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Research on Multi-Party Subjects in the Construction of Credit for Scientific Research in China

Nanlin Wu, Jingwen Chen, Siqi Liang
(Harbin Institute of Technology the School of Humanities, Social Sciences & Law, Heilongjiang Harbin 150001)
**Corresponding Author: Jingwen Chen*

ABSTRACT: There are many ways to build the integrity of scientific research. The most important thing is to be good at exerting the supervisory or supervisory role of the relevant subjects in order to comprehensively promote the integrity of scientific research. The main bodies that promote the construction of scientific research integrity include: government departments, grassroots scientific research units, scientific research workers, academic journals, funded enterprises, the public, and the media. Promoting the establishment of a supervisory system with clear responsibilities, building a social supervision platform, and coordinating each subject's Regulatory role comprehensively to maximize efficiency.

Keywords: Research Integrity Construction, Integrity supervision, Supervisory efficiency

I. INTRODUCTION

In the 1980s, the U.S. government first began to issue policies related to research integrity, because research integrity issues had erupted before then. In the same period, China also began to pay attention to the issue of research integrity, but the implementation and implementation of relevant policies has been the work of recent years, because prior to this, the concentration of research integrity issues and the degree of social concern were not prominent. With the introduction and implementation of relevant policies, China's scientific research integrity construction is gradually standardized. In the construction of scientific research integrity, it is necessary to clarify the responsibilities of all parties and carry out a systematic division of labor in order to make the research integrity construction more rigorous.

1 Content of scientific research integrity construction

The goal of scientific research integrity construction is to reduce and avoid the violation of scientific research integrity through the supervision, education, guidance, reporting, investigation, reward and punishment of relevant subjects. Before clarifying the content of scientific research integrity, the content of scientific research integrity should first be clarified .

1.1 Scientific research integrity

For the definition of scientific research integrity, each country has a different interpretation, which is not fixed and will change with the passage of time and the change of events[1]. Before the publication of a government document entitled "Investigation and Processing Rules for Scientific Research Integrity Cases (Trial)" in 2019, China did not have an accurate definition of scientific research integrity. In this document, "violation of scientific research integrity requirements" is clearly explained, it refers to "violation of scientific research behavior standards and norms in scientific research and related activities." The document lists 7 kinds of violations, but most of them are biased toward researchers' violations when dealing with research results, including academic content fraud, embezzlement of others' results, inappropriate signatures and other conventional problems, as well as bribery problems in the project process.

Although this explanation emphasizes the violations of scientific research personnel regarding the handling of research content, it does not list other issues that violate the integrity of scientific research in all aspects of scientific research projects. In this regard, it is proposed that the act of breaching the integrity of scientific research is that during the entire process from the application of the scientific research project to the final conclusion, all relevant scientific research workers violate the facts and their related acts of uninformed reporting, protection, and supervision of dereliction of duty.

1.2 Research Integrity Construction

When the integrity of scientific research is clearly defined, the construction of scientific research integrity has a basic direction. According to the previous definition of scientific research integrity, the construction of scientific

research integrity should be divided into the following aspects: the establishment of policy and institution of scientific research integrity, the integrity education before scientific research work, the guidance and supervision of honesty behavior in scientific research work, and the relevant departments' research on scientific research Work flow review, review after the completion of scientific research work, and handling of related reports.

II. THE MAIN BODY OF SCIENTIFIC RESEARCH INTEGRITY CONSTRUCTION

Every link and every aspect of the scientific research integrity construction involves different subjects, including those from the superior leadership departments, those from the same project members and relevant enterprises and institutions, and those from extensive social supervision. Clarifying the parties involved in scientific research and clarifying the responsibilities and obligations of each party in the construction of scientific research credit is an indispensable link in the in-depth promotion of scientific research credit construction. According to the participation of subjects involved in the overall process of scientific research projects, the subjects of scientific research credibility construction are divided into basic subjects and related subjects, of which the former has a higher participation. In addition, for China, the government's initiative to promote the construction of scientific research integrity is consistent with the operation of the entire scientific research system structure. China's scientific research integrity construction cannot ignore the leading role of the government, but at the same time, it should also take into account all aspects to make up for the loopholes caused by the single aspect of regulation.

