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BEHIND THE COMPUTER SCREEN: PERSPECTIVES ON INFORMATION ETHICS AMONG MUSIC EDUCATION STUDENTS

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Abstract. *This study aims to understand the views and attitudes of students in the Music Education department at Erzincan Binali Yıldırım University Faculty of Education regarding informatics ethics. This research was conducted using a general survey model quantitative research design. The universe of the study comprised students in the Music Education department at Erzincan Binali Yıldırım University Faculty of Education. The selected sample, consisting of 73 students who volunteered to participate during the 2023-2024 Academic Year, was used for data collection. An information form created by the researchers and the "Real-Life Situation Scenarios with Informatics Ethics" (RLSSIE) Scale were employed in the data collection process. Overall, the students were found to have moderate views and attitudes toward information ethics. Demographic factors such as gender, age, and class level were observed to have a significant impact on ethical evaluations. Additionally, evaluations based on different scenarios revealed that participants were generally sensitive to ethical values. The influence of factors like residence and income perception on ethical views and attitudes was limited. Notably, participants who connected to the internet via mobile phones had higher ethical views and attitude scores compared to those using computers and tablets. However, the study observed that internet usage quotas did not have a significant impact on general ethical attitudes. The findings indicate that information ethics topics play a crucial role in overall ethical evaluations and suggest that individuals have a broad perspective.*

Keywords: *Information Ethics; Ethical Attitudes; Internet Ethical Dilemmas; Music Education.*

ЗА ЕКРАНОМ КОМП'ЮТЕРА: ПОГЛЯДИ НА ІНФОРМАЦІЙНУ ЕТИКУ СЕРЕД СТУДЕНТІВ МУЗИЧНОЇ ОСВІТИ

Анотація. *Це дослідження має на меті зрозуміти погляди та ставлення студентів кафедри музичної освіти факультету педагогіки Університету Ерзінджан Біналі Йилдирим щодо інформаційної етики. Кількісне дослідження проводилося у форматі*

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опитування. Для збору даних була використана вибірка, що складалася з 73 студентів, які добровільно взяли участь під час 2023-2024 навчального року. У процесі збору даних використовувалися анкета, створена дослідниками та шкала "Сценарії реальних ситуацій з інформаційної етики" (RLSSIE). Загалом було встановлено, що студенти мали помірні погляди та ставлення до інформаційної етики. Було відзначено, що демографічні фактори, такі як стать, вік і курс, мали значний вплив на етичні погляди. Крім того, оцінки на основі різних сценаріїв показали, що учасники загалом були чутливі до етичних цінностей. Вплив місця проживання та рівня доходів на етичні погляди та ставлення був незначним. Зокрема, учасники, які підключалися до Інтернету через мобільні телефони, мали вищі показники етичних поглядів і ставлень порівняно з тими, хто використовував комп'ютери та планшети. Однак дослідження показало, що обмеження на використання Інтернету не сильно впливали на загальні етичні погляди. Згідно результатів дослідження, інформаційна етика грає провідну роль у формуванні етичних поглядів молоді.

Ключові слова: *інформаційна етика; етичні ставлення; етичні дилеми в Інтернеті; музична освіта.*

1. INTRODUCTION

"Ethics" is generally a branch of philosophy that examines moral principles related to assessments of right and wrong. Ethics encompasses the process of evaluating, labeling behaviors of individuals, institutions, or communities as right or wrong, and making moral decisions. It is also an expression of behavioral rules and disciplines that guide individuals, including tasks and responsibilities. This concept focuses on established behavioral norms determining what an individual should or should not do. Ethics expresses a sense of responsibility towards society (Yıldız, 2010).

Philosophical ethics is a branch of philosophy that examines moral values, exploring issues related to right and wrong, addressing topics such as moral responsibility, freedom, justice, and questioning the nature of moral language and expressions. It has subfields like metaethics, normative ethics, and moral theories. Different ethical theories are employed to evaluate moral actions. Ethics is concerned with understanding individuals' moral decisions and values, discussing universal norms, and solving moral problems (Akarsu, 1984; Pieper, 1999; Tepe, 2016; Buckingham et al., 2012; Cevizci, 2008; Özlem, 2017).

Traditional normative ethical theories provide frameworks to assess the morality of actions and guide ethical decision-making in various contexts, including Information Technology (IT) management. These theories offer different perspectives and methods on what constitutes ethical behavior and how ethical dilemmas should be resolved (Nguyen & Crossan, 2022). The prominent three normative ethical theories—utilitarianism, deontology, and virtue ethics—each emphasize specific principles and criteria for ethical evaluation (Taggart & Zenor, 2022).

Utilitarianism is an ethical theory that determines the moral value of actions based on their outcomes. According to this theory, the moral correctness of an action is determined by its consequences. An action is considered morally right if it produces the greatest happiness or benefit for the greatest number of people, as utilitarian ethics focus on the

consequences of actions rather than their intentions or nature. This approach aims to maximize social welfare and the happiness and well-being of individuals (Scarre, 2020; Khogali & Mekid, 2023).

Deontology, on the other hand, is an ethical theory based on the nature and intrinsic qualities of actions, independent of their outcomes. This theory asserts that the moral value of actions is based on their intentions and intrinsic qualities, rather than their consequences. It also argues that certain actions are morally obligatory, permissible, or impermissible based on their nature. Ethical decisions are centered around duties, rights, and principles of justice, and the moral correctness or incorrectness of actions is evaluated independently of their consequences. Compliance with ethical rules and principles is the fundamental measure of deontological ethics (Okoye et al., 2024).

Virtue ethics is an ethical theory that focuses on individuals' character traits and virtues. The foundational elements of this theory are virtues such as honesty, compassion, courage, and ethical decisions are evaluated based on individuals' character and virtues. Ethical education and the pursuit of virtues are crucial as they determine ethical behavior based on developing and embodying virtuous character traits. Therefore, the ethical decision-making process relies on individuals' character and virtues (Dursun & Mankolli, 2021; Formosa et al., 2021).

You've effectively explained the fundamental emphases and differences between utilitarianism, deontology, and virtue ethics. Utilitarianism emphasizes maximizing general welfare and happiness by focusing on outcomes. Deontology prioritizes adherence to ethical duties or principles irrespective of outcomes. Virtue ethics highlights the development of virtuous character traits and the pursuit of excellence in ethical behavior. Leveraging insights from these diverse theories can lead to more robust ethical frameworks and decision-making processes in managing complex ethical dilemmas within rapidly evolving information technology environments. Organizations can adopt stronger and comprehensive ethical approaches in IT governance by considering different ethical principles, values, and perspectives (Jamader, 2022; Patel, 2024).

In today's working world, the evolution of values and the diversity of employees necessitate an increased emphasis on ethical values within the community. In this context, it is crucial to conduct a detailed analysis of the current situation to effectively embed ethical values within the community. This analysis can identify the ethical culture within the organization and its strengths and weaknesses. Subsequently, factors within the organization, particularly ethical education, need to be identified to institutionalize ethical values (Taslak & Çiftçi, 2016). These factors can strengthen employees' commitment to ethical values and contribute to the organization operating within an ethical framework. This process can assist in establishing a sustainable ethical culture within the organization and contribute to the development of an environment sensitive to ethical values among employees.

Dominance, acceptance, and implementation of ethical values not only enhance the standards of the teaching profession but also determine teachers' professional behaviors to achieve the most effective practices (Muir & Reeder, 1929; Çörez, 2016). After generally stating that educators are honest and ethical, Johnson and Simpson (2005) highlighted the prevalence of issues such as copyright infringements in schools. Therefore, all educators using technology need to be familiar with legal and illegal concepts of intellectual property

and serve as examples to students. Teachers should understand how tools should be ethically used in any environment where information technologies are employed and acknowledge their responsibility to teach students right and wrong (Meeder, 2005).

