EXPLORING ETHICAL CLEARANCE IN RESEARCH: STUDENTS' PERCEPTIONS

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Abstract

The need for research that meets the code of ethics increases along with the awareness of researchers to conduct research in accordance with ethical standards. However, awareness of the code of ethics is certainly not possessed by all academics, especially students. This study aims to explore students' perceptions of the code of ethics in conducting research and how perceptions influence students' views on the ethicals. The research method used in this study uses an experimental approach. This study involved 94 research participants in the study. Data analysis used in this study is validity, reality and correlation analysis. This study found that demographic data such as Gender, Semester Level and Research Subjects did not correlate with other variables. While the variable of importance of ethical clearance has a correlation with the impact of ethical violations, protection of research subjects and the responsibility of researchers and institutions.

Keywords: ethical clearance, research, perception, ethics

INTRODUCTION

Ethical clearance (EC) involving humans and animals is currently an important need in research. The need for certainty that research is conducted in an ethical manner and does not harm the research subjects involved is a consideration because EC is so important. One of the ethical violations that often occurs is the misuse of data confidentiality. The openness of technology has consequences for data that can potentially become a digital footprint so that it can lead to data misuse. The EC assists research to meet research standards and the moral-social implications of the activities of the research stages. EC demand is increasing in line with the high demand for high-quality international publications (Wardhono & Lestari, 2023b). The EC needs to be met to ensure that the research is conducted in an acceptable manner and does not have a negative influence on the research subjects, the animals and the environment involved. However, to get EC approval takes a long time and is not uncommon to slow down the research stage and lower the morale of researchers (Mbabe et al., 2021). Lengthy EC approvals can often delay the conduct of the researcher and can have the impact of the research topic becoming obsolete before the implementation of the research. The ethical review process in human-involved assessments is used to uphold ethical standards and protect participants (Brown et al., 2020). The ethical review process is often a potential impediment to research progress (Allen, 2016).

Some of the main causes of delays in the EC approval process, such as in the university environment, are the completeness of conventional files or manual processes. The manual process resulted in the completion of the application stage taking a very long time due to an ineffective tracking system. In addition, researchers were unable to monitor the status of their EC applications appropriately. Therefore, the potential for confusion and frustration in research is enormous. EC is one of the keys to the research stage, so a digital system is needed to support it to reduce the possibility of obsolete research potential. The proposed solution includes the involvement of relevant research experts to the research topic. A mechanism is needed to simplify the ethics submission process and maintain ethical standards in research (Yesuf, 2024). With ethical standards, it is hoped that there will be an increase in research integrity and reduce the risk of research procedure errors. Research ethics review practices vary widely across countries illustrating the basic principles to consider and pragmatic approaches to seeking ethics approval (Gurung et al., 2016).

The EC application process requires the development of a clear EC workflow system. A system is needed that can speed up and simplify the approval process without compromising the required ethical aspects. One of the proposals considered is to utilize information technology so that it can apply for EC online. The potential for failure of EC filing can be reduced because the business process of the EC system is clear (Hoque & Rana, 2018). Several studies show that EC is very important and requires a high level of concern to make it happen. Although the EC guidelines have been published, the basic principles of the EC are considered and follow a pragmatic approach to obtaining ethical approvals as in biomedical and clinical research (Edwards et al., 2012).

The challenges noted in EC submissions are related to considerations of data security and privacy regulations that govern the EC flow system. The data owned by the research subjects is personal and sensitive information, so it is necessary to protect and prevent its misuse. The need for security drives the design of digital systems equipped with layers of security to ensure that all uploaded data is guaranteed to be secure and can only be accessed by authorities. The digital system ensures that all EC submission processes are in accordance with privacy regulations and that research subjects are guaranteed their rights. The development of EC submissions is of course a new thing in Indonesia. Not many institutions have EC submission institutions, besides that researcher awareness is an important concern in EC submission (Wahyuwardani et al., 2020). In addition, infrastructure to support research needs to be considered, especially if the research subject is animals.

