Factors Affecting the Self-directed Learning of Students at Clinical Practice Course for Advanced Practice Nurse

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Purpose The current study aimed to examine the casual relationships among belongingness during clinical practice, stress, satisfaction with clinical practice, and self-esteem, which are factors affecting the self-directed learning that results from the clinical practice of advanced practice nurse (APN) students.

Methods Data were collected between April 5 and May 19, 2010, from 202 students in 11 APN training institutions located in and outside of Seoul, who were selected using convenience sampling. For hypothesis testing, the collected data were analyzed using AMOS 8.0.

Results Analysis of the path coefficients in this study showed that 37% of the variation in self-directed learning could be explained by variations in the model. Self-esteem and belongingness during clinical practice directly affected the self-directed learning of APN students, and belongingness also had an indirect effect via self-esteem. However, stress and satisfaction with clinical practice had no significant mediating effect on self-directed learning. At the same time, belongingness during clinical practice was found to be a good predictive factor to explain stress and satisfaction with clinical practice.

Conclusions This study demonstrated the hierarchical relationship among belongingness, self-esteem, and self-directed learning based on the conceptual framework developed by Levett-Jones and Lathlean, thus proving the usefulness of this framework for application in the field. Therefore, this study found that there are needs of high self-esteem and belongingness in order to improve self-directed learning for APN students in clinical practice. [Asian Nursing Research 2011;5(1):48–59]

INTRODUCTION

Advanced practice nurses (APN) have only been certified in Korea since 2006. For successful establishment of this fledgling profession, superior personnel capable of performing their expected roles must be cultivated and assigned to positions where their abilities may be best utilized (M. W. Kim, 2006). An APN's role as the provider of professional nursing practices is a fundamental issue involving the acquisition of knowledge, attitude, and skills for effective performance in the clinical field.
Previous studies have shown that belongingness is a basic human motivation driving a person to think, act, and strive, and that failure to satisfy this need to belong leads to results that are emotionally, psychologically, behaviorally, and physically unwholesome (Levett-Jones, Lathlean, Maguire, & McMillan, 2007a). Levett-Jones and Lathlean (2009) judged Maslow’s five-tier hierarchy of needs (1987) as the most appropriate model for understanding and explaining the needs of nursing students, as well as the most productive tool for application in the clinical field. Accordingly, they proposed a modified hierarchy of needs based on Maslow’s model, in the form of an “Ascent to Competence conceptual framework” consisting of the need for (a) safety and security, (b) belongingness, (c) self-concept, (d) learning, and (e) competence. Based on this conceptual framework, they attempted to gain a clearer understanding of the clinical practice experience of nursing students by reexamining it through the lens of belongingness, and arrived at the conclusion that belongingness constituted a prerequisite for clinical practice (Levett-Jones & Lathlean, 2008).

Stress during clinical practice makes it difficult for nursing students to apply the theories they have learned in school; moreover, the clinical field has itself been described in various texts as a stress-intensive arena (Levett-Jones & Lathlean, 2008). However, the effects of stress aside, it has been proven that those who claim to have been excluded from meaningful groups incur damaging consequences such as anxiety, stress, and depression (Resop Reilly & Fitzpatrick, 2009).

Further, studies have shown that, during clinical fieldwork, being deprived of belongingness closely affects learning by impacting practical ability and the motivation to learn (Levett-Jones & Lathlean, 2008), while at the same time serving to lower self-esteem (Levett-Jones et al., 2007a). Bourgeois and Lakin found that nursing students’ placement and degree of belongingness largely influence their satisfaction at their placement (as cited in Levett-Jones, Lathlean, Maguire, & McMillan, 2007b), other study showed that a supportive and accepting clinical environment allowed students to become more self-directed in their approach to learning (Levett-Jones, 2005). Taken together, the above-mentioned studies demonstrate that belongingness is an important factor in prediction of stress, satisfaction with field practice, self-esteem, and self-directed learning.

