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Comparison of Predisposition to Ethical Values and the 21st Century Competencies of Midwifery and Nursing Students in Generations Y and Z

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Research Article

ABSTRACT

The aim of this study was to compare predisposition ethical values and the 21st-century competencies of midwifery and nursing students in the Y and Z generations. A comparative and cross-sectional study was conducted. Data were collected between April and June of 2022. The study was conducted with a total of 258 students, 114 from generation Y and 144 from generation Z at the time of the research, who volunteered to participate in the research were included. Research data were collected using a "Personal Information Form," the "The Predisposition to Ethical Values" and the "21st Century Competency Scale." In the present study, the subdimensions of 21st Century Competency; knowledge, character, and meta learning were found higher in the Y generation than in the Z generation (p<0.5). The mean scores of the love justice and cooperation ethical value subdimensions were significantly lower in the Y generation than in the Z Generation. Predisposition to ethical values total score was higher in the Z generation than in the Y generation, and there was a statistically significant difference between them. Negatively significant relationships were found between the total score for ethical values and the subdimensions of knowledge, skills, character, and meta-learning. Students access to accurate and reliable information on ethical values positively affects their inclination toward ethical values. In the present study, it was determined that the tendency toward ethical values and 21st-century competencies of generations Y and Z are different. When the Y and Z generations are examined in terms of ethical values (love, justice, cooperation), it is seen that the Z generation is higher, 21. In Yy competencies (knowledge, skills, character and meta-learning), it is seen that the Y generation is more significant than the Z generation. Therefore, training and strategies should be planned considering the generations of midwives and nurses participating in the clinical field.

Keywords: Ethics, Generation, Midwifery, Nursing, Y, Z,

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Introduction

Generation is used to express generations that were born in different periods and grew up in different conditions (Kraus, 2017). Generations refer to communities in the same year of birth and are divided into Baby Boomers (1945-1965), Generation X (1966-1979), Generation Y (1980-1995), and Generation Z born after 1996. (Çetin and Karalar, 2017). Generational differences can affect university students' beliefs and expectations, how they approach learning, and their perception of teacher-student roles (Hampton and Keys, 2017). Nursing and midwifery students studying at the university are in Generations Y and Z. Generation Y is aware of intelligent, insightful, and optimistic and prefers to gain new experiences rather than materialistic gains. They give importance to work-life balance and prefer jobs that are compatible with family life rather than career-oriented jobs (Bolser and Gosciej, 2015). Generation Z, on the other hand, is called by different names such as the clear generation, digital generation, and media generation and is a generation that is creative, collaborative, does not spend much time

outside, prefers being alone to crowds, computers to books, and correspondence to talking (Uslu and Kedikli, 2016; Kramer, 2017). For this generation, learning is an active experience and can no longer be reduced to passive learning approaches of the past (Kramer, 2017; Shatto and Erwin, 2017). Ethical dilemmas faced by healthcare professionals are increasing due to advances in science, medicine, and biotechnology, life-prolonging treatments, genetic testing, and stem cell research, and ethical issues in healthcare are gaining increasing importance. Nursing and midwifery students are expected to have ethical sensitivity, the ability to apply theoretical knowledge and skills, and the capacity to make ethical decisions when faced with ethical dilemmas (Sari et al., 2017; Chao et al., 2018). Professionally, midwives and nurses need to have a high level of ethical sensitivity to recognize ethical problems and make appropriate decisions. In the literature, it has been stated that the ethical sensitivities of midwives and nursing students are moderate (Karaca and Yalva, 2016; Akça et al., 2017; Sultan et al., 2019) but it has not been

investigated whether there is a difference between generations. It is important to determine whether the inclination toward ethical values differs among generations with different ways of perceiving and interpreting the world.

As a result of the rapid progress of science and technology, the 21st century has become the starting point of a period in which many innovations and developments have emerged in terms of life and education. 21st-century competence is defined as competences such as collaboration, digital literacy, critical and creative thinking, problem solving, media literacy, productivity, collaborative work, cognitive and social skills, discipline, and self regulation (Hsu and Hsieh, 2013; Soland et al., 2013; Kennedy and Odell, 2014). Midwifery competency is expressed as the knowledge, skills, and attitudes necessary to demonstrate effective performance in clinical settings and is handled in a holistic framework that includes both personality traits and professional characteristics (Hsu and Hsieh, 2013). The educational practices and learning styles that students in generations Y and Z are exposed to are different from each other. Innovative education ground, in which the Y generation (YG) is partially affected and the Z generation (ZG) is in, may cause differences in 21st century competencies between generations. To the best of our knowledge, there is no research in the literature examining the predisposition of midwifery and nursing students from different generations to ethical values and their competencies in the 21st century. To the best of our knowledge, no research has examined the inclination to ethical values and 21st-century competencies of midwifery and nursing students from different generations. In addition, the data to be obtained from the results of the study will guide nursing and midwifery students in creating curricula to use theoretical knowledge, develop clinical skills, evaluate patients, teamwork, and communication skills. The aim of this study is to determine the predisposition of midwifery students of ages Y and Z to ethical values and the competencies of 21st century and the relationship between them.