Several studies address the importance of EC submissions in research (Alvesson & Stephens, 2024; Chakranarayan, 2016; Das et al., 2023; Ficorilli, 2022; Ramrathan et al., 2017; Sundas et al., 2020; Yesuf, 2024). However, there has been no research related to instruments that measure the perception of the application of EC. The results of this study are expected to strengthen the reason for the importance of EC in the implementation of research. Research conducted in accordance with ethical and responsible procedures can have a positive impact on society in addition to producing new knowledge. In addition, the EC is believed to be able to protect the rights of individuals from the research subjects involved.

Ethical Clearance

Ethical clearance (EC) is often linked to the feasibility of conducting research in which the research subject is involved. EC is one of the important considerations in the process of taking research data. There are serious considerations in the process of taking research data by paying attention to

ethical and safety aspects for all parties involved (Blair & Harper, 1995). The EC provides certainty for the implementation of research that meets the correct procedures. Although EC is important, EC in its implementation involves stages that must be passed by researchers. The EC submission stage includes the submission of a research proposal equipped with a draft research methodology (Blair & Harper, 1995). The researcher must explain in detail the potential risks and benefits of the research conducted to the research ethics committee. In detail, researchers are sometimes asked to submit a written consent process from the research subjects involved, or if the research subjects involved are at a vulnerable age, their consent is requested from guardians. The vulnerable age referred to in the study is the research subject who has not been able to make his own decisions so that he needs the consideration of others, such as parents, guardians and other parties. The EC requires researchers to consider aspects such as the protection of research subjects, data confidentiality, and potential conflicts of interest. Great demands from stakeholders for the improvement of ethical standards of conduct in research (Meka et al., 2024). This is done to ensure that research is carried out with full integrity and respects the rights of research subjects.

In the academic world, EC was often submitted as one of the requirements that must be met in the research publication process. Reputable scientific journals demand evidence that research has gone through an ethical process before the results are published. High ethical standards are required as a guarantee that research results can be considered in the academic world. Based on this, there is a big challenge for researchers, where they must understand that EC is not just a formality but a commitment of researchers to maintain scientific integrity. The application of EC is an important need in the research process. Therefore, the researcher is expected to be able to meet the needs of the EC submission, but in some implementations the researcher submits an Institutional Review Board (IRB) to meet the ethical aspect, with the aim of protecting the rights and welfare of the research subjects who have been involved in the research process. IRB is carried out with research subjects under the auspices of institutions affiliated with researchers.

RESEARCH METHOD

This study uses a statistical approach to solve problems related to students' perception of ethical clearance in the application of research. The data analysis used in this study is correlational, which describes the relationship between several variables. This study involved 94 students who were registered in the odd semester 2024/2025 from various science subjects, at one of the universities in Malang, as shown in Table 1.

Table 1. Research subjects based on science subjects

Gender	Formal sciences	Natural sciences	Social sciences	Grand Total
Female	9	16	5	30
Male	23	28	13	64
Grand Total	32	44	18	94

Table 1 shows the research subjects involved in the study, as many as 68.09% of male students were involved in this study. The assignment of student subjects was carried out randomly by distributing measurement instruments to 125 students, but as many as 94 students completed filling in the distributed instruments. The research subjects involved are divided into 4 levels of study, semesters 1, 3, 5 and 7 as shown in Table 2. The division of science subjects consists of three (3), namely Formal Sciences (Logic, Mathematics, Theoretical Computer Science, Information Theory, Systems Theory, Decision Theory, Statistics), Natural Sciences (biology, physics, chemistry, astronomy and Earth Sciences), Social Sciences (anthropology, archaeology, economics, education, history, human geography, law, linguistics, political science, and psychology). However, in this study, the research subjects are categorized based on science rather than the study program in detail.