APNs in training who were examined in the current study are already adults; they must develop independent learning skills in order to cope with the endless changes that come with life, as well as ready themselves for continuing education throughout life. In particular, APN students have to be able to maintain competent practice in order to assess patients’ physical, social, and psychological health in rapidly changing and challenging environment (Distler, 2007). Self-directed ability is the essential component to adapt in rapidly dynamic clinical environment (Levett-Jones, 2005). Therefore, in order to stimulate self-directed learning among APN students, it is important to analyze the factors affecting self-directedness. In a previous study, self-esteem, locus of control, and life satisfaction were proposed as factors affecting self-directedness in nursing students (W. O. Oh, 2002). Among these, self-esteem was the most powerful psychological factor in prediction of learning performance (W. O. Oh) and internal motivators (Chikotas, 2008). Nursing students’ satisfaction with clinical practice was improved through having a positive experience at clinical practice course, and enforced their self-efficacy and capacity. This result showed there was positive correlation between nursing students’ satisfaction and self-directed learning (Y. H. Kim, 2009). Also, it has been shown that nursing students were significantly more anxious and distressed when they thought there were lacking specific guidelines and instructors’ feedback than when they did not lack these resources. It can be expected to affect the self-directed learning as well (Moscaritolo, 2009).

Hence, the current study examines the hierarchical relationship among self-esteem, self-directed learning, and belongingness during field practice, based on the study by Levett-Jones and Lathlean (2009) and the conceptual framework proposed therein. It also uses previous studies on the subject in order to determine whether the stress and satisfaction
with critical practice as mediating factors affecting the impact of belongingness on self-directed learning. Foregoing studies have already established the clear assumption that belongingness is important in clinical practice and demonstrated its relationship to self-directed learning. However, this study aims at investigation of whether belongingness during clinical practice, which is a variable introduced for the first time in Korean studies, harbors significance as a prerequisite for clinical practice, and seeks to present its significance based on an examination of factors affecting self-directed learning. In fact, there is a lack of research-based knowledge on nursing even though APN graduate programs have been in place since 2004 and have led to 104 curriculums in 13 different areas for directing these programs in strategies for improving and identifying the needs of training programs for practice courses in APN education (K. Oh et al., 2007; Ryu et al., 2007).

Accordingly, this study examines the extent to which APN students feel accepted as candidates in training during clinical practice, and investigates the casual relationships among belongingness during clinical practice, the stress of clinical practice, satisfaction with clinical practice, and self-esteem as variables affecting self-directed learning. Therefore, these findings will assist in the adaptation of APN students to clinical practice, and contribute valuable insight to the advancement of clinical field training.

**Conceptual framework**

The conceptual framework was based on the “ascent to competence conceptual framework” proposed by Levett-Jones and Lathlean (2009) and the related literature review.

Starting with Levett-Jones and Lathlean’s conceptual framework, this study substituted Level 2: “belongingness” with “belongingness during clinical practice”, Level 3: “self-concept” with “self-esteem”; the word “self-esteem” contains meanings of self-respect, self-acceptance, and self-concept (Rosenberg, 1979), and Level 4: “learning” with “self-directed learning”; the “learning” in the framework was defined as testing out one’s knowledge and skills in an increasingly self-directed way (Levett-Jones & Lathlean, 2009), to examine the causal relationships between these three categories among APN students.

Based on the findings of previous studies, it can be predicted that belongingness during clinical practice will affect stress, satisfaction with clinical practice, self-esteem, and self-directed learning as an independent variable, while stress, satisfaction with clinical practice, and self-esteem will function as mediating variables explaining self-directed study, with the stress of clinical practice affecting satisfaction with clinical practice (Figure 1).

Specifically, the following eight hypotheses were put forward:

(a) For APNs in training, belongingness during clinical practice will have a negative effect on the stress of clinical practice.

(b) For APNs in training, belongingness during clinical practice will have a positive effect on satisfaction with clinical practice.

(c) For APNs in training, belongingness during clinical practice will have a positive effect on self-esteem.

(d) For APNs in training, belongingness during clinical practice will have a positive effect on self-directed learning.

(e) For APNs in training, the stress of clinical practice will have a negative effect on satisfaction with clinical practice.

(f) For APNs in training, the stress of clinical practice will have a negative effect on self-directed learning.

