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Self-Efficacy in Nursing Students: Traditional Review

Olga İncesu[1]

[1]Istanbul University-Cerrahpasa Florence Nightingale Faculty of Nursing, Istanbul, Turkiye

ORCID ID: O. İ. 0000-0003-3961-239X

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ABSTRACT

Self-efficacy is the belief in achieving a task/performance that affects all periods of the lives of individuals and varies according to the individual, time, and performance, depending on many internal factors such as family/social environment, educational environment, and experience. Academic self-efficacy is the belief that academic tasks will be completed. Self-efficacy is closely related to problem-solving skills and academic achievement. The development of nursing students' self-efficacy will provide positive contributions to their academic and post-graduate professional lives. This review examines self-efficacy, academic- self-efficacy concepts, related factors, and studies conducted on nursing students' self-efficacy. It is intended to guide the efforts to enhance nursing students' self-efficacy.
Keywords: Academic self-efficacy, nursing education, student, self-efficacy

INTRODUCTION

Nursing education is an applied education that includes complex knowledge and skills. Students encounter various problems during this experience. Students are expected to develop solutions to these problems and show academic success. Students' problem-solving skills and academic success are related to self-efficacy belief (1). Self-efficacy (SE) affects individuals' effort, resistance, and stability (2). SE shows its effect in all areas of an individual's life. Individuals with high SE have high personal resilience (3,4) and emotional intelligence, whereas individuals with low SE are more emotionally unstable (3). SE is an essential factor for nursing students' success in their professional lives and affects their success in their academic lives. Academic self-efficacy (ASE), a type of self-efficacy, is the learner's belief in himself/herself in achieving educational goals (4). It is observed that nursing students with low ASE have more malpractice tendencies (5), whereas students with high self-efficacy have high professional attitudes (6).

Undergraduate nursing education aims to train nurses to provide safe and quality patient care. Since SE and ASE have multidimensional effects on nursing student's educational and professional lives, it is essential to understand the concepts of SE, ASE, and related factors. When the nursing literature is examined, although there are many research articles on SE and ASE, there is no review study on this subject. This review article examined the concepts of SE and ASE, SE in nursing students, and variables associated with ASE. In this direction, the review aims to guide nurse educators in their attempts to increase the SE and ASE of nursing students. As a result of these initiatives, it is thought that the SE and ASE levels of nursing students will increase, contributing positively to the quality of patient care. It will contribute to quality patient care, academic success, and general nursing performance.

Self –Efficacy

Self-efficacy, as defined by Social Cognitive Theory, is a person's subjective assessment of their own performance (2). This is the individual's perception of what he/she can do with what he/she has rather than his/her skills, knowledge, and physical and psychological characteristics. SE belief affects how individuals think, feel, behave, and motivate themselves. These effects are

Corresponding Author: Olga İncesu **E-mail:** olga.incesu@iuc.edu.tr
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seen through mental, emotional, and motivational aspects, and choices. Individuals with low SE are slow to make efforts in the face of difficulties and give up easily. When faced with complex tasks, they focus on their shortcomings, the obstacles that may come their way, and the possible negative consequences. They attribute their inadequate performance to a lack of ability rather than effort. After an unsuccessful performance, gaining the belief of competence takes a long time. They are prone to depression and stress. On the other hand, an individual with high SE does not consider complex tasks as a threat. He/she attributes performance failure not to lack of ability but to insufficient effort, knowledge, and skills. High SE individuals quickly regain their feelings of competence after failure (7). However, it should be remembered that high SE is not the only factor for performance success; knowledge and skills are also necessary (8). SE perception is related to four sources:

1. Previous success experience: This is the source with the highest impact because it is based on the experiences of the individual. As the individual becomes successful, his/her SE increases, while unsuccessful performances may decrease SE (7).

2. Experiences of others: These are based on the person's experiences modeled by an individual. It affects the observer indirectly. When a person sees that a model, whom he/she thinks is similar to himself/herself, completes a similar task, his/her belief that he/she can do the same increases. For example, seeing a peer perform makes the individual feel he/she can do it too. However, when the model cannot be chosen correctly (when the model is more skilled), the SE of the individual may be negatively affected (8).

