SURVEY OF SOME OPINIONS ON THE ISSUE OF INTEGRITY IN SCIENTIFIC PUBLICATION OF STUDENTS AT VIETNAM SUMMER SCHOOL OF SCIENCE

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ABSTRACT

Objectives: To survey of some opinions of the group of students participating in the 11th Vietnam Summer School of Science on the issue of integrity in scientific publication. ***Subjects and methods:*** The study describes a series of cases from August 19, 2024 to August 21, 2024 on 40 students attending the course at the 11th Vietnam Summer School of Science in Quy Nhon city, Binh Dinh province. ***Results:*** Among the 40 subjects participating in the survey, there were 19 men and 21 women, with an average age of 23.65 ± 4.4 years (range 18 - 38). The number of people whose scientific works have been published accounts for 80%. The reasons believed to be the cause of integrity violations in scientific publication include: Lack of knowledge or awareness of research ethics (95%); Pressure on the number of individual publications (92.5%); Financial motivation (90%); Creating opportunities for personal advancement (80%); Commitment when receiving sponsorship sources (47.5%). ***Conclusion:*** The Vietnam Summer School of Science students participating in this survey had a clear awareness of the issue of integrity in scientific publication, especially serious violations such as data fabrication, plagiarism and self-plagiarism.

Key words: Scientific integrity, scientific publication, Vietnam Summer School of Science.

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I. INTRODUCTION

Research is one of the important tasks to promote scientific progress. Therefore, to conduct serious research, integrity in research is an essential requirement in this work. Integrity is not a uniform concept worldwide but a concept that is specific to localities, professions, and types of organizations. According to Metcalfe et al. (2020), integrity in research is "conducting and conducting research in a way that ensures trustworthiness and ethics" [1]. Violations of scientific integrity are currently a problem occurring in countries around the world. A lack of understanding about integrity in scientific publication will cause researchers to violate research ethics, reduce the ability of research projects to be published, and may commit other acts. violation of the law. Therefore, the main task of scientific training seminars and conferences is to convey an understanding of integrity in scientific publication to students, who are the young scientists of the future. We ask the question "How is the understanding of integrity in scientific publication of students in science courses?". Based on that reality, we conducted a study with the goal of "Surveying of some opinions of the group of students participating in the 11th Vietnam Summer School of Science on the issue of integrity in scientific publication".

II. SUBJECTS AND METHODS

2.1. Research subjects

40 students attended the course at the 11th Vietnam Summer School of Science in Quy Nhon city, Binh Dinh province from August 19, 2024 to August 21, 2024. Inclusion criteria: Subjects who voluntarily agreed to participate in the study. Exclusion criteria: Subjects who did not agree to participate in the study, and subjects who did not answer enough questions in the interview questionnaire.

2.2. Research methods

The study design describes a series of cases, selecting convenient samples from students who volunteered to participate in the study and met the research criteria. The results collected 40 samples that met the selection criteria. Survey characteristics such as: Age; Gender; Education level; Number of published scientific research works; Field of work; Opinions and comments on integrity in scientific publication

Data entry, analysis, and processing by software SPSS 29.

2.3. Research ethics

This is a survey based on interview results, collecting information from students participating in the 11th Vietnam Summer School of Science. The research is based on the spirit of respect and ensuring confidentiality for the research participants.

III. RESULTS

Table 1: ***A few characteristics of research objects (n=40)***

Age	23.65 ± 4.4 (18 – 38)
Gender	Male : 19 (47.5%) Female : 21 (52.5%)
Education level	High School : 0 College : 0 University : 32 (80%) Postgraduate : 8 (20%)
Field of work	Medicine : 15 (37.5%) Computer Science : 0 Engineering (electrical, automotive, telecommunications, ...) : 0 Social Sciences & Humanities : 6 (15%) Natural Sciences : 15 (37.5%) Economic Sciences (market economy, economics, ...) : 4 (10%)
Number of published scientific research works	No published work : 8 (20%) 1 – 2 : 24 (60%) 3 – 5 : 7 (17.5%) More than 5 : 1 (2.5%)

Results from Table 1, Among the 40 subjects participating in the survey, there were 19 men and 21 women, with an average age of 23.65 ± 4.4 years (range 18 - 38). Subjects had university degrees or higher, of which 80% had university degrees, 20% had postgraduate degrees, and were working in various fields, specifically, medicine and natural sciences accounted for 37.5%, social sciences and humanities accounted for 15%, economic sciences accounted for 10%. The number of people with published scientific works accounted for 80%.

Table 2: ***Survey rate of behaviors considered integrity violations in scientific publications (n=40)***

Fabricating and using fake data in research	40 (100%)
Selectively cite your own work just to improve your citation index	37 (92.5%)
Submit research reports to two different journals for publication in two places	40 (100%)
Not properly citing references in scientific products	33 (82.5%)
Doing scientific work for hire	40 (100%)
Scattering research results across more articles than necessary	35 (87.5%)
Ignore your colleague's questionable interpretation of data	30 (75%)
Ignore colleagues' use of faulty data	35 (87.5%)
Copy or use someone else's material without citing the original source	40 (100%)
Using someone else's material without permission or violating intellectual property rights	40 (100%)
Reusing your own content in scientific publications without citing the source	39 (97.5%)
Using plagiarism support tools or self-plagiarism illegally	40 (100%)
Using the research work of the whole group for personal purposes without the consent of the research group	40 (100%)
Adding one or more authors to an article who are not eligible to be authors (called "gift authors")	40 (100%)

In Table 2, The behaviors that all survey subjects assessed as violations of integrity in scientific publication include: Fabricating and using fake data in research; Submit research reports to two different journals for publication in two places; Doing scientific work for hire; Copy or use someone else's material without citing the original source; Using someone else's material without permission or violating intellectual property rights; Using plagiarism support tools or self-plagiarism illegally; Using the research work of the whole group for personal purposes without the consent of the research group; Adding one or more authors to an article who are not eligible to be authors (called "gift authors").

