



The effect of nurse education on the self-esteem and assertiveness of nursing students: A four-year longitudinal study



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ABSTRACT

Background: The nurse education program affects many aspects of personal development. Nursing students gain skills in critical thinking and analysis and also develop communication and management skills. The four-year program may also have an effect on students' assertiveness and self-esteem.

Objectives: This study was conducted to determine the impact of the four-year higher nursing school educational program on students' self-esteem and assertiveness.

Design: Descriptive longitudinal design.

Setting: The study took place at a Foundation University in Istanbul, Turkey over the period 2006–2010. The students' levels of self-esteem and assertiveness were assessed at the beginning and end of the first, second, third and fourth years of the program.

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Participants

The data were collected from 60 nursing students at the commencement of their program. The research was completed with 48 nursing students in their fourth year of the program.

Methods

Data were collected with a sociodemographic questionnaire, the Coopersmith Self-esteem Inventory (SEI) and the Rathus Assertiveness Schedule (RAS).

Results

The SEI mean scores of the students at the end of the fourth year were found to be significantly higher than their mean scores before the start of the program or at the end of their first, second and third years. The RAS mean scores of the students at the end of the second and third years were found to be significantly higher than their mean scores in the first year. The RAS mean scores decreased at the end of the fourth year compared to the beginning of the year and the end of the second and third years, although the differences were not statistically significant.

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Conclusions

While in this study, a group of Turkish student nurses experienced an improvement in their self-esteem over the course of the 4-year nursing program, it was found that their assertiveness levels diminished. Nurse education programs should be designed to promote self-esteem and assertiveness.

Introduction

Nurse education is founded on both theoretical and practical instruction that encompasses professional knowledge, clinical and conceptual skills as well as the development of an individual's system of values. Nursing students learn theoretical knowledge and also use their critical thinking skills to transform that theoretical information into behavioral skills (Karadağ and Uçan, 2006). Critical thinking is defined as "a process of purposeful, interactive reasoning, criticism and judgment about what we believe and do" (Azizi-Fini et al., 2015). Critical thinking is defined as "a process of purposeful, interactive reasoning, criticism and judgment about what we believe and do" (Azizi-Fini et al., 2015). Critical thinking in nursing is an important component of quality nursing care (Dikmen and Usta, 2013, Yıldırım et al., 2011). Nurses that have the capability to think critically are more self-confident, have a broader perspective, are creative, flexible, have an inquiring mind and act with common sense, logically, honestly, and also with an open mind (Yıldırım et al., 2011).

One of the main goals of practical education in nurse education is to increase the self-confidence of nursing students. The student thus gains

the skills of critical thinking and analysis while also developing communication and management skills (Karaöz, 2003). In addition, students become socialized during the course of the education and develop a sense of self-perception. Students that are skilled in self-evaluation are able to form strong and therapeutic relationships with their patients (Unal, 2012).

Self-esteem refers to how favorable an individual's opinion is of him/herself and the positive and negative feelings and values that are attributed toward oneself after self-analysis. This is defined as the psychological sense of wellbeing in an individual when being conscious of the self and one's own ideas (Chaves et al., 2013). It is also an important component in being able to maintain psychological and physical health. Individuals who have a positive sense of self-esteem are more flexible and able to accept their strengths and weaknesses; they are less dependent in personal relationships and less authoritarian. Individuals with a negative sense of self-esteem resort to the defense mechanisms of denial and repression more often and choose to ignore anything negative about themselves. Self-esteem is an important factor that contributes to the professional's subjective personal values and plays an important role in the development of one's value system and personality (Iacobucci et al., 2012).

Self-esteem is important for nurses because it is linked to the nurse's ability to communicate and it also improves the potential of succeeding (Lo, 2002). Throughout their education, nursing students with strong self-esteem are better able to develop an effective and therapeutic relationship with patients and are also more equipped to manage the challenges they face in their communications with patients (Edwards et al., 2010). University students who have low self-esteem display negative professional attitudes and behaviors when they graduate (Karagözoğlu et al., 2008). Moreover, because students face many challenges during their university years as they pass through a process of changes and personal development, there might be changes as well in their self-esteem. Such changes are unique to the individual and must be evaluated (Chaves et al., 2013).