3. Verbal support from others (social persuasion): Depending on the person who makes the social persuasion and the persuasion content, the individual's SE increases or decreases. Support of the individual can be verbal or non-verbal. The person who provides this support to the individual may be an educator, peer, parent, or someone the individual considers important (9).

4. Physical and emotional state: One way to influence the perception of SE is to reduce the stress and anxiety of the individual and to change his/her emotional and/or physical reactions. Changing the individual's thoughts about how he/she perceives his/her performance also positively affects SE (7,8,9).

SE belief starts at birth and changes and develops throughout life. It is individual, multidimensional, and varies according to the field. A person may have different levels of SE for different tasks, or different SE can be seen between two people for the same task (10). Sachitra and Bandara (2017) evaluated the SE level of students in terms of various performances and found that although students showed low SE in activities such as having a study plan, asking questions, taking part in academic discussions, and asking for help from the educator, they were more competent in subjects such as getting help from friends and finishing the undergraduate program on time (11). Wilson et al. (2007) reported that SE is related to career choice, and women have low SE in career choice (12). Individuals are expected to fulfil their duties on time in all areas of their lives, especially academically and professionally. Time management is the demonstration of behaviors that ensure the correct use of time for an activity with a particular purpose. It is seen that students with high SE are better at time management (13).

In addition to the SE of the student, the SE level of the educator is also an essential factor in learning. Creating a suitable learning environment is related to the educator's instructional SE. Educators with low instructional SE prefer more external encouragement and punishment and less academic activity for the learning process. They also give feedback by associating unsuccessful performance with their students. On the other hand, the educator with high instructional SE focuses on students' intrinsic motivations, prefers more academic activities, and gives positive feedback more frequently (7).

Academic Self-Efficacy

ASE, a type of self-efficacy, is an individual's self-confidence and belief that he/she can accomplish an academic task (14-16). Studies emphasize that ASE is also essential for academic success (7,14,16). It is observed that students who perceive themselves as being academically successful have higher levels of ASE (17-19). ASE is also closely related to decision-making mechanisms. Urgancı and Gürgan (2019) stated in their study that individuals with high ASE have better decision-making skills and less personal indecision (20). In the study conducted by Seçer et al. (2022), it is stated that ASE is positively correlated with careful decision-making. However, as the level of ASE increases, the behaviors of hesitating to make decisions, making decisions in a hurry, and postponing decision-making decreases (1).

Self-efficacy and academic self-efficacy in nursing education

Nursing education requires intensive and complex knowledge acquisition, clinical practice, and close interaction with healthcare professionals and patients/relatives. (21). In nursing education, students are in the clinical environment for about half their education. Students are exposed to many stressors during this training, especially in the clinical environment (22). Factors such as motivation, SE, and stress affect the clinical success of the student (16).

SE and ASE levels of nursing students have been evaluated in various studies. In the study by Baran et al. (2020), the SE level of nursing students was found to be moderate (23), and in the studies conducted by Açıksöz et al. (2016) and Karabacak et al. (2013), it was found to be high (10,24). In other studies, the ASE level of nursing students was average or above (25,26), below average (5,19,27), and medium and high (6,28).

Students with higher SE levels are more resilient to learning difficulties, high stress, and burnout (29). Students with low SE have lower clinical motivation and tend to avoid new learning for fear of making mistakes (30). As the SE levels of nursing students who have not had clinical experience increase, their anxiety about clinical practice decreases (24).

Additionally, negative psychomotor skill experience, especially in the clinical environment, may cause a decrease in the student's SE. Looking at the studies examining the relationship between SE and psychomotor skill success in the nursing literature, Karabacak et al. (2013) found that the SE level of students did not change before and after administering intramuscular (IM) injections (10). The results are similar to the study by Baran et al. (2020) on intravenous catheter insertion skills (23).

