European Journal of Education Studies
ISSN: 2501 - 1111
ISSN-L: 2501 - 1111
Available on-line at: www.oapub.org/edu

DOI: 10.46827/ejes.v9i5.4276 Volume 9 | Issue 5 | 2022

# GRADUATE STUDENTS' VIEWS ON SCIENTIFIC RESEARCH AND PUBLICATION ETHICS

**Muhammet Baki Minaz**[i]
Siirt University,
Faculty of Education,
Turkey
orcid.org/0000-0002-0024-1854

**Abstract:**
This study aims to discuss the graduate students' views on scientific research and publication ethics. In this context, the opinions of future academics on scientific ethics were examined. The study group consisted of 24 Master's Degree students of Siirt University who take/have taken a scientific ethics course. In the study, semi-structured interview questions regarding scientific ethics were prepared and applied to the study group. In this context, interviews were recorded in writing. During the analysis of the data, the themes were created by analysing the content of the issues and these themes were analysed descriptively. The results of this study revealed that the ethics education course is effective in making the students of graduate education conscious of scientific ethics and that there were serious perceptions of ethical violations. To avoid this, it would be beneficial to provide a good ethical education and review all academic studies.

**Keywords:** graduate students' views, scientific research, publication ethics

## 1. Introduction

Humanity's need for information like other physiological needs or information as the driving force has led to the emergence of scientific research and science that provide accurate and reliable information (Küçük, 2003). Science is characterized by objective criteria which are far from being impersonal. Ethics, on the other hand, is generally handled with its personal and subjective side. It is not true that science is not bound by values or that these values do not work in science. There are many values in the scientific research process (Korthals, 2005). While academic efforts gain meaning only through publication, research and publication should be continued based on certain principles. Research mainly aims to contribute to science by expanding what is already known. However, it requires identical respect for other people or researchers (Blumberg, Cooper, & Schindler, 2005). The social and ethical responsibilities of scientists are increasing with

[i] Correspondence: email mbakiminaz@gmail.com

 

the effects of scientific and technological developments on society and nature today (TÜBA, 2002). Just as every job has an ethical dimension, it is essential that scientific research has an ethical code and the researcher announces the relevant research to the scientific world. First of all, research should contain an original topic, appropriate methods and tools, and principles to use as guidance. As in every profession, observing unethical behaviors and violations of the law in academic life has made it necessary to establish and enforce ethical rules. With this aspect, this study has been designed to discuss the opinions of graduate students on scientific research and publication ethics and the opinions of future academicians on scientific ethics.

## 2. What is Ethics?

Ethics is a branch of philosophy that deals with people's behaviour and guides the norms or standards of people's behaviour and their relationships with each other (Blumberg et al., 2005). "Ethos" or "lifestyle" is social norms in determining "*acceptable and unacceptable behaviors*" (Akaranga & Ongong, 2013). If ethics is indeed becoming more important to the life sciences than ever and if there is an unavoidable violation, what kind of impact do we need to overcome these problems? In other words, if ethics can help tackle the ethical problems of the life sciences, is there a need for a more precise view or a more explanatory and stimulating perspective? (Korthals, 2005). Many societies have legal rules dictating behaviour, but ethical norms are broader than laws. However, societies have developed laws to enforce moral standards. Boundaries of ethical scientific publication, which appear to be subjective in this respect, are drawn with ethical principles and become a norm that requires sanctions in violation.

### 2.1 Research Ethics

To reach the desired goals, to be original, research is required to be permanent and based on objective facts, to provide useful information to people, and to be prepared and published in accordance with ethical rules. Research ethics involve requirements for daily work, the protection of the dignity of subjects, and the publication of the information in the research (Fouka & Mantzorou, 2011). In this context, deceptive interventions cannot be used for any purpose –i.e., to ensure the validity and reliability of the data-. Scientific research and publication ethics to be followed in researches and literature review for the sake of science refer to a set of rules of honestly revealing what, where, and from whom the source has been obtained.

Academics are expected to be open-minded and freely share their ideas without fear or intimidation and observe the need to protect intellectual property (Mugenda, 2003). The purpose of adopting research ethics is based on the field of biomedical research arising from the need to include people in research (Kour, 2014). The concept of research ethics has led to the development of various theories to explain how people can adapt to numerous challenges in their daily life experiences. Ethics is the idea that envisages the ethical investigation of the status of the individual in society and the values such as right-wrong or good-bad that make up their relationships. In other words, it is the awareness

of what can and cannot be done. The researcher contributes to science in this way. For this reason, honesty and morality should be taken as a basis while doing research. While collecting data, one should be impartial, without prejudice, and avoid misleading and discrediting. Publication ethics refers to the necessary rules and norms to be followed in scientific research published and intended to be published.

Norms are set to prevent the dissemination of information, to declare or tell the truth, and ultimately to avoid mistakes. The various steps crucial to research begin with the writing of a research proposal and approval that leads to the actual research work. The researcher should choose appropriate data collection methods, present the research findings, and outline the information in a logical order. The data is then analysed and reported in the form of an article, project report, thesis, or book. The researcher ought to observe appropriate values in all these stages while conducting the research. Failure to do so could lead to research abuse.

