Strengthening Perceptions of Ethical Competence Among Nursing Students and Graduates

**Abstract**

Ethical competence is part of healthcare professionals’ competence. It relates to moral issues and is based on the professional's knowledge, attitudes, and skills for coping with ethical dilemmas. Ethics education aims to raise perceptions of ethical self-confidence and ethical competency. Previous research found many gaps in ethical education content and poor understanding of how it affects graduates. The current study aims to evaluate an advanced ethics education workshop. The workshop aimed to raise nursing students’ competency to cope with ethical dilemmas. Its effectiveness was evaluated among three groups at three points in time: nursing students before the workshop, nursing students after the workshop, and nursing school graduates, using the Generalized Self-Efficacy Scale.

Results: Statistically significant differences were found in overall self-efficacy between the three points in time (mean 2.42 before the workshop, 2.13 after the workshop, and 1.58 for graduates, p<0.000 on a scale ranging from 1-5, 1 indicating high self-efficacy). High mean scores were presented for students after the advanced workshop and graduates (mean 7.8 and 7.25, respectively, on a scale ranging from 1-10, 10 indicating high self-efficacy). Graduates presented a high mean score regarding their ability to cope with ethical dilemmas when compared with other nurses working with them (mean 7.4, on a scale ranging from 1-10).

Conclusion: Levels of self-efficacy with regard to coping with ethical dilemmas increase over time, suggesting that the advanced workshop strengthens the self-perception of ethical competence among nursing students and graduates.

**Keywords**: Ethics education, Nursing students, Self-efficacy, Ethical dilemma, Graduates

**Introduction**

Nurses frequently cope with ethical dilemmas in daily care. They are expected to make ethical decisions and demonstrate high ethical competence. Ethical competence can be achieved when nurses gain knowledge of ethical principles, which in turn, leads them to ethical responses and behaviors (Gallagher, 2006). Previous studies have emphasized the importance of ethics education in achieving ethical competence(Bahrieni, Azodi, Hajivandi, & Jahanpour, 2017; Calder, 2015; Yoshikawa, Shiba, and Tawara, 2010; Numminen & Leino-Kilpi, 2007; Park, Kjervik, Crandell, & Oermann, 2012; Yoshioka & Kaneko, 2019).

Despite the positive relationship between ethics education and high levels of ethical competence, Hoskins, Grady, and Ulrich’s (2018) literature review found many gaps in the extant ethical education content and in the findings regarding the impact of ethics education programs on graduates. Moreover, in the field of micro-ethics, which Kalaitzidis & Schmitz (2012) defined as “the everyday ethical decisions that practicing nurses make in the context of common or routine clinical situations,” it was found that upon making ethical decisions, ethics-educated nurses failed to recall the knowledge they had previously obtained (Erdil & Korkmaz, 2009; Hoskins, Grady, & Ulrich, 2018).

The nursing school at Max Stern Yezreel Valley College initiated an advanced ethics workshop in order to raise nursing students’ ethical competencewhile attempting to fill the gaps in current ethics education programs.

**Literature Review**

Studies from 2019 describe educational programs that employ different teaching and learning strategies to raise nursing students’ ethical competency. DeSimone (2019) for example, found that adding teaching-learning activities designed to build moral courage values in both the classroom and clinical settings, promoted nursing students’ ethical competence. Similarly, Polczynski, Rozmus, & Carlin (2019) found that nursing students’ ethical decision-making skills improved after the implementation of a campus-wide ethics program. In their examination of the effect of debate-based and lecture-style ethics education on the moral sensitivity and moral judgment of nursing students, Kim & Park (2019) found that the program was effective in raising ethical decision-making capabilities and moral judgment.

