



# A Study on Ethics Status of Domestic and Foreign Researchers And Finding Solutions to Unfair Authors\*

Seong-Soo CHA<sup>1</sup>

Received: December 17, 2020. Revised: January 05, 2021. Accepted: March 05, 2021.

## Abstract

The aims of this study were to examine the causes and types of the most common and serious fraudulent authors among research misconduct, and to examine ways to reduce the mass production of unjust authors. In scientific research, it is universal and efficient to have multiple authors participate. This is because each author group consisting of a team has its own expertise, and most of them participate in research in a complementary way to maximize the research effect. However, the competition for achievements between researchers, the quantitative evaluation system of universities, and the social atmosphere of performance-oriented are tempting researchers to abandon research ethics. In this study, in relation to the research ethics of existing researchers, the contents of research ethics by a few countries such as United States, United Kingdom, Germany, Canada, Australia etc. and the situation in Korea was examined as well. In addition, the types and causes of domestic unfair authors in Korea were investigated intensively. In conclusion, in order to no longer produce unfair authors such as compulsory authors, honorary authors, mutually supported authors, and duplicate authors, which researchers unknowingly recognize as co-authors, reinforcement of research ethics education and national organization and system should be supported.

**Keywords:** Research Misconduct, Research Ethics, Unfair author, Ethical Education

**JEL Classification Code:** I29, O30, O39.

## 1. Introduction

Looking at the results of a survey conducted by the Korea Research Foundation for the last two years, the recognition of the importance of research ethics by individual researchers was about 92%, and the recognition of the importance of practicing research ethics by affiliated institutions was about 3% higher in 2020 than in 2019. The reason why the research ethics verification process was not handled fairly was the reason for the paternalism among researchers. Researchers say that the standards for judging

research misconduct are insufficient for reasons of fraudulent research, and the importance of setting standards for research misconduct has emerged (Park et al., 2020b).

The compassionateness of the researcher, the unclear criteria for judging research misconduct, the status and influence of the research claimant affect the fairness of verification, and it is urgent to change the social atmosphere for research ethics and establish clear standards for research misconduct.

The most frequent cases of research misconduct are “unfair author marking”, “plagiarism”, and “poor research

\* This study was supported by the research grant of the KODISA Scholarship Foundation in 2021.

<sup>1</sup> First and Corresponding Author, Professor, Department of Food Science and Service, Eulji University, Republic of Korea, Email: [sscha@eulji.ac.kr](mailto:sscha@eulji.ac.kr)

© Copyright: The Author(s)

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted noncommercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

note writing and management”. This is an emerging research misconduct, and it is urgent to raise the level of research ethics (Kwon et al., 2020).

The biggest reason why research misconduct has not been eradicated is “competition, quantitative evaluation system, performance oriented”, etc. There is a great demand for system improvement, such as reinforcing the punishment criteria for research misconduct. This study analyzes the types of research misconduct in foreign countries and the situation in Korea, and presents problems and alternatives.

## **2. Types of research misconduct around the world**

According to a study by Song (2019), the types and contents of research misconduct in each country are as follows. In the United States, there are three types of research misconduct defined in the United States Federal Regulations, 1) fabrication, 2) falsification, 3) plagiarism. The use of them for research plan application, research application evaluation, and research results report is referred to as research misconduct. However, honest errors or differences of opinion do not belong to research misconduct.

There is an opinion that the narrow application of the scope of research misconduct in the United States as described above is that the subject of application of research misconduct in the health and medical field has been strictly enforced, as it enforces strong sanctions such as real name disclosure. (Um et al., 2018). Such research misconduct must meet certain requirements. First, there must be a significant departure from the practice recognized by the relevant research group, and second, the cheating must be intentionally, knowingly, or recklessly, and thirdly, it must be proved based on evidence.

