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Focusing on Self-Control of Nursing Students in an Era of Rapid Change

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Abstract: Objective: This study aimed to examine the correlation between self-control and self-efficacy among nursing students during their clinical practicum. Methods: A cross-sectional descriptive correlational research design was used. Data collected in five hospitals located in China. Results:A total of 376 questionnaires were distributed, and 321(94%) were deemed valid. Results exhibited a mean score of self-control, self-discipline, impulse control and self-efficacy. A significant positive correlation was found between self-control, self-discipline, and self-efficacy. Both self-control and self-discipline were found to have a significant positive impact on self-efficacy. Conclusion: The study revealed a strong connection between self-discipline and self-control in self-efficacy, indicating that fostering self-control in nursing students at an early stage could potentially improve their self-efficacy.

Keywords: Clinical Practicum, Nursing Students, Self-control, Self-efficacy.

1. Introduction

Nurses constitute the largest professional group of high-quality healthcare providers and play a crucial role in sustaining all aspects of population health well-being. However, there is a significant workforce shortage dilemma in countries worldwide[1]. Further more, nurses around the world are facing physical and mental health challenges as a result of heightened work demands, especially due to the sustained effects of the COVID-19 pandemic[2]. This would affects nurses' job satisfaction[3], results in decreased level of work engagement[4], develop serious burnout[5]and intention to leave[6]. Strengthening the nursing workforce is crucial for safeguarding global health[7]. This involves stabilizing the existing nursing workforce and increasing the proportion of nursing students who choose to become nurses after graduation.

The clinical practicum serves as a critical phase for nursing students to integrate their professional knowledge and skills and a crucial period to establish their professional identity, constituting a pivotal element in their determination to remain in the nursing profession[8]. Self-efficacy has been demonstrated to have a beneficial effect on the professional identity of nursing students, which is influenced by a range of factors[9,10]. Researchers[11]recommended that nursing educators and clinical supervisors should prioritize the self-efficacy of nursing interns to improve their professional identity and competence, stabilize their career choice.

Self-efficacy was initially proposed by psychologist Bandura[12], referring to an individual's belief in their capability to execute a behavior. A high level of self-efficacy suggests an increased probability of succeeding in that behavior. Currently, self-efficacy has been linked to medical students' academic performance, resilience, clinical performance, and professional competence[13–15]. Therefore, enhancing self-efficacy is crucial for reducing attrition among nursing students, and high self-efficacy among nursing students is essential for ensuring quality healthcare services and patient safety. However, self-efficacy is influenced by various factors[16]. Efforts to enhance nursing students' self-efficacy require collaborative efforts among nursing educators to explore factors influencing nursing students' self-efficacy and to devise educational and training models to enhance it.

Self-control encompasses an individual's capacity to purposefully withstand immediate desires, postpone gratification, manage impulses, and design and execute behavioral strategies by controlling their emotion, cognition and action[17].Current studies on self-control have primarily concentrated on health-related behaviors, revealing that strong self-control aligns with numerous health behaviors[18–22], meanwhile, self-control positively influences the academic performance, job search, and entrepreneurial performance of college students[23–25]. However, there is limited research on the self-control of nursing students. Studies from Turkey and South Korea indicated that the self-control levels of nursing students ranged from 22±19, with gender, absenteeism, and negative life experiences being correlated with self-control[26,27].The report lacks data on the correlation between self-control and self-efficacy.

During their clinical practicum, nursing students encounter academic, examination, clinical practice, and job-seeking pressures. To resist external temptations, such as addiction and overuse of smartphones or short videos[28], they must demonstrate a high level of self-control. Failure to do so can have a negative impact on their attention and independent learning abilities, hindering their focus on learning and professional development. This could result in poor performance during clinical practice and a decrease in self-efficacy. Therefore, it is essential for nursing students to uphold self-control and prioritize their education and professional growth. As a result, we trying to investigates the relationship between self-control and self-efficacy during clinical practicum to offer insights for potential interventions aimed at enhancing nursing students' self-efficacy through improved self-control in the future.

2. Participants and Methods

2.1. Methods

2.1.1. Design

This study drafted against the STROBE guideline[29]. A cross-sectional, descriptive, correlational design was used.

2.1.2. Instruments

A self-designed general information questionnaire, the Brief Self-Control Scale(BSCS), and the General Self-Efficacy Scale(GSES) were used in this study. Chinese researchers[30] have conducted cultural adapt on Chinese students of BSCS which was used in this study. In this research, the Cronbach's α for the scale was 0.82.