Ethics education was found to be effective when based on a contemporary pedagogical approach (Trobec & Starcic, 2015) in which case analysis (Kalaitzidis & Schmitz, 2012),group discussions (Dinç & Görgülü, 2002; Lin, Lu, Chung, & Yang, 2010),and simulations (Gropelli, 2010; Tuxbury, Wall Mccauley, & Lement, 2012; Vanlaere, Coucke, & Gastmans, 2010) were integrated in lectures. This approach enables students to make ethical decisions, albeit in virtual contexts (Davis, Tschudin, & De Raeve, 2006). Moreover, ethical case studies from the field of clinical nursing help practitioners analyze ethical dilemmas and acquire tools for decision-making (Hsu, 2011).

**Purpose**

The current study aims to evaluate an advanced ethics education workshop and to conduct a follow-up evaluation of the competency of nursing students and graduates in coping with ethical dilemmas. Drawing on self-efficacy theory, self-efficacy was evaluated among three groups at three points in time: (1) Nursing students prior to the advanced workshop, and after they had completed a course on the fundamentals of ethics; (2) At the end of the workshop in the fourth year; (3) Among graduates who had participated in the advanced workshop as students. Coping with ethical dilemmas means that students and graduates can analyze ethical dilemmas, solve problems, and make ethical decisions.

**Methods**

Description of the Advanced Workshop

1. The ethical axis – dealing with the principles of ethical thinking, values, and the guiding principles of ethical thinking.

2. The theoretical axis – theories that explore ethical dilemmas, a model for the resolution of ethical dilemmas.

3. The personal axis – emotional positions and a sense of the ability to cope with ethical dilemmas.

4. Professional experience – the encounter with an ethical issue that raises a dilemma.

The following ethical principles and values constituted the theoretical foundation and framework for discussion in the group:

Key values in nursing

* Safeguarding human dignity and rights
* Integrity and truthfulness
* Benevolence and not causing harm
* Maintaining autonomy
* Taking responsibility
* Equality, justice, and decency
* Preserving privacy and secrecy
* Non-discrimination and non-labeling, respecting diversity

These ethical principles are supplemented by additional practice facilitated by a model for resolving ethical dilemmas. **Workshop program:**

Two meetings: The ethical story. The students submitted texts in writing to the lecturer and received feedback.

One meeting: Theoretical background

Two meetings: Individual consultations

Nine meetings: Student presentations of ethical dilemmas.

The factual basis used by the students included The Nurses’ Code of Ethics, Patient’s Rights Law, and the Physician’s Code of Ethics.

Students and graduates were expected to draw on both the Nursing Ethical Code and the Patients’ Right Law and the ethical decision-making models and tools they acquired and practiced in the advanced workshop (for example, Wagner’s tool [1985]).

**Presentation and Discussion on Ethical Dilemmas:**

In class, groups of four students each presented an ethical dilemma using practical demonstrations such as film, role play, simulation, and narratives.

Each meeting was divided into five parts:

1. Presenting the story
2. Analyzing the story and identifying the dilemmas
3. Theoretical-factual background
4. Proposed solutions, costs, and benefits
5. What the student takes away from the meeting for coping with the next dilemma.

Open-mindness, acceptance, and non-judgmental reception of the story were emphasized. This enabled exposure and sharing without fear of critique.

At the end of the workshop, each student was asked to write a personal paper on the story they presented and to analyze it according to the principles acquired in the workshop.

Story, identification of the dilemma/s, suggestions for solutions, choosing the solution, benefits and cost of the chosen solution.

During the workshop:

1. Students shared personal stories they had experienced during their clinical training in hospital departments or community clinics. Each story needed to present an ethical problem.
2. Some of the stories were analyzed in the group, and ethical dilemmas were identified and classified thematically. For identifying the dilemmas, the students used the list of guiding values and principles in ethical dilemma resolution.
3. The students were asked to choose one dilemma and examine it based on the factual basis available to them.
4. The students were asked to propose solutions while considering the provision of an ethical response vis-à-vis cost.
5. The workshop ended with a round of sharing insights (“check-out”) in which students summarized the insights and sense of competency that they had gained in the meeting. Emphasis was put on the level of generalization beyond the concrete event.