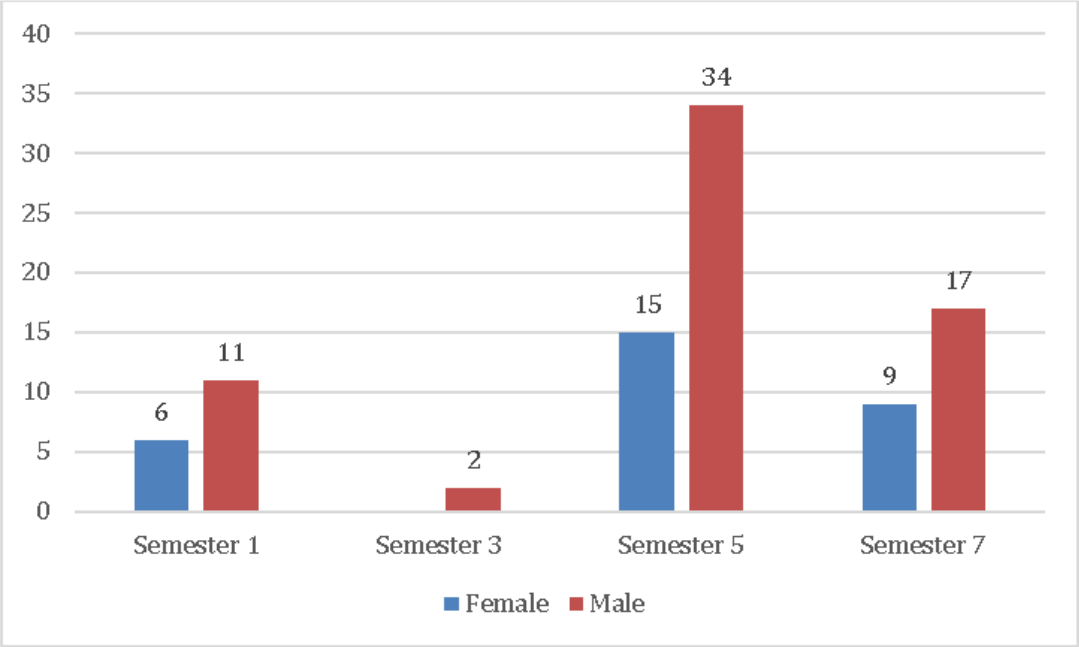

Figure 1. Research subjects based on semester distribution

The data analysis used in this study used statistics to measure the validity-realism of the instrument, and the correlation of the components of the instrument indicator (The Importance of Ethical Clearance Impact of Violation of Ethical Clearance, Protection of Research Subjects, and Responsibilities of Researchers and Institutions), as shown in Figure 2.