![Figure 1. Hypothesized path model.](image-url)
(g) For APNs in training, satisfaction with clinical practice will have a positive effect on self-directed learning.

(h) For APNs in training, self-esteem will have a positive effect on self-directed learning.

METHODS

Design
The purpose was to establish the hypothetical model among belongingness during clinical practice, stress of clinical practice, satisfaction with clinical practice, self-esteem, and self-directed learning among APN students.

Sample and ethical consideration
A convenient sampling was used to recruit 202 APN students from 11 educational institutions for APNs, 3 of which were located in Seoul and the remaining 8 were located in other regions in Korea. Potential participants voluntarily consented to take part in the study after listening to an explanation of its objective, and had taken one or more clinical practice course in the past. As sample size for path analysis is generally considered "small" when less than 100, "medium" when between 100 and 200, and "large" when over 200 (Kline, 2005), the sample size of the current study can be interpreted as being on the large side.

For the ethical protection of the participants, this study was conducted with the approval of the Institutional Review Board (IRB 2010-1-3). Prior to collection of data, candidates were apprised in writing of the details pertaining to the study’s purpose and method, the guarantee of anonymity, consent, and refusal regarding voluntary participation, the right to withdraw from the study, and the possible advantages and disadvantages of participation, after which they were asked to submit voluntary consent forms. Thus, all possible protection was afforded to the participants.

Data collection
Data collection took place from April 5 to May 19, 2010. The purpose of the study was explained to lecturers teaching APN courses whose cooperation could be solicited either by the author personally or through acquaintances. These lecturers were then asked to conduct a survey among graduate students currently enrolled in the APN training programs administered by the institutions in question. It was initially confirmed that 260 copies of the questionnaire could be distributed to students, either by mail or in person. Among these, 202 were recovered, and the rest of questionnaires were filled out because the students were at their clinical placements. All returned questionnaires were faithfully filled out; all 202 could thus be used for analysis.

The questionnaire was first tested through a preliminary survey of 30 APN students, in order to evaluate the conveyed meaning and to analyze the internal consistency reliability of each question. Based on the results, the contents of three questions were modified or supplemented. The average time for completion of the questionnaire by respondents was 15 minutes.

Instruments
The tools were 138 questions including respondent’s general characteristics, belongingness during clinical practice, stress of clinical practice, satisfaction with clinical practice, self-esteem, and self-directed learning. To improve the accuracy of responses on survey, the questions were reduced to 96 suitable questions to APN students undergoing training after deleting overlapped questions and verified the questionnaires by 30 pretesters (APN students), content validity by three nursing professors and two management business professors, and construct validity using factor analysis.

Belongingness during clinical practice
The experience of “belongingness” during clinical practice is profoundly mediated both individually and contextually. Belongingness during clinical practice can be defined as: (a) the degree to which an individual feels safe, accepted, valued, and respected as a member of a group, (b) the degree to which an individual feels connected to or integrated into a group, and (c) the degree to which a student feels that
his/her professional and personal value is in harmony with that of the group. As such, it consists of the three elements of self-esteem, connectedness, and efficacy (Levett-Jones, Lathlean, & Higgins, 2009). In the current study, the Belongingness Scale-Clinical Placement Experience (BES-CPE) developed by Levett-Jones et al. (2009) for measurement of the specific extent to which nursing students experience belongingness in the clinical field was used after being translated, back-translated, and adapted by the present author with the permission of Levett-Jones et al. (2009). The original instrument comprised 34 questions with a 5-point scale (5 = always true, 1 = never true), reflecting a higher score for a correspondingly high degree of belongingness. At the time of development, the coefficient of reliability was .92, with the self-esteem, connectedness, and efficacy subscales showing high internal consistencies of .90, .82, and .80, respectively. For the current study, Cronbach’s alpha was .91.

**Stress of clinical practice**

For measurement of stress induced by clinical practice, the 15 questions of “Scale for Stress Experienced by Nurses at Work” developed by Gu and Kim (1984), were reduced 10 questions. Responses were based on a 5-point scale (5 = severely and frequently, 1 = not at all), with a high score indicating a correspondingly high level of stress. In the study by Gu and Kim, Cronbach’s alpha was .95; in the current study, Cronbach’s alpha was .85.