In the UK, there is the UK Research Integrity Office (RIO), a private organization dedicated to research integrity. UK RIO was founded in 2006 as an independent organization providing advice on conducting research to universities, research institutions and individual researchers. In addition, since it is not a legally based institution, it has no legal authority for the content proposed by UK RIO, but it maintains the research integrity and supports researchers facing bad practice. Research misconduct defined by UK RIO is as follows: ① Fabrication ② Falsification ③ Misrepresentation of data and/or interest and/or involvement ④ Plagiarism ⑤ Failure to comply with the approved procedures or failure to comply with the items to be taken in performing the following items. i) Efforts to avoid undue risk or harm to humans, laboratory animals and the environment ii) Proper handling of personal information collected during

research. The scope of research misconduct presented by UK RIO is very broad.

Unlike other Western countries, in the Federal Republic of Germany, freedom of study is included as a basic statute in its constitution. However, research activities in Germany are restricted from scientific activities that may pose a social hazard by a number of specific legal provisions (eg, animal protection laws, recombinant DNA technology, chemical substances, data protection laws, etc.). However, the relationship between the internal norms of science that distinguishes between scientific misconduct and good scientific practice and the constitutional norms that guarantee freedom of research are not well defined. In July 2019, the German Research Association enacted the “Guidelines for Safeguarding Good Scientific Practice” and has been applying it from August 1, 2019. Nineteen guidelines are presented here. For German universities and research institutes in order to receive research funds from the German Research Association, the internal regulations of universities and research institutes must be amended by July 31, 2021 according to the new guidelines.

The contents that Canada defines as a violation of the research integrity policy are as follows. ① fabrication ② falsification ③ destruction of research records ④ plagiarism ⑤ redundant publication or self-plagiarism ⑥ invalid authorship: Omission of a person who has the right as an author or writing a person who has not contributed to the research as an author ⑦ inadequate acknowledgement: Failure to properly inform people who have contributed to the study ⑧ mismanagement of interest conflict.

Australia enacted the Australian Code for the Responsible Conduct of Research (The Code) in 2018 in cooperation with universities, Australian research institutions and government. Research misconduct is defined as “intentional, reckless, or a serious breach of a negligent code”. Actions that violate the Code are as follows: ① In case of failure to meet the required research standards ② Forgery, alteration, misrepresentation ③ Plagiarism ④ Research data management ⑤ Supervision: Researcher or research under self-supervision Not instructing trainees on responsible research behavior (RCR) ⑥ Authorship ⑦ Conflict of interest ⑧ Peer review: Failure of responsible peer review.

## **3. Korea's Research Ethics System and Current Status of Misconduct**

### 3.1. Research and academia

According to the University Research Ethics Survey Report (Park et al., 2020a), 98.9% of all universities in Korea have established and operated research ethics regulations as of 2019, and the trend has been increasing at a modest level over the past five years.

FFP (fabrication, falsification, plagiarism) and unfair author identification are the most common types of research misconduct specified in the university's research ethics regulations. The number of universities that abolished the verification prescription specified in the university's research ethics regulations is 121, which is 68% of the 177 universities surveyed (excluding missing values). The rate of establishment of research ethics committees of national universities is 100%, but private universities are 94.9%, and national universities operate more frequently than private universities. The ratio of establishing research ethics departments at universities nationwide was only 66% in 2015, but reached 95% in 2019. Examples of departments in charge: Kyungbook National University (Research Audit Office), Sogang University (Industry-Academic Cooperation Foundation Audit Office), Seoul National University (Research Ethics Team), Korea University, Yonsei University, Sungshin Women's University (Research Ethics Center), etc. The average of research ethics personnel at national universities is 1.81 and 1.63 at national and private universities, respectively. Among the workforce in charge of research ethics, national universities (1.61) showed more workforces than private universities (1.35). Cases of personnel from dedicated departments: Seoul National University Research Ethics Team (8 persons), Korea University Research Ethics Center (6 persons), Yonsei University Research Ethics Center (4 persons).

### 3.2. Status of cheating

Of the 544 cases of suspected research misconduct in the last 5 years, 243 cases (45%) were determined in 2019. The reason for the rapid increase in alleged research misconduct from 2018 is that reports of alleged research misconduct have been activated. In addition, it is presumed that there were many judgments on whether or not the research was denied on the issue of co-authoring thesis of university professors and underage children (Song et al., 2019). In the last 5 years, the type of judgment on alleged research misconduct was in the order of unjust authors (210, 36.9%) → plagiarism (174, 30.6%) → others (78, 13.7%). Since the proportion of alleged unfair author labeling cases is large and severe, an additional investigation is planned for the occurrence and determination of unfair author labeling in special relations such as children from the 2021 investigation.