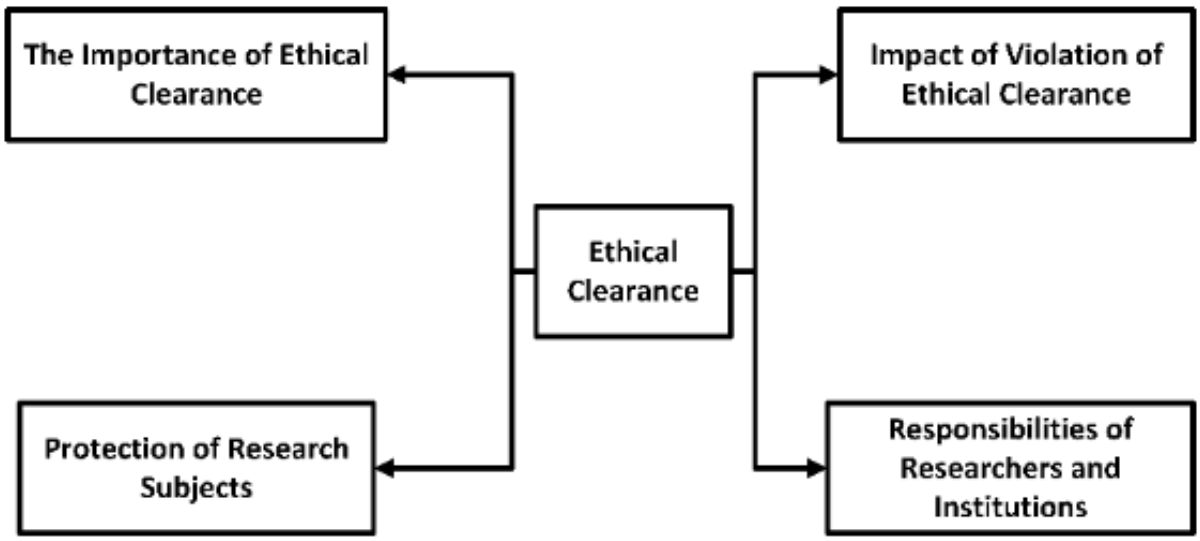

Figure 1. Components of EC perception measurement instruments

To support the achievement of the objectives of this study, the researcher developed an instrument to measure the perception of EC in the study. There are four (4) components of perception management in the EC as shown in Figure 1. Figure 1 shows that four approaches (A) are needed for EC measurement, namely The Importance of Ethical Clearance (A1), Impact of Violation of Ethical Clearance (A2), Protection of Research Subjects (A3), and Responsibilities of Researchers and Institutions (A4). The researcher developed a perception instrument for EC with the stages of validation and reliability based on statistical tests, such as in the EC perception instrument shown in Table 2.

Table 3. Ethical Clearance (EC) perception scale

A	Q	Question Item	Likert Scale 1	2	3	4	5
A1	Q1	Ethical clearance (EC) is very important for research					
	Q2	Researchers' understanding of Ethical clearance (EC) can help to avoid ethical violations					
	Q3	The public must know the importance of Ethical Clearance (EC)					
	Q4	Ethical clearance (EC) needs to be updated along with the development of science and technology					
	Q5	Ethical clearance (EC) is a guideline for more responsible research					
	Q6	Researchers make Ethical clearance (EC) a minimum standard					
	Q7	Ethical clearance (EC) provides certainty regarding the implementation of responsible and ethical research					
	Q8	Researchers who do not follow Ethical clearance (EC) can potentially endanger research subjects					
A2	Q9	Research results produced with unethical procedures cannot be trusted					
	Q10	Researchers who violate the research code of ethics can be subject to sanctions					
	Q11	Researchers who do not follow Ethical clearance (EC) can potentially harm the reputation of the research profession					
	Q12	Researchers who follow Ethical clearance (EC) can avoid integrity and ethical problems					
	Q13	Ethical clearance (EC) can protect the rights of research subjects involved					
A3	Q14	Developing a code of ethics is the responsibility of researchers, institutions and the public					
	Q15	Researchers who follow research procedures, the research code of ethics can present useful research results					
	Q16	Researchers who do not follow the code of research ethics can endanger themselves and research participants					
A4	Q17	The code of ethics is the responsibility of the researcher					
	Q18	Institutions must have great concern and attention to compliance with the code of ethics					
	Q19	Knowledge and education about the code of ethics need to be known by researchers					
	Q20	Knowledge about the code of ethics helps researchers to make ethical decisions					

The process of validity and reliability of the instrument is carried out to determine the accuracy of the measuring instrument in accordance with its measurement function, and to obtain information that can be trusted as a data collection tool. This study uses IBM SPSS Statistics 27 to assist in the data processing process.

RESULTS AND DISCUSSION

Validity and Reliability of EC Instrument Scale

The validity process on the instrument is used to determine the extent of the accuracy of the measuring instrument in carrying out its measurement function. An instrument is said to have high validity if it can perform its function. Meanwhile, an instrument is said to be reliable if a person's answer to the statement is consistent and stable. The validity test was carried out with a statistical approach by considering the product moment pearson correlation as one of the conditions of item validity, as shown in Table 3.