The workshop’s structure, which involves construction on the one hand, and provides space and openness in which complex content can be raised, on the other, formed a progressive and active framework for dealing with ethical dilemmas. This was reflected in the rise in the students and graduates’ feeling of capability to cope with ethical issues, which are so common in the healthcare system.

**Theoretical Foundation**

The theoretical rationale for the advanced workshop is based on Constructivist Theory, which states that knowledge is “temporary, non-objective, developmental, internally constructed, and socially and culturally mediated” (Reeves & Hedberg, 2003). In order to construct opinions, values, and beliefs, individuals use their knowledge and newly gained information.

The advanced workshop aimed to strengthen perceptions of ethical competence by raising the students’ self-efficacy in coping with ethical dilemmas.Bandura (1977) defined self-efficacy as an individual’s belief in their ability to achieve certain outcomes by operating in a certain way. Accordingly, high levels of self-efficacy facilitate the individual’s ability to cope with complicated situations. In other words, “beliefs people hold about their own capabilities” can predict their behavior in a particular context.

 The Generalized Self-Efficacy Scale is an important tool for evaluating the impact of education on the improvement of health care workers’ behavior and competence (Doyle et al., 2011). The working hypothesis of this study is that students and graduates’ self-efficacy can predict their competency in the ethics domain.

Based on ’sfinding, weassume that after the advanced workshop, nursing students and graduates’ beliefs regarding their capabilities to cope with ethical dilemmas will predict their ethical reactions and behaviors. Previous research in the field of ethics also found that nursing students’ choices, efforts, and determination to cope with and solve ethical dilemmas depend on their ethical self-efficacy (Pajares & Urdan, 2006; Laabs, 2012). Moreover, previous studies found that high levels of self-efficacy are positively correlated with years of experience in nursing (Pajares & Urdan, 2006; Soudagar, Rambod, & Beheshtipour, 2015).

**Survey Process**

 ***Design and sample***: In this cross-sectional study, a Google Docs anonymous self-administered online software questionnaire was distributed via the course website. The study was initially intended to be a paired study, however given that less than ten students agreed to be assigned a personal identifier, it was decided to analyze the data independently. The same questionnaire was distributed on the first day of the advanced workshop to all fourth-year students who studied during 2014-2016; one month after they completed the workshop; and in 2019 after the students had graduated (via email). Student response rates were 31 percent before the workshop, 20 percent after, and 62 percent of graduates.

 The questionnaire was based on a version of the Generalized Self-Efficacy Scale (Chen, Gully, & Eden, 2001) originally developed by Sulmasy et al. (1990) for the evaluation of medical residents’ ethical confidence, and which over the yearsdemonstrated(overvarious )In this questionnaire, self-efficacy assessment included three dimensions: magnitude, strength, and generality (Bandura, 1977). Magnitude referred to the difficulties individuals face in changing their behaviors; strength related to their certainty in their ability to take action; and generality referred to levels of self-efficacy and positive attitudes towards these behaviors over time. In prior studies, the questionnaire was found reliable with a Cronbach Alpha of 0.87 and its content was found to be valid with high predictability (Chen et al., 2001). The Hebrew translation has been used since 1998. Additional content validity was obtained by consulting researchers at the Max Stern Yezreel Valley College.

The questionnaire consisted of seventeen statements on two main topics: (1) Personal ability– behaviors (magnitude and strength), for example: “Usually, when I face an ethical problem related to work, I do not leave it until I reach a solution” and “Usually, I give up and do not complete steps or actions related to dealing with an ethical dilemma at work.” (2) Belief in one’s general ability to cope with ethical dilemmas (generality), for example: “I trust myself when dealing with an ethical dilemma” or “I believe there is nothing I can do when the task of dealing with an ethical dilemma is too complex.”

 Respondents were requested to rate their level of agreement on a scale of 1 to 5 (1= totally disagree [high self-efficacy]; 5 = fully agree [low self-efficacy]). Aggregated mean variables represented the overall self-efficacy of students before and after the advanced workshop and of graduates.