2.1 Basic Subject

Research integrity of the construction of the basic subjects include is indispensable to the normal operation of scientific research project of any party, including the project fund support and project sponsors of the relevant government departments, and be subject to the jurisdiction of the government to manage the scientific research workers at the grass-roots level scientific research units, including scientific research institutes and universities and scientific research work of the most necessary scientific research workers.

2.1.1 Government departments

In China, the financial support of scientific research projects cannot be separated from the government, and the main initiators of scientific research projects are also related ministries and foundations within the government system. In addition, the leading and coordinating role of the government is irreplaceable by any institution or individual.

In terms of the current process of scientific research integrity construction in China, the Chinese Academy of Sciences, The National Natural Science Foundation of China, the Ministry of Education, the Ministry of Science and Technology and other institutions have successively established scientific research integrity management departments under their own units to supervise the relevant scientific research work, which is isolated to a certain extent. Subsequently, a joint conference system on scientific research integrity construction was established, which was composed of 10 government departments, but it did not have much effect on promoting scientific research integrity construction[2].The main reason is that this joint meeting system is composed of many departments, relatively loose, lack of corresponding authority.

In fact, this kind of government department composed of multiple departments is necessary to supervise scientific research work, because it is conducive to the systematic and effective supervision of national scientific research projects, and conducive to the systematic promotion of scientific research credit construction. Therefore, for those government departments involved in scientific research, we should actively promote the establishment and operation of a joint department to supervise scientific research work, and give it specific powers to carry out effective supervision.

2.1.2 Grassroots scientific research units

Grassroots scientific research units include scientific research institutes and universities. These two are the main places for scientific research in China. They have certain relations with the government and are responsible for the management of scientific researchers. In China, there are many scientific research institutes and universities of the same level and their superior units are not the same. When relevant systems on scientific research integrity have not been perfected, they all carry out scientific research integrity building within the scope of the sco's functions and powers in accordance with basic policies and rules. However, in general, it has something to do with China's academic evaluation system. These grass-roots scientific research units pay more attention to the number of scientific research work accomplished by researchers and the level of their scientific research projects. In addition, due to the lack of mandatory policies and regulations, they do not attach much importance to the construction of scientific research integrity. Although these grass-roots units have established corresponding scientific research integrity supervision departments, there is a lack of interaction between each other, and their respective regulations are not completely rigorous[3].

Scientific research units at the grass-roots level in fact can play a good role together, so, on the one hand, scientific research units at the grass-roots level shall be under the leadership of superior departments to perfect this unit to research integrity of rules, on the one hand, enhance the interaction between scientific research units at the grass-roots level to teach each other regulatory experience, scientific research workers of the staff and the supervisory work to put in place, can't formalism. In addition, in addition to the supervision on the process, grassroots scientific research units should increase the regular scientific research integrity education for their own scientific research workers, so as to prevent problems in advance.

2.1.3 Scientific researchers

The most important subjects of scientific research credit construction are scientific research workers, who participate in all links of scientific research work. All rules and regulations are chosen by scientific research workers to abide by. In the way of abiding by scientific research credit, other subjects are only influencing factors, while scientific research workers are decisive factors. Therefore, the moral quality of scientific researchers is very important. However, morality is a difficult index to quantify accurately, and no one can fully control the moral choices of others. Therefore, it is necessary to improve the external conditions in order to enhance the persistence of scientific research workers to scientific research integrity.

Personal interest is often the key to the contradiction in moral choices. For researchers, there are financial and reputational benefits. There is a wide gap between the salaries of researchers and the amount of money spent on research projects, and some researchers are transferred to their own private accounts by falsifying invoices, falsifying accounts and other means. The reasons for this are complex. Some researchers may be facing real financial difficulties, but others are merely self-serving. The way to solve this problem is to adjust the salary and welfare of scientific researchers appropriately and to strengthen the punishment for improper occupation, embezzlement and theft of public funds. The basic expression of the interest of reputation is the rank of scientific researchers and the relevant honorary title, which is a kind of spiritual satisfaction. At present, it seems that the way of academic evaluation of scientific research in China is not appropriate, and "quantitative orientation" will mislead scientific researchers to some extent. Therefore, the way of academic evaluation should be adjusted to guide researchers to pursue the quality of scientific research. Only when paying attention to the quality of scientific research can researchers put scientific research integrity in the first place.