**Satisfaction with clinical practice**

For measurement of participants’ satisfaction with their clinical practice, the 30-question instrument for nursing students developed by S. J. Lee (1980) was reduced to 16 questions. Satisfaction with clinical practice was gauged in reference to practice contents, practice environment, practice hours, practice instruction, and practice evaluation. Responses were based on a 5-point scale (5 = always true, 1 = never true), with a high score indicating a correspondingly high degree of satisfaction. At the time of development, the reliability of the instrument was not given; for the current study, Cronbach’s alpha was .83.

**Self-esteem**

The instrument developed by Rosenberg (1965) and later adapted by Jon (1974) was used for measurement of self-esteem. It contained 10 questions, five negative and five affirmative, and used a 5-point scale (5 = always true, 1 = never true), with a high score indicating correspondingly high self-esteem. In the studies by Rosenberg (1965) and Jon, Cronbach’s α was .85 and .62, respectively. In the current study, Cronbach’s alpha was .84.

**Self-directed learning**

Self-directed learning is “a process in which the individual takes the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes” (Knowles, 1975, p.18). The instrument used for measurement of self-directed learning was SDLRS-K-96, a Korean translation by Kim-Cheong, Kim, Yoo, and Yoo (1996) of the Self-Directed Learning Readiness Scale (SDLRS) developed by Guglielmino (1977). This instrument consists of 29 questions covering seven factors: creativity, disposition for exploration, initiative in learning, acceptance of responsibility for learning, love for learning, orientation toward the future, and self-concept as an effective learner. It is based on a 5-point scale (5 = absolutely true, 1 = not at all), with a higher score indicating a correspondingly high degree of self-directedness in learning. This instrument was reduced suitably for APN students into 16 questions. Internal consistency of the 16 questions was verified through the preliminary survey, with the results falling between .83 and .86. In the study by Guglielmino, Cronbach’s alpha was .87; in the current study, Cronbach’s alpha was .85.

**Data analysis**

Collected data was analyzed using SPSS for Windows version 16.0 and AMOS version 8.0 (SPSS Inc., Chicago, IL, USA). A p value < .05 was considered significant. Socio-demographic factors of APNs in training were analyzed using frequency, percentage,
mean, and standard deviation. $M$ and $SD$ were calculated for belongingness during clinical practice, the stress of clinical practice, satisfaction with clinical practice, self-esteem, and self-directedness in learning. Correlations between belongingness during clinical practice, the stress of clinical practice, satisfaction with clinical practice, self-esteem, and self-directed learning were analyzed using Pearson’s correlation coefficient. To test the fitness of the model and verify the hypotheses, analysis was carried out using AMOS 8.0. The chi-square statistic, Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA) were used to measure the suitability of the model. The ratio of chi-square to the degree of freedom ($\chi^2/df$), known as normed chi-square (NC), was used because this chi-square statistic is sensitive to sample size. The acceptable cut-off score of NC was $< 3$ (Bollen, 1989). Ideal scores for CFI and TLI were $>.90$ (Hu & Bentler, 1999), and an RMSEA of $<.10$ was considered good, $.05–.08$ was considered reasonable; and $<.05$ was considered very good (Loehlin, 1998).

**RESULTS**

**Sample characteristics**

Examination of the sociodemographic factors of APN students included in this study found that their average age was 33 years, with individual ages ranging from 26 to 52 years. With regard to marital status, 108 participants (53.5%) were married. Among advanced practice specialties, gerontology accounted for the largest percentage, at 85 participants (42.1%). In terms of enrollment duration, the largest number of participants, totaling 138 students (68.3%), was in their third semester in the APN program. The vast majority of the participants (98.0%) were currently working as nurses. Among these, 134 (66.3%) were general nurses, while 57 (28.2%) held posts in middle management or as team leaders. As for monthly household income, 92 participants (45.5%) fell in the range of 2,000,000–3,000,000 KRW, thus accounting for the largest percentage (Table 1).