The concept of assertiveness refers to the ability to express one's own feelings, opinions, beliefs and needs openly and clearly, directly and honestly, without adopting an aggressive tone and with feelings that do not reflect anxiety or violate another's rights (Kutlu, 2009; Ibrahim, 2011). Assertiveness provides a nurse with the foundation for establishing successful relationships with patients and family members as well as members of the healthcare team (Lin et al., 2004; Ibrahim, 2011; Rezayat and Dehghan Nayeri, 2014). Assertiveness is an important part of the communication process and one that promotes independent decision-making in every facet of nursing practices. Individuals who exhibit assertive behaviors generally have a higher feeling of self-worth and are more successful in life (Batmaz et al., 1996; Karagözoğlu et al., 2008; Ibrahim, 2011). In addition, it is reported that assertive students have less of a problem with adaptation and loneliness and continue to be achievers throughout their education (Rezayat and Dehghan Nayeri, 2014). Difficulties that student nurses may face in the clinical setting after the start of their theoretical and clinical education may negatively affect their assertiveness (Kutlu, 2009). If students are to maintain good communications and use their professional knowledge and skills more effectively, they must be individuals with high self-esteem who are able to exhibit attitudes of assertiveness (Unal, 2012; Güler, 2011). There is an inherently important relationship between self-esteem and assertiveness. Self-worth rises and falls proportionately to assertiveness, and any change in one of the factors has the potential of causing a change in the other (Güler, 2011). Assertiveness, in fact, is the expression of self-esteem (Karagözoğlu et al., 2008).

Among the goals of nurse education is to train self-sufficient, self-confident individuals with problem-solving skills and a developed sense of professionalism. These qualities at the same time require assertiveness (Özkan and Seviğ, 2007). Assertiveness is considered to be an essential skill for nurses (Hamoud et al., 2011). Assertive nurses not only contribute to the healthcare and treatment of patients but at the

same time, they are instrumental in strengthening chains of communication among health professionals. Assertive nurses can tackle and resolve potential problems experienced by the team (Özkan and Seviğ, 2007; Hamoud et al., 2011). It is for this reason that nurse education needs to support students in developing self-esteem and assertiveness skills. An effort must be made therefore to determine the effect of nurse education on students' self-esteem and assertiveness. There are numerous studies on determining the extent of these two qualities among nursing students (Dinçer and Öztunç, 2009; Kahrman, 2005; Karagözoğlu et al., 2008; Ibrahim, 2011; Rezayat and Dehghan Nayeri, 2014; Unal, 2012; Chaves et al., 2013; Deltsidou, 2009; Güler, 2011). However, it can be seen that there is only limited investigative research on the impact of nurse education on self-esteem and assertiveness (Kutlu et al., 1997; Edwards et al., 2010; Begley and Glacken, 2004; Begley and Begley and White, 2003). Determining what impact nurse education has on self-esteem and assertiveness will provide guidance in re-evaluating the nurse education curriculum and thereby devising different models of education to help students develop their feelings of self-worth and their abilities to be assertive. The study was thus conducted in this context to determine the impact of the four-year nurse education program on students' self-esteem and assertiveness.

Methods

Design

Descriptive longitudinal design.

Aim

The present study was conducted as descriptive and longitudinal research to determine the impact of the four-year nurse education program on students' self-esteem and assertiveness. In this study, we sought answers to the following research questions:

1. What is the level of self-esteem among nursing students?
2. What is the level of assertiveness among nursing students?
3. How do levels of self-esteem and assertiveness change over the four-year nurses' education program?
4. Is there a relationship between the levels of self-esteem and assertiveness of nursing students?

