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READINESS FOR SELF-DIRECTED LEARNING AMONG MALE AND FEMALE NURSING STUDENTS AT NAJRAN UNIVERSITY

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Abstract:
Background: Rapid change in knowledge and technology in the field of health care exaggerate the necessity from nurses to continuously update their knowledge and skills. Readiness for self-directed learning (RSDL) is the operator for Self-updating
Aim: this study aims to compare RSDL among male and female nursing student at Najran University and investigate its relation to student sociodemographic characteristics.
Research design: Descriptive correlational research design
Setting: This study was conducted at nursing colleges Najran University (male and female sections).
Subjects: a comprehensive sample of all students registered in nursing colleges during the second semester 2019 and accepted to participate in the study. Tools: Two tools were used for data collection: Tool I: Sociodemographic and academic history questionnaire, Tool II: Self-Directed Learning Readiness Scale for Nursing Education (SDLRSNE). Results: Female nursing students have higher self-management, desire for learning and total RSDL score than male students. Where, the mean self-management, desire for learning and total RSDL score is higher among female (40.8922±5.87646, 38.0392±4.79257 and 120.8725±13.41838) compared to male (37.2526±5.66243, 35.2316±4.84318 and 112.0421±12.99011) with statistically significant differences (p=0.000*) between the two groups, respectively. On the contrary, self-control is significantly higher among male student compared to female. Where, male student have higher self-control mean (42.5579±6.27849) compared to female (39.9412±5.12579) student with statistically significant difference between the two groups (p=0.004*). Thiers a statistically significant relation between age, sex, father education and RSDL scores. Another statistically significant relation between RSDL score, computer and black board skills is found.
Conclusion: All RSDL element score is higher among female Saudi nursing students than male except for self-control. Thiers a statistically significant relation between age, sex, father education, computer skills, blackboard skills and RSDL scores.
Key words: *Readiness for self-directed learning, self-control, self-management, desire for learning.*

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What is already known about the topic?
- Self-directed learning is the core stone of continuous long life learning.
- Readiness for self-directed learning is essential requirement for nursing professional career.

What this paper adds?
- All RSDL element score is higher among female Saudi nursing students than male except for self-control.
- Thiers a statistically significant relation between age, sex, father education, computer skills, blackboard skills and RSDL scores.

INTRODUCTION:

Nowadays, the knowledge and technology life span become extremely small. Every day people are faced with new advanced knowledge and technology. Specially for nursing, self-updating is an urgent requirement to provide professional evidence based care. Consequently, readiness for self-directed learning (RSDL) is personal talent and educational tool that considered to be the heart of self-updating process. RSDL is essential requirement for sustainable development of high quality nursing care. It also help nurses to become elastic, open minded, and able to accept change in the continuously developing health care environment. [1] RSDL is defined as" the ability of the learner to decide what, how, when, where, and why to learn". It emphases the autonomy through the whole learning process. It also incorporate the decision when, how and from whom to seek help. The RSDL contain serious steps of decision making and metacognitive thinking, it also includes the determination of the depth and social context in which learning occurs. [2]

RSDL has three main component: self-management, self-control and desire for learning. [3] The three component have equal importance in the learning process. Self-management has different definitions according to the branch in which it will be used. Generally it refers to the skills by which the person can direct his potentialities and activities toward achievement of specific goals. Self-management is concerned with how to set goals, design plans, tasks scheduling and tracking, decision making, managing time, and self-evaluation. It is also concerned with managing material and human resources toward efficient use. [4]

Self-control is term used differently in different situations. In some conditions it is used to indicate behavior control. In other situation it is used to indicate desire control. The goal of self-control is to obtain larger reward in the future rather than small reward in the present. In other word, self-control is "the capacity to bring one's actions into the line with one's intention in the face of competing motivation". Based on this definition, self-control needs motives that considered valuable for the person to be reached in the future. Consequently, if the goal of learning is worth for the learner he will have high self-control to achieve such goal. Self-control will supply the student with the executive capacity that bridge the gap between person's thoughts and actions. [5,6]

Desire for learning is the operator for RSDL as a whole. If the student have the desire for learning he will tolerate the stress and effort associated with learning process. He also will take actions to improve performance and seek assistance to achieve goals. Furthermore, desire for learning improve the quality of learning process as the student learn for his self not for the exam. Desire for learning help student to be autonomous in his learning process [7]