**Belongingness, level of stress, satisfaction, self-esteem, and self-directed learning at clinical practice course among APNs in training**

Values for $M$ and $SD$ were calculated for each category in order to examine belongingness during clinical practice, the stress of clinical practice, satisfaction with clinical practice, self-esteem, and self-directed learning in learning among APN students. Based on a 5-point scale, belongingness during clinical practice had a mean value of 3.45 points ($\pm 0.37$); the stress of clinical practice, 2.86 points ($\pm 0.59$); satisfaction with clinical practice, 3.23 points ($\pm 0.44$); self-esteem, 3.66 points ($\pm 0.48$); and self-directedness in learning, 3.69 points ($\pm 0.39$). As these results show, all variables had scores exceeding the middle point of the scale.

**Correlations between belongingness, level of stress, satisfaction, self-esteem, and self-directed learning at clinical practice course**

Correlations between individual factors were obtained in order to explore the relationships between belongingness during clinical practice, the stress of clinical practice, satisfaction with clinical practice, self-esteem, and self-directed learning. Table 2 illustrates the correlations thus identified. Stress of clinical practice was found to have a significant negative correlation to belongingness during clinical practice and satisfaction with clinical practice, while a significant positive correlation was discerned between belongingness during clinical practice and satisfaction with clinical practice, and between self-esteem and self-directed learning. Satisfaction with clinical practice and self-directed learning also showed a significant positive correlation.

Testing for multicollinearity among independent variables yielded a tolerance of 0.5 or higher and a variation inflation factor of less than 2, indicating that there were no problems involving multicollinearity.

**Model fitness**

The fitness of the model vis-à-vis the data collected in this study was supported. Direct and indirect effects among variables were reported in Table 3. Chi-square was nonsignificant at 2.38 ($df=2$, $p=.31$), NC was
2.48, CFI was .99, TLI was .98, and RMSEA was .03, indicating a very good model.

**Model verification results**

The model for hypothesis testing was analyzed using path coefficients and squared multiple correlations (Figure 2).

(a) The first hypothesis was that belongingness during clinical practice would have a negative effect on the stress of clinical practice. The path coefficient between belongingness during clinical practice and the stress of clinical practice was found to be \(-.166, p = .020\), which supported the hypothesis and explained 28% of the variation.

(b) The second hypothesis was that belongingness during clinical practice would have a positive effect on satisfaction with clinical practice. The path coefficient between belongingness during clinical practice and satisfaction with clinical practice was found to be \(.447, p < .001\), which supported the hypothesis and explained 22% of the variation.

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Table 1

**Sociodemographic Factors of Participants (N = 202)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Classification</th>
<th>n (%)</th>
<th>M ± SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (yr)</td>
<td>−</td>
<td></td>
<td>33.48 ± 5.49</td>
<td>26–52</td>
</tr>
<tr>
<td>Marital status</td>
<td>Unmarried</td>
<td>92 (45.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>108 (53.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>2 (1.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialty</td>
<td>Home health care</td>
<td>8 (4.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gerontological nursing</td>
<td>85 (42.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adult health</td>
<td>30 (14.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psychiatric mental health</td>
<td>10 (5.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oncological nursing</td>
<td>29 (14.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Critical care</td>
<td>10 (5.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hospice</td>
<td>30 (14.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semester</td>
<td>1</td>
<td>20 (9.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10 (5.0)</td>
<td></td>
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<tr>
<td></td>
<td>3</td>
<td>138 (68.3)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>4</td>
<td>17 (8.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>17 (8.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job</td>
<td>Yes</td>
<td>198 (98.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>4 (2.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status(^a)</td>
<td>Staff nurse</td>
<td>134 (66.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Charge/head nurse</td>
<td>57 (28.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nurse specialty</td>
<td>8 (4.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical career (yr)</td>
<td>−</td>
<td></td>
<td>10.44 ± 5.24</td>
<td>3.5–29.0</td>
</tr>
<tr>
<td>Monthly income</td>
<td>≤ 200</td>
<td>11 (5.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>201–300</td>
<td>92 (45.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(10,000 KRW)</td>
<td>301–400</td>
<td>38 (18.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>401–500</td>
<td>19 (9.4)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>501–600</td>
<td>19 (9.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 600</td>
<td>23 (11.4)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\)Missing value: excluded.
The third hypothesis was that belongingness during clinical practice would have a positive effect on self-esteem. The path coefficient between belongingness during clinical practice and self-esteem was found to be .398, \( p < .001 \), which supported the hypothesis and explained 16% of the variation.