Setting and Sample

The study was conducted over the academic years 2006–2010 at a School of Nursing of a Foundation University in Istanbul, Turkey. The School of Nursing applies a four-year program of education. The research was conducted throughout the four years. The students in the study were not provided with any kind of additional education. Only the customary nursing school curriculum was implemented. The students' levels of self-esteem and assertiveness were assessed at the beginning and end of the first year and at the end of the second, third and fourth years of the program. Sixty-five individuals were enrolled as first-year School of Nursing students in the academic year 2006–2007. The first assessment was made with 60 students at the beginning of the first year, at the start of the school program, and before classes began. Subsequently, the study was completed with 51 students at the end of the first year, 50 students at the end of the second year, 49 at the end of the third year, and 48 at the end of the fourth year. Over the four years, 12 students left the study for some reasons (withdrawing from the university, being absent from class, unwillingness to participate in the research, and incompletely filled out questionnaires). Therefore, the study was completed with 48 students.

Instruments

Data for the study were collected using a sociodemographic information form developed by the researchers, the Coopersmith Self-esteem Inventory (SEI), and the Rathus Assertiveness Schedule (RAS) (Turan and Tufan, 1987; Voltan, 1980).

The sociodemographic information form contained 13 questions to define the students' sociodemographic characteristics and their familial features. The form incorporated questions on age, which school the student had last graduated from, in which order of preference the student had selected nursing on the university exams, their mother's educational status, father's educational status, where they resided, the number of siblings, having a brother, having living parents, the family type, the decision-maker in the family and the level of achievement at the school the student had graduated from.

The Coopersmith Self-esteem Inventory (SEI) was used to evaluate the student's self-esteem. The study made use of the Coopersmith Self-esteem Inventory (SEI), which had been translated to Turkish and tested for validity and reliability studies by Turan and Tufan (1987). The tool was found to have a test-retest reliability of $r = 0.76$. The Coopersmith SEI consists of 25 questions that can be marked as "like me" or "not like me." These items contain statements about the individual's outlook on life, family relationships and strength of resistance. There are two separate forms that can be used for children and adults. The adult form was used in our study. The scores can range from 0 to 100. The scores obtained below the mean indicate low self-esteem, and those above indicate high self-esteem (Turan and Tufan, 1987). In this study, Cronbach's alpha coefficient for SEI was .51.

The students' assertiveness was assessed with the Rathus Assertiveness Schedule (RAS). The Rathus Assertiveness Schedule (RAS) was developed by Rathus (1973) to determine students' levels of assertiveness. The tool's validity and reliability studies for Turkey were conducted by Voltan (1980). The test's reliability coefficient was found to be $r = 0.92$. This tool can be used for both adolescents and adults. The inventory is a 30-item, 6-choice Likert-type scale. The items consist of positive and negative statements that are all scored differently. There are 6 choices for each item, with responses ranging from -3 to $+3$ (-3 does not fit me; -2 does not fit me very well; -1 doesn't fit me much; $+1$ fits me a little; $+2$ fits me very well; $+3$ fits me completely). Seventeen of the items are reversely scored (items 1, 2, 4, 5, 9, 11, 12, 13, 14, 15, 16, 17, 19, 23, 24, 26, 30). Scores can range from -90 to $+90$. Those who receive a score of below $+10$ as the total on the instrument are considered to be shy and those with a score of above $+10$ are considered to be assertive. In this study, Cronbach's alpha coefficient for RAS was .84.

Data Analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS) 16.0 (SPSS, Inc., Chicago, IL, USA). Descriptive statistics (percentages, means, standard deviation, minimum, maximum) were used for the demographic characteristics of the students. The scores on this scale were continuous variables, and the Kolmogorov–Smirnov test revealed that all the scores of scale were within a normal distribution. The paired sample t -test and the repeated measures analysis of variance were used for identifying the significant associations between school years and SEI/RAS. Pearson's product-moment correlation was used to determine the associations between SEI and RAS. The interpretation of correlation coefficients was as follows: $r \leq .49$: weak relationship; $.50 \leq r \leq .74$: moderate relationship; and $r \geq .75$: strong relationship (Portney and Watkins, 2000). The internal consistency of the SEI and RAS questionnaires was evaluated using Cronbach's alpha. A reliability coefficient value of .7 or higher is considered to indicate adequate reliability. A value of .5–.6 has been reported as sufficient for preliminary research (Nunnally, 1978). Statistical significance was assumed to be $p < .05$.