Material and Methods

Study Design

This descriptive and cross-sectional study was conducted with nursing and midwifery students attending a public university in Turkey between April and June 2022. The inclusion criteria were as follows: (1) voluntary participation, (2) giving both verbal and written consent, (3) being a nursing or midwifery student (4) being able to read, understand, and write in Turkish (5). In this study, the STROBE checklist for cross-sectional studies was applied.

Sample

G*Power 3.1. software was used to calculate the sample size of the study. the power of the study was calculated based on independent t test between two groups since the aim of study was to compare Y and Z generation students' scale mean scores. Cohen standard effect sizes were used for effect size in the study. For the difference test between two means, the moderate effect by Cohen is at least 0.50. In the study, an effect size of 0.40 was accepted by being a little more conservative in order to study with more sample. The reason for this situation is to consider smaller differences in the study and to converge to the real situation by working with as many samples as possible. Based on this calculation, at least 100 students were determined for each group, with a two-sided α of 5% and minimum effect size (0.40), the power of the study was determined to be 80.0. The study was carried out a total of 258 students, 114 from generation Y and 144 from generation Z.

Data Collection Procedure

Information was collected from the students in a learning environment. Before class began, the students completed the data collection forms. The study was disclosed to the instructors for this purpose, and students provided consent to fill out the forms. The forms were distributed to students who agreed to participate in the research after all students had heard about the study's goals. The data were gathered through in-person interviews with the students, and filling out the data collection forms took about 15-20 minutes.

Personal information form

The form was developed in line with the literature. The form has six questions, all of which constitute the study's independent variables. Age, department, grade level, date of birth, mother's education level, and father's level of education.

The predisposition to ethical values scale (PEVS)

The "Disposition to Ethical Values Scale", whose validity and reliability were evaluated by Kaya (2015), consists of 16 items and is a 5-point Likert-type measurement in which the items are rated as "1: Strongly disagree", "2: Disagree", "3: Undecided", "4: Agree" and "5: Strongly agree". The scale is divided into three sub-factors: Factor 1: Love and Respect (items 1-8), Factor 2: Justice and Honesty (items 9-13) and Factor 3: Cooperation (items 14-16) (Kaya, 2015). Cronbach's alpha value of the scale was determined as 0.90. Cronbach alpha reliability analyzes for this research; 0.95 for the love dimension, 0.99 for the justice dimension, 0.84 for the cooperation dimension, and 0.86 for the overall scale. The scores obtained from the general scale range from 16 to 80. The higher the score obtained from the general or subscales of the scale, the higher the predisposition to ethical values.

21st Century competency scale

The validity and reliability of the scale was made by Yılmaz and Alkış in 2019 (Yılmaz and Alkış, 2019). The scale comprises 80 items. It consists of 4 subscales named Knowledge, Skill, Character and Metalearning. Each subscale can be used independently from the other scales. The Knowledge subscale comprises 27 items and 7 subscale. These; Entrepreneurship, Personal Finance,

Social System, Technology-Engineering, Bioenergy, Media and Health dimensions. The reliability coefficients of the dimensions of the knowledge subscale range between 0.62 and 0.84. The Skills subscale of the 21st Century Proficiency Scale consists of 18 items. The scale consists of four sub-dimensions. These; Communication, Critical Thinking, Creativity and Collaboration are sub-dimensions. The reliability coefficients of the dimensions of the skill subscale ranged from 0.61 to 0.83. There are 19 items in the Character subscale of the 21st Century Competency Scale. These items are clustered into four subdimensions. The subdimensions that emerged as a result of clustering; Leadership is Morality, Curiosity and Awareness. The reliability coefficients of the dimensions of the character subscale ranged from 0.64 to 0.84. The Meta learning subscale of the 21st Century Competence Scale includes 16 items. These items are divided into two sub-dimensions. One of these dimensions is thought structure, while the other is cognition. The Thinking Structure dimension of the Character subscale was 0.80; The other sub-dimension of Metacognition is 0.89. Cronbach alpha reliability analyzes for this research; 0.94 for knowledge, 0.94 for skill, 0.95 for character, 0.95 for Meta learning. The scale scores with its subdimensions and in a total way. There are no items that require reverse scoring. Items related to each sub-dimension are collected according to the given answers, and the score of the relevant sub-dimension of the scale is calculated. The total score was obtained from the scale however the scores obtained from all items were combined. A high score indicates a high level of proficiency in the relevant dimension, and a low score indicates a low level of proficiency in the relevant field.