The fourth hypothesis for this study was that belongingness during clinical practice would have a positive effect on self-directed learning. The path coefficient between belongingness during clinical practice and self-directed learning was found to be .293, \( p < .001 \), which supported the hypothesis, and, when combined with the indirect effects of belongingness, explained 37% of the variation.

The fifth hypothesis was that the stress of clinical practice would have a negative effect on satisfaction with clinical practice. The path coefficient between the stress of clinical practice and satisfaction with clinical practice was found to be -.093, \( p = .154 \), which did not support the hypothesis.

The sixth hypothesis was that the stress of clinical practice would have a negative effect on self-directed learning. The path coefficient between
The stress of clinical practice and self-directed learning was found to be .063, $p = .289$, which did not support the hypothesis.

(g) The seventh hypothesis was that satisfaction with clinical practice would have a positive effect on self-directed learning. The path coefficient between satisfaction with clinical practice and self-directed learning was found to be .109, $p = .087$, which did not support the hypothesis.

(h) The eighth hypothesis was that self-esteem would have a positive effect on self-directed learning. The path coefficient between self-esteem and self-directed learning was found to be .379, $p < .001$, which supported the hypothesis, and when combined with the variable of belonging during clinical practice, explained 37% of the variation.

**DISCUSSION**

The current study attempted to analyze the factors affecting self-directed learning in APN students. Analysis of the various path coefficients revealed that 37% of the variation for self-directed learning could be explained by variations in the model; the variables of belongingness during clinical practice and self-esteem directly affected self-directed learning, while belongingness also had an indirect affect via self-esteem during clinical practice. When the impact of belongingness during clinical practice on self-directed learning was examined by setting the stress of clinical practice and satisfaction with clinical practice as mediating factors, these factors were found to have no mediating effect.

A study conducted on nursing students found that belongingness during clinical practice has significant effects on self-directed learning: students who felt welcomed and wanted by their group tended to pose more questions, have more confidence in taking on practical tasks, and receive more motivation to try harder and perform better (Levett-Jones, 2005). Such results support the close link between belongingness during clinical practice and self-directed learning, and conform to the claims of Levett-Jones and Lathlean (2008) that belongingness is a prerequisite for clinical practice. This means that the significance of belongingness must form the basis of any attempts to improve learning among students. In the current study, the average score for APN students’ belongingness during clinical practice was 3.45 out of 5, which was lower than the average score of 3.58 obtained in a study of nursing students in Australia and the United Kingdom that used the same instrument (Levett-Jones, Lathlean, & Higgins, 2009). However, clinical practice environments and methods, which affect a student’s belongingness, differ from country to country; therefore, care should be taken when making simple comparisons based on numerical values.

In the current study, belongingness felt by APN students during clinical practice was seen to have a significant effect, not only on self-directed learning, but also on all other variables, i.e., the stress of clinical practice, satisfaction with clinical practice, and self-esteem. Such findings suggest that belongingness during clinical practice must be taken into consideration as at once the most important and the most basic variable in practical training. Therefore, applying the results of this study to the conceptual framework developed by Levett-Jones and Lathlean (2009), it may be concluded that an ascending hierarchical relationship is in fact obtained between belongingness (Level 2), self-esteem (Level 3), and self-directed learning (Level 4). Even though this conceptual framework was implied on nursing students, it shows

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**Figure 2.** Testing for hypothetical model. *Path coefficient significant at $p < .05$. 

![Figure 2](image-url)
it can also be applied to APN students. The result supports how important it is that the belongingness during clinical practice connects next learning for the new challenging situation (M. Kim, 2010).