The RSDL will help the nursing student to be self-confident and self-dependent. He will be able to determine his learning needs and seek measures to satisfy it. If he develop such skills during undergraduate learning he will be able to continue self-education after beginning his practical life. Consequently, he will be able to provide high quality, updated and evidence based nursing care. [8] RSDL vary between persons depending on numerous variables. These variables include department, grad level, income, residence and gender. Exploring the factors that may affect RSDL is very important as it will help the teacher for better planning of the courses and teaching strategies. [1]

Significance of the study:
Admission of male student to the nursing program at Najran University is new. The university did not graduate male nursing student until now. Some of male courses are taught through electronic learning which require high level of independence, self-confidence and RSDL. Comparing RSDL among male and female student will help for better planning of the suitable learning strategies for both male and female student. It also can help in modifying nursing curriculum to be student centered to encourage autonomous learning. Furthermore, there is no studies conducted to explore differences in RSDL among male and female student at Najran University before. So this study will fill the knowledge gap in this respect

METHODOLOGY:
Aim of the study:

This study aims to:

- Comparing readiness for self-directed learning among male and female nursing student at Najran University.
- Investigate the relationship between readiness for self-directed learning and sociodemographic characteristics among nursing students at Najran University.

Research design: Descriptive correlational research design

Setting: This study was conducted at nursing colleges Najran University (male and female sections).

Subjects: The study comprised a comprehensive sample of all students registered in nursing colleges (male and female) during the second semester 2019 and accepted to participate in the study. Level one was excluded because they study in the preparatory year college.

Tools: Three tools were used for data collection:

Tool I: Sociodemographic and academic history questionnaire.

It was developed by the researcher to collect socio-demographic data such as age, gender, residence, computer and blackboard skills, father and mother education. It also include the academic history such as academic level, GPA in the last semester**.**

Tool III: Self-Directed Learning Readiness Scale for Nursing Education (SDLRSNE). [7]

This scale was developed for the first time by Fisher et al 2001 then Fisher and King 2005 validated it again. This scale was developed to help nursing educators to define the altitude, abilities and personal preferences required for SDL. In 2009 Fisher and King modified and validated this tool. The new modified scale comprise of 29 items divided under three main categories: self-management (10 items), desire for learning (9 items) and self-control (10 items). The students responses was ranked on 5- point Likert scale ranged from 1= strongly disagree to 5 strongly agree.

The study was accomplished according to the following steps:

A written official permission to conduct the study was obtained from the responsible authorities of nursing college dean /Najran University.

Ethical Considerations: oral consent was obtained from each student after explanation of the study purpose. Anonymity was considered when collecting data. All data was confidential and used only for the purpose of research. All students were informed about their right to refuse participation or withdraw at any time without any consequences.

Tool I was developed by the researcher then it was tested for content validity by a jury of 5 expertise in the field as well as reliability by Cronbach alpha coefficient test(r-0.73).

Tool (II) were adapted, translated and necessary modification was done then it was tested for content validity by a jury of 5 expertise in the field as well as reliability by Cronbach alpha coefficient test(r-0.80).

A pilot study was carried out on 18 students (10% of the study sample) to ascertain the clarity and the applicability of the tools. The pilot study was excluded from the main study sample.

Field work: Data was collected from the students using google form of the questionnaire. The questionnaire disseminated to the academic advisor of the nursing students then each advisor make meeting with his student to fill the questionnaire. After explaining the study objectives and taking oral consent, each student is asked to read the questionnaire carefully and answer according to herself. One of the researcher attend each meeting. They are allowed to ask for any elaboration. Average time for the completion of questionnaire (20-25 minutes).

Statistical analysis: Descriptive statistics was done to explore data. Chi-square, Monte Carlo, t test, and fisher exact test was used to test differences between groups and test relations.

RESULTS:

Table I: Percent distribution of the study participants according to their socio-demographic characteristics and GPA

Socio-demographic	Male students		Female students		Significant test P value
	N (95)	%	N (102)	%	
Age					
18<20 years	46	48.4	59	57.8	FET=5.538
20-25 years	49	51.6	43	42.2	P=0.436
Age (mean±SD)	24.235±2.3452		24.547±3.212		t=4.253 p=0.086
Educational level					
Level 2	27	28.4	33	32.4	
Level 3	19	20.0	26	25.5	
Level 4	10	10.5	11	10.8	FET=6.529
Level 5	14	14.7	6	5.9	P=0.364
Level 6	12	12.6	15	14.7	
Level 7	11	11.6	7	6.9	
Level 8	2	2.1	4	3.9	
Residence					
Urban	72	75.8	94	92.2	X^2=9.938
Rural	23	24.2	8	7.8	P=0.001*
Father educational level					
Illiterate	13	13.7	7	6.9	
Read and write	26	27.4	26	25.5	FET=6.433
Secondary school	28	29.5	37	36.3	P=0.164
University education	23	24.2	31	30.4	
Master or PHD	5	5.3	1	1.0	
Mother educational level					
Illiterate	23	24.2	15	14.7	
Read and write	29	30.5	33	32.4	FET=4.358
Secondary school	27	28.4	38	37.3	P=0.362
University education	12	12.6	14	13.7	
Master or PHD	4	4.2	2	2.0	
GPA(mean±SD)	3.2257±0.725657		2.936471±0.812628		t=2.628 p=0.009*

