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A Descriptive-Correlational Study on Learning Ability and Readiness to Practice Among Nursing Graduates in a Private Chinese Institution

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ABSTRACT

This study investigates the relationship between individual learning ability and readiness to practice among nursing graduates from a private health sciences institution in Hebei Province, China. Framed by Attribution Theory, which explores how individuals attribute causes to their successes and failures, the study examines how learning habits and learning aids correlate with readiness to practice across physical, emotional, and psychosocial domains. A descriptive-correlational research design was employed, and data were collected through a validated survey instrument administered to 377 third-year nursing students (67% female, aged 20–21; 56% from middle-income households). Spearman's rho correlation analysis revealed statistically significant relationships between learning ability and readiness to practice ($r = 0.697$, $p < .001$), with socioeconomic status ($p = 0.024$) and clinical performance ($p = 0.015$) emerging as significant influencing factors. Targeted interventions such as structured self-directed learning (SDL) training, technology lending programs, and stress-management modules are recommended to bridge gaps in clinical preparedness. These findings highlight the importance of fostering learning habits, providing equitable access to learning aids, and implementing evidence-based reforms to enhance nursing students' readiness for licensure and clinical practice.

Keyword: *Learning Ability, Readiness to Practice, Nursing Education, CNLE, China, Self-Directed Learning, Nursing Graduates.*

1. INTRODUCTION

The global healthcare arena demands a nursing workforce that is both academically and clinically ready. The nursing graduates are from the theory and clinical test that is CNLE (China Nursing Licensing Examination) examination test preparedness level of China test performance on the nursing to assess [1]. But concerns remain about just how ready graduates are, particularly those from private nursing schools, which usually grapple with quality problems such as inconsistent instruction and scant resources. The advantages of self-directed learning (SDL) are being accepted with increasing frequency in modern nursing education [2]. SDL is about being able to manage one's own education, from setting goals, optimizing learning time, keeping motivated, to using the appropriate tools and resources. Furthermore, these behaviors predict psychosocial adjustment and affect regulation, which are both important traits [3].[4].

Although studies have examined SDL and nursing competence, the association of specific learning behaviors with practice readiness is largely unknown, particularly among students in private institutions with resource constraints. Moreover, the terms "learning ability" and "preparedness to practice" are often used in a generalized manner. The findings of this study suggest that learning ability is achieved through the reciprocation of individual learning behaviors (e.g., motivation and time management) and leveraging learning resources (e.g., digital tools and peer support). The concept of "readiness to practice" refers to the perception of students' readiness on a physical, emotional, and psychosocial level by the nursing graduate. This study examines these constructs to ascertain their interrelationship and to examine how demographic influences determine readiness to practice among nursing graduates in Chinese nursing schools

Mining tools strengthen the required parameters of web based health monitoring system given in the diagram.

2. METHODOLOGY

A. Study Design

The association between nursing students' learning capacity and practice readiness was evaluated using a descriptive-correlational research design [5]. This design was chosen because it preserves methodological rigor while examining the natural relationships between variables in authentic educational settings.

B. Setting and Participants

The study was conducted in a private health sciences institution in Hebei Province, China, chosen as a representative case of private nursing education in China. From a population of 500 third-year nursing students (selected due to their proximity to CNLE and clinical practice), a sample of 377 was randomly selected using the Fishbowl technique. Sample size was validated using G*Power software ($\alpha = 0.05$, power = 0.95, medium effect size) based on similar nursing education studies [6].

C. Instrumentation

The survey instrument had three parts: (1) demographic profile (including age, sex, socio-economic status, and clinical performance grade), (2) learning ability (assessing habits such as time management and use of digital resources), and (3) readiness to practice (across physical, emotional, and psychosocial domains). The instrument was validated through expert review by five nursing educators [7] and pilot testing with 30 third-year nursing students. Reliability was confirmed, with Cronbach's alpha > 0.80 for all scales, indicating strong internal consistency. Construct validity was established through factor analysis in the pilot phase. The interpretation scales used in Tables V-XI were adapted from common Likert scale conventions in nursing education literature, where a mean score of 2.50–3.24 generally reflects a positive agreement or effectiveness. While the differences in mean scores may appear numerically small (e.g., 3.15–3.33), they provide indicative trends across constructs, especially when interpreted alongside standard deviations and consistent rating patterns.

D. Ethical Considerations

Ethical approval was granted by the institution's review board. Participation was voluntary with written informed consent obtained from all participants. Data were anonymized and stored securely following institutional data protection guidelines.