Meanwhile, the results showed self-esteem has a direct effect on self-directed learning. This signifies that the initiative, orientation, and autonomy that characterize self-directedness are closely linked to the extent to which a person respects oneself and regards oneself as valuable. According to a study by Brodie et al. (2005), feeling valued, recognized, and appreciated—a characteristic of a person’s self-concept—is of such importance to nursing students that it serves as a key determinant in later decision-making with regard to employment. Another study of self-esteem and self-directed learning found that students with high self-esteem show high self-directedness in learning as well (S. E. Kim, 2006). These findings support the conclusion of W. O. Oh (2002), who argued that self-esteem is the most powerful psychological factor for prediction of a learner’s academic performance.

In the current study, the stress of clinical practice and satisfaction with clinical practice had no significant effect on self-directed learning. In the study of the experience of belongingness during clinical practice among nursing students enrolled in APN training programs, the concept of inconvenient participation received positive response from APN students that sense of burden and tension was described as the “eustress” (M. Kim, 2010). This is in keeping with the notion that, while exposure to stress generally causes an individual to feel psychologically and physically threatened and to experience negative emotions, from a psychiatric perspective, stress can also be seen as a factor that enables a person to live an effective life (S. Lee, 2002). Considering this positive aspect of stress, it seems necessary to take into account the qualities bestowed on stress by the study participants. The satisfaction with clinical practice was not influential to self-directed learning in this study. It was not identical in other studies (Y. H. Kim, 2009; Levett-Jones, 2005). Nonetheless, the relationality of the results obtained in the current study can be deduced in light of a study by Kell and Van Deursen (2000), which found that self-directed learning was affected by the student’s confidence in control of the learning process and his/her level of maturity. Also necessary to consider is the assertion that situational factors, including causes for discontent that occur in practical situations, are less important for self-directed learning than the readiness to voluntarily choose an educational program and undertake learning (O’Shea, 2003). Such findings are significant in that, unlike the results of previous studies of undergraduate students, they reflect the characteristics of adult learners and present the implications of this difference.

This research did not consider the differences of clinical experiences in students and the characteristics of health care providers through various hospital environments. When the tool like “satisfaction with clinical practice” was developed, it had a problem of reliability because the reliability of the tool was not proved. However, the reliability of satisfaction with clinical practice was .83 in this study. Even though there are two limitations, this study is meaningful in a way that it was dedicated to the evidence-based research in APNs education. Overall, results of the current study demonstrate that self-esteem and belongingness during clinical practice have highly significant explanatory power with regard to the self-directed learning of APNs in training. They suggest that, in order to promote self-directed learning among students in nursing education, consideration must be made not only to the individual’s efforts and intention to cultivate a positive self-concept, but also to the contextual effects stemming from the clinical practice environment. In particular, self-directed learning can be developed by university and instructors; what is really needed is the understanding of self-directed learning concept by nursing educators. However, the study has to take note that self-esteem and belongingness during clinical practice have only influenced 37% of the self-directed learning. Therefore, we also have to consider other variables that influence self-directed learning. Belongingness is connected to recognition of itself, and integration within the system of interpersonal relationships (Choenanrom, Williams, & Hagerty, 2005). Instructors require support and close guidance so that students can improve the
relationships with clinical instructors and colleagues. Therefore, because the feeling of belonging to a clinical practice team is related not only to the opportunity for self-directed learning, but also to the stress of clinical practice, satisfaction with clinical practice, and self-esteem, both educators and those involved in clinical training must work to devise strategies for strengthening this belongingness.

**CONCLUSION**

Analysis of the path coefficients in this study showed that 37% of the variation for self-directed learning was explained by variations in the model. The framework of Levett-Jones and Lathlean (2009) is also a useful tool to APN students even though it was only applied to nursing undergraduate students. This study demonstrates that there are needs of high self-esteem and belongingness in order to improve self-directed learning for APN students in clinical practice. In other words, self-directed learning requires active participation by students, close interest and meticulous instruction by instructors, and a clinical environment that is accepting and welcoming students. Further research is needed to include factors such as anxiety, motivation to learn, self-efficacy, and locus of control that may influence self-directed learning of APN students as suggested by previous studies.

**REFERENCES**