The Chinese version of the GSES scale was translated and revised by Wang Caikang[31] and the Cronbach's α of the scale in this study was 0.84.

2.1.3. Data Collection and Analysis

At each hospital, a designated researcher explained the purpose of the study and invited students to participate. Participants were informed that their information would be kept confidential and gave their consent to participate. Each participant used a unique account to scan the QR code and fill out the questionnaire. Each person could only fill out the questionnaire once, and to ensure quality, the questionnaire could only be submitted after all questions were answered. The questionnaire consisted of 22 items. Before formal use, it was tested by 10 individuals, and it was found to be clearly understandable, with an average completion time of 30 seconds. Therefore, questionnaires completed in less than 30 seconds were deemed invalid. Additionally, there were 4 questions in the questionnaire used to screen for invalid responses. Any questionnaire with the same answers for more than half of the items was considered invalid. After data collection, designated research team members extracted the data from the back-end of the online platform, and Excel software was used for data management and verification.

Data were analyzed using IBM SPSS Statistics software version 26.0. The significance level for all analyses was set at $P < 0.05$.

2.1.4. Ethic Consideration

This study was conducted in accordance with the Helsinki Declaration and obtained ethical approval from the Ethics Review Committee of the institution where the first author worked.

2.2. Participants

A staged convenience sampling method was used in five general hospitals in China. The data was collected through an online data collection platform on four phases from September, 2023 to December, 2023, Includes each phases of clinical practicum. The inclusion criteria were undergraduate nursing students without chronic diseases, injuries, disabilities, physical and mental illnesses. A total of 376 questionnaires were distributed, and 341 were collected. After excluding 20 invalid questionnaires, 321 valid questionnaires remained, meeting the required sample size.

3. Results

3.1. Participant Description

Participants' average age ranged from 18 to 25, with 288 females (89.70%) and 33 males (10.30%)(Table 1).

Table 1. Nursing student demographic characteristics description(N=321)

Variables	Frequency	Percent(%)	Valid Percent(%)	Total(%)
Gender				
Female	288	89.7	89.7	100.0
Male	33	10.3	10.3	
Age				
18-22	197	61.4	61.4	100.0
22-25	121	37.7	37.7	
>25	3	.9	.9	

The average self-control score for participants was 21.31 (SD 3.54). Within the two dimensions of self-control, the average score for self-discipline was 9.69 (SD 1.88), and the average score for impulse control was 11.61 (SD 2.68). The average self-efficacy score was 23.75 (SD 4.31)(Table 2).

Table 2. Descriptive statistics of nursing students' self-control, self-discipline, impulse control, and self-efficacy(N=321)

Variables	N	Minimum	Maximum	Mean	SD
Self-Discipline	321	5	15	9.69	1.897
Impulse-Control	321	6	20	11.61	2.679
Self-Control	321	13	34	21.31	3.544
Self-Efficacy	321	13	37	23.75	4.312
Valid N	321				

3.2. Correlation between Self control and Self efficacy

To verify if there were differences in self-efficacy among individuals with different level of self-control, the sample was divided into high self-control (≥21) and low self-control (<21) groups based on the median self-control score (Median 21). The independent sample t-test results indicated a significant difference in self-efficacy between the low self-control group and high self-control group ($p<0.00$)(Table 3).

Table 3. Independent samples t-test results for self-efficacy between low and high self-control nursing students(N=321)

Self-Efficacy	N	Mean	SD	Sig.
Low Self-Control	132	22.01	3.787	.000
High Self-Control	189	24.96	4.248	

To investigate the correlation between self-control (including two dimensions: self-discipline and impulse control) and self-efficacy, Pearson correlation analysis was conducted. The results shows a moderate positive correlation between self-control, self-discipline, and self-efficacy ($r=0.51/0.56$, $p<0.00$), and a weaker positive correlation between impulse control and self-efficacy ($r=0.30$, $p<0.00$)(Table 4).

Table 4. Results of pearson correlation analysis of self-control and self-efficacy in nursing students(N=321)

		Self-Control	Self-Discipline	Impulse-Control	Self-Efficacy
Self-Efficacy	Pearson Correlation	.521**	.560**	.297**	1
	Sig.	.000	.000	.000	
	N	321	321	321	321

Note:**.Correlation is significant at the 0.01 level (2-tailed).