E. Data Collection and Analysis

Surveys were distributed via institutional email with two follow-up reminders (82% response rate). Data were analyzed using descriptive statistics and Spearman's rho correlation, with effect sizes interpreted as: 0.10 (small), 0.30 (medium), and 0.50 (large). All analyses were conducted using SPSS v26 with significance set at $p < 0.05$.

3. RESULTS

A. Demographic Profile

Participants were primarily female (67%) and aged between 20–21. Most were from middle-income households and had clinical performance ratings categorized as "Good" or "Very Good." Table I presents the distribution of respondents by age, with the majority aged 20–21.

Table I: Frequency and Percentage Distribution of Respondents According to Age

Levels	Frequency	Percentage
20-21	326	86.5 %
22-23	51	13.5 %
Total	**377**	**100%**

Table II shows the gender breakdown of the respondents, revealing that the majority were female.

Table II: Frequency and Percentage Distribution of Respondents According to Sex

Levels	Frequency	Percentage
Male	124	32.9 %

Female	253	67.1 %
Total	**377**	**100%**

Table III illustrates the respondents' socioeconomic status, with most falling under the middle-income bracket.

Table III: Frequency and Percentage Distribution of Respondents According to Socioeconomic Status

Levels	Frequency	Percentage
Low	158	41.9 %
Middle	210	55.7 %
High	9	2.4 %
Total	**377**	**100%**

Table IV shows the clinical performance grades, where most respondents were rated "Good."

Table IV: Frequency and Percentage Distribution of Respondents According to Clinical Performance Grade

Levels	Frequency	Percentage
Excellent	102	27.1 %
Good	188	49.9 %
Satisfactory	83	22.0 %
Unsatisfactory	4	1.1 %
Total	**377**	**100%**

B. Learning Ability

Students generally reported moderate to high SDL, with effective time management, use of planners, and regular review schedules. Learning aids included digital resources, textbooks, and peer study groups.

Tables V and VI present the respondents' perceptions of their learning habits and learning aids. These scores indicate high engagement with effective learning strategies.

Table V: Mean, Standard Deviation, and Interpretation of Learning Habits

Statements	Mean	SD	Interpretation
2.1.I find textbooks helpful in understanding complex concepts.	3.19	0.48	Effective
2.2.Study guides help me organize my study sessions effectively.	3.17	0.46	Effective
2.3.Online articles and e-books are valuable resources for my studies.	3.22	0.51	Effective
2.4.Educational videos enhance my understanding of the material.	3.25	0.49	Very Effective
2.5.I regularly use online forums and discussion boards to clarify doubts.	3.19	0.48	Effective
2.6.Educational apps on my mobile devices aid my learning process.	3.23	0.51	Effective
2.7.Interactive software helps me practice and apply what I have learned.	3.21	0.49	Effective

2.8.Supplementary materials provided by my instructors are useful for my studies.	3.23	0.49	Effective
Overall rating	**3.21**	**0.39**	**Effective**

Legend:

3.25 and above = Strongly Agree (Very Effective); 2.50-3.24 = Agree (Effective); 1.75-2.49 = Disagree (Less Effective); 1.00-1.74 = Strongly Disagree (Not Effective)

Table VI: Mean, Standard Deviation, and Interpretation of Learning Aids

Statements	Mean	SD	Interpretation
2.9.I look forward to coming to clinical placement	3.21	0.51	Effective
2.10.I put effort into what they do in the ward	3.33	0.52	Very Effective
2.11.I am satisfied with what is done in the ward	3.2	0.53	Effective
2.12. After the shift, I have a sense of satisfaction	3.24	0.53	Effective
2.13.I have a say in how the time is spent	3.15	0.49	Effective
2.14.I in this ward pay attention to what others are saying	3.27	0.50	Very Effective
2.15. Discussion is clear so I know what to study.	3.25	0.46	Very Effective
2.16. Teaching approaches allow me to proceed at their own pace.	3.22	0.48	Effective
Overall rating	**3.23**	**0.41**	**Effective**

Legend:

3.25 and above = Strongly Agree (Very Effective); 2.50-3.24 = Agree (Effective); 1.75-2.49 = Disagree (Less Effective); 1.00-1.74 = Strongly Disagree (Not Effective)

Table VII summarizes the overall ratings of learning ability based on the two categories above.