Two questions were added to the questionnaire distributed to students after the advanced workshop and graduates that evaluated general self-efficacy in relation to the workshop: “In your opinion, to what degree on a scale of 1-10 (1=very little and 10=very much) did the workshop contribute to your ability to generally cope with ethical dilemmas?” and “On a scale of 1-10, to what degree, after the workshop, do you feel more comfortable coping with ethical dilemmas?” Four additional questions were added to the graduates’ questionnaire pertaining to: (1) Frequency of encountering situations involving ethical dilemmas; (2) Duration of employment as a nurse; (3) Field of work (hospital/community); and (4) Self-comparison with other nurses—“On a scale of 1-10, to what degree do you feel that you are able to cope with ethical dilemmas?” All questionnaires queried socio-demographic variables, including gender, age, marital status, religiosity, ethnicity (Jews/Arabs), and working status.

***Ethical Considerations***

The Max Stern Yezreel Valley College Committee approved the study. In order to ensure confidentiality and evaluation reliability, students and graduates were informed as to participation being voluntary and anonymous, and were asked to sign a consent form. The instructor informed students about the advanced workshop evaluation process before answering the questionnaire. Subsequently, on the last day of the semester, they met again to talk about the aims and educational values of the advanced workshop evaluation.

***Statistical analysis***

T-tests and ANOVA determine the differences between self-efficacy before and after the advanced workshop, and after graduating. ANOVA assessed the factors associated with self-efficacy. SPSS 21.0 was used for data analyzes and p < 0.05 was considered to be significant.

**Results**

***Nursing students***. 127 students answered the questionnaire, 79 percent before the advanced workshop and 52 percent after. Most were single females between 31-40 years old. Students belonged to two ethnic groups, Arabs and Jews; more Arab students answered the questionnaire before and after the advanced workshop. Few participants in the before and after advanced workshop groups were religious, and 45 percent of students worked in the health system (Table 2).

***Graduates***. 152 nurses answered the questionnaire, most of whom were female, married, and aged 21-30. Fifty three percent were Jews of which 15 percent were religious, and 85 percent either traditional or secular. All participants reported that they were working as nurses, mostly in hospitals. On average, graduates had been working for 3.4 years. Table 2 presents the demographic characteristics.

A combined mean score was computed for the questions representing the overall self-efficacy variable and the two self-efficacy dimensions—personal ability-behavior, and belief in the ability to deal with ethical dilemmas. The data analysis revealed higher levels of overall self-efficacy after the advanced workshop than before the advanced workshop. The mean score was even higher for the graduates; differences between the three groups (before, after, and graduates) were statistically significant. The results are presented in Table 3.

Significant differences were found between the two dimensions of self-efficacy (personal ability-behaviors and ability to cope with ethical dilemmas), and among the three groups (before, after, and graduates). Results are presented in Table 4 .

Mean scores were higher for students after the advanced workshop compared to graduates regarding their ability to cope with ethical dilemmas. In addition, when asked about their level of comfort in coping with ethical dilemmas, students after the workshop and graduates presented higher mean scores compared to students before the workshop (Table 5). Among the three groups, no significant relationship was found between overall self-efficacy and individual self-efficacy behaviors and belief in abilities to cope with ethical dilemmas relative to socio demographic variables, except for marital status. Married graduates reported higher levels of overall self-efficacy (r -.203, p<0.012).

**Discussion**

**Self-Efficacy and Coping with Ethical Dilemmas**

The current study aimed to conduct a follow-up evaluation of nursing students and graduates’ competency in coping with ethical dilemmas employing a modified version of the Generalized Self-Efficacy Scale.

The results indicate that the students’ self-efficacy in coping with ethical dilemmas increased after the advanced workshop and after graduating. While graduates presented lower scores regarding the contribution of the advanced workshop to their ability to cope with ethical dilemmas compared to scores after the workshop, they still felt comfortable and were more able to cope with ethical dilemmas compared with other nurses who worked with them.