**2.2 Unethical Behaviours in Scientific Research**

The term "*scientific misconduct*" is referred to as "*unethical behaviour in science*" or "*flawed behaviour in science*" in Turkish. The terms scientific deception or fraud are also used for unethical behaviour in science (Küçük, 2003). The aim of scientific publication is to ensure that the knowledge produced and developed is shared and spread and that science is developed for the benefit of humanity. In a scientific publication prepared for this purpose, the information in the publication should be accurate and complete and the publication should not contain missing information deliberately and should be designed in accordance with "scientific ethics" during the production and development of information.

Scientists should be trusted and respected by not only the scientific world but also society. Honesty and diligence are vital in gaining and maintaining social trust (TÜBA, 2002). Behaviors that do not comply with scientific ethics can be listed as transferring someone else's work as one's own, reflecting non-existent data as if it is real, making fictitious authors increase the reputation of the research, manipulating research data, and pursuing research and publishing the results inappropriately.

**2.3 Plagiarism**

The problem of plagiarism is a weighty matter for academic institutions in higher education. This is a practice in which an author or researcher must ensure that any work written is original, free from some texts such as ideas, processes, results, or even words, results, and even statements that are manipulated or used (Mugenda, 2003; Kour, 2014). Plagiarism is one of the leading behaviors that are not suitable for scientific research and publication ethics. The most common aspects of plagiarism appear on the introduction and literature review pages. This affects the integrity of the researcher. Another type of plagiarism is the "redundant publication" that occurs when a researcher re-uses his previous work in another research without giving appropriate references to his/her previous work, or when some previously published information is republished with additional new data.

The increase in the importance and amount of information, its fast and easy dissemination and sharing through developing technology also laid more burdens on educational institutions where scientific knowledge is produced (Küçük, 2003). It is argued that plagiarism rates have increased as a result of technological developments. However, thanks to technological developments, various types of software for detecting plagiarism have been developed (Turnitin, iThenticate, etc.). Two software providers are expected to audit all graduate students' projects and theses with such software and to ensure that such publications are compatible with 20% or less plagiarism material. The top behaviour against Publication Ethics is plagiarism. It is plagiarism and a crime to take a part of an author's work without any reference to it. There are also behaviors that shadow the originality of the research by quoting directly outside of certain boundaries. Therefore, the literature should be reviewed thoroughly and the source should be specified to produce a publication that is in compliance with ethical principles.

**2.4 Writing and Publishing**

Publication of articles in peer-reviewed journals or a book is mandatory for academic and professional development in higher education institutions. Any written article must be original and contribute to science by presenting findings that will be interesting to read by other scientists. Also, only well-researched, well-written, and ethical research should be submitted for publication.

Articles can be written by one or more authors. In any case, compliance with ethical principles is sought in articles. After the article is completed, it is submitted to the editor-in-chief or editor of the journal, who forwards the article to at least another two referees for review. Reviewers' comments and scientific advice and input are aimed at checking the quality of the article. Such comments are then forwarded to the author or authors whose article is under review before being accepted for publication in the next issue of the journal. However, it is unethical to submit an article to two different journals or to reproduce research findings without informing the editors that the article has been submitted elsewhere.

**2.5 Ethical Issues Related to Research Topics**

It is the researcher's responsibility to design a project that does not violate the rights and safety of the interviewees or participants. This is important in defending, promoting, and protecting their rights (Blumberg et al., 2005). Research-related risks should be explained well to participants when conducting research.

Progress in science and scientific research takes place based on trust. For this reason, scientists should conduct research that does not discredit them in the eyes of the scientific world (Küçük, 2003). Names of the participants should be kept secret when identifying their ethnic or cultural background as part of anonymity, confidentiality, and privacy (Mugenda, 2003). While doing research, all facts should be revealed to the participants with all the clarity. However, if only some of the data is revealed, it can be considered as deceiving participants. Such a case may arise if the researcher is biased while doing research or conducts research to protect the sponsor of the research project

(Blumberg et al., 2005). At the end of the study, the researcher should inform the participant by explaining the purpose of the study (Treece & Treece, 1982). Research requires collaboration with different people and institutions. In this context, trust, accountability, mutual respect, and justice are important. Researchers should follow the rules regarding authorship, copyright, and patent policies, data sharing policies, and privacy rules in peer review (Bell & Bryman, 2007, Saunders et al., 2011).

**2.6 Voluntary and Informed Consent**

This is one of the major ethical issues in conducting research which implies the fact that "*a person knowingly, voluntarily, intelligently, and in a clear and manifest way, gives his or her consent*" (Arminger, 1997). When conducting a survey or using focus group discussions, participants have the freedom to respond to issues raised of their own free will. In this context, a researcher must accept the need to observe the principle of voluntary consent or willingness to participate in research. To provide informed consent, a researcher must clearly explain the truth about the purpose of the research being conducted, and if there is any risk, it should be detailed. The researcher should not subsequently reveal the identity of the researcher and should ensure confidentiality. When conducting research, it is possible to include disadvantaged or vulnerable populations such as children, poor or sick people. If this is the case, the researcher should obtain the necessary approvals from their parents or guardians to be involved in the research (Mugenda, 2003).

