference between gender and overall self-directed learning readiness score [19,23,33,48]. Moreover, the study carried out by Ezzat Alkorashy and Abuassi found there was no statically significant difference between gender and self-control dimension [41].

In the present study, the total SDLR score and its self-control component show significant difference with students' demographics, and their academic level. Regarding academic level, the present study revealed that fourth grade level nursing and midwifery students had higher self-control skills compared to second grade level students. This result may be due to senior learners having more life experience and responsibilities, which, enable them to self-control skills. This result matched with McCollin and Yuan et al., who reported an academic level effect on the self-directed learning readness [38,46]. The self-directed learning readness scale showed a trend that low grade level students produced lower mean scores compared with their high-grade level counterparts.

It can be said that the self-directed learning readiness level increases with the increase in the academic level. The fact that the fourth-grade-level students have more clinical experience and practice in different clinics can be considered to be the primary reason for this difference. The students attending the last gradelevel are responsible for working independently, making decisions, sharing their opinions and discussing in special clinical situations [19,38]. Our result iscongruent with Klunklinin Thailand, who reported the self-directed learning readiness scores of the fourth grade-level nursing students was higher than those of the students at the lower academic levels. A statistically significant correlation was found between the self-directed learning readiness and the academic level [49]. Moreover, the studies conducted in Australia suggested that the self-directed learning readiness levels of older students were higher compared to those of the younger students [19,45]. Shankar et al. found that the self-directed learning readiness scores of Nepalese students increased throughout a period from January to August [50]. The development of the self-directed learning verifies the nature of the maturation process [38–50]. On the other hand, our results contradict those of Klunklin et al., who found no statistically significant differencebetween the "desire for learning" and "self-management" sub-scales with the academic level [49]. Indeed, El-Gilany and Abusaad found no statistically significant correlation between academic level and overall scores of the self-management learning readiness [23]. Our results also contradict Ezzat Alkorashy et al., who found a significant correlation between the academic level and the sub-scales of "self-management" and "desire for learning" [35].

In the present study, the total SDLR score and its three subscales did not show any significant correlation with student demographics, and their monthly income. On the other hand, this result contradicts Şahin and Küçüksüleymanoğlu who mentioned that there was statically significant difference between monthly income and overall self-directed learning readiness score [27].Accordingly, it can be said that candidate teachers having a higher level of income tend to control the change by attempting to solve the challenging problems they might encounter in their lives by means of various strategies, they are inclined to learn by having their own learning responsibility and by having fun, they can determine their shortcomings in the occupational fieldand evaluate themselves in a more objective way concerning the activities they carried out, and they strive to learn in a continual way to make up their deficiencies.

Based on the findings of this study, the following suggestions could be presented:

First, nursing and midwifery students need to be supported for transition from traditional educational approaches to more active and independent ones, which emphasize critical thinking, self-direction, and collaboration as central strategies for learning.

Second, students and faculty need to continually appraise the extent of opportunities for self-directed learning readiness within the teaching–learning context through their mutual collaboration in achieving the lifelong independency in knowledge and skills requirement.

Third, planning of a student-centered approach to facilite lifelong learning may be improved when the enquiry methods are balanced with a lecture-based approach to minimize anxiety in students who are not yet ready for self-directed learning, while at the same time not focusing exclusively on the traditional, lecture-based method.

Fourth, future research may replicate the study using larger samples size and include more than one university in different regions of Turkey to generalize the results to a wider population.

5. Limitations of the Study

The study has several limitations. First, the study was limited undergraduate students nursing and midwifery at Faculty of Health Sciences of Amasya University and did not include students at the other students. Second, the data were non-normally distributed, and were selfreported with no objective measures. Finally, the study sample was not gender; equal 81.30% of the sample, was female, while 18.70% was male.

6. Conclusions

Based on the study findings, the results have important implications for undergraduate nursing and midwifery education. It could be concluded that nursing and midwifery students had high level of self-directed readiness. However, students obtained the lowest score for the self-control subscale, which indicates students need support in self-control skills and there might be areas of improvement in the self-control dimension. Moreover, there was statically significant differences based on gender, department and academic level with total score of self-directed learning readiness. On the other hand, there was no statically significant difference between monthly incomes and overall score of self-directed learning readiness. Thus, this study supported H1, H2, H3, and H4, but not H5.

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