Information ethics is defined as the norms that determine the rules to be followed while using information technology tools. The main purpose of these norms is to ensure that users utilize the electronic environment with minimal harm and maximum benefit. Information ethics is a philosophical branch that examines behaviors in the field of information technology, focusing on the ethical responsibilities and norms concerning technology use. Initially named "computer ethics," this concept has evolved to encompass "internet ethics" with the widespread use of the internet. Information ethics aims to protect individuals, institutions, and society by addressing ethical responsibilities and norms related to the use of technology.

Wiener is considered the founder of computer ethics with his 1950 book "The Human Use of Human Beings." In the early 1980s, researchers began to perceive computer ethics as a new field of applied ethics (Bynum, 2000). In 1978, Bynum prepared a curriculum for computer ethics and taught courses at the university. In 1985, the special issue of "Metaphilosophy" was devoted to "Computers and Ethics" (Moor, 1985).

With the widespread use of communication technologies, information ethics has become a frequently mentioned concept (Örs, 2010). According to the Turkey Informatics Association (2010), information ethics includes issues such as computer use, internet use, information system and network management, software development, legal and illegal intellectual property, and ethical rules for end-users. It is observed that the determination of ethical problems arising from information technologies is decisive in creating these rules (Mason, 1986; Johnson, 2000; Dedeoğlu, 2006).

Research on the ethical use of computer and information technologies measures attitudes based on demographic characteristics such as gender, age, family education level, and family income. In some of these studies, scenario-based scales are used to assess attitudes toward the ethical use of information technologies (Loch and Conger, 1996; Adam and Ofori-Amanfo, 2000; Dorantes et al., 2006; Masrom et al., 2010; Yoon, 2011).

The ethical use of computers and information technologies forms a fundamental area of consciousness and awareness that individuals need to acquire throughout their lives. Providing this ethical awareness, especially through effective education at the primary and middle school levels, is essential. Teaching students about information ethics from an early age can contribute to the development of conscious and responsible digital citizenship. Simultaneously, information ethics education can provide guidance to students on issues such as digital security, copyright, and online behavioral rules, fostering the development of informed and responsible digital citizens.

Music education and ethics aim to provide students with music knowledge and skills while teaching behaviors consistent with ethical values during this process. Ethical responsibilities include respect for copyright, fair assessment, professionalism, cultural sensitivity, and appropriate selection of educational materials. Music teachers enhance students' awareness of music-related ethical values, enabling them to learn behaviors that adhere to ethical values, both in the field of music and generally.

In Turkey, information ethics education is currently offered at the middle school level within the Information Technologies and Software course. However, previous studies indicate that information ethics at the higher education level is not adequately addressed. This study examines the ethical views and attitudes toward the use of information technologies by higher education students based on various demographic characteristics.

The main aim of this research is to examine the ethical views and attitudes of music education students according to four different scenarios. Within this framework, the potential effects of various demographic factors (gender, age, class level, residence, income perception, device used to connect to the internet, time spent on the internet) on ethical views and attitudes will be investigated.

In line with this objective, the following questions will be addressed:

1. What are the ethical views and attitudes of the participants?
2. Do ethical views and attitudes significantly differ by gender?
3. Do ethical views and attitudes significantly differ by age?
4. Do ethical views and attitudes significantly differ by grade level?
5. Do ethical views and attitudes significantly differ by residence?
6. Do ethical views and attitudes significantly differ by income level?
7. Do ethical views and attitudes significantly differ by perception of income status?
8. Do ethical views and attitudes significantly differ by the device used to access the internet?
9. Do ethical views and attitudes significantly differ by internet usage duration?

The findings of this study can be a guiding factor for strengthening information ethics education in higher education and increasing students' awareness of ethical values.

2. METHODS

2.1. Research Design

In this study, a general survey model was adopted as the quantitative research design. This model aims to obtain a general understanding in a broad research universe. It is particularly used when the researcher wants to gain general knowledge about a specific topic or understand a phenomenon. The general survey model aims to provide a general overview rather than focusing on specific or detailed questions. The events, situations, objects, or individuals examined in the research were described in detail within their own conditions. The researcher progressed by observing and determining the current situation without interventions such as influencing or changing (McMillan and Schumacher, 2010; Karasar, 2004). This study is based on the methods and principles stated by Karasar (2004).

2.2. Study Group

The population of the research includes students studying in the Music Education Department at Erzincan Binali Yıldırım University Faculty of Education. The sample selected from this population consists of 40 female and 33 male university students studying in the 2023-2024 Academic Year. These individuals volunteered to participate in the research. It is considered that this selected sample has the representational capacity in line with the general objectives of the research.

2.3. Data Collection Tools

In the data collection process of the research, an information form created by the researchers and the "Real-Life Situation Scenarios with Information Ethics" (RLSSIE) Scale

were used. The information form includes questions about students' demographic characteristics and information technology habits. It aims to provide information on topics such as gender, age, class level, residence, income level, income perception, type of device used to connect to the internet, and time spent on the internet.

The RLSSIE Scale was developed by Yoon (2011) and adapted into Turkish by Arıkan and Duymaz (2014). The original scale is a seven-point Likert-type scale consisting of 17 items. The items of the scale were evaluated on a five-point Likert scale. Table 1 shows the internal consistency coefficients of the original and adapted versions of the scale.

Table 1. Internal Consistency Coefficients for RLSSIE Scale Scenarios

Scenarios	Item Count	Cronbach's Alpha		
		Original Scale	Turkish Adaptation	Current Implementation
Scenario 1	17	.773 - .939	.919	.949
Scenario 2	17	.722 - .940	.815	.950
Scenario 3	17	.824 - .968	.884	.937
Scenario 4	17	.787 - .954	.965	.959

Internal consistency coefficients (Cronbach's Alpha) for the original scale and the current implementation are presented in Table 1. As a result of the application, the internal consistency coefficients were calculated as .949 for Scenario 1, .950 for Scenario 2, .937 for Scenario 3, and .959 for Scenario 4. These obtained internal consistency coefficients were considered to be at an acceptable level (Murphy & Davidshofer, 1988), indicating that the scale can be used as a reliable measurement tool to answer the research questions.

Four different scenarios were used to represent ethical dilemmas encountered in the real-world context of the Internet. In creating these scenarios, initially, scenarios used in Information Systems ethics studies were analyzed (Banerjee et al., 1998; Chow, 2001; Leonard & Cronan, 2001). Subsequently, ideas and data were obtained by visiting newspaper websites and receiving education from Internet ethics websites. Based on these ideas and data, four separate scenarios were developed. These scenarios were reviewed by ethics professors, and modifications were made according to their recommendations.

Scenario 1 addresses a breach of privacy.

Scenario 1: "*Emirhan, who enjoys playing games online, receives an email from a well-known gaming company one day. According to the email, if he becomes a member of the company's website, he can play one of the company's popular and renowned games for free. Because Emirhan loves playing games, he visits the site and becomes a member. He enjoys playing the game for a month. A month later, the gaming company sends another email to Emirhan. In this email, the company offers Emirhan another month of free gameplay. The offer requires her to send a list of her friends' names and email addresses to the company*."

Action: "*Emirhan knows that sharing names and email addresses with others is wrong. However, she really wants to play the game for free. He also thinks that her friends could benefit from this situation. Therefore, she has provided the list to the company*."

Scenario 2 involves the spread of unhealthy materials, especially explicit content, and this scenario is adapted from scenarios used to teach Internet ethics by Jacobson (2010).

Scenario 2: "*Ali and Orhan are students at a high school. They are fans of a famous rock band that sings explicit and profane songs, using them in their performances as well.*

They have created a fan website for the band using the internet space provided by the school, intending to share the band's activities with their friends. They have uploaded the band's music videos, song lyrics, pictures, and various interviews on the fan page. However, one day, the school principal asked Ali and Orhan to shut down the site because it contained too many explicit and profane song lyrics and images."