To further understand the relationship between self-control and self-efficacy, multiple linear regression analysis was conducted. The results indicate that self-control and self-discipline explain 34.80% of the variance in self-efficacy. Both self-control and self-discipline significantly positively influenced self-efficacy (B=0.88/0.32, p<0.00)(Table 5).

Table 5. Results of multiple regression analysis of nursing students' self-control, self-discipline, and self-efficacy(N=321)

	Unstandardized Coefficients		Standardized Coefficients	t	p	VIF	R2	Adjusted R2	F
	B	Std. Error	Beta						
(Constant)	8.368	1.222	-	6.845	.000	-	.352	.348	86.508**
Self-Discipline	.878	.139	.383	6.299	.000	1.812			
Self-Control	.322	.074	.265	4.361	.000	1.812			
Dependent Variable: Self-Efficacy									
**p<0.01									

4. Discussion

This study reveals that the self-efficacy score of nursing students during clinical practicum is 23.75 ± 4.31, indicating a moderate level, consistent with previous research[32–34]. Existing studies have shown that self-efficacy affects the clinical competence of undergraduate nursing students[35]and is a key component in ensuring academic success and clinical nursing skills and abilities among nursing students[36]. To solidify and enhance nursing interns' self-efficacy, factors influencing self-efficacy need to be explored thoroughly. We already know that factors related to nursing students' self-efficacy during clinical practicum include feedback from clinical instructors[37], self-regulated learning abilities, meta-cognitive abilities[38] and stress.

Through this study, it is evident that the self-control score of nursing students is 21.31 ± 3.54, indicating a moderate level, consistent with previous research[39]. The results also show a significant difference in self-efficacy between nursing students with different level of self-control. Through correlation analysis between self-control and self-efficacy, it was found that both self-control ability and the self-discipline dimension significantly influence nursing students' self-efficacy. Therefore, it can be inferred that there is indeed a positive relationship between self-control and self-efficacy, indicating that self-control is one of the influencing factors of self-efficacy.

Nursing students who demonstrate stronger self-control tend to exhibit higher self-efficacy when facing challenges and tasks. Improved self-control enables nursing students to plan and execute tasks more effectively, thereby increasing their confidence in completing tasks and facing new challenges, shaping a more positive self-efficacy. Individuals with high self-control level are better at planning and executing tasks[40], which helps nursing interns better fulfill their responsibilities during clinical practicum and enhance their self-efficacy. The findings of this study support the notion that self-control may be one of the pathways to cultivate self-efficacy.

During nursing clinical practicum, nursing students need to manage complex interpersonal relationships and communicate with various stakeholders such as patients, families, and physicians. In the face of interpersonal pressure and conflicts, self-control also plays an important role in emotional management among nursing students. Researchers[41] found that high levels of self-control can better help nursing students control angry emotions, thereby avoiding emotional suppression or loss of control, which is beneficial in conflict avoidance. Although research indicates that self-control fluctuates daily, groups with higher self-control experience fewer negative emotions and higher life satisfaction[42,43].

5. Conclusion

Combining the above studies, it can be inferred that self-control may also be a factor influencing nursing students' job satisfaction and professional loyalty. Given the limited research on nursing students' self-control, future studies could explore the impact of self-control on nursing students' professional identity, job satisfaction, career choice, and burnout from multiple perspectives. Developing more suitable self-control assessment tools for nursing interns or nursing staff is also a feasible direction.

This study found that the majority of nursing students exhibit moderate levels of self-control and self-efficacy. Moreover, there exists a positive influence of self-control and the dimension of self-discipline within self-control on self-efficacy, indicating the relationship between self-control and self-efficacy. In the future, early cultivation of nursing students' self-control abilities could be considered to positively impact their self-efficacy, thereby enhancing the effectiveness of clinical practicum and potentially improving their overall nursing practice. However, further research is warranted to explore the long-term effects and potential interventions related to these findings.

This study was conducted in a single city in China using convenience sampling, and the sample size was relatively small, which limits the generalizability of the research findings. The data were collected using electronic questionnaires that simultaneously measured both

independent and dependent variables. Therefore, it cannot infer causality between the variables under investigation. Additionally, this study did not consider external variables that may influence students' self-efficacy, such as emotions, stress. Further longitudinal studies are needed to address these limitations.

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