Statistical Analysis

SPSS 23 -Statistical Package for the Social Sciences-Statistical Program for Social Sciences package program was used to analyze the data. Descriptive statistics (frequency, percentage, mean, standard deviation) were used within the scope of the evaluation of socio-demographic data and the scales used in the study. Factor analysis was performed to examine the scales in sub-dimensions. In order to examine the differences between socio-demographic variables and scale variables, firstly, the Kolmogorov Smirnov Normal Distribution Test was performed using p value for statistical significance. The Mann Whitney U test was used in the analysis of the differences. Also Chi-Square test was used for categorical variables. Within the scope of analytical analysis, correlation analysis was applied in terms of statistical relationship. In this context, Spearman correlation analysis was performed. In all analyses, $p<0.05$ level was accepted for statistical significance.

Ethical Approval/Informed Consent

This study was carried out in accordance with the principles of the Declaration of Helsinki. The study procedures were approved by Non-İnterventional Clinical Research Ethics Committee of Karabük University (no: 2022/830, Date: 25.04.2022). Prior to inclusion in the study, oral and written informed consent was obtained from each participant and their anonymity was ensured.

Results

According to the the Kolmogorov Smirnov Normal Distribution Test, it was concluded that the condition of normal distribution is not valid because the p-values of the metric data used in the study are less than 0.05.

Shows participants' socio demographic characteristics. The mean age of participants was 25.04±2.66 in the YG 21.22±1.41 in the ZG, and there was a statistically significant difference between them (p<0.05) While 58% of the YG students were in the nursing department, 41.22% were midwifery students. 27% of ZG students were nursing and 72.9% were midwifery students. There was a statistical difference between Y and Z generation students in terms of the department they studied (p<0.05) 67.5% of the YG students participating in the study were in 4th grade, and 28.4% were in ZG. The fathers of 35% and 30.6% of the students in the YG group and 30.6% of the students in the ZG group were high school graduates. There was no statistical difference between Y and Z generation students in terms of class and education level of the mother and father (p> 0.05) (Table 1).

Comparison of 21st century competencies and predisposition to ethical values of the participants. When the students in the y and z generations were compared in terms of 21st-century competencies, the total score averages of the Knowledge (YG: 2.29±2.10; ZG: 1.83±0.520) Skill (YG: 2.10±0.68; ZG: 1.70±0.50) Character (YG:2.19±0.65; ZG: 1.79±0.55) Meta learning (YG:2.04±0,53; ZG: 1.67±0.54) sub-dimensions were found higher in the Y generation than in the Z generation. and there was a statistically significant difference between them (p< .05). The mean scores of the love justice and cooperation ethical value subdimensions were significantly lower in the YG compared to the ZG (p< 0.5). Ethical value score totals were higher in ZG (4.16±0.85) than YG (3.75±0.77) and there was a statistically significant difference between them (Table 2).

Shows the relationship between the ethical values subdimension and total scores and 21st-century proficiency sub-scores. Negatively significant relationships were found between the total ethical value score and the subdimensions of knowledge, skills, character, and meta-learning (Table 3).

Table 1. Distribution of the sociodemographic characteristics of the participants