Action: *"Ali and Orhan refused the principal's request because they believed it went against their freedom of speech and expression."*

Scenario 3 addresses the violation of intellectual property through software piracy.

Scenario 3: "*A company famous for its computer software offers its software to companies and students with different options. The price of the software for students is 10 TL. To protect its rights over the software, the company makes a signed agreement with students three days before the purchase process, stating that they will not engage in illegal reproduction. After filling out the agreement form, Cem purchases the software. One day, Kemal, who is Cem's friend, sends an email to Cem. In the email, Kemal explains that his girlfriend urgently needs the software for her term project but couldn't obtain it legally. Therefore, Kemal asks Cem to copy the software for his girlfriend, even though it is not legal."*

Action: *"Despite knowing that he signed an agreement before purchasing the software, stating that he would not engage in illegal reproduction, Cem decides to copy the software and give it to Kemal, believing that Berke's girlfriend urgently needs it."*

Scenario 4 focuses on the dissemination of false information over the Internet.

Scenario 4: *"Buse is a first-year student at a university. One day, she purchases products from a famous cosmetic company online and starts using them. However, after a few days, she begins to experience skin problems. Buse informs the company about the issues via email and requests a refund. However, the cosmetic company states that many customers did not encounter any problems and rejects her request. They mention that most skin problems originate from the individual themselves."*

Action: *"Buse finds the company's responses insincere and believes that the products could harm others like herself. Therefore, she sends a slightly exaggerated, anonymous, and publicly accessible message online. In the message, she indicates that there are serious issues with the product and that she suffered harm after using it."*

2.4. Statistical Analysis

During the data analysis process, the SPSS (Statistical Package for the Social Sciences) statistical package programs were utilized. Independent samples t-test was applied to compare binary groups, and one-way ANOVA test was used to assess mean differences among three or more groups. When significant differences were detected according to the results of these statistical analyses, the Tukey test was employed to determine which groups the differences were statistically significant between.

3. RESULTS

Descriptive statistics regarding the participants' demographic characteristics are presented in Table 2.

Table 2. Descriptive Statistics of Participants' Characteristics

Measurement	Value	Frequency (%)
Gender	Female	40 (54.8)
	Male	33 (45.2)
Age	18-21 Age	29 (39.7)
	22-25 Age	25 (34.2)
	26 Age and above	19 (26.0)
Class	1st Year	16 (21.9)
	2nd Year	11 (15.1)
	3rd Year	18 (24.7)
	4th Year	28 (38.4)
Residence	With Family	29 (39.7)
	Own House	22 (30.1)
	Dormitory and Other	22 (30.1)
Income Level	0-10999 ₺	17 (23.3)
	11000-25999 ₺	34 (46.6)
	26000 ₺ and above	22 (30.1)
Perceived Income Status	Very Poor + Poor	24 (32.9)
	Medium	35 (47.9)
	Very Good + Good	14 (19.2)
Device for Internet Access	Mobile Phone	57 (78.1)
	Computer + Tablet	16 (21.9)
Internet Quota	10 GB and Below	16 (21.9)
	11-20 GB	21 (28.8)
	21-25 GB	20 (27.4)
	Unlimited	16 (21.9)

The distribution of 73 participants in terms of gender shows that 33 are male (45.2%) and 40 are female (54.8%). Regarding the age of the participants, 29 fall within the 18-21 age range (39.7%), 25 in the 22-25 age range (34.2%), and 19 are 26 years and above (26.0%). The distribution according to the academic year is as follows: 1st-year students comprise 16 (21.9%), 2nd-year students 11 (15.1%), 3rd-year students 18 (24.7%), and 4th-year students 28 (38.4%).

When evaluated based on their residence status, the percentage of participants residing with their families is 39.7%, while those living with friends or in their own homes constitute 30.1%, and those residing in dormitories or other conditions make up 30.1%. Regarding family income levels, the percentage of students earning between 0-10999 TL is 23.3%, those earning between 11000-25999 TL is 46.6%, and those earning 26000 TL and above is 30.1%. In terms of perceived family income status, 19.2% perceive it as "Very Good" or "Good," 49.9% as "Average," and 32.9% as "Very Poor" or "Poor."

Based on how participants connect to the internet, 78.1% (57 students) connect using a mobile phone, while 21.9% (16 students) use devices such as computers and tablets to connect. Regarding internet usage quotas, 21.9% have 10 GB or less, 28.8% have 11-20 GB, 27.4% have 21-25 GB, and 21.9% have unlimited internet quotas. Descriptive statistics for participants' ethical views and attitude scores for the four different scenarios are provided in Table 3.

Table 3. Descriptive statistics for participants' ethical views and attitude scores for the four different scenarios and total score

Scenarios	N	Minimum	Maximum	$\bar{X}$	Sd	IT Ethics Knowledge Level
Scenario 1	73	17	72	33.74	14.019	Low
Scenario 2	73	17	83	41.75	15.307	Moderate
Scenario 3	73	17	70	41.18	14.018	Moderate
Scenario 4	73	19	85	56.03	16.547	Moderate
Total	73	89	283	172.70	42.612	Moderate

The lowest score determined for the 17 questions on the scale is 17, and the highest score is 85. Examining the scores obtained by participants, a distribution ranging from 17 to 72 is observed for Scenario 1, while this distribution is between 17 and 83 for Scenario 2. For Scenario 3, scores range from 17 to 70, and for Scenario 4, scores vary between 19 and 85. When evaluating the mean scores, they are determined as 33.74 for Scenario 1, 41.75 for Scenario 2, 41.18 for Scenario 3, and 56.03 for Scenario 4. These scores, generally not very close to the highest score of 85, suggest that participants' ethical views and attitudes are at a moderate level (Scenarios Evaluation Range: 17.00-39.66 Low, 39.67-62.33 Moderate, and 62.34-85.00 High). According to the total scores obtained by the participants, the range varies from a minimum of 89 to a maximum of 283. Based on the average total scores, it can be understood that participants' levels of knowledge in information technology ethics are at a moderate level (Total Scores Evaluation Range: 68.00-158.55 Low, 158.67-249.33 Moderate, 149.34-340.00 High).

Table 4. Results of simple correlation analysis for participants' ethical views and attitude scores for the four different scenarios

		Scenario 1	Scenario 2	Scenario 3	Scenario 4
Scenario 1	Correlation	1			
	Significance				
	N	73			
Scenario 2	Correlation	.540**	1		
	Significance	.000			
	N	73	73		
Scenario 3	Correlation	.505**	.498**	1	
	Significance	.000	.000		
	N	73	73	73	
Scenario 4	Correlation	.078	.226	.258*	1
	Significance	.513	.054	.027	
	N	73	73	73	73

** Correlation is significant at the 0.01 level, * Correlation is significant at the 0.05 level.

The results of simple correlation analysis conducted to assess the relationship between participants' ethical views and attitude scores for various scenarios are presented in Table 4. According to these analyses, a positive correlation was found between Scenario 1 and Scenario 2, Scenario 1 and Scenario 3, and Scenario 2 and Scenario 3. However, it was observed that these correlations were of moderate strength. On the other hand, a positive correlation was identified between Scenario 3 and Scenario 4, but this relationship was determined to be weak.