In addition, researchers should guide and supervise each other, which in particular need to play the guiding role of project leaders, and members should take the initiative to supervise each other. Therefore, on the one hand, it is necessary for researchers to receive more credit education in scientific research and enhance their awareness of credit in scientific research. On the other hand, the system of protecting the informants should be implemented, and at the same time, researchers should be encouraged to supervise each other.

2.2 Relevant Subjects

In addition to the above basic subjects, the subjects of scientific research credit construction also include other subjects directly or indirectly related to scientific research projects, and they are also necessary components of the systematic construction of scientific research credit and the improvement of scientific research credit supervision system.

2.2.1 Academic journals

Academic journals are important places for the publication of scientific research achievements and important supervising subjects in the construction of scientific research integrity.

First of all, journal editors are directly connected with researchers, and journal editors are responsible for the important review work. One of the reasons for the publication of low academic level and poor quality academic papers is that journal editors do not play their basic responsibility of reviewing manuscripts, so they will not go into depth to examine whether there are plagiarism, falsification of data, and misuse of other people's achievements in academic papers. Journal editors, as the first line of defense in the construction of scientific integrity in academic journals, should perform the most basic audit duties rather than cover up the behaviors violating scientific integrity for personal reasons such as financial interests or human relations. Therefore, the academic journal management unit should do a good job in the periodical editor's qualification examination, reward and punishment work. Periodical editors should guide the authors, strictly examine the integrity of academic papers, and play a necessary role in supervising and advising the authors[4].

In addition to the necessary qualification examination and rewards and punishments for the editors, academic journals should formulate sound rules for the publication of academic papers, not tolerate the behavior of the authors who violate the integrity of scientific research, and appropriately stipulate that the authors who violate the integrity of scientific research should be refused to publish academic papers in this journal. At the same time, academic journals should position themselves well. Academic journals are displays of academic achievements, and they should pursue the high quality and quantity of academic achievements, rather than the

layout cost. In this regard, relevant national authorities may consider the disqualification of some academic journals with poor quality.

2.2.2 Sponsored enterprises

Research projects are funded not only by the government, but sometimes by related companies. However, there is no strong hierarchical relationship between enterprises and grassroots scientific research units or researchers, but a cooperative relationship, which is maintained by legally protected contracts. However, for enterprises, research and development funds are always limited, so it is better to make efficient use of the invested projects, and the best result is no more than the expected scientific research results. For enterprises, it is most important for researchers to comply with scientific presentation and complete scientific research projects. Therefore, for the scientific research projects funded by enterprises, the supervision of scientific research integrity by enterprises is a necessary link. In the project contract, the supervision clauses of the enterprise on the project are listed to protect the supervision right of the enterprise from the law. In addition, enterprises can appropriately give scientific researchers material rewards to encourage them to abide by scientific integrity, so as to ensure the smooth completion of scientific research projects.

2.2.3 The public

The public does not directly participate in scientific research work, but the government spends scientific research funds from taxation, and the main body of tax creation is the citizen. Therefore, the public should have the right to know about the violation of scientific research behavior, and can appropriately play a supervisory role in the construction of scientific research integrity.

Under normal circumstances, the public will not directly participate in the scientific research work and the obligation of direct supervision cannot be realized. However, scientific research institutions and departments can timely disclose to the public the behavior, treatment process and treatment progress of the violation of scientific research integrity. The public may, through the disclosure of information, monitor the progress of relevant departments in dealing with those who violate scientific integrity. At the same time, a team of volunteers with certain scientific literacy can be established to collect and sort out the public information of all parties, take the initiative to realize the obligation of honest supervision of scientific research, and timely disclose relevant information to more public. To give scientific researchers a certain social pressure, urging them to abide by the scientific integrity.