Ethical Considerations

Research permission was obtained from the University's Rector and the Head of School of Nursing. This study was approved by the Institutional Review Board of the University (Decision No. 12, Number 05). The students were informed by the primary investigators about the nature of the study and were instructed that participation was voluntary and information was confidential and anonymous. The verbal consent of the students was obtained. The questionnaire was administered to the students in an observed classroom setting.

Table 1
Descriptive characteristics of students ($N = 48$).

Demographic characteristics	Mean + SD	Min-max
Age	19.39 ± .96	17–21
Order of preference for nursing	8.10 ± 7.44	1–24
	<i>n</i>	%
<i>School graduated</i>		
Regular high school	38	79.2
Healthcare vocational high school	1	2.1
Anatolian high school	9	18.8
<i>Residing in</i>		
Dormitory	17	35.6
With family	23	47.9
With friends	4	8.3
With relatives	4	8.3
<i>Mother's education</i>		
Illiterate	2	4.2
Elementary school	22	45.8
Middle school	6	12.5
High school	12	25.0
University	6	12.5
<i>Father's education</i>		
Illiterate	13	27.1
Elementary school	7	14.6
Middle school	20	41.7
High school	8	16.7
University	13	27.1
<i>Number of siblings</i>		
Single child	2	4.2
2 siblings	21	43.8
3 siblings	12	25.0
4 siblings	5	10.4
5 or more siblings	8	16.7
<i>Has a brother?</i>		
Yes	36	75.0
No	12	25.0
<i>Parents living?</i>		
Yes	47	97.9
Father deceased	1	2.1
<i>Family type</i>		
Expanded family	15	31.2
Nuclear family	32	66.7
Broken family	1	2.1
<i>Achievement at school graduated</i>		
Very good	3	6.2
Good	35	72.9
Average	10	20.9
Poor	—	—
<i>Family decision-maker</i>		
Mother	2	4.2
Father	5	10.4
Parents together	20	41.7
All family members together	21	43.8
Total	48	100

Bold values are the highest values.

Results

The mean age of the students participating in the research was $19.39 \pm .96$ (min = 17, max = 21) and all were females. Of the students, 79.2% were regular high school graduates, 47.9% lived with their parents, 45.8% had mothers with a primary school education, 41.7% had fathers with middle school education, 43.8% had two siblings, 75% had brothers, while the parents of 97.9% were living, 66.7% lived in a nuclear family, 72.9% had graduated from their last school with good achievement, and 43.8% were members of families where all the members participated in family decisions. The average order of preference that the students had given nursing in the centralized university entrance examination was 8.10 ± 7.44 (min = 1, max = 24) (Table 1).

The mean scores of the students at the end of their fourth year on the SEI ($p < .05$) exhibited a statistically significant rise compared to their scores at the beginning of their first year ($p < .01$), at the end of the first year ($p < .05$), at the end of the second year ($p < .01$) and at the end of the third year ($p < .05$). The repeated measures analysis of variance was used in the analysis of the students' four-year mean scores on the SEI. The increase in the SEI mean scores over time was statistically significant ($p < .05$) (Table 2).

The RAS mean scores of the students at the end of the second and third years were found to be significantly higher than their mean scores at the end of the first year ($p < .05$). No significant difference was found between the students' mean scores in the other years ($p > .05$). The repeated measures analysis of variance was used in the analysis of the students' four-year mean scores on the RAS. The increase in the RAS mean scores over time was not statistically significant ($p > .05$) (Table 3). While 81.2% of the students were found to be assertive when they first started school, at the end of the first year, the percentage fell to 77.1%, was recorded as 75% at the end of the second year, 75% at the end of third year, with 72.9% exhibiting assertiveness at the end of the fourth year (Table 4).