Table 5. Results of independent samples t-test for participants' ethical views and attitude scores according to gender

Scenarios	Sex	N	$\bar{X}$	Sd	df	t	p
Scenario 1	Female	40	31.80	11.647	71	-1.308	.025*
	Male	33	36.09	16.324			
Scenario 2	Female	40	39.25	13.585	71	-1.553	.205
	Male	33	44.79	16.880			
Scenario 3	Female	40	38.30	11.108	71	-1.970	.002*
	Male	33	44.67	16.397			
Scenario 4	Female	40	52.08	16.128	71	-2.314	.700
	Male	33	60.82	15.995			

*p<0.05

The results of the independent samples t-test for participants' ethical views and attitude scores according to gender are presented in Table 5. For Scenario 1, it was found that male participants had significantly higher ethical views and attitude scores (36.09) compared to female participants (31.80) ($t_{(71)} = -1.308$, $p < 0.05$). Similarly, for Scenario 3, male participants had significantly higher ethical views and attitude scores (44.67) compared to female participants (38.30) ($t_{(71)} = -1.970$, $p < 0.05$). For Scenario 2, although male participants had higher ethical views and attitude scores (44.79) compared to female participants (39.25), no significant difference was found ($t_{(71)} = -1.553$, $p > 0.05$). Similarly, for Scenario 4, there was no significant difference between male participants' ethical views and attitude scores (60.82) and female participants' scores (52.08) ($t_{(71)} = -2.314$, $p > 0.05$). Based on these results, it can be concluded that gender is a variable influencing ethical views and attitude scores in scenarios other than Scenario 3 and Scenario 4.

Table 6. Results of one-way ANOVA for participants' ethical views and attitude scores according to age

Scenarios	Source	Sum of Squares	df	Mean Square	F	p	Tukey
Scenario 1	Between Groups	629.982	2	314.991	1.631	.203	
	Within Groups	13520.073	70	193.144			
	Total	14150.055	72				
Scenario 2	Between Groups	1562.825	2	781.412	3.574	.033*	22-25 Age - 26 Age and above
	Within Groups	15306.737	70	218.668			
	Total	16869.562	72				
Scenario 3	Between Groups	727.069	2	363.535	1.896	.158	
	Within Groups	13421.616	70	191.737			
	Total	14148.685	72				
Scenario 4	Between Groups	319.410	2	159.705	.576	.565	
	Within Groups	19394.535	70	277.065			
	Total	19713.945	72				

*p<.05

The results of the one-way ANOVA for participants' ethical views and attitude scores according to age are presented in Table 6. When examining participants' ethical views and attitude scores based on age groups, it was observed that age played a significant role in the evaluation of Scenario 2. In this scenario, participants in the "22-25 age" range scored significantly higher than those in the "26 age and above" age group ($F_{(2, 70)} = 3.574$, $p < 0.05$). However, for other scenarios, age did not have a significant impact on ethical views and attitude scores. This suggests that age specifically manifests its influence when evaluating certain ethical scenarios.

Table 7. Results of one-way ANOVA for participants' ethical views and attitude scores according to class level

Scenarios	Source	Sum of Squares	df	Mean Square	F	p
Scenario 1	Between Groups	1054.365	3	351.455	1.852	.146
	Within Groups	13095.689	69	189.793		
	Total	14150.055	72			
Scenario 2	Between Groups	740.079	3	246.693	1.055	.374
	Within Groups	16129.483	69	233.761		
	Total	16869.562	72			
Scenario 3	Between Groups	982.163	3	327.388	1.716	.172
	Within Groups	13166.522	69	190.819		
	Total	14148.685	72			
Scenario 4	Between Groups	252.897	3	84.299	.299	.826
	Within Groups	19461.048	69	282.044		
	Total	19713.945	72			

p>.05

The results of the one-way ANOVA for participants' ethical views and attitude scores according to class level are presented in Table 7. When examining participants' ethical views and attitude scores based on class levels, it was observed that class level did not have a significant impact on ethical views and attitude scores for all scenarios. This suggests that students across different class levels have similar ethical values. Class level does not emerge as a determining factor for participants' overall ethical attitudes when evaluating these scenarios.

Table 8. Results of one-way ANOVA for participants' ethical views and attitude scores according to residence

Scenarios	Source	Sum of Squares	df	Mean Square	F	p
Scenario 1	Between Groups	225,625	2	112,813	,567	,570
	Within Groups	13924,429	70	198,920		
	Total	14150,055	72			
Scenario 2	Between Groups	569,662	2	284,831	1,223	,300
	Within Groups	16299,900	70	232,856		
	Total	16869,562	72			
Scenario 3	Between Groups	147,716	2	73,858	,369	,693
	Within Groups	14000,969	70	200,014		
	Total	14148,685	72			
Scenario 4	Between Groups	393,047	2	196,524	,712	,494
	Within Groups	19320,898	70	276,013		
	Total	19713,945	72			

p>.05

The results of the one-way ANOVA for participants' ethical views and attitude scores based on residence are presented in Table 8. When examining participants' ethical views and attitude scores based on residence, it was observed that residence did not have a significant impact on ethical views and attitude scores for all scenarios. This suggests that participants residing in different locations have similar ethical values. Residence does not emerge as a determining factor for participants' overall ethical attitudes when evaluating these scenarios.

The results of the one-way ANOVA for participants' ethical views and attitude scores based on income are presented in Table 9.

Table 9. One-way ANOVA results for participants' ethical views and attitude scores based on income

Scenarios	Source	Sum of Squares	df	Mean Square	F	p	Tukey
Scenario 1	Between Groups	404.223	2	202.112	1.029	.363	
	Within Groups	13745.832	70	196.369			
	Total	14150.055	72				
Scenario 2	Between Groups	374.773	2	187.386	.795	.456	
	Within Groups	16494.789	70	235.640			
	Total	16869.562	72				
Scenario 3	Between Groups	1373.647	2	686.824	3.763	.028*	11000-25999 ₺ –
	Within Groups	12775.037	70	182.501			26000 ₺ and above
	Total	14148.685	72				
Scenario 4	Between Groups	456.491	2	228.245	.830	.440	
	Within Groups	19257.455	70	275.106			
	Total	19713.945	72				

*p<.05

When examining participants' ethical views and attitude scores based on income, it was observed that income did not have a significant impact on ethical views and attitude scores for all scenarios. This suggests that participants with different income levels have similar ethical values. However, especially in the evaluation of Scenario 3, it was noticed that income played a significant role. In this scenario, participants in the "26,000 ₺ and above" income range scored significantly higher than those in the "11,000-25,999 ₺" income group ($F_{(2, 70)} = 3.763$, $p < 0.05$). Nevertheless, for other scenarios, the financial status did not have a significant impact on ethical views and attitude scores. This indicates that financial status particularly manifests its influence when evaluating certain ethical scenarios. Scenario 3 involves software piracy and intellectual property infringement, indicating that participants with higher income exhibit a more negative attitude towards unethical behaviors such as software piracy.

Table 10. One-way ANOVA results for participants' ethical views and attitude scores based on perceived income status

Scenarios	Source	Sum of Squares	df	Mean Square	F	p
Scenario 1	Between Groups	405,025	2	202,513	1,031	,362
	Within Groups	13745,030	70	196,358		
	Total	14150,055	72			
Scenario 2	Between Groups	995,146	2	497,573	2,194	,119
	Within Groups	15874,415	70	226,777		
	Total	16869,562	72			
Scenario 3	Between Groups	429,109	2	214,554	1,095	,340
	Within Groups	13719,576	70	195,994		
	Total	14148,685	72			
Scenario 4	Between Groups	132,158	2	66,079	,236	,790
	Within Groups	19581,787	70	279,740		
	Total	19713,945	72			

p>.05

Table 10 provides the results of the one-way ANOVA for participants' ethical views and attitude scores based on perceived income status. The one-way ANOVA analysis conducted on ethical views and attitude scores based on participants' perceived income status, reflecting their perceptions of their financial situation, indicates that there is no statistically significant difference in the overall ethical views and attitudes of participants. In other words, regardless of variations in participants' perceptions of their financial situation, these perceptions have not

exerted a significant influence on their overall ethical attitudes. This finding suggests that perceived income status is not a crucial variable affecting students' general ethical attitudes when evaluating these specific scenarios in computer ethics. Participants may share similar ethical values regardless of their perceived income status.