Table VII: Summary of the Mean Scores, Standard Deviation, and Descriptive Interpretation on the Learning Ability

Indicators	Mean	SD	Interpretation
Learning Habits	3.23	0.41	Effective
Learning Aids	3.21	0.39	Effective
Individual Learning Ability in Preparation	**3.22**	**0.38**	**Prepared**

Legend:

3.25 and above = Strongly Agree (Very Effective); 2.50-3.24 = Agree (Effective); 1.75-2.49 = Disagree (Less Effective); 1.00-1.74 = Strongly Disagree (Not Effective)

C. Readiness to Practice

Readiness to practice was assessed across three domains:

- Physical Readiness: Most respondents reported good health, regular sleep, and manageable fatigue.
- Emotional Readiness: Respondents showed varied levels of stress resilience and confidence.
- Psychosocial Readiness: High levels of peer and mentor support were reported.

Table VIII presents the physical readiness ratings, followed by emotional and psychosocial readiness in Tables IX and X, respectively.

Table VIII: Mean Scores, Standard Deviation, and Descriptive Interpretation on the Physical Domains

Statements	Mean	SD	Interpretation
3.1.I maintain a healthy diet to support my studies.	3.20	0.50	Agree
3.2.I feel physically fit to handle the demands of my nursing program.	3.23	0.49	Agree
3.3.I get enough sleep every night to stay alert during the day.	3.15	0.54	Agree
3.4.I eat balanced meals that help me stay focused on my studies.	3.20	0.52	Agree
3.5.I follow a regular exercise routine that helps me manage stress.	3.19	0.53	Agree
Overall rating	**3.19**	**0.45**	**Agree**

Legend:

3.25 and above = Strongly Agree; 2.50-3.24 = Agree; 1.75-2.49 = Disagree; 1.00-1.74 = Strongly Disagree

Table IX: Mean Scores, Standard Deviation, and Descriptive Interpretation on the Emotional Domains

Statements	Mean	SD	Interpretation
3.6.I can effectively manage the stress associated with my studies.	3.14	0.52	Agree
3.7.I remain calm and composed under pressure.	3.16	0.55	Agree
3.8.I am confident that I can handle unexpected challenges during the exam.	3.18	0.53	Agree
3.9.I have a positive outlook towards my studies.	3.21	0.49	Agree
Overall rating	**3.17**	**0.46**	**Agree**

Legend:

3.25 and above = Strongly Agree; 2.50-3.24 = Agree; 1.75-2.49 = Disagree; 1.00-1.74 = Strongly Disagree

Table X: Mean Scores, Standard Deviation, and Descriptive Interpretation on the Psychosocial Domains

Statements	Mean	SD	Interpretation
3.10.I receive adequate emotional support from my family.	3.27	0.53	Strongly Agree
3.11.I feel a sense of camaraderie with my fellow students.	3.28	0.50	Strongly Agree
3.12.I have enough time to relax and pursue hobbies outside of my studies.	3.18	0.54	Agree
3.13. I feel good about my progress in the nursing program.	3.22	0.49	Agree
3.14. Financial pressures do not affect my ability to focus on my studies.	3.10	0.60	Agree
Overall rating	**3.21**	**0.44**	**Agree**

Legend:

3.25 and above = Strongly Agree; 2.50-3.24 = Agree; 1.75-2.49 = Disagree; 1.00-1.74 = Strongly Disagree

A summary of overall readiness is shown in Table XI.

Table XI: Summary of the Mean Scores, Standard Deviation, and Descriptive Interpretation on the Readiness

Indicators	Mean	SD	Interpretation
Physical	3.19	0.45	Ready
Emotional	3.17	0.46	Ready
Psychosocial	3.21	0.44	Ready
Readiness to Practice	**3.19**	**0.43**	**Ready**

Legend:

3.25 and above = Strongly Agree (Very Much Ready);2.50-3.24 = Agree (Ready); 1.75-2.49 = Disagree (Less Ready); 1.00-1.74 = Strongly Disagree (Not Ready)

D. Correlation Findings

There were statistically significant positive correlations between learning ability and all three readiness domains. Socioeconomic status was significantly associated with emotional readiness and access to learning aids. Clinical performance positively correlated with psychosocial readiness. The following tables (XII-XVII) illustrate significant and non-significant relationships between readiness to practice and selected demographic factors.

