Original Article

Self-directed learning readiness and nursing competency among undergraduate nursing students in Fujian province of China

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ABSTRACT

Aims: We examined the relationship between self-directed learning readiness (SDLR) and nursing competency among undergraduate nursing students.

Background: There is little evidence-based data related to the relationship between self-directed learning (SDL) and nursing competency.

Methods: A descriptive correlational design was used. We conducted convenience sampling of 519 undergraduate nursing students from three universities during their final period of clinical practice. We investigated SDL according to the SDLR scale for nursing education (Chinese translation version), and used the Competency Inventory for Registered Nurses to evaluate nursing competency.

Results: The mean SDLR score of the students was 148.55 (standard deviation [SD] 18.46), indicating intermediate and higher SDLR. The mean score for nursing competency was 142.31 (SD30.39), indicating intermediate nursing competence. SDLR had a significant positive and strong relationship with nursing competency.

Conclusion: SDLR is a predictor of nursing competency.

1. Introduction

Nurses work in a multifaceted healthcare setting, where they constantly face challenges stemming from the ongoing social and scientific changes inherent in the healthcare field. Mac-Gregor states that nurses are prepared as generalists at the undergraduate level [1]; upon employment, they often find themselves feeling like novices in facing the challenges of providing safe and quality care. The responsibility of nursing education is preparing and supporting nurses so that they can successfully adjust and respond to these challenges.

Competency-based education, which has been recognized for years in nursing education [2], is crucial for safe and efficient nursing services. Nursing competency has been defined as the knowledge, skills, ability, and behaviors a person possesses to perform tasks correctly and skilfully [3]. Self-directed learning (SDL) can be defined in terms of the amount of

responsibility a student accepts for their own learning [4]. The self-directed learner takes control and accepts the freedom to learn what they consider important for themselves. Some scholars have found that better SDL readiness (SDLR) is related to better academic performance [5]. Hence, there is reason to believe that SDLR might affect nursing competency. However, there are few evidence-based data related to the relationship between SDLR and nursing competency. Therefore, exploring the relationship between the two focus variances is essential.

2. Methods

2.1. Design and sample

We used a cross-sectional and correlational research design to recruit undergraduate nursing students from three universities during their final period of clinical practice in May 2013 in Fujian Province, China. We performed convenience sampling at each university. The inclusion criteria were: (1) undergraduate nursing students; (2) having practiced for >8 months. The exclusion criterion was students with psychological diseases.

According to the experience sampling method [6] and earlier similar research [7], we determined that about 87 participants was sufficient.

2.2. Instruments

In addition to background data such as age, sex, and hospital grade of practice, we used two instruments in this study: the SDLR scale and the Competency Inventory for Registered Nurses (CIRN).

2.2.1. SDLR scale
The 40-item SDLR scale was developed by Fisher et al. for nursing education to assist nursing educators in diagnosing the student attitudes, abilities, and personality characteristics necessary for SDL [4]. The Chinese version of the SDLR scale was developed and previously reported by Wang et al. [8] It is a 5-point Likert scale (1, strongly disagree; to 5, strongly agree) that contains three domains: self-management, desire for learning, and self-control. Overall scores range 40—200; higher scores reflect stronger SDLR. Mean scores >150 indicate a high level of SDLR, while mean scores ≤150 represent a low level of SDLR [4]. The original overall Cronbach's α of the Chinese SDLR scale was 0.926; the Cronbach's α for each subscale was 0.926—0.968. For this study, we confirmed reliability with an overall Cronbach's α of 0.957. The Cronbach's α for each subscale was as follows: self-management, 0.911; desire for learning, 0.914; self-control, 0.904. In the present study, test—retest reliability of total scores was 0.761 for a two-week period.

2.2.2. Competency inventory for registered nurses
Used for measuring nursing competency, CIRN was developed by Liu et al. and is based on the International Council of Nurses Framework of Competencies for the Generalist Nurse [9]. It consists of 58 items divided into seven dimensions:

legal/ethical practice, interpersonal relations, leadership, professional development, clinical care, critical thinking/research aptitude, and teaching—coaching. The original reliability for this instrument yielded alpha values ranging from a high 0.86 for the leadership scale to a low 0.79 for professional development. These results are applicable for self-appraisal by generalist nurses and appraisal by their supervisors. Factor analysis has established construct validity. In this study, we confirmed reliability with an overall Cronbach's α of 0.975. Cronbach's α for each subscale was as follows: legal/ethical practice, 0.846; interpersonal relations, 0.852; leadership, 0.870; professional development, 0.803; clinical care, 0.882; critical thinking/research aptitude, 0.888; and teaching—coaching, 0.856. In the present study, test—retest reliability of total scores was 0.748 for a two-week period.

2.3. Statistical analysis

We established a database using EpiData 3.1 software. The focus variables were quantitative, therefore we adopted descriptive statistics and Pearson's correlations using SPSS version 17.0.

2.4. Ethical considerations

The Departmental Research Committee of the Nursing College of Fujian Medical University approved the research process, which the administrative authorities of each participating institution reviewed and approved. Consent to participate was implied by voluntary completion and returning of the questionnaire.

3. Results

3.1. Response rate

We recruited 666 students; we excluded 147 because of incomplete data; therefore, the response rate was 77.93%.

3.2. Sample characteristics of the sample

The sample age ranged 20—26 years; mean age was 23.18 years and standard deviation (SD) was 0.87. There were 396 (79.2%) female participants and 107 (20.6%) male participants. Of the participants, 506 (97.5%) were practicing in tertiary grade A hospitals and five (1.0%) were in tertiary grade B hospitals; the rest were practicing in secondary grade A hospitals. All participants were seniors and would be employed as registered nurses in the coming two months.

3.3. SDLR readiness and nursing competency

In this study, we used the SDLR scale to determine SDLR. Higher scores indicated a higher level of SDLR. The mean total score (n = 519) was 148.55 (SD18.46), with a range of 65—196, indicating that the SDLR of the participants was higher than intermediate level. The desire for learning subscale had the highest mean score of 45.40 (SD6.52), and the self-management subscale had the lowest mean score of 46.60