FET= fisher exact X^2= chi-square   t= independent t test   *significant at 0.05

the female students with statistically significant differences between the two groups (P=0.001). There is no statistically significant different between male and female students related to their father (P=0.164) and mother (P=0.362) education. Male student GPA mean (3.2257±0.725657) is significantly (p=0.009) higher than female GPA mean (2.936471±0.812628).

Table 1 shows that mean age of male (24.235±2.3452) and female (24.547±3.212) student are nearly equal. Around one third of male (28.4%) and female (32.4%) student are from level two while the least proportion are from level eight for both male(2.1%) and female(3.9%). Around three quarters of male (72%) student are urban area residence compared to 92.2% of

Table 2: comparing the computer and blackboard skills among male and female student.

Skills	Male students		Female students		Significant test P value
	N (95)	%	N (102)	%	
Computer skills					
Poor	15	15.8	2	2.0	FET=13.328 P=0.004*
Fair	28	29.5	38	37.3	
Good	26	27.4	26	25.5	
Very good	26	27.4	36	35.3	
Black board skills					
Poor	15	15.8	8	7.8	FET=3.653 P=0.297
Fair	26	27.4	33	32.4	
Good	23	24.2	22	21.6	
Very good	31	32.6	39	38.2	

FET= fisher exact   *significant at 0.05

Table 2 shows a statistically significant differences (P=0.004) between male and female student in relation to their computer skills. Where, 27.45% of the male student evaluated their computer skills as very good compared to 35.3% among female student. On the contrary, no statistically significant differences (P=0.297) were observed between male and female students in relation to their blackboard skills. Where, 32.6% of the male students evaluated their blackboard skills as very good compared to 38.2% of the female students.

Table 3: comparing the degree of readiness for self-directed learning (RSDL) among male and female student
FET= fisher exact   P^{MC} = monte Carlo   t= independent t test   *significant at 0.05

RSDL		Male		Female		P value
		N (95)	%	N (102)	%	
Self-management	High	48	50.5	71	69.6	P^{MC}=0.005*
	Moderate	45	47.4	30	29.4	
	Low	2	2.1	1	1	
Mean±SD		37.2526±5.66243		40.8922±5.87646		t=4.421 p=0.000*
Desire for learning	High	65	68.4	82	80.4	FET= 6.80 P=0.034*
	Moderate	28	29.5	15	14.7	
	Low	2	2.1	5	4.9	
Mean±SD		35.2316±4.84318		38.0392±4.79257		t=4.086 p=0.000*
Self-control	High	60	63.2	54	52.9	FET= 11.145 P=0.003*
	Moderate	27	28.4	21	20.6	
	Low	8	8.4	27	26.5	
Mean±SD		42.5579±6.27849		39.9412±5.12579		t=2.927 p=0.004*
Total RSDL	High	69	72.6	87	85.3	FET= 6.998 P=0.039*
	Moderate	18	18.9	13	12.7	
	Low	8	8.4	2	2.0	
Mean±SD		112.0421±12.99011		120.8725±13.41838		t=4.687 p=0.000*

(37.2526±5.66243, 35.2316±4.84318 and 112.0421±12.99011) with statistically significant differences (p=0.000*) between the two groups, respectively. On the contrary, self-control is significantly higher among male student compared to female. Where, 63.2% of the male student have high self-control compared to 52.9%. In addition, male student have higher mean (42.5579±6.27849) compared to female (39.9412±5.12579) student with statistically significant difference between the two groups (p=0.004*).