Table 11. Independent group t-test results regarding participants' ethical views and attitudes scores according to the devices they connect to the internet

Scenarios	Devices	N	$\bar{X}$	Sd	df	t	p
Scenario 1	Mobile Phone	57	34.37	14.589	71	.721	.426
	Computer+Tablet	16	31.50	11.911			
Scenario 2	Mobile Phone	57	40.86	15.833	71	-.937	.309
	Computer+Tablet	16	44.94	13.224			
Scenario 3	Mobile Phone	57	42.72	14.229	71	1.974	.048*
	Computer+Tablet	16	35.69	12.093			
Scenario 4	Mobile Phone	57	55.82	16.238	71	-.196	.855
	Computer+Tablet	16	56.75	18.142			

*p<0.05

Table 11 presents the results of the independent samples t-test for participants' ethical views and attitude scores based on the devices they use to connect to the internet. For Scenario 1, there is no significant difference in the ethical views and attitude scores between participants who connect to the internet with a mobile phone (34.37) and those using a computer or tablet (31.50) ($t_{(71)} = 0.721$, $p > 0.05$). Similarly, for Scenario 2, no significant difference in ethical views and attitude scores is found between participants using a mobile phone (40.86) and those using a computer or tablet (44.94) ($t_{(71)} = -0.937$, $p > 0.05$). In Scenario 3, participants using a mobile phone (42.72) show significantly higher ethical views and attitude scores compared to those using a computer or tablet (35.69) ($t_{(71)} = 1.974$, $p < 0.05$). For Scenario 4, no significant difference in ethical views and attitude scores is observed between participants using a mobile phone (55.82) and those using a computer or tablet (56.75) ($t_{(71)} = -0.196$, $p > 0.05$). Based on these results, it can be concluded that the device used to connect to the internet does not significantly influence ethical views and attitude scores in scenarios other than Scenario 3. However, for Scenario 3, participants using a mobile phone exhibit higher ethical views and attitude scores compared to those using a computer or tablet. This suggests that the device used may have an impact on ethical evaluations in specific scenarios.

Table 12. One-way ANOVA results for participants' ethical views and attitude scores based on their internet usage quotas

Scenarios	Source	Sum of Squares	df	Mean Square	F	p
Scenario 1	Between Groups	509.274	3	169.758	.859	.467
	Within Groups	13640.780	69	197.692		
	Total	14150.055	72			
Scenario 2	Between Groups	632.190	3	210.730	.895	.448
	Within Groups	16237.371	69	235.324		
	Total	16869.562	72			
Scenario 3	Between Groups	860.805	3	286.935	1.490	.225
	Within Groups	13287.880	69	192.578		
	Total	14148.685	72			
Scenario 4	Between Groups	308.022	3	102.674	.365	.778
	Within Groups	19405.923	69	281.245		
	Total	19713.945	72			

p>.05

The results of the one-way ANOVA test for ethical views and attitude scores of participants based on their internet usage quotas are presented in Table 12. The one-way ANOVA analysis conducted on ethical views and attitude scores of participants according to their internet usage quotas indicates that there is no statistically significant difference in the overall ethical views and attitudes of participants based on their internet usage quotas. In other words, whether participants have low or high internet usage quotas, this condition does not have a significant impact on their general ethical attitudes. This finding suggests that individuals' internet usage quotas are not a determining factor in their evaluations of computer ethics. The research implies that assessments of computer ethics are more closely tied to individuals' overall ethical understanding and attitudes.

4. DISCUSSION AND CONCLUSIONS

Information technologies have forced rapid changes and evolution in our lives, influencing nearly every aspect and transforming the world of computing. Ethical issues arising from the legal, cultural, and traditional norms of technology's compliance and adaptation have made in-depth exploration of the concept of computing and the computing world inevitable.

This study was conducted as an effort to understand the views and attitudes of pre-service Music Education students at Erzincan Binali Yıldırım University Faculty of Education regarding computer ethics. The results of the research indicate that the participants generally have moderate views and attitudes towards computer ethics. In the literature, ethical views and attitude scores are generally at a high level (Erdem, 2008; Morgan & Neal, 2011; Çelen, 2012; Duymaz, 2013; Çelen and Seferoğulu, 2016; Bayra and Baysan, 2022). There was no significant difference observed between students who chose and did not choose computer ethics courses in digital literacy education provided by universities (Baran, Taşlıbeyaz, and Kayalar, 2023). This suggests that students may not focus much on computer ethics or show a particular interest in this area.

The study assessed participants' ethical views and attitudes based on different scenarios. Various topics such as privacy violation in Scenario 1, dissemination of unhealthy materials (sexual content) in Scenario 2, software piracy and intellectual property infringement in Scenario 3, and dissemination of false information in Scenario 4 were the focus. According to the findings of the research, participants generally exhibited high ethical views and attitudes towards these scenarios (Bayra and Baysan, 2022). In other words, participants are sensitive to and display a positive attitude towards ethical issues in these scenarios. This indicates widespread awareness and positive attitudes regarding computer ethics.

Demographic factors, especially gender, were observed to influence evaluations of computer ethics. In terms of gender, it was found that male students had higher ethical scores in specific computer ethics scenarios. In their study, Tozdan and Keleş (2022) revealed a significant difference in ethical attitude levels among 7th and 8th-grade students concerning gender in favor of female students. Male participants were consistently more neutral in their responses to specific ethical items compared to females (Borkowski & Ugras, 1992). While Fritzsche (1988) and McNichols and Zimmerer (1985) found no gender-related difference, Chonko and Hunt (1985) found that women were more conscious of ethical

issues but not necessarily more ethical. Miesing and Preble (1985) and Betz et al. (1989) found that women took more ethical positions than men.

Gender factor is one of the most commonly addressed demographic variables in ethics-related research (Ford & Richardson, 1994). Many of these studies suggest that women tend to behave more ethically than men, both in their student lives and professional careers (Betz et al., 1989; Glover et al., 2002; Lane, 1995; Whipple & Swords, 1992; Keller et al., 2007; Çelik & Dağdeviren, 2015; Karabayır et al., 2018; Ghazali, 2021). On the other hand, some studies have suggested that there is no significant difference in ethical behavior orientation between women and men, or that the differences are very small (Sharp et al., 1998; Kidwell et al., 1987; McCabe et al., 1991; McDonald & Pak, 1996; Sikula & Costa, 1994; Sims, 1999; Tsalikis & Ortiz-Bupnafina, 1990). Ford and Richardson (1994) found in their examination of 14 different studies addressing the gender factor that women tended to exhibit a higher inclination toward ethical behavior than men in seven of those studies.

Bernardi et al. (2009) conducted a study examining the relationship between the number of female executives on a company's board of directors and the company's inclusion in Ethisphere Magazine's 'World's Most Ethical Companies' list. The research found a strong and positive correlation between a higher proportion of female members on the board of directors and the company's presence on Ethisphere Magazine's 'World's Most Ethical Companies' list.

Studies suggest that the impact of age on ethical views and attitudes can vary depending on various factors. The noticeable impact of age in Scenario 2, particularly in ethical evaluations related to the dissemination of unhealthy materials and sexual content, indicates that age is a significant factor in these ethical assessments (Borkowski & Ugras, 1992). This suggests that young people may be more sensitive to such issues, and ethical evaluations may change positively with age. Ruegger and King's (1992) study presents another perspective by indicating that older students in the higher age group are generally more ethical. This suggests that age may influence individuals' overall ethical values, and this influence may increase with age.