Of the 391 cases that were dismissed over the past five years, 13% of the cases were severe disciplinary action (honesty, dismissal) and 14.6% of the severe disciplinary action (reduction, reprimand) (Song et al., 2019).

### 3.3. Examples of cheating

In December 2017, when university researchers included underage children as co-authors, it became a social issue when it was reported in the media. In July 2018, it was reported in the media that Korean researchers participated in academic conferences run by fake international academic organizations such as WASET more than 4,000 times over 10 years (Committee of the Council of the National Science and Technology Advisory Council, 2018). In response to the occurrence of such consecutive violations of research ethics, the Steering Committee of the National Science and Technology Committee decided on a plan to establish a healthy research culture and advanced research administration (Ministry of Education, Science and Technology, 2019).

In 2019, the Ministry of Education, Science and Technology, and Information and Communication announced the results of the research and actions taken by co-authors of minor children's thesis and insolvent society participation (KBS, 2019). Recently, the issue of "unfair author identification" has become a hot topic again as the fact that a national agency (National Cancer Center) has also posted the child's name as a co-author in the media. As matters related to the same research ethics have emerged as social issues, the National Research Foundation of Korea conducted a questionnaire survey of university professors who are carrying out the projects of the National Research Foundation of Korea to understand the actual situation. The survey period is from February 11, 2019 to February 15, 2019, and a total of 2,181 people answered the questionnaire (Song et al., 2019).

In the case of researchers who responded that unfair author labeling was serious, by age, 20s responded as serious with 70.4% of the population, showing the highest percentage, followed by 52.9% in their 40s and 51.5% in their 50s, than the overall average of 51.1%. By field, the humanities (51.4%), natural sciences (51.4%), engineering (53.2%), agriculture, aquatic and marine sciences (55.6%), and complex sciences (54.2%) exceeded the overall average of 51.1%. Compared to social sciences, arts, and physical education, it appears that the labeling of authors is more serious.

The reason why unfair author labeling is prevalent in all academic fields is: First, the pressure of researchers to produce thesis results, second, the easy recognition of unfair author labeling, and third, research culture that is insensitive to research ethics such as compassion among researchers.

Fourth, inadequate sanctions, and fifth, inadequate system for verifying unfair authoring. This study aims to investigate domestic and international trends in unfair author labeling, and to suggest measures to eradicate them in the future.

## **4. Unfair author**

### **4.1. Causes of unfair author**

Wager (2009) raised the question “What is authorship?” and said, “The discussion of the importance of authors is what the authors of scientific papers actually mean, or who should be listed as an author?” There is a widely accepted definition of and a concept based on understanding it, but in reality it is not. In the general world except for science, the author of novels, poetry, plays or newspaper articles is usually the person who produced them, so it is very easy to define who is author.

In most cases, a literary work is a work of only one person, so it is natural for an author to be recognized as the creator of a new work. In science-related fields, there are no definitions or guidelines accepted by everyone about what an author is. Today, research is rarely conducted by one person. In particular, clinical studies are, in most cases, the result of a collaborative effort by several people. However, not all people who have contributed to the project inevitably write thesis, and because researchers play different roles, there is a difference in perception of what qualifications must be qualified to become authors. In the end, the understanding (or criteria) of the author's role may differ by research field, and even in the same field, it may differ according to cultural differences in each country (Song et al., 2019).

### **4.2. Type of unfair author**

#### **4.2.1. Coercive Authorship**

Senior researchers in labs or departments may use their position to pressure junior researchers to add their names to thesis. If this pressure is evident, it certainly falls under the compulsory author, and along with the authors who are included as a result of “understood” or more subtle “environmental” pressures by young researchers are also compelling authors (Feeser et al., 2008). Kwok (2005) suggested that “scientific misconduct caused by deliberate and deliberate behavior of a scammer,” a characteristic of compulsory authors, is referred to as the “White Bull effect”. According to Kwok (2005), “These White Bull (compulsive authors) recognize that ignoring the ICMJE guidelines completely is too risky and highly likely to be exposed, and past customs such as gift authors or guest authors are no longer accepted.