Table 3 shows a statistically significant difference between male and female student in relation to self-management, desire for learning and total RSDL score. Where, 69.6%, 80.4%, 85.3% of female student have high self-management, desire for learning and total RSDL score compared to 50.5%, 68.4%, and 72.6% among male student, respectively. Furthermore, the mean self-management, desire for learning and total RSDL score is higher among female (40.8922±5.87646, 38.0392±4.79257 and 120.8725±13.41838) compared to male

Table 4: Relation between total RSDL score and their sociodemographic characteristics

Sociodemographic data	High RSDL		Moderate RSDL		Low RSDL		Significance test
	N	%	N	%	N	%	
Age							
18<20 years	74	37.6	24	12.2	7	3.6	P^{MC}=0.035*
20-25 years	80	40.6	10	5.1	2	1.0	
Sex							
Male	69	35.0	18	9.1	8	4.1	P^{MC}=0.009*
Female	87	44.2	13	6.6	2	1	
Educational level							
Level 2	47	23.9	10	5.1	3	1.5	
Level 3	34	17.3	7	3.6	4	2	
Level 4	17	8.6	4	2	0	0	
Level 5	17	8.6	3	1.5	0	0	P^{MC}=0.258
Level 6	21	10.7	4	2	2	1	
Level 7	14	7.1	3	1.5	1	0.5	
Level 8	6	3	0	0	0	0	
Residence							
Urban	130	66.0	29	14.7	7	3.6	P^{MC}=0.584
Rural	26	13.2	2	1	3	1.5	
Father educational level							
Illiterate	0	0	4	2	16	8.1	
Read and write	43	21.8	4	2.0	5	2.5	
Secondary school	51	25.9	11	5.6	3	1.5	P^{MC}=0.05*
University education	44	22.3	9	4.6	1	0.5	
Master or PHD	2	1	3	1.5	1	0.5	
Mother educational level							
Illiterate	34	17.3	4	2	0	0	
Read and write	50	25.4	9	4.6	3	1.5	
Secondary school	47	23.9	14	7.1	4	2	P^{MC}=0.145
University education	22	11.2	2	1	2	1	
Master or PHD	3	1.5	2	1	1	0.5	

P^{MC} = Monte Carlo   *significant at 0.05

Table 4 shows a statistically significant relation between age, sex, father education and RSDL scores. Where, high RSDL is higher among age group 20-25 years (40.6%) than younger (37.6%) student. In addition, high RSDL is more common in female

(44.2%) than male (35%) students. On the contrary their no statistically significant relation was found between RSDL and residence, educational level and mother education.

Table 5: Relation between total RSDL score and their computer and blackboard skills

Sociodemographic data	High RSDL		Moderate RSDL		Low RSDL		Significance test
	N	%	N	%	N	%	
Computer skills							
Poor	9	4.6	5	2.5	3	1.5	
Fair	57	28.9	9	4.6	0	0	FET=17.98
Good	46	23.4	4	2	2	1	P=0.003*
Very good	44	22.3	13	6.6	5	2.5	
Black board using skills							
Poor	18	9.1	2	1	3	1.5	
Fair	51	25.9	8	4.1	0	0	FET=11.54
Good	33	16.8	8	4.1	4	2	P=0.045*
Very good	54	27.4	13	6.6	3	1.5	

FET= fisher exact   *significant at 0.05

Table 5 shows a statistically significant relation between RSDL score and computer and black board skills. Where, high RSDL score are nearly distributed between fair (28.9%), good (23.4%) and very good (22.3%) computer skills. In addition the largest proportion of the students who have high RSDL score (27.4%) have very good blackboard skills.

DISCUSSION:
With the rapid change in nursing sciences and technology, RSDL became very important requirement for nursing students. It acts as the heart of continues self-development. This study aims to compare readiness for self-directed learning among male and female nursing student at Najran University and investigate the relationship between readiness for self-directed learning and sociodemographic characteristics among nursing students at Najran University.

This study shows a statistically significant difference between male and female student in relation to self-management, desire for learning and total RSDL score. Where, most of female student have high self-management, desire for learning and total RSDL score compared to lower percent among male student. Furthermore, the mean self-management, desire for learning and total RSDL score is higher among female compared to male with statistically significant differences between the two groups. On the contrary, self-control is significantly higher among male student compared to female with statistically significant difference between the two groups.

The current study results is in line with Gyawali et als(2011) who investigated "Readiness For Self-Directed Learning Among First Semester Students Of A Medical School In Nepal" their study illustrated that the mean SDL scores of the female student was higher than male student. They further added that the difference between female and male score was not statistically significant. However, they reported that the mean RSDL score among their participant was more than 150 while in the current study it is only 112.0421±12.99011 among male and 120.8725±13.41838 among females. Fisher et al illustrated that mean score of 150 and higher indicates high RSDL. [11] But the current study used different version of RSDL scale, so, different scoring system is used. Generally, the higher percentage of the current study subject have high RSDL, which is essential requirement of long life learning [12]