2.2.4 Media

Like the public, the media does not directly participate in scientific research, but compared with the loose public, the media plays an important role in guiding public opinion.

The outbreak of scientific research integrity problem is not a shameful or shameful thing. It reflects the fact that there are some problems to be solved in the scientific research system and scientific research system. It reflects the conflict between morality and interests. The public should take a correct view of the issue of scientific research integrity, which requires the media to play the role of guidance of public opinion and explain the essence of scientific research integrity to the public. Therefore, in the construction of scientific research integrity, we must be good at playing the role of the media. First, through the media, relevant information about behaviors violating scientific research integrity should be disclosed in a timely manner to ensure the public's right to know and urge relevant departments and personnel to pay attention. Second, we should give full play to the publicity role of the media so that the whole people have a correct view of the integrity of scientific research and make public disclosure of the integrity of scientific research.

III. SUGGESTIONS

To promote the systematic construction of scientific research integrity needs the comprehensive support of multiple subjects, and the supervision or supervision of any party should not be isolated. In the further promotion of scientific research construction, we should promote the establishment of a regulatory system with clear responsibilities and build a social supervision platform, so as to coordinate the supervision or supervision responsibilities of each subject, maximize the supervision effectiveness of all parties, and reduce the occurrence of violations of scientific research integrity.

3.1 Promote the establishment of a clear regulatory system

The supervision system is not set up by a single department, but should cover all subjects in the construction of scientific research integrity, including the above-mentioned government departments, grass-roots scientific research units, scientific researchers, academic journals, funded enterprises, the public, the media, etc. Among them, the government departments, grass-roots scientific research institutions and scientific research workers play the regulatory function, while other relevant subjects play the social supervision function. Under

the leadership of the government department which is composed of multiple departments to supervise the scientific research work, each grass-roots scientific research unit shall formulate detailed rules according to the actual situation of the unit, and make clear the rights and responsibilities, so as to realize the effective supervision within the scientific research system. At the same time, set up external social supervision channels of scientific research system, internal and external linkage, and comprehensively build the supervision system of scientific research integrity.

3.2 Building social supervision platform

The establishment of scientific research integrity archives is a way to form a deterrent to scientific research workers and promote the construction of scientific research integrity[5]. However, the complexity of the establishment of this archive system and the openness of archives are subject to negotiation. Since the role of scientific research integrity files is to record the behavior of public scientific researchers, it is better to build a social supervision platform more systematically, and store and publicize the above information through the Internet. The platform mainly discloses the process information of scientific research work and relevant subject information that does not need to be kept confidential, and provides a basic, open and efficient platform for the public to treat scientific research integrity. In this platform, relevant parties in scientific research work publish information on scientific research integrity issues, review and punishment procedures, and publicize different levels of information to scientific researchers who violate scientific research integrity in order to achieve social supervision. Through this platform, all parties in the society encrypt their identities and provide real and powerful materials to report violations of scientific research integrity. After review and verification, they will reward active reporters.

IV. CONCLUSION

The promotion of scientific research integrity construction is not to investigate more actions of violating scientific research integrity, but to minimize it, to guide and urge scientific research workers maintain scientific research integrity on their own initiative. In the promotion of scientific research integrity construction, the composition of the main body of scientific research integrity construction should be clarified. In order to maximize the effectiveness, more emphasis should be laid on the establishment of a systematic supervision system. At the same time, a social supervision platform should be built to give publicity to the supervision, investigation and prosecution processes, and afford scientific researchers a necessary guidance, as well as supervision and warnings.

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AUTHOR INFORMATION

- Nanlin Wu, (1975.7-), doctor, associate professor, master tutor, director of Northeast Asia Institute of Economics and Technology, Harbin Institute of Technology. Main research directions: financial risk warning, regional economy.
- Jinwen Chen, (1997.4-), master's degree. Research direction: International trade.
- Siqi Liang,(1998.5-), bachelor’s degree. Research direction: International trade.