The results indicate that the advanced workshop had a positive effect on the students and graduates’ ability to “bring out the ethical practice (behaviors)” (Gallagher, 2006), enhance their competence perception, and strengthen their ability to cope with ethical dilemmas, i.e., their “ethical perception.” As noted, self-efficacy is one’s belief in their ability to generate a particular outcome. Nursing students and graduates’ self-efficacy caused them to feel more confident in coping with ethical dilemmas, which entails the ability to analyze ethical dilemmas, solve problems, and make ethical decisions.

**Ethics Education**

The described advanced workshop is part of the ethics education curriculum of the nursing school at Max Stern Yezreel Valley College. It aims to provide additional knowledge and tools to those acquired by students’ through their clinical training. Previous research has emphasized the importance of ethics education in achieving ethical competence, increasing nurses’ confidence (Grady et al., 2008; Wocial, 2008), and reducing the number of moral stress incidents (Lang, 2008).

Previous studies also found that the growing complexity of healthcare systems has increased the exposure of nursing students to ethical dilemmas in clinical practice (see for example, Erdil & Korkmaz, 2009). In addition, facing an ethical dilemma often results in moral distress among nurses, thereby negatively impacting them and their patients (Godfrey & Smith, 2002; Laabs, 2005; Laabs, 2007). The inclusion of ethical education in the nursing curriculum is important, not just for students but also for educators. Epstein & Carlin (2012) demonstrated that ethics education enables educators to better understand their students’ perspectives on ethical issues. Further research is recommended among educators.

**Contemporary Pedagogical Approach**

For more than a decade, nursing education has employed narrative pedagogy (Brown, Kirkpatrick, Mangum, & Avery, 2008; Swenson & Sims, 2000). Narrative pedagogy includes reflecting on everyday practices and context, and it forges in students a better understanding of the healthcare system’s policies and structures (Doane, Pauly, Brown, & McPherson, 2004). The effective integration of clinical narratives is contingent on their veracity, that is, to what extent do they simulate real-life situations. Using real-life clinical narrative stories, as described in the ‘ethics-in-the-round’ approach (Hutchinson et al., 2014), provides students with opportunities to discuss situations based on clinical experiences, thus improving their ethics education and competence. The described advanced workshop is based on the contemporary pedagogical approach in ethics education in which case analysis,group discussions,and simulations are integrated in lectures (Kalaitzidis & Schmitz, 2012; Dinç & Görgülü, 2002; Lin, Lu, Chung, & Yang, 2010; Gropelli, 2010; Tuxbury, Wall, Mccauley, & Lement, 2012; Vanlaere, Coucke, & Gastmans, 2010). From the results of this study, it appears that the contemporary pedagogical approach contributes to the increase in self-efficacy among students and graduates.

**Israeli Nurses Association Code of Ethicsand Israeli Patients’ Rights Law**

The Israeli Nurses Association Code of Ethics(2004)and the Israeli Patients’ Rights Law (1996) present a set of ethics, values, and guidelines for students and professionals. Practicing the code and law principles can provide additional value to the advanced workshop, and may contribute to raising levels of self-efficacy. Beckett, Gilbertson, and Greenwood (2007) found that while codes may be instructive as to appropriate ethical behaviors, in fact, professionals do not always follow them. Therefore, researchers suggest that educators play a crucial role in educating nursing students on ethical values and principles (Calhoun & Strasser, 2005; Leners, Roehrs, & Piccone, 2006).

**Professional Experience and Self-Efficacy Coping with Ethical Dilemmas**

Professional experience in the field of nursing raises levels of self-efficacy in coping with ethical dilemmas (Pajares & Urdan, 2006; Soudagar, Rambod, & Beheshtipour, 2015). The graduates in the study, who had already been working for two to six years, reported high levels of self-efficacy in coping with ethical dilemmas. However, the data analysis did not find any relationship between self-efficacy and duration of employment as a nurse. This result can be explained by the fact that most of the graduates had limited experience and had worked for no more than three years. Further research on the correlation between self-efficacy and years of practical experience is needed.