So they openly show a small part of their participation in (i) discussions on concepts and design, (ii) data collection, (iii) analysis and interpretation of data, and by simply reading and approving most manuscripts written by junior researchers. White Bull states that technically all of the ICMJE's author criteria are met without making a substantial contribution to the paper.

#### **4.2.2. Honorary Authorship**

Guest author, gift author, or honorary author refers to cases in which the authors are included in the author list even though they have not made significant contributions to the research project (Feeser et al., 2008). In the case of honorary authors, the supervisor or supervisor of the main author is often listed as an honorary author. In some cases, the responsible author of the paper voluntarily writes it, and the parties do not know whether the author was written. One of the reasons why supervisors are included in the author list without such a significant contribution to the research is that emerging researchers are expected to increase the credibility of their research content or to be easily accepted in academic journals. Feeser et al. (2008) shows as an example that even in the case of honorary authors, if the honorary author is included as the chief author, serious problems can arise because the manuscript is evaluated not as the content but as the author's strength.

#### **4.2.3. Mutual support authorship**

It is used as a way to show high research productivity by having two or more researchers sign an agreement and write the names of all the practitioners in all thesis. The author of “mutual support” was defined as two or more investigators agreeing to increase productivity by naming each other's papers (Claxton, 2005). “Duplicate authors” are publishing the same work in multiple journals (Errami & Garner, 2008). A compensation system that emphasizes the number of papers over quality encourages “mutual support” and “redundant” authorship abuse.

#### **4.2.4. Duplication authorship**

In the case of determining compensation based on the number of papers, it is encouraged to publish the same content in multiple journals. “Duplicate authors” are publishing the same work in multiple journals (Errami & Garner, 2008). A compensation system that emphasizes the number of papers over quality encourages “mutual support” and “redundant” authorship abuse.

Duplicate publication is the retrieval of an article (or a thinly disguised version of the article) in a second journal without obtaining recognition or permission from the copyright

holder of the first journal. Importantly, the text is no longer the property of the author or the property of the publisher. The first journal, but the copyright holder, is usually the owner of the first journal in which the article first appeared (Morse, 2007).

#### 4.2.5. Ghost authorship

Refers to a person who has been omitted from the list of authors of a manuscript even though he has the qualifications as an author. For example, some pharmaceutical companies hire professional writers to write favorable articles on their products. Then, after hiring a close scientist or to borrow a name, where legitimacy is granted to thesis by requiring him to register as the author of the thesis.

#### 4.2.6. Denial of authorship

Particularly serious ghost authorships are referred to denial of authorship. The most representative example is when a researcher who has participated in a joint research and produced data is written by other joint researchers without including this person as an author and without accurately reporting the person's contribution (Song et al., 2019).

## 5. Conclusion and Implications

Misuse of power can result from conscious decisions influenced by power relationships. It can also be caused by ignorance or insufficient perception of author rules. In other words, some cases of honorary authors may not be perceived as misuse of authorship because the researchers do not know about the requirements for authorship. For example, in a survey of graduate medical trainees conducted by Rajasekaran et al. (2015), 38.1% of respondents were found to be positively answering common questions about including honorary authors (individuals who did not make a significant contribution as authors) in their previous poster/podium presentations or manuscripts In Canada. On the other hand, 57% of the same respondents admitted that honorary authors are included when co-authors explicitly asked if they met all four ICMJE author criteria. The difference between the percentage of respondents initially perceived as honorary authors and the percentage of honored authors as defined by ICMJE was explained by the fact that more than 90% of respondents do not know the ICMJE author criteria. At the same time, they thought that medical trainees and faculty should be educated on author guidelines. This underscored the importance of education to prevent misuse by authors. A study by Eisenberg et al. (2014) also supported this conclusion.

Recently, the National Research Foundation of Korea (NRF) investigated the reasons why research misconduct or research inappropriate behavior is not eradicated. As a result, 79.8% of respondents answered that it was due to "fierce competition among researchers and performance oriented attention based on quantitative achievement evaluation". After that, the benefit of research misconduct is large (59.4%), lack of willingness to detect and verify research misconduct or research misconduct (53.1%), non-recognition of research misconduct (51.2%), and there was insufficient sanctions (50.1%), such as not being sufficiently sanctioned even if research misconduct/research inappropriate behavior was detected.