Concepts related to self-efficacy and academic self-efficacy

Various studies have revealed how SE and ASE are affected by socio-demographic variables. The analyzed variables are as follows:

Gender: Many studies have examined the relationship between gender and ASE. According to the meta-analysis study by Huang (2013), women have higher ASE in language skills, and men have higher ASE in mathematics, and computer and social sciences (31). In some studies, it is seen that there is no difference between the ASE level of women and men (3,5,17,30). However, women in some studies (4,11,27,32) and men in some studies (17,30) have higher levels of ASE. In the study by Bulfone et al. (2021), the ASE levels of female students increased over time, whereas male students decreased over time (33). Based on these results, it is impossible to make a definite conclusion about the relationship between gender and ASE.

Age: As experience increases, academic self-efficacy can be expected to increase. The study by Özgül and Diker (2017) stated that the level of ASE was higher between the ages of 32-37 (34). A similar result was observed in the study conducted by Bulfone et al. (2021) with nursing students (33). In contrast, Cuartero and Tur (2021) suggest that age is not a significant variable in their study (3). Bulfone et al. (2021) state that age and gender variables affect ASE by 7%. This suggests that the effect of the age variable on ASE may vary according to individuals and groups (33).

Grade: According to Bandura (1993), SE increases with increasing experience (7). Therefore, 4th graders can be expected to have higher levels of ASE. The studies by Yorulmaz (2019) and Sachitra and Bandara (2017) support this result (11,35). On the contrary, there are also studies in which the ASE of first graders is high (5,28). There are also studies in which the level of ASE did not change depending on the grade attended (15,25,27). These results may be related to the different sample groups in the studies.

Parent's education: In Yorulmaz's (2019) study, it was observed that students whose fathers graduated from secondary school had a higher level of ASE (35), while in Urgancı and Gürgan's (2019) study, the education status of the father did not affect the level of ASE (20). However, in the same study, it was observed that students whose mothers had undergraduate and higher education had the highest level of ASE. There is a need for more studies examining the effect of parental education status on the student's ASE level.

Personality characteristics: In the study by Baykal and Yildirim (2020), it was reported that those with neurotic and extraverted personality traits had lower levels of ASE (5).

Social support: Social support enables the student to control the stress in the educational environment, to be more flexible, and to increase SE. In the studies by El-Sayed et al. (2021) and Warshawski (2022), regression analysis indicated that perceived social support is one of the variables affecting the level of ASE (4,28).

Preference status of the nursing program: It is seen that preference for the nursing program (i.e., willingly or unwillingly being placed in the program) is not related to the ASE level of nursing students (27,33).

Additionally, Bulfone et al. (2021) evaluated the effect of many social variables on ASE with advanced analysis and found that being employed, being married/single, and having children did not affect ASE, but the ASE of students with different high school backgrounds also differed (33). More studies are needed to examine the relationship between personal characteristic variables and ASE.

When the literature is examined, it is seen that the relationship between academic motivation and SE and ASE in nursing students is frequently examined. Motivation starts in the mind. The individual thinks and directs his/her actions and calculates the possible consequences. SE beliefs play an essential role in these mental processes (7). In the studies by Sarıkoç and Öksüz (2017) and Kaplan and Güngörmüş (2022), it was stated that academic motivation increased as the level of ASE increased (18,25). A similar result was observed in the study by Vahedian-Azimi and Moayed (2021), conducted with graduate students studying postgraduate education in nursing (36). In another study, El-Sayed et al. (2021) revealed by regression analysis that academic motivation is one of the variables affecting ASE (28). According to these results, the academic motivation of students with high ASE levels is expected to be high.