Sociodemographic Features	Generation Y (N=114)		Generation Z (N=144)		Total (N=258)		t	p
	Mean ± SD		Mean ± SD		Mean ± SD			
Age	25.04±2.66		21.22±1.41		22.91±2.80		14.762	.000
	Number	%	Number	%	Number	%	χ2	p
Department								
Midwifery	44	41.22	105	72.9	152	58.9	26.396	.000
Nursing	67	58.88	39	27.1	106	41.1		
Class	Sayı	%	Sayı	%	Sayı	%		
1	1	0,9%	28	19,4%	29	11,2%		
2	6	5,3%	34	23,6%	40	15,5%	45.305	.000
3	30	26,3%	21	14,6%	51	19,8%		
4	77	67,5%	61	42,4%	138	53,5%		
Mother's education status	Number	%	Number	%	Number	%		
Illiterate	15	13.2%	11	7.6%	26	10.1%		
Primary school	64	56.1%	75	52.1%	139	53.9%		
Secondary school	13	11.4%	33	22.9%	46	17.8%	8.854	0.065
High school	18	15.8%	16	11.1%	34	13.2%		
Bachelor's Degree	4	3.5%	9	6.3%	13	5.0%		
Father's education status	Number	%	Number	%	Number	%		
Illiterate	0		3	2.1%	3	1.2%		
Primary school	27	23.7%	48	33.3%	75	29.1%		
Secondary school	22	19.3%	29	20.1%	51	19.8%	7.196	.126
High school	40	35.1%	44	30.6%	84	32.6%		
Bachelor's Degree	25	21.9%	20	13.9%	45	17.4%		

Z: Mann Whitney U Test, χ2: Chi Square test, Sd: Standart Deviation

Table 2. Comparison of the 21st-century competencies of Y and Z students and their predisposition toward ethical values

21st-century competencies and predisposition toward ethical values	Generation Y (N=114)	Generation Z (N=144)	Z	p*
	Mean ± SD	Mean ± SD		
21st-century competencies subdimensions				
Knowledge	2.29±2.10	1.83±0.520	-5.767	.000
Skill	2.10±0.68	1.70±0.50	-4.637	.000
Character	2.19±0.65	1.79±0.55	-4.758	.000
Metalearning	2.04±0.53	1.67±0.54	-5.056	.000
Love	3.92±0.92	4.25±0.89	-3.444	.000
Justice	3.89±0.88	4.22±0.94	-3.706	.000
Cooperation	3.06±1.02	3.81±0.97	-6.010	.000
Total PEV score	3.75±0.77	4.16±0.85	-5.155	.000

* Mann–Whitney U test

Table 3. Correlation analysis of the relationship between 21st century competencies and predisposition toward ethical values according to generations, Y and Z

			Knowledge	Skill	Character	Metalearning	Love	Justicet	Cooperationi	Total PEV score
Spearman's rho	Knowledge	r	1.000	.788**	.759**	.656**	-.460**	-.513**	-.296**	-.485**
		p	.	.000	.000	.000	.000	.000	.000	.000
		N	258	258	258	258	258	258	258	258
	Skill	r		1.000	.832**	.761**	-.395**	-.537**	-.245**	-.450**
		p		.	.000	.000	.000	.000	.000	.000
		N		258	258	258	258	258	258	258
	Character	r			1.000	.745**	-.380**	-.459**	-.293**	-.437**
		p			.	.000	.000	.000	.000	.000
		N			258	258	258	258	258	258
	Metalearning	r				1.000	-.426**	-.505**	-.351**	-.502**
		p				.	.000	.000	.000	.000
		N				258	258	258	258	258
	Love	r					1.000	.705**	.544**	.876**
		p					.	.000	.000	.000
		N					258	258	258	258
	Justice	r						1.000	.493**	.851**
		p						.	.000	.000
		N						258	258	258
	Cooperation	r							1.000	.795**
		p							.	.000
		N							258	258
	Total PEV score	r								1.000
		p								.
		N								258

**. The correlation is significant at the 0.01 level (2-tailed)

Discussion

The 21st century is a period in which technology changes rapidly and these changes rapidly change the flow and routine of daily life. Competence is the sum of the knowledge, skills, attitudes, and behaviors necessary for successful job completion (Devrani, 2019). Students from each generation have unique characteristics due to the conditions in which they grew up (economic, social, and cultural), and these characteristics affect their perceptions of formal learning. There are generational differences between Generation Z and other generations in terms of learning styles, preferences, communication, forms of feedback, extent of technology use, online social connectedness, and risk-taking (Shorey et al., 2021). The aim of our study is to develop knowledge, skills, character, meta-learning, love, justice, and cooperation within the scope of 21st century competencies and an inclination to ethical values between the Y and Z generations.

Although Z generation is practical in reaching information, they do not have the skills to analyze information and evaluate information critically (Zorn, 2017). In the study of Dobrowolski et al. (2022), risk-taking, knowledge, skill, and leadership were stated as the lowest competence component of the Z generation (Dobrowolski et al., 2022). Our study results show

parallelism with the literature in that the knowledge level of the Y generation health students who are accustomed to traditional education is higher than the Z generation. The knowledge sub-dimension point average of Z generation students is lower than that of the Y generation may be due to the fact that traditional education methods are not suitable for the learning styles, preferences, and needs of Z generation students.