Table XII: Test of Significant Relationship Between Readiness to Practice and Age

SUMMARY (χ^2 Tests)		Level of Readiness					
Indicators	**Age Group**	**Not Ready**	**Less Ready**	**Ready**	**Very Much Ready**	**χ^2 Tests**	**p-value**
Physical	20-21	2	33	231	60	1.76	0.624
	22-23	1	7	35	8		Not sig.
Total		3	40	266	68		
Emotional	20-21	1	35	230	60	1.65	0.649
	22-23	0	8	36	7		Not sig.
Total		1	43	266	67		
Psychosocial	20-21	1	35	233	57	0.651	0.885
	22-23	0	5	35	11		Not sig.
Total		1	40	268	68		
Readiness to Practice	20-21	1	56	220	49	2.72	0.437
	22-23	1	8	36	6		Not sig.
Total		**2**	**64**	**256**	**55**		

Table XIII: Test for Significant Relationship between the Respondent's Readiness to Practice nursing and their profile by Sex

SUMMARY (χ^2 Tests)		Level of Readiness						
Indicators	**Gender**	**Not Ready**	**Less Ready**	**Ready**	**Very Much Ready**	**χ^2 Tests**	**p-value**

Physical	Male	1	10	89	24	1.35	0.718
	Female	2	30	177	44		Not sig.
Total		3	40	266	68		
Emotional	Male	0	16	83	25	1.79	0.617
	Female	1	27	183	42		Not sig.
Total		1	43	266	67		
Psychosocial	Male	1	13	81	29	5.84	0.12
	Female	0	27	187	39		Not sig.
Total		1	40	268	68		
Readiness to Practice	Male	1	18	84	21	1.62	0.654
	Female	1	46	172	34		Not sig.
Total		2	64	256	55		

Table XIV: Test of Significant Relationship Between Readiness to Practice and Socioeconomic Status

SUMMARY (χ^2 Tests)		**Level of Readiness**						
Indicators	**Socio-economic Status**	**Not Ready**	**Less Ready**	**Ready**	**Very Much Ready**	**χ^2 Tests**	**p-value**	
Physical	Low	2	19	115	22	7.71	0.26	
	Middle	1	20	147	42			
	High	0	1	4	4		Not sig.	
	Total	3	40	266	68			
Emotional	Low	1	27	107	23	14.8	0.022	*
	Middle	0	14	155	41		Sig.	
	High	0	2	4	3			
	Total	1	43	266	67			
Psychosocial	Low	1	25	111	21	15.3	0.018	*
	Middle	0	15	152	43		Sig.	
	High	0	0	5	4			
	Total	1	40	268	68			
Readiness to Practice	Low	2	37	102	17	14.6	0.024	*
	Middle	0	26	149	35		Sig.	
	High	0	1	5	3			
	Total	2	64	256	55			

Table XV: Test of Significant Relationship Between Readiness to Practice and Clinical Performance

SUMMARY (χ^2 Tests)	**Level of Readiness**								
Profile	Clinical Performance Grade	Not Ready	Less Ready	Ready	Very Much Ready	χ^2 Value	Degrees of Freedom (df)	p-value	Interpretation
Age (20-21 vs 22-23)	20-21	2	33	231	60	1.76	3	0.624	Not significant
	22-23	1	2	46	3				
Sex (Male vs Female)	Male	1	10	89	24	1.35	1	0.718	Not significant
	Female	2	30	177	44				
Socioeconomic Status (Low, Medium, High)	Low	2	19	115	22	7.71	2	0.26	Not significant
	Medium	1	20	147	42				
	High	0	1	4	4				
Clinical Performance Grade (Low vs High)	Low	2	10	34	6	4.76	2	0.015	Significant
	High	0	4	72	18				

Table XVI: Correlation between the Respondent's Readiness to Practice nursing and their Learning Ability

		Learning aids		**Learning Habits**		**Individual Learning Ability**		
Physical	Spearman's rho	0.529	***	0.665	***	0.62	***	
	p-value	< .001		< .001		< .001		sig.
Emotional	Spearman's rho	0.512	***	0.651	***	0.588	***	
	p-value	< .001		< .001		< .001		sig.
Psycho social	Spearman's rho	0.571	***	0.595	***	0.602	***	
	p-value	< .001		< .001		< .001		sig.
Readiness to Practice	Spearman's rho	0.59	***	0.71	***	0.697	***	
	p-value	< .001		< .001		< .001		sig.