A weak positive relationship was found between the students' SEI and RAS mean scores at the beginning of the first year and at the end of the first and second years; a moderate positive relationship was seen at the end of the third and fourth years (Table 5). As the SEI mean scores rose, the RAS mean scores also rose.

Discussion

University students who have low self-esteem exhibit negative professional attitudes and behaviors when they graduate. It is because of this that a university education is of importance in creating individuals with high levels of self-esteem and assertiveness (Karagözoğlu et al., 2008). This research makes a significant contribution to the literature in that it assesses the change in the levels of self-esteem and assertiveness among nursing students over the full four-year program of study. This research evaluated students' feelings of self-esteem and levels of

assertiveness at the beginning and at the end of the first, second, third and fourth years.

The Self-esteem Inventory mean scores of the students over the four years of study varied between 74.60 ± 15.55 and 80.31 ± 12.16 . In studies conducted with nursing students, the SEI mean scores were found to be in the range of 70.30 ± 16.10 in a study by Dinçer and Öztunç (2009), 77.29 ± 15.52 in the study of Karagözoğlu et al. (2008), 65.65 ± 16.95 in research by Yılmaz and Ekinci (2001), and between 69.31 and 76.29 in a study by Kutlu et al. (1997) over four years. While the results of the present study were found to be similar to those reported by Karagözoğlu et al. (2008) and Dinçer and Öztunç (2009), they were seen to be higher than the results obtained by Kutlu et al. (1997) and Yılmaz and Ekinci (2001). It may be suggested that the difference stemmed from the differences in education, year of study and sample groups. Today's youth tend to exhibit a more assertive personality, are able to express themselves better and are skilled in standing up for their rights. The study found that the students' self-esteem mean scores showed a fall, however slight and insignificant, compared with the end of the first year, while the scores began to rise at the end of the second year and recorded a significant increase at the end of the fourth year. The SEI scores at the end of the fourth year were significantly higher than in the other years. At the same time, it was seen that SEI mean scores showed a significant increase over time. In studies conducted with nursing students by Hughes et al., 2003; Randle, 2003 and Ellis and Miller (1993), the conclusion was reached that nurse education leads to a loss in students' self-esteem. In contrast, Arthur and Thorne (1998) have reported that 4th year students have a higher self-concept than 2nd year students, while Kutlu et al. (1997) have shown in a comparison of SEI scores by academic years that there are significant differences between 1st and 4th year and 2nd and 4th year scores. Şener et al. (2011) have found in their study that professional self-esteem among fourth year students exhibits a rise when compared with the first year but that this does not constitute a statistically significant difference. It was found in Deltsidou's study (2009) that the assertiveness levels displayed by students increase slightly in advanced semesters by comparison to those displayed by first-semester students. In Begley and White's (2003), it was reported that self-esteem levels continued to increase over the course of nursing school. Lo's (2002) showed that third-year students had higher levels of self-esteem compared to second-year students. These findings are consistent with the present study. Moreover, although it has been stated in some studies that the pressures and stresses experienced in nurse education (Erbil et al., 2006) adversely affect student's sense of self-esteem (Kutlu, 2009), the increase that was seen in mean scores as the level of education progressed may be considered a positive indication in terms of our education program.

The RAS mean scores of the students over the four years in the study varied between 24.31 ± 21.74 and 29.04 ± 23.13 . A review of studies conducted with nursing students reveals that RAS mean scores were

Table 2
Comparison of SEI mean scores, by education year ($N = 48$).

	Mean \pm SD	Statistical analysis	
		t/p*	F/p**
Start of school	75.66 \pm 13.19	$t = .51, p = .608$ (start of school and end of 1st year) $t = -.112, p = .911$ (start of school and end of 2nd year)	$F = 6.499$ $p = .014$
End of 1st year	74.60 \pm 15.55	$t = .088, p = .930$ (start of school and end of 3rd year) $t = -2.74, p = .009$ (start of school and end of 4th year)	
End of 2nd year	75.87 \pm 13.17	$t = -.749, p = .457$ (end of 1st year and end of 2nd year) $t = -.721, p = .474$ (end of 1st year and end of 3rd year)	
End of 3rd year	75.83 \pm 13.26	$t = -2.61, p = .012$ (end of 1st year and end of 4th year) $t = .129, p = .898$ (end of 2nd year and end of 3rd year)	
End of 4th year	80.31 \pm 12.16	$t = -2.78, p = .008$ (end of 2nd year and end of 4th year) $t = 2.68, p = .01$ (end of 3rd year and end of 4th year)	

Bold values are statistically significant values.