**2.7 Falsification**

Falsification is manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record (Mugenda, 2003; Kour, 2014). Scientific knowledge is information available to everyone. For this reason, all results should be shared without any changes. Sharing the results is necessary and important for the development and future of science (Küçük, 2003). In such an application, unreal results are achieved by manipulating the research. Conversion of such results into publication means presenting an unreal or non-existent situation as if it exists.

**2.8 Financial Issues and Sponsorship**

Some research is conducted with sponsors. This may sometimes lead the researcher to feel pressure and to obtain results that benefit the person or the company that is the sponsor (Mugenda, 2003). Such research is a waste of money and has no scientific value. Some research is done under the guidance of a sponsor that specifies exclusive requirements or demands. This somehow can lead to inappropriate behaviour. To avoid this, the researcher is expected to adhere to ethical principles.

In general, researchers ought to behave ethically in all matters since honesty, meticulousness, and ethical behaviour in all future studies will ensure that they gain a respectable place in the world of science. Besides, conducting research in accordance with research ethics will also contribute to the researcher finding sponsors for future studies (Küçük, 2003).

## 3. Method

### 3.1 Research Model

The aim of the research is to consider the graduate students' opinions on scientific research and publication ethics. In this context, the opinions of future academics on scientific ethics were examined. The research has been carried out based on phenomenology. This research includes the discussion of the phenomena, events, cases, and concepts to enlighten the subject and draw attention.

### 3.2 Study Group

The study consists of 24 students enrolled in the Master's Degree program of Siirt University and taking the scientific ethics course.

### 3.3 Research Questions

The questions were determined following a literature review and based on an expert opinion. The relevant questions were reviewed with field experts. Finally, interview questions were created. During the interviews, the questions were deepened. The interviews made during the implementation were recorded in writing. The questions were:

1) What are your opinions on ethics, scientific research, and publication ethics?
2) What are the behaviors against scientific research and publication ethics? What role do technological advances play in this process, and how can unethical behaviour be prevented?
3) What are the financial and moral issues that may arise if scientific research and publication ethics are not followed?
4) Do you think the penalties for failure to comply with the ethical rules such as plagiarism and plagiarism are sufficient, what kind of penalties should be given to those who plagiarize?
5) Why are scientific research and publication ethics not followed? What do you think about the personality structures of those who do not follow ethics? What are their tendencies to follow scientific research and publication ethics?

### 3.4 Data Analysis

When starting a research paper, it is necessary to contact people in the research field. Also, it is important to tell the participants about the purpose of the research (Cresswell, 2015). In this context, the aims of the subject were explained to the participants. In qualitative research, it is difficult to generalize the findings obtained due to the fact that social events are not static and constantly and naturally changing. However, limited generalizations are possible. While making limited generalizations, the changing nature of social events and the framework and limitations of the research should be taken into account (Yıldırım & Şimşek, 2005). Interviews were recorded in writing. During the analysis of the data, the themes were created descriptively and via content analysis.

### 3.5 Validity and Reliability

To ensure the validity and reliability of the research, the questions were prepared based on the literature, expert support, and consultant suggestions while other stages were making sample interviews and reviewing the questions, and putting them into a final form. To ensure the validity of the research, the interview questions were prepared in accordance with the subject and purpose to be measured.

To comfort the participants during the interviews, the interviews were carried out in a conversational mood, and the validity was strengthened through the extension of the duration of the interview, where possible (Yıldırım & Şimşek, 2005).

The research and analyses were carried out based on the rules of the qualitative design. Codes were created earlier than the main themes and sub-themes, and these codes shaped the themes. The interview records were revised on several occasions, conclusions were drawn from the findings obtained from the records and the interview forms were converted into a written form.

## 4. Findings

The opinions of the graduate students interviewed on scientific ethics were combined under two main themes. These themes are given in Table 1 together with their sub-themes.

**Table 1:** Themes Related to Scientific Ethics

| **Main Theme** | **Sub-themes** |
|---|---|
| 1. Opinions on ethics, scientific research, and publication ethics | Importance of ethics. |
| | Failure to comply with ethical rules. |
| | Ethics education. |
| | Unethical behaviours in scientific research and publication. |
| | The effect of technological development on scientific ethics. |
| 2. The consequences of failing to comply with scientific research and publication ethics | Unlawful profit. |
| | Social harm of unethical behaviors. |
| | Criminal sanctions. |
| | Harm to science. |
| | Opinions on the effectiveness of sanctions regarding unethical behaviors. |
| | Factors driving scientific unethical behaviour. |
| | Prevention of unethical behaviour. |

### 4.1 Opinions on Ethics, Scientific Research, and Publication Ethics

The sub-themes are as follows:

- Importance of ethics,
- Failure to comply with ethical rules,
- Ethics education,
- Unethical behaviours in scientific research and publication,
- The effect of technological development on scientific ethics.