The relationship between ASE and academic achievement has been frequently examined in studies. In the systematic review conducted by Honicke and Broadbent (2016), it was reported that there was a moderate relationship between ASE and academic achievement (14), and in the meta-analysis conducted by Richardson et al. (2012), it was stated that ASE belief was as effective as 9% on the average academic achievement score (37). It is seen that ASE is an essential determinant of many academic performances. It has been observed that students with high levels of ASE cope with academic problems effectively (35,38) and that students experience more burnout as the level of ASE decreases (6). In addition to these results, students with high ASE make more effort when performing academic tasks and are more planned in their work (35). In studies investigating the relationship between ASE and academic procrastination, Kaplan and Güngörmüş (2022) stated that students with high

AES did not perform academic task procrastination behavior (18), and Atılgan and Güngörmüş (2018) stated that this did not make a difference (15). To reveal the relationship between ASE and academic procrastination behavior, it would be helpful to conduct studies in which students' ASE levels are monitored in long-term studies.

ASE is closely related to cognitive skills. In one study, Karaoğlan-Yılmaz et al. (2019) revealed that students with high ASE also had improved critical thinking and metacognitive thinking skills (39). In studies examining the relationship between students' post-graduation career goals and academic self-efficacy, it is seen that the ASE levels of students who plan an academic career after graduation are higher (17,32).

When the literature is examined, a limited number of studies examining the effect of various training methods on the level of ASE are found. In the single-group experimental study by Ökten and Seferoğlu (2022), it was observed that the ASE levels of nursing students increased significantly after the use of concept maps (38), and in the study conducted by Roshangar et al. (2020) with the experimental and control groups using the same education method, it was stated that the ASE level of the experimental group increased as a result of the use of concept maps, but there was no difference between the groups in terms of ASE level (40). Self-assessment and peer assessment, another approach, are related to self-efficacy since they are based on the individual's performance. Since SE belief is related to self-monitoring and evaluation, it affects learning performance (10). In the meta-analysis study by Panadero et al. (2017), self-assessment has positive effects on students' SE and ability to regulate their learning (41), and in the meta-analysis study by Sitzmann et al. (2010), the relationship between SE and self-assessment is moderate (42). In addition, peer-assisted learning (26,43) and peer assessment are also reported to increase students' ASE levels (26) significantly.

There are a limited number of studies in which the ASE levels of nursing students are monitored long-term. In the study conducted by Bulfone et al. (2021), when the ASE levels of nursing students were monitored for three years in terms of various variables, it was observed that the ASE of students did not change over time (33). In contrast, El-Sayed et al. (2021) found that the ASE level of nursing students decreased significantly from the 1st to the 4th grade (28). Nursing students experience many positive and negative learning experiences in classroom, clinical, and laboratory environments throughout their nursing education. The fact that the ASE level of the students did not change or decrease in the long-term follow-up suggests that the learning environment does not contribute to SE or cause a decrease in SA and that students may be in a learning environment where they lack positive experience or do not receive enough support during negative experiences. It is thought that it would be helpful to examine the relationship between more variables related to the learning environment and ASE in future studies.

CONCLUSION AND SUGGESTIONS

There is a need for more interventions to increase students' SE and ASE levels and more experimental studies to reveal the results of the interventions. In addition, it is thought that it would be helpful to use advanced analysis methods to determine which factors are related to SE and ASE.

The learning environment affects students' SE level. Since most of the studies are cross-sectional, they may not be sufficient to determine the variables related to the learning environment. For this reason, increasing long-term follow-up studies with different sample groups will be helpful in terms of better revealing the variables that cause this effect. The effect of students' own experiences and the experiences of others on SE is known. Because of this, it is believed that employing peer-supported learning, cooperative learning, and peer mentoring techniques will boost SE. In addition, portfolio and skill report cards can be used to monitor the student's development. It is recommended that self-assessment and peer assessment methods be expanded and that the contribution of self-assessment and peer assessment to SE and ASE in different performances/tasks be investigated. It's believed that utilizing objective assessment instruments (such as checklists, rubrics, etc.) for both peer and self assessment will lessen anxiety related to conducting assessments and producing objective results. Given the importance of verbal persuasion in raising SE, students may be able to track their progress with immediate, one-on-one feedback from teachers. Assisting the educator in establishing precise, logical, and achievable objectives about the pupil's work could successfully shield the pupil from potentially bad experiences. Since there are no studies on the SE level about students' caregiving behavior and skills, conducting more studies in this field may be useful.

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