On the other hand, the lack of sufficient educational infrastructure and prevention systems related to research ethics is the lowest at 30%. The fact that researchers are not even aware of the need for sufficient education on research ethics has led researchers to produce irrational and inappropriate authors. For the education of research ethics, the following is suggested. First, it is necessary to establish national-level committees and institutions to develop programs and textbooks that educate Responsible Conduct of Research and Research Integrity. Second, it must be known to research support institutions, universities and research institutes, and researchers. Third, education through this should be systematically implemented.

## References

- Claxton, L. D. (2005). Scientific authorship: Part 2. History, recurring issues, practices, and guidelines. *Mutation Research/Reviews in Mutation Research*, 589(1), 31-45.
- Committee of the Council of the National Science and Technology Advisory Council (2018), Measures for Establishing a Healthy Research Culture and Advanced Research Administration (Proposal), Deliberation Agenda 2, Retrieved from [https://www.pacst.go.kr/jsp/m/post/postCouncilView.jsp?post\\_id=1006&board\\_id=11&cpage=2&etc\\_cd1=COUN02](https://www.pacst.go.kr/jsp/m/post/postCouncilView.jsp?post_id=1006&board_id=11&cpage=2&etc_cd1=COUN02).
- Eisenberg, R. L., Ngo, L. H., & Bankier, A. A. (2014). Honorary authorship in radiologic research articles: do geographic factors influence the frequency?. *Radiology*, 271(2), 472-478.
- Errami, M., & Garner, H. (2008). A tale of two citations. *Nature*, 451(7177), 397-399.
- Feeser, V. R., & Simon, J. R. (2008). The ethical assignment of authorship in scientific publications: issues and guidelines. *Academic Emergency Medicine*, 15(10), 963-969.
- KBS (2019), National Cancer Center Professor's Daughter, Mother Putting Name on Thesis and Advancement to Medical Care, Retrieved from <https://news.kbs.co.kr/news/view.do?ncd=4211276>.
- Kwok, L. S. (2005). The White Bull effect: abusive co-authorship and publication parasitism. *Journal of Medical Ethics*, 31(9), 554-556.
- Kwon, Y. E., Jeon, Y. W., & Kwon, L. S. (2020). Analysis and Consideration of Plagiarism Cases to Establish Research Ethics

- in Korea. *Journal of Research and Publication Ethics*, 1(1), 1-9.
- Ministry of Education, Science and Technology (2019), “Ministry of Education Ministry of Science and Technology, Set Out to Establish Responsible University Research Culture”, Press Release, Retrieved from <https://moe.go.kr/boardCnts/view.do?boardID=294&boardSeq=77550&lev=0&searchType=null&statusYN=W&page=1&s=moe&m=020402&opType=N>.
- Morse, J. M. (2007). Duplicate publication. *Qualitative Health Research*, 17(10), 1307-1308.
- Park, M. S. et al. (2020)a, A Study on the Research Ethics Perception Level of University Teachers. *NRF ISSRE REPORT*, 9, 1-27
- Park, M. S. et al. (2020)b, 2019 University Research Ethics Survey Report, *Korea Research Foundation*, 5, 1-48
- Rajasekaran, S., Lo, A., Aly, A. R., & Ashworth, N. (2015). Honorary authorship in postgraduate medical training. *Postgraduate medical journal*, 91(1079), 501-507.
- Song, C. H. (2019), Research on types of misconduct and response procedures, *NRF ISSRE REPORT*, 23, 1-33
- Song, C. H. et al. (2019), A Study on the Prevention of Unfair Authorization of Research Papers. *NRF ISSRE REPORT*, 11, 1-48
- Um, C. S. et al. (2018), 2017 White Paper on Korea’s Research Ethics Practice – Past, Present and Future, Korea Research Foundation, June, 2018.
- Wager, E. (2019). Recognition, reward, and responsibility: Why the authorship of scientific papers matters. A guide to the scientific career: virtues, communication, research and academic writing, 361-368.