The current study is also in congruent with three previous studies conducted at Saudi Arabia. [13, 14, 15]. The first one is conducted in college of nursing at king Saud University by Alkorashy H, AbuAssi N.(2016). They investigated RSDL among bachelor degree nursing students. They reported that their students have high self-control as compared to the other two RSDL constructs. They added that female student have higher score of RSDL than males, while, more than half of their student have low RSDL. The second, El-Gilany A and Abusaad F(2013) who studied RSDL among bachoular degree nursing students at Eljouf University. They concluded that self-control score was higher than self-management and desire for learning. At the same time 77% among their students had high RSDL score. The third study conducted by El Seesya et als (2017). They reported that most of bachelor nursing student at king Abdelaziz University had relatively high RSDL score with self-control dimension dominant on desire for learning and self-management. Self-control is very important construct that help nursing student to control his feeling and behaviors in different situation. It is also related to emotional inelegance, goal setting and planning to achieve goals. Consequently RSDL as a

whole is very important to nursing student and specially the self-control construct.

On the contrary, Abu-Moghli et als (2005) [16] who studied RSDL among Jordan nursing students. They concluded that nursing students are autonomous learner with the highest score for the desire for learning. They are curious and have thirst to learn new things and can put goals for their learning process. Furthermore, Yuan H et als (2012) [3] reported that 60% of their students had high RSDL score although they have autonomous altitude to learning.in addition, Lestari and Widjajakusumah (2009) [17] reported that only 50% of Indonesian nursing student had low or moderate RSDL scores.

The current study reveals a statistically significant relation between age, sex, father education and RSDL scores. On the contrary their no statistically significant relation was found between RSDL and residence, educational level and mother education.

The current study results is in line with 2012chines one conducted by Yuan H et als. [3] They tried to deeply investigate RSDL among their student and how it can be affected by different students' attributes. They concluded that senior student had higher RSDL score than junior one. They found age as essential factor that can help to increase RSDL. This result can confirm the rules that adult learners are more autonomous, have self-control, self-management skills and desire to learn. Klunklin et als (2010), Smedley (2007) and Williams et als (2013) [18, 19, 20] reported that age contribute to both clinical and life experiences of nursing student. They elaborated that older student had the chance to develop self-control and self-management on different learning situations. They further added that the older student can recognize the knowledge gap that irritate them to seek self-learning, which is the heart of RSDL.

On the contrary, at lest three studies reported different results from the current study. First, the previously discussed El-Gilany and Abusaad (2013) [14] reported no relation between sociodemographic characteristics, including age, and RSDL score. Second, Roberson and Merriam (2005) [21] who studied SDL process among adult rural students. They reported that older rural students had higher sense of responsibility and self-control. Third, Chen et als (2006) [22] who explored the relationship between certain personality traits, demographic characteristics and RSDL. They found no significant relation between RSDL and any of the demographic characteristics. Although the present study shows significant relation between RSDL and

age, no relation had been found between educational level and educational level. This result can be justified by the small number of student from level 8,7 and 6. This makes absence of such relation is not statistically significant.

The current study found a statistically significant relation between RSDL score and computer and black board skills. This results seems logic because if the student have high RSDL he will be more curious to learn through e learning. Computer skills is essential part of the e learning skills.

The current study result is in line with Senyuva and Kaya (2015) [23] who conducted study in Turkey to investigate the relation between web based learning and RSDL. They found significant correlation between the uses of web based learning and RSDL score. They reported that people who have high RSDL see difficult and new tasks as challenge that they should overcome. They further recommended that nursing student would benefit from web based learning in developing their RSDL skills. Other numerous studies [24,25,26,27,28] had reported significant association between the e learning practice , computer skills and RSDL scores. They further added that web based learning increased the student ability and willing to learn, critically think, develop their own learning outcomes, taking the responsibilities of their practices and skills. In addition, web based learning improves self-control, which is basic component of RSDL.

CONCLUSION:
Female nursing students have higher self-management, desire for learning and total RSDL score than male students with statistically significant differences between the two groups. On the contrary, self-control is significantly higher among male student compared to female. Thiers a statistically significant relation between ages, sex, father education and RSDL scores. Another statistically significant relation between RSDL score, computer and black board skills is found.

Recommendation:
All nursing curriculums especially for male students should be designed to develop RSDL as basic pillar of long life education. Web based learning would be encouraged in nursing education.

Limitation of the study:
Study sample was not random which limit the generalization of results. Most of the student participated in this study are from level 2 to level 5,

while level 6,7 and 8 participated in small number. This because the number of student in these levels are very small already. Also, most of the student are urban area residence. This may impact the relation tested between academic level, residence and RSDL.

Future researches:
* Replication of the present study on larger population and different setting.
* Investigate the effect of RSDL enhancement program on the nursing student academic achievement

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