In other scenarios, the lack of a significant impact of age on ethical views and attitudes suggests that the effect may vary depending on the scenario and content. Considering that each ethical scenario has a different context and sensitivity level, the influence of age may be directly related to the topic. On the other hand, the increase in young people's easy access to sexual content due to technology and its negative effects on their sexual health emphasize the need for society and the education system to be aware of this issue. As mentioned by Massey, Burns, and Franz (2021), guiding young people in the complex world of sex and relationships by adapting to technological changes is crucial. In conclusion, the impact of age on ethical views and attitudes is a complex issue, and it may be influenced by the scenario, content, as well as individuals' general life experiences and values. Therefore, adopting a comprehensive approach to understanding the role of age in ethical evaluations is essential.

Examinations of ethical views and attitude scores according to participants' class levels revealed no significant impact of class level on ethical views and attitudes in all scenarios. This indicates that students in different class levels have similar ethical values. Class level does not emerge as a determining factor in students' overall ethical attitudes

when evaluating these scenarios. This trend has also been observed in previous studies. For example, in a study conducted by Masrom and colleagues (2008), a significant difference was found between 5th and 8th grades and between 7th and 8th grades among middle school students. This difference could be associated with educational differences between classes in terms of the information technologies and software courses they receive.

Similarly, in a study conducted by Erdem (2008), no significant difference was found between class levels and internet ethics. Tosun, Geçer, and Kaşıkçı (2016) also found no significant difference between class levels and internet ethics. These different results may be related to variables such as the age range of the research samples being close to each other or differences in course content. In this context, it is considered that further research and analysis of this variable could be beneficial.

When examining ethical views and attitude scores based on participants' places of residence, the findings indicate that participants' ethical views and attitudes are similar regardless of their places of residence. In other words, there is no significant difference observed in general ethical assessments among students living in different geographical regions. The effect of the place of residence on the evaluation of scenarios is not statistically significant. This situation indicates that students have similar ethical values regardless of their places of residence. Students' overall ethical attitudes do not change significantly based on their places of residence, and the place of residence does not emerge as a determining factor in ethical evaluations. Students' ethical evaluations are shaped not only by their places of residence but also by broader factors such as individuals' education, experience, and social environments.

The study suggests that the impact of financial status on ethical views and attitudes may vary depending on the scenarios. In the assessment, it was determined that participants with high incomes exhibited a more negative attitude, especially in the scenario related to software piracy and intellectual property infringement.

This finding may suggest that individuals with higher incomes may show a more sensitive stance towards unethical behaviors such as respecting intellectual property and software piracy. However, the lack of a significant impact of financial status on ethical views and attitudes in other scenarios suggests that ethical evaluations are generally influenced by various factors such as personal values, education, cultural factors, and experiences. There is no general rule regarding the impact of financial status on ethical views and attitudes, and this impact may arise in the evaluation of specific ethical issues, necessitating consideration. Such findings are essential to increase awareness of ethical issues and understand societal values.

According to the analysis results, there is no statistically significant difference in general ethical views and attitudes based on participants' perceptions of income status. In other words, even if participants' perceptions of their financial status change, it has been observed that these perceptions do not significantly affect their overall ethical attitudes. The perception of income status does not appear to be a significant variable in determining students' overall ethical attitudes, especially when evaluating these computer ethics scenarios. This situation indicates that participants may have similar ethical values regardless of their perceptions of financial status. In this context, it shows that perceptions of financial status alone are not sufficient to determine overall ethical views and attitudes.

In Scenario 3, the ethical evaluations made by participants seem to be influenced by the type of device they use to connect to the internet. Specifically, those who use a mobile phone for internet access tend to have higher ethical views and attitude scores compared to those who use a computer or tablet. This finding sheds light on the potential impact of the device itself on how individuals perceive and evaluate ethical situations. One possible explanation for this difference lies in the nature of mobile phones as personal and constantly utilized devices. Given that mobile phones are often carried by individuals throughout the day and are integral to their daily activities, participants may exhibit a more cautious and attentive approach when confronted with ethically sensitive scenarios while using these devices. The intimate and immediate nature of mobile phones may prompt individuals to engage more thoughtfully in ethical evaluations.

There are several reasons why mobile phone users tend to have higher ethical scores compared to computer and tablet users. Although mobile phones might seem to encourage individualism, they are also widely used for socialization. We use mobile phones to connect to social networks and communicate within these networks. Moreover, our feelings about the proper use of mobile phones and our responsibilities towards others can complicate our ethical and moral decisions in information technology (Ling & McEwen, 2010). Since mobile phones are generally considered personal devices, users tend to form a closer relationship with them and may approach ethical issues with greater sensitivity. The constant accessibility and frequent use of mobile phones can lead users to exhibit more careful and consistent behavior when making ethical evaluations. Additionally, the ability to receive rapid and real-time feedback through mobile phones allows users to quickly assess ethical situations and respond promptly. The more intimate, personal, and empathetic language often used in mobile phone communication can also encourage a more sensitive approach to ethical evaluations. Furthermore, the typically simpler and more focused interfaces of mobile phone applications enable users to evaluate ethical scenarios more clearly and comprehensively. These factors collectively explain why mobile phone users tend to have higher ethical scores. Research in this area has examined the impact of mobile phone use on ethical evaluations in detail.

On the contrary, larger-screen devices like computers and tablets offer advantages in terms of displaying content in a more comprehensive and detailed manner. This could facilitate a deeper and more nuanced examination of complex ethical dilemmas presented in the scenario. Participants using these devices might find it easier to delve into the intricacies of the ethical issues at hand, leading to a more in-depth evaluation process. It is important to note that these observations highlight the multifaceted nature of ethical evaluations and how contextual factors, such as the type of device, can play a role in shaping individuals' ethical perspectives. Understanding these nuances can contribute to enhancing sensitivity and awareness regarding ethical considerations, especially in digital environments where technology interfaces with ethical decision-making.

The participants' internet usage quotas being low or high does not have a significant impact on their overall ethical attitudes. In other words, individuals' internet usage quotas are not a determining factor in their evaluations of computer ethics. This finding suggests that computer ethics evaluations in the study are more dependent on individuals' general ethical understanding and attitudes, regardless of whether their internet usage quotas are

low or high. Individuals' ethical evaluations do not seem to be shaped by specific factors such as technology usage habits or internet quotas. Instead, they are thought to be based on general ethical principles, personal values, and societal norms. In this context, education and awareness regarding computer ethics are considered to be more effective in shaping individuals' overall ethical attitudes. Additionally, these findings contribute significantly to demonstrating the role of computer ethics topics in general ethical evaluations and indicating that individuals have a broad perspective on this issue.

REFERENCES

Adam, A. & Ofori-Amanfo, J. (2000). Does gender matter in computer ethics? *Ethics and Information Technology,* (2)1, 37–47. https://doi.org/10.1023/a:1010012313068

Akarsu. B. (1970). *Ahlak Öğretileri-I Mutluluk Ahlakı* (Eudaimonism). İÜEF Yay.. İstanbul.