Table 3. Validity test of product moment pearson correlation

Q	Pearson Correlation	Q	Pearson Correlation
Q1	.975**	Q11	.979**
Q2	.947**	Q12	.975**
Q3	.866**	Q13	.973**

Q4	.953**	Q14	.962**
Q5	.922**	Q15	.968**
Q6	.942**	Q16	.969**
Q7	.951**	Q17	.980**
Q8	.944**	Q18	.974**
Q9	.864**	Q19	.973**
Q10	.963**	Q20	.974**

Table 4 shows the validity test of statement items on the perception measurement instrument of ethical clearance. The results showed that the entire statement item had a pearson correlerant value of > r_{tablel}.R $value_{table}$ with the number of participants (N) for 94 students was 0.1689, Sig. (2-tailed). Based on Table 4, the entire statement item (Q1-Q20) has a pearson correlation value > 0.1689, thus stating that the measurement instrument meets the validity requirements. The next step is to measure reliability by measuring Cronbach's Alpha value (McCormick et al., 2017). The greater the value of Cronbach's Alpha the greater the value means the more reliable, 0.995 then indicates that the instrument meets the reliability, as shown in Table 4.

Table 4. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.995	.995	20

The correlation relationship between items shows that each question item meets the reliable requirement, where the Corrected Item-Total Correlation value > 0.1689, which is shown in the inter-item correlation matrix as shown in Table 6. Table 6 shows the Corrected Item-Total Correlation value on each statement item (Q) > 0.1689, so all items qualify for reliability (Denis, 2019).

Table 5. Inter-item correlation matrix

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Validity of Item
Q1	75.17	312.981	.972	.994	Valid
Q2	75.15	311.397	.941	.994	Valid
Q3	74.91	321.197	.854	.995	Valid
Q4	75.11	313.537	.947	.994	Valid
Q5	75.16	315.017	.913	.995	Valid
Q6	75.00	312.430	.935	.994	Valid
Q7	75.01	312.978	.945	.994	Valid
Q8	75.04	313.030	.938	.994	Valid
Q9	75.02	317.333	.851	.995	Valid
Q10	75.09	313.498	.959	.994	Valid
Q11	75.04	311.740	.976	.994	Valid
Q12	75.17	312.981	.972	.994	Valid
Q13	75.16	313.189	.970	.994	Valid
Q14	74.94	311.071	.958	.994	Valid
Q15	75.14	314.034	.965	.994	Valid
Q16	75.21	314.212	.965	.994	Valid
Q17	75.06	310.985	.977	.994	Valid
Q18	75.03	312.096	.971	.994	Valid
Q19	75.16	313.189	.970	.994	Valid
Q20	75.03	312.096	.971	.994	Valid

Student Perception on the Implementation of EC

Students' perception of the implementation of EC shows several things other than the distribution of demographic data such as gender, semester and subject of study. This study shows the correlation of several components of student perception that need to be considered in this study. Correlation analysis shows the closeness of the relationship between variables shown by the correlation coefficient value. The demographic data of students involved in this study is shown in Table 6.

Table 6. Descriptive statistics

	Mean	Std. Deviation
Gender	1.32	.469
Level of Semester	4.79	2.021
Subject of Study	1.85	.718
The Importance of Ethical Clearance	27.71	6.388
Impact of Violation of Ethical Clearance	19.80	4.636
Protection of Research Subjects	15.68	3.782
Responsibilities of Researchers and Institutions	15.84	3.906

Table 6 shows the descriptive distribution of data to the responses of participants involved in the study, with data at the level of semester (M=4.79; SD=2,021) as one of the data that needs to be considered. This consideration is because some students who are at the higher semester level have an interest in research ethics because of their need to research as a form of implementation of the final project. In addition, consideration of knowledge before related research may provide correlation with other variables, as shown in Table 7.