Table 3: ***Survey rate on the causes of integrity violations in scientific publication (n=40)***

Pressure on the number of individual publications	37 (92.5%)
Creating opportunities for personal advancement	32 (80%)
Lack of knowledge or awareness of research ethics	38 (95%)
Commitment when receiving sponsorship sources	19 (47.5%)
Financial motive	36 (90%)

According to Table 3, In this study, the reasons given for violations of integrity in scientific publication include: Lack of knowledge or awareness of research ethics (95%); Pressure on the number of individual publications (92.5%); Financial motivation (90%); Creating opportunities for personal advancement (80%); Commitment when receiving sponsorship sources (47.5%).

IV. DISCUSSION

In this study, according to Table 1, there were 40 subjects who agreed to participate in the survey, with 19 men and 21 women, the average age of the subjects was 23.65 ± 4.4 (ranging from 18 to 38). The subjects had a university degree or higher, of which 80% were university graduates, 20% were postgraduates, and were working in many

different fields, specifically, medicine and natural sciences accounted for 37.5%, social sciences and humanities accounted for 15%, economic sciences accounted for 10%. The number of people with published scientific works accounted for 80%.

According to data from Table 2, a table presenting behaviors considered to violate integrity in scientific publication that was surveyed, the results show that the awareness of integrity in scientific publication in each content on each individual is still inconsistent. Some behaviors are still not recognized by students as violations, such as: Selectively cite your own work just to improve your citation index; Not properly citing references in scientific products; Scattering research results across more articles than necessary; Ignore your colleague's questionable interpretation of data; Ignore colleagues' use of faulty data; Reusing your own content in scientific publications without citing the source.

From Table 3, it can be seen that one of the subjective causes leading to integrity violations in scientific publications is a lack of understanding and awareness about it. A number of scientific publications show that students' awareness of academic integrity is limited. “Some acts of academic dishonesty are considered not serious by many students” [2]. Inadequate awareness of research ethics makes scientific publishers unaware of the seriousness of acts of integrity violations, thereby unintentionally or intentionally violating them.

In addition, scientific publication is one of the important conditions to increase the opportunity for promotion at work. Many schools, state agencies, research institutes in Vietnam... require scientific publications, especially international publications, when recruiting staff. In addition, scientific publications are also a factor to evaluate competition and reward individuals and groups in the scientific community. The number of international publications is a factor to rank universities in the world/in the country. For example, the prestigious science website research.com ranks the top scientists in the field of social sciences and humanities, based on the H-index which includes scientific publications [3]. Therefore, researchers are under great pressure to have scientific publications to increase their opportunities for promotion. At the same time, increase the level of prestige and qualifications of individuals and scientific organizations according to the assessment of the scientific community.

Financial motives are often behind scientific publications that are suspected of violating academic integrity. There are many forms of deception, but some examples include ghostwriting, scientific paper mills, etc.. According to Xavier Bosch and Joseph S. Ross, “Typically, a ghost author working in industry or on contract will prepare a complete draft of a review or research paper for an academic partner, often an expert in their field. After that, the scholar submits the manuscript, and in return the writer receives a compensation for his or her time and effort.” [4].

In addition to the above reasons, funding for scientific publications is valuable, with commitments depending on each project, and along with the huge funding, participating members also need to ensure the quality and quantity of research output. To be able to receive projects with sponsorship amounts of up to billions, authors must own a certain number of reputable scientific publications, and the output must also ensure the quantity and quality of scientific publications. Not just the world's major funding funds, funds

from non-governmental organizations, state agencies, businesses investing in scientific research, etc. also make certain commitments to researchers when implementing funding. The commitment to high demands from the sponsor becomes a pressure for the researcher when implementing the project.

Violations of integrity in scientific publication can have serious and widespread consequences. First, it can damage the reputation of individuals and organizations, causing a loss of credibility that is difficult to recover. Additionally, investing time and resources in falsified or misleading studies results in wasting valuable resources, while also losing opportunities for reliable research. Erroneous conclusions from inaccurate publications can hinder progress in science and technology, leading to inaccurate developments and erroneous applications. Furthermore, integrity violations can reduce public and funder trust in science, negatively affecting funding and support for future research. Public breaches can also distract the scientific community, detracting from real research and progress. Ultimately, these behaviors can lead to serious legal and ethical consequences, including revocation of publications, litigation, or loss of professional privileges, and raise ethical issues within the scientific community and society at large [5].

V. CONCLUSION

The Vietnam Summer School of Science students who participated in this survey had a clear awareness of the issue of integrity in scientific publication, especially serious violations such as data fabrication, plagiarism and self-plagiarism. This is one of the good points to help reduce the possibility of integrity violations in scientific research. This shows the importance of creating a scientific education environment in building integrity in scientific research.

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LIMITATIONS

This study was conducted on a narrow scope. The sample was a group of students attending the Vietnam Summer School of Science course. The research can be deployed more widely, collected before and after learning the lesson on Integrity in science to evaluate the change in learners' awareness.

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