Arıkan. Y.D.. Duymaz. S.H. (2014). Gerçek Yaşam Durum Senaryolarıyla Bilişim Etiği Ölçeği'ni Türkçeye Uyarlama Çalışması. *Ege Eğitim Dergisi. 15*(1). 318-337. https://doi.org/10.12984/eed.55518

Banerjee. D.. Cronan. T. P.. & Jones. T. W. (1998). Modeling IT Ethics: A Study in Situational Ethics. *MIS Quarterly. 22*(1). 31–60. https://doi.org/10.2307/249677

Baran, G., Taşlıbeyaz, E. & Kayalar, M. T. (2023). Öğretim Elemanlarının Teknoloji Öz Yeterlik Düzeylerine Göre Teknoloji ve Uzaktan Öğretim İhtiyaçlarının Belirlenmesi. *Üniversite Araştırmaları Dergisi, 6*(3), 279-291. https://doi.org/10.32329/uad.1264747

Bayra, E., & Baysan, E. (2022). Gerçek yaşam durumu senaryolarıyla ortaöğretim öğrencilerinin bilişim etiği düzeylerinin bazı değişkenler açısından incelenmesi. *Gazi Eğitim Bilimleri Dergisi, 8*(1), 82-107. https://doi.org/10.30855/gjes.2022.08.01.006

Bernardi, R. A., Bosco, S. M., & Columb, V. L. (2009). Does female representation on boards of directors associate with the 'most ethical companies' list?. *Corporate Reputation Review*, *12*, 270-280. https://doi.org/10.1057/crr.2009.15

Betz, M., O'Connell, L., & Shepard, J. M. (1989). Gender differences in proclivity for unethical behavior. *Journal of business ethics*, *8*, 321-324. https://doi.org/10.1007/BF00381722

Borkowski, S.C. & Ugras, Y.J. (1992). The ethical attitudes of students as a function of age, sex and experience. *J Bus Ethics, 11*, 961–979. https://doi.org/10.1007/BF00871962

Buckingham, W., Lakşe, E., Atkinson, S., Marenbon, J., Hill, C., King, P. J., & Weeks, M. (2012). *Felsefe kitabı* (2.basım). Alfa Yayınları

Bynum, T. (2000). The foundation of computer ethics. ACM SIGCAS *Computers and Society, 30*(2), 6-13. https://doi.org/10.1145/572230.572231

Çelik, İ., & Dağdeviren, İ. E. (2015). Muhasebe Meslek Mensuplarinin Etik Algilamalari ve Muhasebe Meslek Mensuplarini Etik Dişi Davranişlara Yönlendiren Faktörler: Göller Bölgesinde Bir Araştirma. *Journal of Accounting and Taxation Studies*, *8*(1), 67-89. https://dergipark.org.tr/tr/pub/muvu/issue/59854/865036

Cevizci, A. (2012). *Etiğe Giriş.* İstanbul: Paradigma Yayınları.

Chonko, L. B., & Hunt, S. D. (1985). Ethics and Marketing Management: An Empirical Examination. *Journal of Business Research*, *13*, 339-359. https://doi.org/10.1016/0148-2963(85)90006-2

Chow, W. S. (2001). Ethical belief and behavior of managers using information technology for decision making in Hong Kong. *Journal of Managerial Psychology, 16*(4), 258–267. https://doi.org/10.1108/02683940110392570

Çelen, F. K. (2012). *Bilgi ve iletişim teknolojilerinin kullanımında ilköğretim öğrencilerinin etik olmayan davranışlara ilişkin görüşlerinin incelenmesi.* Yayınlanmamış Yüksek Lisans Tezi, Hacettepe Üniversitesi, Ankara.

Çelen, F. K., & Seferoğlu, S. S. (2016). Bilgi ve iletişim teknolojilerinin kullanımı ve etik olmayan davranışlar: Sorunlar, araştırmalar ve değerlendirmeler. *Journal of Computer and Education Research, 4*(8), 124-153. https://dergipark.org.tr/en/download/article-file/264836

Cevizci. A.(2008). *Etiğe Giriş*. İstanbul: Engin Yayıncılık.

Ünlü, L., Öz, R. (2024). Behind the computer screen: perspectives on information ethics among music education students. *Advanced Education*, 24, 130-150. DOI: 10.20535/2410-8286.298151

Çörez, A. B. (2016). Öğretim teknolojileri ve etik. K. Çağıltay & Y. Göktaş. (Ed.), *Öğretim teknolojilerinin temelleri teoriler, araştırmalar, eğilimler* içinde (s. 437-453). Ankara: Pegem Akademi.

Dedeoğlu, G. (2006). *Bilişim Toplumu ve Etik Sorunlar*. Bursa: Alfa Aktüel Yayınları.

Dorantes, C. A., Hewitt, B., & Goles, T. (2006). Ethical Decision-Making in an IT Context: The Roles of Personal Moral Philosophies and Moral Intensity (p. 206c–206c). IEEE. https://doi.org/10.1109/HICSS.2006.161

Dursun, S., & Mankolli, H. (2021). The value of nature: virtue ethics perspective. *GNOSI: An Interdisciplinary Journal of Human Theory and Praxis*, *4*(1 (May)), 1-15. https://gnosijournal.com/index.php/gnosi/article/view/98

Duymaz, S. H. (2013). *Ortaokul öğrencilerine yönelik "Bilişim Etiği Öğretim Programı" uygulaması.* Yayınlanmamış Yüksek Lisans Tezi, Ege Üniversitesi, İzmir.

Erdem, Z. (2008). *Öğretmen adaylarının bilişim teknolojilerini kullanımlarının etik açıdan değerlendirilmesi.* Yüksek Lisans Tezi, Dokuz Eylül Üniversitesi, İzmir.

Ford, R. C., & Richardson, W. D. (1994). Ethical decision making: A review of the empirical literature. *Journal of business ethics*, *13*, 205-221. https://doi.org/10.1007/BF02074820

Formosa, P., Wilson, M., & Richards, D. (2021). A principlist framework for cybersecurity ethics. *Computers & Security*, *109*, 102382. https://doi.org/10.1016/j.cose.2021.102382

Fritzsche, D. J. (1988). An examination of marketing ethics: Role of the decision maker, consequences of the decision, management position, and sex of the respondent. *Journal of Macromarketing*, *8*(2), 29-39. https://doi.org/10.1177/027614678800800205

Ghazali, N. A. M. (2021). Factors influencing ethical judgements of accounting practitioners: some Malaysian evidence. *International Journal of Social Economics*, *48*(3), 384-398. https://doi.org/10.1108/ijse-07-2020-0473

Glover, S. H., Bumpus, M. A., Sharp, G. F., & Munchus, G. A. (2002). Gender differences in ethical decision making. *Women in Management Review*, *17*(5), 217-227. https://doi.org/10.1108/09649420210433175

Jacobson, F. (2010). Zippy Scenarios for Teaching Internet Ethics. https://www.library.illinois.edu/uni/computerlit/scenarios/

Jamader, S. A. (2022). *Relation between ethics of duty and ethics of virtue: a critical study* (Doctoral dissertation), University of North Bengal.

Johnson, D. G. (2009). *Computer Ethics (4th edition),* New Jersey: Pearson Education

Johnson, D., & Simpson, C. (2005). Are you the copy cop? *Learning and leading with technology, 32*(7), 14-20. https://eric.ed.gov/?id=EJ697339

Karabayır, M. E., Öztürk, S. & Cengiz, S. (2018). Muhasebe Meslek Mensubu Adaylari ve Etik Ikilem. *Journal of Accounting and Taxation Studies*, 328-353. https://doi.org/10.29067/muvu.344768

Karasar. N. (2004). *Bilimsel Araştırma Yöntemi* (15. Baskı). Ankara: Nobel Yayın Dağıtım.