*Note. * p < .05, ** p < .01, *** p < .001*

Legend:

Coefficient of r	**Interpretation**
≥ 0.70	Very Strong Relationship

0.40 - 0.69	Strong Relationship
0.30 - 0.39	Moderate Relationship
0.20 - 0.29	Weak Relationship
0.01 - 0.19	No or Negligible Relationship

Table XVII: Test of Relationship Between Learning Ability and Demographic Profile

SUMMARY (χ^2 Tests)	**Learning Ability-Profile**			
Demographic Profile	**Chi-Square Value (χ^2)**	**Degrees of Freedom (df)**	**Significance (p-value)**	**Interpretation**
Age (20-21 vs 22-23)	3.23	3	0.358	Not significant
Sex (Male vs Female)	2.39	3	0.0496	Not Significant
Socioeconomic Status (Low, Medium, High)	8.72	6	0.19	Not Significant
Clinical Performance Grade (Low vs High)	36.1	9	<0.001	Significant

4. DISCUSSION

The outcomes provide significant implications for pedagogical policy within self-directed learning (SDL) refers to SDL's value in priming students for clinical exposure at nursing schools because of the evident self-direction exhibited by students within the self-determination framework. The students who demonstrated strong self-directed learning skills were more prepared on the physical, emotional, and psychosocial levels, providing an additional justification for the need of developing guided self-directed learning (GSDL) training in nursing subjects. In relation to private institutions where unequal access to resources may hinder adequate preparation, this may include targeted teaching aids such as comprehensive instructional guides for effective time management, using digital tools, and working with others [2][3]. These findings aligned with blended evidence pointing to relationship between self-directed learning SDL competencies with higher academic outcomes and clinical self-confidence.

Learners coming from low-income families indicated that they had less access to learning materials and had greater amounts of stress, suggesting that socioeconomic factors were the prominent barriers. These rounding insights suggest cross-educational policy measures aimed at closing equity gaps such as technology lending policies, subsidized digital materials, and concentrated academic mentoring for disadvantaged students. Having study sessions led by fellow students and worksheets for boosting resilience and mentorship programs are examples of specific interventions that can help students in a comprehensive way.

Because students who performed better in clinical settings demonstrated greater confidence and preparedness, the study also emphasizes the importance of practical clinical experience. Attribution Theory [6][7], which holds that people's explanations of their successes and failures—whether they attribute results to external factors like the environment or internal factors like

effort—can affect motivation and performance, can be used to interpret these patterns. Thus, stressing effort-based learning techniques and encouraging adaptive attributions through organized faculty feedback and reflective practice may be advantageous for nursing programs.

Although generalizability is limited by the single-institution design, these results provide a basis for reorganizing nursing education in environments with limited resources. Significantly, although the majority of the results are consistent with the body of literature already in existence, the lack of significant correlations between readiness and specific demographic factors (such as age or sex) may deviate from previous research [3][4], possibly as a result of institutional or cultural variations. Future studies ought to investigate these disparities and evaluate the long-term effects of SDL interventions on clinical competency, workforce retention, and licensure performance in various educational contexts.

5. CONCLUSION AND RECOMMENDATIONS

This study demonstrates that nursing graduates' readiness to practice is significantly influenced by their learning ability—particularly self-directed learning (SDL) habits and access to learning aids. These findings are especially relevant for private nursing institutions where variability in resources may affect educational outcomes. The strong correlation between SDL and readiness across physical, emotional, and psychosocial domains suggests that enhancing students' ability to manage their own learning can improve not only exam preparedness but also confidence in clinical settings. To translate these findings into practice, nursing programs should implement targeted strategies. First, structured SDL training can be embedded into the curriculum through faculty-led workshops on metacognitive techniques, goal-setting, and resource mapping. Second, expanding digital access should go beyond internet availability to include institutionally provided tools such as online simulation platforms, virtual patient scenarios, and access to high-quality digital libraries. Third, resilience training could involve stress inoculation workshops, mindfulness-based stress reduction (MBSR), and structured peer-support circles to help students manage emotional and psychosocial demands.

For policymakers, these results advocate for investment in faculty development programs that train educators in facilitating SDL and emotional support frameworks. Infrastructure investments should prioritize technology-enhanced learning tools and create equitable access to academic resources, particularly for underrepresented student groups. However, the study is limited by its single-institution scope and reliance on self-reported measures, which may introduce bias. Future studies should consider longitudinal designs, multi-institutional sampling, and the inclusion of objective clinical performance metrics to validate and extend these findings. By addressing these areas, nursing education can be better aligned with the evolving needs of modern healthcare systems and ultimately contribute to improved patient care outcomes

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