**4.2 Importance of Ethics**

The interviewees stated that ethics is based on moral and conscientious principles and that it is a set of rules created in a manner that does not contradict the values of society. It was also stated that the scientist conducting research should work for the benefit of society in an impartial manner and that the results should be objective, without distortion, and authentic.

> *"I believe that ethics is a set of rules created following filtration of the moral and conscience of the person and without contradicting the values created by society. The primary goal of the scientist who conducts scientific research should be the enlightenment of humanity in a faithful and impartial manner."* (S1)

The interviewees stated that morality is an extremely important value that should be embraced by every individual in society and particularly by scientists.

> *"Morality is essential for all and one of the characteristics, or the most important of characteristics, that every member of society should have. It is indispensable for a scientist to have morality since a scientist is a person who undertakes great responsibilities to society s/he lives in, even to everyone living in the world, and above all, to future generations. A scientist is a person who touches the past, present, and future."* (S2)

The interviewees stated that scientific ethics is a moral element that tests the originality of research and that the persons who conduct research should act in accordance with the moral rules.

> *"Scientific research and publication ethics is a moral element that regulates the originality and reliability of research. The person who conducts research should display ethical behaviors in scientific studies and activities and adopt certain rules."* (S5)

The interviewees stated that ethics is a universal concept and that ethical rules are immutable for all societies.

> *"Ethics is a universal concept that can be defined as the set of rules that people must comply with all kinds of relationships. Ethical rules express the same value for all people and communities. Scientific research and publication ethics in this context refer to the universal norms that researchers must comply with as the researcher should act objectively and impartially. The main purpose should not be research that supports one's own ideas and thoughts, but that serves humanity and science, reveals or supports the facts as they are."* (S10)

One of the interviewees stated that the most important element of scientific research is publication ethics, adding that education is indispensable for studies to be original.

*"I think that publication ethics is one of the most important elements in scientific research. Scientific research must have originality. At this point, researchers must be sensitive about scientific ethics."* (Ö6)

One of the interviewees stated that ethics is a branch of philosophy that examines the concepts of right and wrong behaviour and the reliability of research is related to the importance given to moral values by the researcher.

*"Ethics can be considered as a branch of philosophy that examines the concepts of right and wrong behaviour. Ethics in science refers to value problems that arise in scientific studies. I think that the reliability and even the quality of research are in parallel with the importance given by the researcher to moral values."* (S7)

**4.3 Failure to Comply with Ethical Rules**

The interviewees stated that a person who has no moral values betrays society and his/her profession and that a scientist who steals the labour of others should not perform this profession.

*"The consequences of a scientist who does not abide by ethical rules in his/her scientific research and publications can have much greater consequences than expected. Disrespect for labour is first of all disrespect for all humanity. Someone who accepts and copies any written text or shares the labour of someone else as if it were his/her own labour without permission or someone who does not give a reference to the original author is in betrayal. I believe that a person who is unaware that this is a betrayal or who deliberately commits this betrayal does not deserve the title of the scientist."* (S2)

The interviewees stated that the research should be original, and the quotations should be specified and should not be cited without reference.

*"I believe ethics, scientific research, and publication ethics should be understood as follows; to be original while producing research, to give reference to any citation, to include ideas, texts, etc. with reference, and to avoid plagiarism."* (S3)

Some other statements of the interviewees are as follows:

*"If there is anything more precious in life than gold and diamonds, it is our original ideas. And their unauthorized use is an example of the new kind of theft of the modern age. I see ethics as a lesson that should extend from university desks to elementary school desks for purposes of avoiding involuntary acts as there is no difference from a thief who breaks into the house when it is done publicly. For, if seventy poems out of a hundred poems in a poetry contest are brought from the internet and this happens in the first level of education, it is a problem that reveals the nature of this lesson."* (S16)

*"Reviewing the concept of ethics in the literature shows that its basic equivalent is "morality". So, ethics is directly related to our moral values. Every scientific research is a product of labour and it is very time-consuming to produce it. In order not to waste this effort and time, attention should be paid to the concept of ethics in scientific publications. Publication ethics is also a part of this. It is a requirement of publication ethics to behave in accordance with the general-valid rules in the world of science. For all these reasons, paying attention to the concept of Ethics in Scientific Publications and acting in this manner expresses our respect for that research."* (S20)

*"In the academic community, ethics is above all about the respect of the individual and his/her work. In the case of plagiarism, we cannot talk about scientific research or publication ethics. Some problems of the academic community in our country (Turkey) are alarming for the future. I hope things get better."* (S22)

*"I think that ethics means morality. Regardless of the profession, it means to fulfil the requirements of the job under the rules of that job. Scientific research, on the other hand, means the ways used to produce knowledge; in doing so, the ethical rules should be followed."* (S23)

### 4.4 Ethics Education

Some of the statements by the interviewees related to ethics education are as follows:

*"It is a course that every graduate student should take. It also teaches how research is and should be and how to make quotations."* (S9)

*"Scientific research and publication ethics is a course and a rule that should be followed. If researchers follow these rules, they can produce more reliable and effective research."* (S14)

*"Science, art, education, and in short, research done or to be done in a country for self-development must comply with international ethical rules. For this reason, each university has issued regulations (based on international ethical rules in terms of content) and introduced a series of provisions to prevent violations of the rules, albeit under different titles, in order to ensure that research conducted under the umbrella of the university complies with international ethical rules."* (S21)

### 4.5 Unethical Behaviours in Scientific Research and Publication

Some of the statements by the interviewees related to unethical behaviors are as follows:

*"Acts contrary to scientific research and publication ethics; are plagiarism, distorting information, using information for personal gain, republishing unethical clinical studies."* (S1)

*"Plagiarism is taking ideas from other works without citing sources, changing the sentences and putting them into works as if they were their own sentences, and failure to cite sources in quotations. Plagiarism programs are designed to prevent this, but I have no clear idea whether it is enough or not."* (S3)

*"Unethical behaviour has various sources and cannot be limited -for example, the request to add an author to a research paper without contribution. Or it may result from acting contrary to the nature of the research. Biased research or methods contrary to the nature of science can be used. A research paper can be published in more than one journal, and there are countless ethical violations. The most common violation is plagiarism."* (S4)

*"Behaviors such as fabrication, distortion, plagiarism, publication in more than one journal, biased publication, unauthorized use of sources and data, salami-slicing, unauthorized quoting, fraudulent behaviour that distorts the originality of scientific research, and lack of ethical education."* (S5)

*"The main unethical behaviour is receiving someone else's opinion and thoughts without showing a source. Technological developments can be expressed as the most powerful weapon in preventing behaviors that violate ethical rules. I can say that they refer to a deterrent force for people doing scientific research to comply with ethical rules. Therefore, I think it encourages researchers to comply with ethical rules in their publications."* (S8)

*"I can say that the most common behaviour is the use of another person's work without permission. This is exhibited by people with the same status can or by an individual with a higher status."* (S6)

*"Information theft, use of available information, appropriation, sharing information without reference, information consumption, etc. are ways of unethical behaviors. It is obvious that technological developments provide comfort in presenting researches made in other countries as something new in our country (Turkey). For example, I think that translation programs have a facilitating effect in this regard and contribute greatly to plagiarism. Unethical behaviors only occur in a person with a well-established personality and a sound conscience. Apart from this, such behaviors can be prevented by imposing various sanctions on those who do not comply with the principles of ethical behaviour through legal means."* (S12)

*"Unsystematic research, repetitive publications, forgery, scientific piracy, plagiarism, authorship rights…"* (S24)

### 4.6 The Effect of Technological Development on Scientific Ethics

Some of the statements of the interviewees related to the effect of the technological development on scientific ethics are as follows:

*"Technological developments have both positive and negative aspects. In today's world of the internet, computers, and mobile phones, it is possible to reach all kinds of information in a very short time regardless of the location. However, this technology can give people the right information as well as cause information pollution and misleading. Those acting against ethics can cover up. I think frauds increase as the ways of prevention increase and that the most important way to prevent this is to create awareness for our children as parents at home and especially through the education system."* (S1)

*"Technological advances both facilitate and complicate ethical violations, depending on use. There are many misspelling programs, for example. Or digital media does not allow much to copy and paste. But in the same way, technological possibilities have increased the easy accessibility and imitability of information. It is very difficult to prevent unethical behaviour. First of all, if a person wants to do it, s/he can and it is not possible to prevent it. However, it is definitely necessary to set some rules and impose sanctions in order to deter people. For this reason, ethical committees that already have the power of sanction are being established and they can impose sanctions on researchers who commit ethical violations. Furthermore, the system can be revised to focus on quality work and publication but not on publishing too much. For example, as it is known, the high number of publications is important in promoting publication. However, an experimental and devoted publication is based on a process that lasts for years."* (S4)

*"Technological developments play a positive role in this process because a plagiarism report is compulsory for theses. The person can no longer steal information, even if s/he wants to and has to cite. Or s/he has to rearrange the information. I think a thesis plagiarism report should be requested for articles too."* (S9)

*"In the age of science and technology, access to information can be easy by pressing only a few keys. Although this is helpful, sometimes people's understanding of "I did" has brought about plagiarism. The best way is to give importance to practical education in addition to theoretical knowledge in courses such as publication ethics and scientific research, for example, by making an original study of 2-3 pages on any subject in order to provide a better understanding of these courses. In this way, it will reduce the possibility of making a mistake again by ensuring that the mistakes made intentionally or unintentionally are revealed."* (S18)

*"In scientific research, acts contrary to publication ethics have been determined in various sources, a lot of research has been done, and opinions have been expressed. These are specified in detail in the "Higher Education Institutions Scientific Research and Publication Ethics Directive" of YÖK (Council of Higher Education). According to the directive in question, these behaviors are classified as plagiarism, distortion, forgery, reproduction, salami-slicing, unfair authorship, and other ethical violations.*
*Technological developments prevent the frequent display of these ethical violations to some extent. Identifying such behaviors has become easier with technological developments. For*