Keller, A. C., Smith, K. T., & Smith, L. M. (2007). Do gender, educational level, religiosity, and work experience affect the ethical decision-making of US accountants?. *Critical perspectives on accounting*, *18*(3), 299-314. https://doi.org/10.1016/j.cpa.2006.01.006

Khogali, H. O., & Mekid, S. (2023). The blended future of automation and AI: Examining some long-term societal and ethical impact features. *Technology in Society*, *73*, 102232. https://doi.org/10.2139/ssrn.4239580

Kidwell, J. M., Stevens, R. E., & Bethke, A. L. (1987). Differences in ethical perceptions between male and female managers: myth or reality? *Journal of business ethics*, *6*, 489-493. https://doi.org/10.1007/bf00383291

Lane, J. C. (1995). Ethics of business students: Some marketing perspectives. *Journal of Business Ethics*, *14*, 571-580. https://doi.org/10.1007/bf00871985

Leonard, L. N. K., & Cronan, T. P. (2001). Illegal, inappropriate, and unethical behavior in an information technology context: A study to explain influences. *Journal of the Association for Information Systems, 1*(12), 1–31. https://doi.org/10.17705/1jais.00012

Ling, R., & McEwen, R. (2010). Mobile communication and ethics: implications of everyday actions on social order. *Etikk i praksis-Nordic Journal of Applied Ethics*, (2), 11-26. https://doi.org/10.5324/eip.v4i2.1760

Loch, K. D., & Conger, S. (1996). Evaluating ethical decision making and computer use. *Communications of the ACM, 39*(7), 74–83. doi:10.1145/233977.233999

Mason, R. O. (1986). Four ethical issues of information age. *MIS Quarterly, 10* (1), 5-12. https://doi.org/10.2307/248873

Masrom, M., Ismail, Z., Anuar, R. N., Hussein, R. & Mohamed, N. (2010). Analyzing accuracy and accessibility in information and communication technology ethical scenario context*. American Journal of Economics and Business Administration, 3*(2), 370-376. https://doi.org/10.3844/ajebasp.2011.370.376

Massey, K., Burns, J. & Franz, A. (2021). Young People, Sexuality and the Age of Pornography. *Sexuality & Culture, 25*, 318–336. https://doi.org/10.1007/s12119-020-09771-z

McCabe, D. L., Dukerich, J. M., & Dutton, J. E. (1991). Context, values and moral dilemmas: Comparing the choices of business and law school students. *Journal of Business Ethics*, *10*, 951-960. https://doi.org/10.1007/BF00383799

McDonald, G., & Pak, P. C. (1996). It's all fair in love, war, and business: Cognitive philosophies in ethical decision making. *Journal of Business Ethics*, *15*, 973-996. https://doi.org/10.1007/BF00705577

McMillan, J. H. & Schumacher, S. (2010). *Research in education: Evidence-based inquiry (7th ed.).* New York, NY: Pearson.

McNichols, C. W., & Zimmerer, T. W. (1985). Situational ethics: An empirical study of differentiators of student attitudes. *Journal of business ethics*, *4*, 175-180. https://doi.org/10.1007/bf00705616

Meeder, R. (2005). Access denied: Internet filtering software in K-12 classrooms. TechTrends, 49(6), 56- 58. https://doi.org/10.1007/bf02763732

Miesing, P., & Preble, J. F. (1985). A comparison of five business philosophies. *Journal of business ethics*, *4*, 465-476. https://doi.org/10.1007/bf00382609

Moor. J. H. (1985). What is computer ethics? *Journal of Metaphilosopy. 16* (4). 266-275. https://doi.org/10.1111/j.1467-9973.1985.tb00173.x

Morgan, J., & Neal, G. (2011). Student assessments of information systems related ethical situations: Do gender and class level matter? *Journal of Legal, Ethical and Regulatory Issues, 14*(1), 113–130.

Muir, S. T. & Reeder, W. G. (1929). Code of ethics of the national education association of the united states. *Phi Delta Kappa International. 12*(3), 69-71.

Murphy, K.R., & Davidshofer, C.O. (1988). *Psychological Testing: Principles and Applications.* Prentice-Hall, Englewood Cliffs, N.J.

Nguyen, B., & Crossan, M. (2022). Character-infused ethical decision making. *Journal of Business Ethics*, *178*(1), 171-191. https://doi.org/10.1007/s10551-021-04790-8

Okoye, C. C., Ofodile, O. C., Tula, S. T., Nifise, A. O. A., Falaiye, T., Ejairu, E., & Addy, W. A. (2024). Risk management in international supply chains: A review with USA and African Cases. *Magna Scientia Advanced Research and Reviews*, *10*(1), 256-264. https://doi.org/10.30574/msarr.2024.10.1.0024

Örs, F. (2010). Küresel medya ortamında yaşanan etik sorunlar ve uluslararası düzenlemeler. Yaşar Üniversitesi Sosyal Bilimler Enstitüsü e-dergisi, 5(20), 3443- 3452. https://dergipark.org.tr/tr/pub/jyasar/issue/19132/203028

Özlem. D. (2017). *Etik*. İstanbul. Notos Yayınları.

Patel, K. (2024). Ethical reflections on data-centric AI: balancing benefits and risks. *International Journal of Artificial Intelligence Research and Development*, *2*(1), 1-17. https://iaeme.com/Home/issue/IJAIRD?Volume=2&Issue=1

Pieper. A. (1999). *Etiğe Giriş.* V.Atayman ve G. Sezer (Çev.). İstanbul: Ayrıntı Yayınları.

Ruegger, D., King, E.W. (1992). A study of the effect of age and gender upon student business ethics. *J Bus Ethics 11*, 179–186. https://doi.org/10.1007/BF00871965

Scarre, G., 2020. *Utilitarianism*. Routledge.

Sharp, D., Pant, L. & Cohen, J. (1998). Are Women Held to a Higher Moral Standard Than Men? Gender Bias Among University Students. *Teaching Business Ethics,* 2, 197–209. https://doi.org/10.1023/A:1009797124068

Sikula, A., Costa, A.D. (1994).Are women more ethical than men?. *J Bus Ethics. 13*(11), 859–871. https://doi.org/10.1007/BF00871700

Ünlü, L., Öz, R. (2024). Behind the computer screen: perspectives on information ethics among music education students. *Advanced Education*, 24, 130-150. DOI: 10.20535/2410-8286.298151

Sims, R. L. (1999). The development of six ethical business dilemmas. *Leadership & Organization Development Journal*, *20*(4), 189-197. https://doi.org/10.1108/01437739910276993

Taggart, G., & Zenor, J. (2022). Evaluation as a moral practice: The case of virtue ethics. Evaluation and Program Planning, 94, 102140. https://doi.org/10.1016/j.evalprogplan.2022.102140

Taslak, S., & Çiftçi, B. (2016). *Postmodern örgütlerde güncel davranışsal konular*. İstanbul: Beta Basım Yayım.

Tepe. H. (2016). *Pratik Etik*. Ankara. Bilgesu Yayınları.

Tosun, N., Geçer, A., & Kaşıkçı , D. N. (2016). Examining the relationship between the Internet ethics perceptions of the pre-service teachers and their control focus perceptions. *Açıköğretim Uygulamalarıve Araştırmaları Dergisi, 2*(4), 82-103. https://dergipark.org.tr/tr/download/articlefile/402135

Tozdan, N., & Keleş, Özgül. (2022). Investigation of 7th and 8th Grade Middle School Students' Environmental Ethics Attitude Levels in Relation to Different Variables. *Science Insights Education Frontiers*, *13*(1), 1763–1775. https://doi.org/10.15354/sief.22.or064

Tsalikis, J., Ortiz-Buonafina, M. (1990). Ethical beliefs' differences of males and females. *J Bus Ethics, 9*(6), 509–517. https://doi.org/10.1007/BF00382844

Whipple, T. W., & Swords, D. F. (1992). Business ethics judgments: A cross-cultural comparison. *Journal of Business Ethics*, *11*, 671-678. https://doi.org/10.1007/bf01686347

Yıldız, G. (2010). Muhasebe Mesleğinde Meslek Etiği ve Kayseri İl Merkezinde Bir Uygulama. *Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi(36)*, 155-178. http://iibf.erciyes.edu.tr/dergi/sayi36/010_g-yildiz.pdf

Yoon. C. (2011). Ethical decision-making in the Internet context: Development and test of an initial model based on moral philosophy. *Computers in Human Behavior.* (27). 2401–2409. https://doi.org/10.1016/j.chb.2011.08.007

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