**Limitations**

This study has several limitations. First, it measured perceptions of ethical competence using the standardized self-efficacy questionnaire as opposed to other studies in which different instruments were used. For example, in their review of seventeen published studies on healthcare professionals’ ethical competence, Koskenvuori et al. (2019) found that all of the authors of quantitative studies developed their own instruments. The use of the standardized self-efficacy questionnaire may not be as suitable as any one of these designated instruments. Second, this study constitutes a case study from a single nursing school. It is recommended to expand the research to other nursing schools in Israel and abroad. On the other hand, the fact that the research compared between students and graduates who had completed the advanced workshop could perhaps reinforce our findings. A third possible limitation is acquiescence bias, which is defined as providing affirmative answers regardless of the question (Rammstedt, Goldberg, & Borg, 2010). One of the methods used to overcome this bias was presenting items in a binary fashion, with explanations at both ends of the scale (Hinz, Michalski, Schwarz, & Herzberg, 2007). Finally, the questionnaire was delivered to the students before they were invited to the advanced workshop and one month after the end of the semester, when the instructor provided students with information about the aims and educational values of the workshop evaluation.

 To conclude, the advanced workshop is likely to promote the effectiveness of nursing students’ ethics education and enhance their self-efficacy in coping with ethical issues as students and nurses in the healthcare system.

It can be suggested that this type of advanced workshop is essential to strengthen students’ and graduates’ competence perceptions. It can provide an additional educational tool that complements the basic ethics educational courses in nursing schools.

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**Tables**

Table 1: Advanced workshop content description

|  |  |  |  |
| --- | --- | --- | --- |
| Mission | Written Text | Discussion | Analysis |
| Students were asked to communicate a narrative involving an ethical issue to a colleague who listened and asked specific questions. The focus was on the characters in the story, the plot, and feelings it aroused. | Every student had to write a transcript of their “ethical story.” | In a group framework, students presented their ethical stories for discussion and group processing. The stories could be presented creatively, for example, through acting, film, etc.  | Each student analyzed their ethical story based on the Israeli Nurses Association Code of Ethics and The Israeli Patient’s Rights law.  |
| Students’ stories were analyzed as follows:1. What did the student know: Information needed for the ethical story, available to the student or lacking, and where could the missing data be obtained.
2. Theoretical analysis: What were the conflicting values? Students were asked to analyze the ethical story in light of Utilitarianism theory (greatest happiness for the most people) and Deontology theory (moral duty).
3. What were the dominant values involved in the story?
* Social values.
* Professional values according to the Israeli Nurses Association Code of Ethics.
* Organizational values (hospital or healthcare clinics).
* Personal values.
1. What were the chosen solutions? What was done? What ‘price’ was paid in each solution? What would you do if faced with a similar ethical dilemma again?
 |

Table 2: Demographic characteristics of the students and graduates

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Category | Before N (%) | After N (%) | Graduates N (%) |
| Gender | Female | 61 (84) | 38 (76) | 115 (76) |
| Male | 12 (16)  | 12 (24) | 37 (24) |
| Total | 73 (100) | 50 (100) | 152 (100) |
| Age | 21-30 | 1 (3) | - | 104 (68) |
| 31-40 | 73(97) | 40 (80) | 41 (27) |
| 41-50+ | - | 10 (20) | 7 (5) |
| Total | 74 (100) | 50 (100) | 152 (100) |
| Marital status | Married/lives with partner | 26 (36) | 24 (50) | 108 (71) |
| Single | 48(64) | 24 (50) | 44 (29) |
| Total | 74 (100) | 50 (100) | 152 (100) |
| Ethnicity | Jews | 27 (39) | 18 (36) | 79 (53) |
| Arabs | 41 (59) | 31 (62) | 71 (47) |
| Others | 2 (2) | 1 (2) | - |
| Total | 100 (71) | 100 (50) | 100 (150) |
| Religiosity | Secular | 32 (46) | 27 (56) | 62 (41) |
| Conservative | 33 (48) | 13 (27) | 66 (44) |
| Religious/Orthodox | 4 (6) | 8 (17) | 23 (15) |
| Total | 69 (100) | 48 (100) | 151(100) |
| Working as a nurse | Yes | 30 (45) | 22 (45) | 152 (100) |
| No | 37 (55) | 27(55) | - |
| Total | 67 (100) | 49 (100) | 152(100) |
| Duration of work in years | 2 |  |  | 39(26) |
| 3 |  |  | 48 (32) |
| 4 |  |  | 33 (22) |
| 5 |  |  | 28 (18) |
| 6 |  |  | 4 (3) |
| Total |  |  | 152 (100) |
| Work location | Community |  |  | 27 (18) |
| Hospital |  |  | 149 (82) |
| Total |  |  | 149 (100) |