* Paired sample t test.

** Repeated measures analysis of variance.

Table 3
Comparison of RAS mean scores by education year ($N = 48$).

	Mean \pm SD	Statistical analysis	
		t/p^*	F/p^{**}
Start of school	28.66 \pm 20.26	$t = 1.844, p = .071$ (start of school and end of 1st year)	
End of 1st year	24.31 \pm 21.74	$t = -.136, p = .892$ (start of school and end of 2nd year)	
End of 2nd year	29.02 \pm 23.14	$t = -.144, p = .886$ (start of school and end of 3rd year)	
End of 3rd year	29.04 \pm 23.13	$t = 1.181, p = .244$ (start of school and end of 4th year)	
End of 4th year	25.62 \pm 21.81	$t = -2.088, p = .042$ (end of 1st year and end of 2nd year)	
		$t = -2.081, p = .043$ (end of 1st year and end of 3rd year)	
		$t = -.493, p = .624$ (end of 1st year and end of 4th year)	
		$t = -.151, p = .881$ (end of 2nd year and end of 3rd year)	
		$t = 1.629, p = .110$ (end of 2nd year and end of 4th year)	
		$t = 1.645, p = .107$ (end of 3rd year and end of 4th year)	

Bold values are statistically significant values.

* Paired sample t test.

** Repeated measures analysis of variance.

21.50 \pm 21.27 in the study by Dinçer and Öztunç (2009), 21.25 \pm 20.66 in Kahrman's (2005) and 20.90 \pm 25.00 in the study by Yılmaz and Ekinci (2001). These findings were similar to the results of the present study. The study found that RAS mean scores decreased at the end of the first year compared to the beginning of the year, although the difference was not statistically significant. The RAS mean scores increased significantly at the end of the second and third years compared to the end of the first year. The RAS mean scores decreased at the end of the fourth year compared to the beginning of the year and the end of the second and third years although the differences were not statistically significant. In this study, we found that the increase of RAS mean score over time was not statistically significant. The study also revealed that as the class level went up, there was a drop in the number of assertive students. While 81.2% of the students indicated assertiveness when they first started school, only 72.9% were found to be assertive at the end of the fourth year. Yılmaz and Ekinci (2001) reported assertiveness among 70.92% of the nursing students in their study, Güler's (2011) showed a percentage of 45.4%, while that of Arslan et al. (2013) indicated assertiveness among 69.5% of study subjects. Dinçer and Öztunç (2009) found that the relationship between assertiveness mean scores and class level was not statistically significant. In Begley and Glacken's (2004) and also in Kutlu et al.'s (1997), it was reported that assertiveness increased among nursing students throughout the course of their nursing studies. The present study revealed different results. The RAS mean scores of the students at the end of the second and third years in the study were found to be significantly higher than the first year scores. This result shows that as education progressed, as the students better adapted to education and university life, as they got older and increased their clinical skills, adapted to the hospital setting, learned to cope with stress and developed better communication techniques, their levels of assertiveness also improved. This increase in the students' assertiveness scores, despite the fact that they were not provided with any special education in assertiveness, is an important indicator in terms of the education offered. The drop in RAS mean scores in the fourth year may be explained by the fact that the students were busy with planning their futures in their fourth year and experienced anxieties about finding employment.