Table 7. Correlation between variables

Correlations								
		G	LS	SS	A1	A2	A3	A4
Gender (G)	Pearson Correlation	1	.004	.015	.081	.079	.076	.099
	Sig. (2-tailed)		.967	.886	.436	.446	.465	.344
Level of Semester (LS)	Pearson Correlation	.004	1	-.007	-.108	-.115	-.119	-.122
	Sig. (2-tailed)	.967		.945	.300	.270	.254	.243
Subject of Study (SS)	Pearson Correlation	.015	-.007	1	.068	.068	.077	.041
	Sig. (2-tailed)	.886	.945		.515	.512	.459	.693
The Importance of Ethical Clearance (A1)	Pearson Correlation	.081	-.108	.068	1	.994**	.991**	.986**
	Sig. (2-tailed)	.436	.300	.515		.000	.000	.000
Impact of Violation of Ethical Clearance (A2)	Pearson Correlation	.079	-.115	.068	.994**	1	.988**	.987**
	Sig. (2-tailed)	.446	.270	.512	.000		.000	.000
Protection of Research Subjects (A3)	Pearson Correlation	.076	-.119	.077	.991**	.988**	1	.981**
	Sig. (2-tailed)	.465	.254	.459	.000	.000		.000
Responsibilities of Researchers and Institutions (A4)	Pearson Correlation	.099	-.122	.041	.986**	.987**	.981**	1
	Sig. (2-tailed)	.344	.243	.693	.000	.000	.000	

G=Gender; LS=Level of Semester; SS=Subject of Study; A1= The Importance of Ethical Clearance; A2= Impact of Violation of Ethical Clearance; A3= Protection of Research Subjects; A4= Responsibilities of Researchers and Institutions

The determination of correlation in this study can be seen in two (2) approaches, namely based on the Sig. Signification value (2-tailed) and the r_{count} value (pearson correlations). If the value of Sig. (2-tailed) is <0.05 or if the value of $r_{count} > r_{table}$ then the variable shows a correlation between the variables. Table 8 shows that the results of the study are as follows:

a. Demographic data such as Gender (G), Level of Semester (LS) and Subject of Study (SS) do not have a correlation with other variables.
b. The Importance of Ethical Clearance (A1) memiliki korelasi dengan Impact of Violation of Ethical Clearance (A2), Protection of Research Subjects (A3) dan Responsibilities of Researchers and Institutions (A4), Sig. (2-tailed) < 0.05

Researchers in universities have a concern for the importance of EC in research, where they pay attention to several things such as the impact of research if it does not meet the code of ethics (Wardhono & Lestari, 2023a). Researchers who have consideration of the research code of ethics tend to fulfill the integrity of the research results (The Law, 2010). In addition, the protection of research participants is a concern, especially in the information provided. The results of the study emphasize the

importance of understanding research ethics, where ethical awareness is not only a formality, but ethics plays a role as a foundation to produce quality research and fulfill integrity. Non-compliance with research ethics has the potential to have a negative impact on the implementation of research. Finally, this study has a significant impact on the development of research, especially how EC is considered in the process of conducting research. Researchers may consider using EC or IRB to support the integrity process of their research.

CONCLUSION

This study presents findings in the form of an instrument to measure perception of the use of Ethical Clearance (EC) in research. There are as many as 20 statement items that can be submitted to research participants or research subjects. The overall item met the requirements for validity (pearson correlation value > 0.1689) and reliability (Cronbach's Alpha=0.995). The instrument for measuring perception of EC consists of four (4) variables/components, namely The Importance of Ethical Clearance, Impact of Violation of Ethical Clearance, Protection of Research Subjects, and Responsibilities of Researchers and Institutions. This study states that demographic data such as Gender, Level of Semester and Subject of Study do not have a correlation with other variables. In addition, the results showed that the Importance of Ethical Clearance (A1) had a correlation with the Impact of Violation of Ethical Clearance (A2), Protection of Research Subjects (A3) and Responsibilities of Researchers and Institutions (A4), Sig. (2-tailed) < 0.05. Further research is expected to involve a wider range of research subjects from several universities. With the existence of diverse research data, it is expected that the correlation between the variables involved can be analyzed more deeply.

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