Skill; being able to apply knowledge and solve existing problems. Innovative lessons enriched with simulation, videos, case studies, and visuals will encourage learning in Generation Z students and enable them to easily transfer knowledge to skills (Hampton et al., 2020). As a result of Alkış (2020)'s investigation of the 21st century skill competencies of university students, it was found that the skill competencies of people aged 23 and over are higher than those of 17-19 age group students. As a result of our study, the fact that the skill levels of the Y generation, which is one of the 21st-century competence subdimensions, are higher than those of the Z generation is similar to the existing studies.

In the 21st century, people who are productive, solve problems, are creative, self-directed, talented, and have strong communication and social skills are sought (Eryilmaz and Uluyol, 2015). Owing to excessive dependence on technology, Z generation students

studying in health have less developed face-to-face social skills, which is a disadvantage of the digital age. This situation may prevent the Z generation from developing the ability to be social and to make connections between situations (Turner 2015; Seemiller and Grace, 2016; Chicca et al.,2018). As a result of our study, it also explains that the average character score, which is one of the subdimensions of the 21st century competencies of the Y generation, is higher than the Z generation.

Meta-learning is expressed as "learning to learn" and it refers to being able to think of new skills that can be learned or new models that can be quickly adapted to different environments (Meta learning, 2018). In our study, the meta-learning scores of the Y generation were higher than those of the Z generation. This is because Generation Z students are predominantly visual (schematics, pictures), sensory (auditory, visual, and kinesthetic), and active learning (participation and discussion), as well as creative, entrepreneurial, goal-oriented, and realistic, focusing on skills and experiences. However, we think that the deficiencies in the current education system or the inability to keep up with the innovations negatively affect the meta-learning of the Z generation.

In our study, the subdimensions of the 21st century competencies scale, love, justice, and cooperation, were found to be higher in the Z generation. Holey (2021) reported that the Z generation working in health exhibited high collaborative behavior by establishing close relationships with their mentors. In the research, it is stated that the Z generation has a high sense of justice and merit and social awareness (Singh and Dangmei, 2016). As a result, the literature data support our results (Singh and Dangmei, 2016; Shorey et al., 2021).

It was stated that the ethical sensitivity of the students was moderate in the studies conducted with midwifery and nursing students, and there was no difference between the ethical sensitivity scores of the students (Akca et al., 2017; Sultan et al., 2019; Kırca et al.,2020;). No study has been found in the literature examining the predisposition to ethical values of midwifery education for Y and Z generations and nursing students. In the results of Karalar et al.'s (2017) study, which investigated the ethical behavior perceptions of university students of the Y generation, it was reported that they tended to turn a blind eye to behaviors that could be perceived as unethical. It was reported that the Z generation embraced differences at a high level, and their acceptance levels of different religious/ethnic structures, appearances, and thoughts were higher (Sorbello, 2021). When the total Predisposition to ethical values between generations is compared in our study result, it is similar to the literature, with the predisposition ethical value scores of the Z generation being higher than those of the Y generation.

In this study, a negative significant relationship was found between the total score of predisposition ethical values and knowledge, skills, character, and meta-learning. The reason for this may be that Z generation students are goal-oriented and cannot always obtain the right information on social platforms. Values are criteria that guide society's understanding of what is good and what is bad. Individuals who encounter different values when using social media tools are affected by them. Social media and its applications reflecting on life transform values. Universal values reflected on social media may be inconsistent with individual values.

Limitation

This study was conducted with pregraduation nursing and midwifery students who were enrolled at a university in Turkey. The results are generalizable only to students with similar characteristics.

Conclusion

This study is valuable in terms of evaluating the 21st century competencies and ethical values of midwifery and nursing students in the Y and Z generations in Turkey, and it is thought that it will contribute to the determination of necessary strategies by the administrators of health education institutions and educators. One of the 21st century competencies of X generation students' love justice cooperation subdimension mean score was found to be higher than the students in the Y-generatio. However, the mean scores for the knowledge, character, and meta-learning subdimensions are lower than those of the Y generation. Nursing and midwifery educators can contribute to the individual development of Z generation students in a supportive learning environment. The tendency of the Z generation to ethical values was found to be higher. Students access to accurate and reliable information on ethical values positively affects their tendencies toward ethical values.

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