The study found a positive relationship between self-esteem and assertiveness mean scores. A weak positive relationship was found between the students' SEI and RAS mean scores at the beginning of the first year and at the end of the first and second years; a moderate positive relationship was seen at the end of the third and fourth years. These results indicate that there is a positive relationship between self-esteem and assertiveness and that assertiveness increases as self-esteem improves. The high scores, though not indicating a significant relationship, show that assertiveness is affected by factors outside of self-esteem. Similar studies also show a positive correlation between self-esteem and assertiveness levels,

similar to our study (Kutlu et al., 1997; Yılmaz and Ekinci, 2001; Kahrman, 2005; Karagözoğlu et al., 2008).

The fact that the results of the study showed that both the students' assertiveness and self-esteem scores fell at the end of the first year of education points to the need to work on certain aspects of the nurse education program for the benefit of students just starting out in school. The first year of school should include education geared to help students adapt to university life and to their prospective professions. Advisors should carefully monitor students and evaluate their adjustment to university. Students should be offered guidance in finding solutions to their problems. Students with problems should be referred to the school psychologist for professional support. It may be useful to enhance the first year school program with courses on adapting to university life. The current course on communications in the program should include interactive lessons on improving personal relationships, autonomy, self-esteem and assertiveness. Students with low levels of self-esteem and assertiveness should be identified and provided with a program of training that addresses their issues. Interactive methods of teaching should be a part of nurse education and efforts should be made to help students develop their self-esteem and assertiveness skills.

It was seen that the students' assertiveness levels dropped at the end of the fourth year as compared to the beginning of the year as well as at the end of the second and third years. The drop in the assertiveness levels of university seniors makes it clear that the last year of the university is a period that must be given special attention. It is believed in this context that the general anxieties that accompany the end of school, especially the stress of finding a job, worries over professional competence, and concerns for the future lead to diminished assertiveness among students. Students in their last year of school should be provided with assistance in their search for jobs and in planning their careers. They should be given the opportunity to interview experienced professional nurses working in different fields. Internship programs should be added to the nurse education curriculum in an effort to ensure students' adaptation and reinforce what they have learned to give them a good start in their professions. It is believed that internship programs will help students develop their professional competence, reduce their stress and improve their assertiveness skills.

Table 4
Distribution of student assertiveness by academic year.

Assertiveness	Academic level									
	Start of school		End of 1st year		End of 2nd year		End of 3rd year		End of 4th year	
	n	%	n	%	n	%	n	%	n	%
Assertive	39	81.2	37	77.1	36	75	36	75	35	72.9
Non-assertive	9	18.8	11	22.9	12	25	12	25	13	27.1

Table 5
Correlation values between SEI and RAS ($N = 48$).

Scale		Rathus Assertiveness Schedule (RAS)				
		Start of school	End of 1st year	End of 2nd year	End of 3rd year	End of 4th year
Coopersmith Self-esteem Inventory (SEI)	Start of School	.484*				
	End of 1st year		.289**			
	End of 2nd year			.492*		
	End of 3rd year				.507*	
	End of 4th year					.547*

* $p < .001$.

** $p < .05$.

A suggestion for future research might be that similar studies at nursing schools of other universities should be conducted with a control group of students from a department outside of nursing so that comparisons may be made.

Conclusion

Working with a group of Turkish nursing students, this study found that at the end of the four-year nursing program, the students' self-esteem increased from year to year, indicating the positive influence of the nursing program on feelings of self-esteem. It was observed in the study that most of the nursing students were assertive individuals. It was seen that the students' levels of assertiveness decreased at the end of the fourth year compared to the beginning of the year and the end of the second and third years, although the differences were not statistically significant. Also, it was seen that the students' levels of assertiveness increased at the end of the second and third years compared to the beginning of the year.

Limitations

This study relied on a small sample of students in one school and thus has limited generalizability. The low value of the Cronbach's alpha reliability coefficient for the SEI is a weakness of the study. It is believed that this was a result of the small sample used in the research. For this reason, it might be suggested that the study should be repeated with larger sample groups using different measurement instruments. The research results are based on student self-reporting. No educational program was used in the research to promote an increase in self-esteem and assertiveness. Only the customary nursing school curriculum was implemented. On the other hand, the longitudinal study that was attempted in the research was one of its strengths.

Conflict of interests

The authors declare no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

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