Table 3: ANOVA results on significant differences in overall self-efficacy in coping with an ethical dilemma - before (first time point) and after (second time point) the advanced workshop, and among graduates (third time point)

|  |  |  |  |
| --- | --- | --- | --- |
| Groups | Mean (STD) | F | Sig |
| Before (N-75) | 2.42 (0.34) | 141.3 | 0.000 |
| After (N-50) | 2.13 (0.24) |
| Graduated (N-152) | 1.58 (0.40) |
|  | Mean Difference\* |  |  |
| Before - After | 0.28 |  | 0.000 |
| Before - Graduated | 0.84 |  | 0.000 |
| After - Graduated | 0.55 |  | 0.000 |

\* PostHoc - Scheffe

Table 4: ANOVA Results of each dimension of self-efficacy, personal ability-behaviors and belief in ability before (first time point) and after (second time point) the advanced workshop, and of graduated nurses (third time point)

|  |  |  |  |
| --- | --- | --- | --- |
| **Ability measure**/group | Mean (STD) | F | Sig |
| **Personal ability-behaviors** |
| Before (N-75) | 2.47 (0.39) | 78.77 | 0.000 |
| After (N-50) | 2.01 (0.33) |
| Graduated (N-152) | 1.55 (0.450) |
|  | Mean Difference\* |  |  |
| Before - After | 0.26 |  | 0.003 |
| Before - Graduated | 0.71 |  | 0.000 |
| After - Graduated | 0.45 |  | 0.000 |
| **Beliefs in ability** |
| Before (N-75) | 2.66 (0.49) | 133.13 | 0.000 |
| After (N-50) | 2.37 (0.27) |
| Graduated (N-152) | 1.66 (0.48) |
|  | Mean Difference\* |  |  |
| Before - After | 0.29 |  | 0.003 |
| Before - Graduated | 0.99 |  | 0.000 |
| After - Graduated | 0.70 |  | 0.000 |

\* PostHoc - Scheffe

Table 5: Means, Standard Deviations and T test - evaluation of the advanced workshop among students (after) and graduates

|  |  |  |  |
| --- | --- | --- | --- |
|  | On a scale of 1-10, how much did the advanced workshop contribute to your ability to cope better with ethical dilemmas? | On a scale of 1-10, to what degree do you feel more comfortable coping with ethical dilemmas after the advanced workshop? | Compared to other nurses, on a scale of 1-10, to what degree do you feel that you are able to cope with ethical dilemmas? |
| **Group** | Min | Max | Mean (STD) | Min | Max | Mean (STD) | Min | Max | Mean(STD) |
| After (N-50) | 4 | 10 | 8.04 (1.89) | 3 | 10 | 7.82 (1.92) | - | - | - |
| Graduated (N - 151) | 1 | 10 | 5.71 (2.68) | 1 | 10 | 7.25 (1.84) | 1 | 10 | 7.39(1.75) |
| **T - Test** | T(199) = 5.66Sig – 0.000 | T(199) = 1.95Sig – 0.059 | - | - | - |