*example, while determining the rate of plagiarism was difficult in earlier times, it has now become more likely with various article browsing programs. Since access to information is easier and communication is more common, situations such as leaving the facts behind the scenes and unfairly obtaining someone else's labour have become more difficult than in the past.* (S19)

### 4.7 The Consequences of Failing to Comply with Scientific Research and Publication Ethics

These are:

- Unlawful Profit;
- Social Harm of Unethical Behaviors;
- Criminal Sanctions;
- Harm to Science;
- Opinions on the Effectiveness of Sanctions Regarding Unethical Behaviors;
- Factors Driving Scientific Unethical Behaviour;
- Prevention of Unethical Behaviour.

#### 4.7.1 Unlawful Profit

Some statements of the interviewees are as follows:

*"First and foremost, the progress of science is probably in a vicious circle, causing a lot of information pollution over time. A person who does not abide by ethical rules gains an unfair reputation or gain."* (S1)

*"If the ethical principles are not followed, there will be great disrespect for the author's labour spiritually, and the entire research will be disregarded. In other words, in the spiritual sense, the information produced by the original author will be devalued. In material terms, a person who does not comply with ethical principles will gain an unfair profit from the original author. This will cause the original author to suffer financial loss and the person who does not comply with the ethical principles to obtain a financial gain that s/he does not deserve."* (S20)

*"It means that all the financial effort is wasted. The author realizes that the money spent is useless. Therefore, the most important thing to do is to act in accordance with scientific research and publication ethics. In this way, s/he gets the reward of the labour. From a spiritual point of view, it causes the individual to be seen as a thief in academic life. This means that morality hits rock bottom for the individual. (S18)*

#### 4.7.2 Social Harm of Unethical Behaviors

Some statements of the interviewees are as follows:

*"I think material and moral problems can be very dangerous. Articles written unconsciously may target a society, a race, a country, etc. or may be against the truth.*

*Such articles may cover many truths like a dark cloth or may spread from ear to ear and encircle minds like poison ivy. It can go as far as destroying a society. We all witness the distortion of the facts, especially in biased publications. Depriving a nation of the truth and distorting the facts is the greatest betrayal of that nation. The results will be incredibly large in material and spiritual dimensions."* (S2)

*"The rights of others are violated. New, useful, developing, original, objective ideas and thoughts do not emerge. It is a fact that ideas and thoughts direct societies. In this sense, unethical research will channel society in the wrong direction, which is dangerous. Unethical research prevents the development of science."* (S10)

*"In material terms, it can be briefly expressed as theft. We can interpret it as disrespect for the labour in a spiritual sense. The acceptability of contributions to science by a person who does not respect labour can be disputable."* (S8)

### 4.7.3 Harm to Science

*"In my opinion, the biggest negativity caused by harm to science is the decrease in original scientific studies."* (S6)

*"The first harm is the decrease in the value of the research of the researcher, who puts forward original research due to plagiarists while morally it causes a decrease in and exclusion of the academic community's trust against plagiarists in a moral sense."* (S14)

### 4.7.4 Criminal Sanctions

*"Some titles are received and reputation is gained due to such research, which is unfair. But it has negative effects on the professional career of the person."* (S3)

*"There are some sorts of financial penalties given by ethics committees. Spiritually, people do not feel much trouble in an individual sense. If they already feel trouble, they will not condescend to the violation of ethics. Of course, if it is not felt individually, it does not mean that the problem does not exist. For example, the most intense ethical violation is plagiarism, which is scientific theft. Theft, of whatever type, destroys individual and social law. It is a violation of rights and accelerates social collapse."* (S4)

*"Failure to apply for examinations aimed at promotion at work, dismissal from the teaching profession, imprisonment up to 2-4 years and fines, suspension of advancement in academic rank, deduction from salary."* (S5)

*"People face severe legal sanctions."* (S9)

*"First of all, I think that the reputation of scientists will be greatly damaged. Their academic titles can be stripped. If copyrights are not respected, imprisonment or financial sanctions are also imposed. However, I see that the biggest problem is the damage to the reputation of the scientist."* (S7)

*"The relevant researcher should be unseated or dismissed. I know there is no monetary penalty other than that. In fact, I think that all the past earnings of the person who has been found to violate ethics should also be returned. For, until that day, s/he has earned unfair profit from someone else's expense and this type of behaviour is dangerous and troublesome. I can list the spiritual elements as follows: Spiritual situations such as theft stigma, the destruction of the existing reputation in society, internal burnout, and mental illness."* (S12)

*"Under the Law on Intellectual and Artistic Works numbered 5846, they may face imprisonment and fines."* (S16)

**4.8 Opinions on the Effectiveness of Sanctions Regarding Unethical Behaviors**

Some statements of the interviewees are as follows:

*"The problem is, in general, that the student can go through the plagiarism program many times to avoid plagiarism in agreement with the teacher. Or, they change places where there is plagiarism with demo programs, in this way they avoid plagiarism. There are many more ways. I do not know exactly what kind of penalties are imposed in case of plagiarism, but I think in cases of plagiarism up to a certain rate, they can be banned from the profession so that they cannot do any academic and scientific research again.*
*I do not know enough about what the sanctions are; but if there were strict sanctions, I think we wouldn't be talking about it today. I don't think this case should be viewed only from the point of plagiarism. Nowadays, I can see that ethical rules are not followed very easily. In general, I think it would be appropriate if an impartial court was established on this area. Access to articles is easier today. We have a very large media pool. A committee consisting of impartial auditors should be established only for this area and the sanctions should be of a deterrent level. For example, the title of people who do not abide by the ethical rules can be stripped, their diplomas can be decertified, the damages caused by the person in this process can be compensated in material terms, and the relevant person can be banned from publishing. Even the name of the person who did it can be disclosed depending on the severity of the damage.* (S2)

*"Penalties such as expulsion from the profession, imprisonment, and gradual suspension are sufficient, but the penalties in financial terms can be given in form of a compensation penalty and a deterrent amount of administrative fines depending on the level of the other party's difficulty.* (S5)

*"I do not think that the penalties are imposed fairly and justly. Especially, I think that a researcher who commits the crime of plagiarism should be punished in the most severe way. For example, if s/he works in universities or government institutions, s/he must definitely be dismissed. There should also be a fine or imprisonment for the violation of the code of ethics. It is especially essential to have deterrent penalties."* (S10)

*"I do not think that such behaviours can be prevented with various forms of penalties. I am in favour of raising total awareness on this issue. I think that the importance of ethical rules should be mentioned not only in undergraduate or graduate programs but also at secondary school levels."* (S7)

**4.9 Factors Driving Scientific Unethical Behaviour**

Some statements of the interviewees are as follows:

*"The main reasons for non-compliance with publication ethics are that relevant persons frequently are those who receive education through rote learning and thus, unfortunately, there is no tendency to come up with something new based on production because it is fundamentally wrong. Second, because people are really used to laziness, they tend to take the shortest route to success. Third, the academics that are just starting to do scientific research are not informed about the ethical rules and universal scientific value. Fourth, as in all institutions in our country (Turkey), universities recruit administrators, professors, and even new students who start academic studies with favouritism and nepotism. I do not know how much ethics and morality can be talked about since the administration is based on a structure that is far from merit on the basis of education and training."* (S1)

*"Of course, there is much to say about the reasons why people do not comply with scientific research and publication ethics. Perhaps, they do not have a thought to convey or a productive mind-set, or may be inadequate to put thoughts in writing, may be doing it intentionally, may not have the capacity to realize the consequences of what he is doing, may be acting in line with their interests, may be planning to create chaos, or may have an intention to cover up the facts. These people are immoral people. To think that immoral people have a tendency to comply with ethics would be to look at the situation from a very positive perspective, which I think is not necessary. Originality, even a little, is better than copied and unqualified works."* (S2)

*"The issue of ethics does not matter much as people now aim to promote and advance shortly rather than presenting original work. I think that people who break the rules do not serve science, because research is made not to get titles, but to advance science. I do not think they follow this principle."* (S3)

## 5. Prevention of Unethical Behaviour

Some of the statements by the interviewees are as follows:

> *"The development of technology allows easier access to information. It affects the writing style of scientific research by containing positive and negative elements. To prevent these behaviors, researchers should be regularly educated and informed about ethical rules or unethical rules and should be provided with a free atmosphere where they can act without the pressure of superiors or any other issues or figures, and, if necessary, certain sanctions may be imposed or certain measures may be taken including penalty points or greater deterrent actions."* (S5)

> *"Technological developments not only have made it easier to access information, but also have led to the loss of the originality of people. On the other hand, with the plagiarism programs developed, it has become easier to identify acts against publication ethics."* (S6)

> *"To identify behavioural models unsuitable for scientific ethics and to find solutions to prevent these behaviors. It is necessary to attach importance to research education and training in science. For this reason, ethical standards should be taught to the research groups. Young researchers should start to work with simpler research projects that are easier to supervise, and good research opportunities should be provided for researchers."* (S21)

> *"Being unqualified and bad pushes some researchers to exhibit such behaviours. It is not acceptable that other scientists show others' works without reference as if they came out of their own pen. Other behaviours are using the technology in a wrong way, failing to specify the source in the studies, including works in the bibliography without sufficient reading. Before publishing an article or a thesis in journals, it should be scrutinized and tightly woven, and the article should be examined thoroughly by the referees first."* (S22)

## 6. Results

Ethical study leads to the formation of social norms that focus on the behaviour one is expected to pursue in a particular situation. These norms of behaviour that guide moral choices can allow for a wide variety of ethical positions (Saunders, Lewis, and Thornhill, 2011). As a result of the analysis of the statement of the students participating in the present study as interviewees, it was concluded that they mainly have highly negative opinions about unethical behaviours and express their opinions with some recommendations and observations. As such, they are found to believe that ethics is based on moral and conscientious principles, should not contradict the values of society, and scientists should work for the benefit of society in an impartial manner. They emphasize that results should be objective, without distortion, and authentic and that morality is an extremely important value that should be embraced by every member of

society and particularly by scientists. They also believe that a person who has no moral values betrays society and his/her profession and that a scientist who attempts to steal the labour of others should not perform this profession.

It was also found that the interviewees juxtaposed unethical behaviours in scientific research and publications as follows: plagiarism, distorting information, protecting personal interests, repeating unethical studies, reflecting someone else's views as their own, and expressing and practicing others' thoughts as their own, adding that technological developments help comply with ethical rules, the most common unethical behaviour is the use of others' work without permission, and technology facilitates information theft, though it also offers benefits in accessing information.

It is not possible to see someone talk good about something generally unaccepted by society or legal etiquette or moral principles. Yet, we all should take into consideration how such unacceptable principles or behaviours are handled by authorities, to what extent they are exhibited by relevant people in various fields, and whether those exhibiting such behaviours or acting against principles are punished or not. In this context, every single profession has its own standards, ethics, principles, codes, etc. Thus, people are together forming a community, and the community formed by researchers or authors as people searching or writing about science is referred to as scientists. Scientists are the mirror of society and are expected to shape a great number of things in life or to find solutions to the problems of humanity. This means they are responsible for a highly essential and crucial figure, which is the whole world or its people. In return, scientists gain respect or status or financial benefits, etc. They are bound to abide by some standards, and ethics is the highest of all these standards. As the statements of the students, who are also part of the world or its people, should show us that scientists are the apples of the people's eyes and should do well to avoid what these people do not want to see or experience. This is ethics and should be embraced under any circumstances.

Finally, in the context of these results, researchers are recommended to study on a sample group consisting of academics on scientific ethics in the near future and to conduct a study to explore their opinions on the issue. The results of this study revealed that the ethics education course taught the students of graduate education to be conscious of scientific ethics and that there were perceptions that there was a significant tendency towards ethical violations in the studies. To avoid such negative thoughts regarding unethical behaviours, it would be beneficial to provide a good ethical education and to review all academic studies via technological means.

**Conflict of Interest Statement**

The author declares no conflicts of interest.

**About the Author**

Muhammet Baki Minaz works as a lecturer at Siirt University, Faculty of Education, Turkey. He completed his doctorate in educational administration. He has studies on

educational administration, educational sciences, teacher training, ethics and ethical leadership.

## References

Akaranga S. I. and Jude Ongong'a (2013). Work Ethics for University Lecturers: An Example of Nairobi and Kenyatta International Journal of Arts and Commerce, 2 (8) 8-22.

Arminger, B. (1997). Ethics in Nursing Research: Profile, principles, perspective. Nursing Research. 26 (5):330-333.

Bell, E. & Bryman, A. (2007). The ethics of management research: an exploratory content analysis, British Journal of Management. 18(1) 63-77.

Blumberg, B., Cooper D. R., & Schindler P. S. (2005). Business Research Methods, Mc Graw Hill: Berkshire.

Creswell, J. W. (2015). *Nitel Araştırma Yöntemleri,* Ankara: Siyasal Yayın Dağıtım

Fouka G. & Mantzorou M. (2011). What are the major ethical issues in conducting research? Is there a conflict between the research ethics and the nature of nursing? Health Science Journal, 5 (1), 3-14.

Korthals, M. (2005). Ethical challenges for the life sciences Ethics for Life Scientists 5, 236 p., Softcover ISBN: 978-1-4020-3179-3

Kour S. (2014). Ethical and legal issues in educational research. Indian Journal of Applied Research, 4(6).

Kovacs, A. (1985). The Research process: Essentials of skill development. F.A Davis Company: Philadelphia, USA.

Küçük, M. (2003). Bilimsel Araştırma Ve Etik, Kurgu Dergisi 2, 255-266,

Mugenda A. G. (2011). Social Science Research Methods: Theory and Practice, ARTS Press: Nairobi.

Oddi L. F. & Cassidy, V. R. (1990). Nursing Research in the U.S.: The protection of human subjects. International Journal of Nursing Studies, 27(1), 21-34.

Resnik D. B. (2011). What is Ethics in Research and why is it important? http://www.niehs.nih.gov/research/resources/bioethics.whatis.cfm.

Saunders M., Lewis P. & Thornhill A. (2011). Research Methods for Business Students, 5th ed, Pearson: New Delhi.

Treece E. W. & Treece J. W. (1982). Elements of Research in Nursing, Mosby: St. Louis.

TÜBA (2002). Bilimsel Araştırma ve Etik Sorunları. 25 Temmuz 2019 tarihinde http://www.tuba.gov.tr/kitap34.html internet adresinden erişilmiştir.

Yıldırım, A. ve Şimşek, H. (2005). *Sosyal bilimlerde nitel araştırma yöntemleri.* Ankara: Seçkin Yayıncılık.