

# Plagiarism and Data Fabrication in Scientific Research: Role of Human Values and Ethics

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**Abstract**— In the present academic scenario the research activities play an important role either for the invention of the new facts/models/theories/devices or for relooking the established facts from other angles in order to bring new insights. However, it is to be noted that apart from the invention, academic world put equal emphasis in establishing or reporting the facts to the community so that the results get spread. The writing of articles, based on the research work and to make them gets published in different universally accepted journal is the most common practice. This helps the community to get the benefit of the results as well as researcher in establishing them as a prominent person in the corresponding field. However, this field is constantly being stigmatized by several incident of plagiarism or data fabrication. Thus the field is seriously being threatened from the reliability issues. This article has addressed the mentioned issues and tried to find a suitable solution to keep this honored field free from such kinds of defamation.

**Keywords**— Human values, Ethics, Research, Plagiarism, Data Fabrication

## I. INTRODUCTION

T Jacques Yves Cousteau nicely defined the term “Scientist” and according to his statement “What is a scientist after all? Scientist is a curious man looking through a keyhole of nature, trying to understand what is happening” [1]. It is true that we are now living in the age of technology which is of no importance without the basic science behind it. The growth of science is continuous. From the ancient time when human learned how to change the shape of the stone to use it as weapon or the development of wheel to make everything move smoothly everything is because of the inherent inquisitive nature of the mankind. With the time civilization got advanced and so their research activity and innovation. Now a day, for a person

belonging to the academic sector especially in the higher education, research activities is one of the most obvious component for the development of his/her career. It should be noted that ethics and human values are two most important component of the any research activity to keep the field transparent as well as free from any kinds of tainting. However, unfortunately recent trends show that there is a considerable reports regarding the plagiarism as well as data canvassing not only from the country like India but around the entire globe. For example, in the year of 2012 Fang et al in his detail review work have shown country wise statistics [2]. Few of the plotted statistics have been shown in the Fig.1 (a, b)

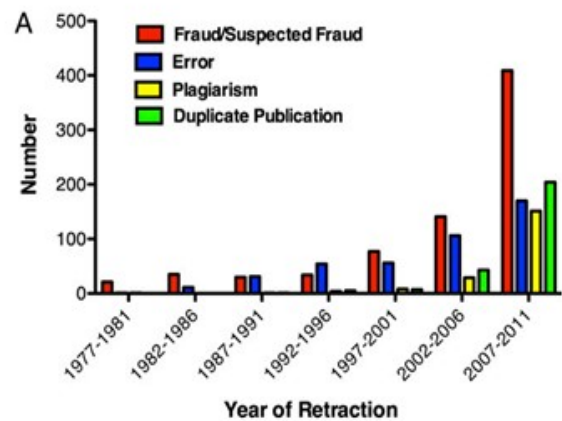


Fig. 1 (A) Number of retracted articles for specific causes by year of retraction.

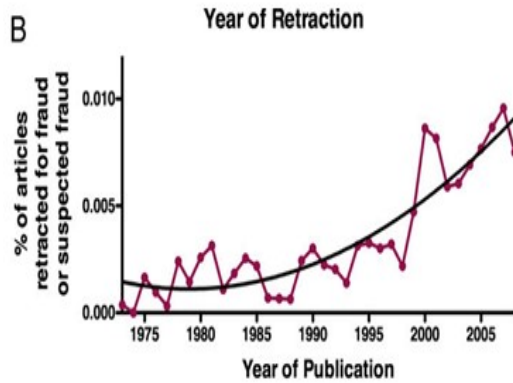


Fig. 1 (B) Percentage of published articles retracted for fraud or suspected fraud by year of publication [2].

The same review article shows the same statistics country-wise which has been shown in Fig.3. It can be seen that in every issues like duplication, fraud or plagiarism the contribution comes from almost every part of the world. The comparison is made in between technologically developed and developing countries only. It is seen that in Asia the major contributing countries are mainly china keeping India in the second position. Outside Asia surprisingly despite being technologically one of the most advanced countries USA takes the lead here followed by Canada or Germany.

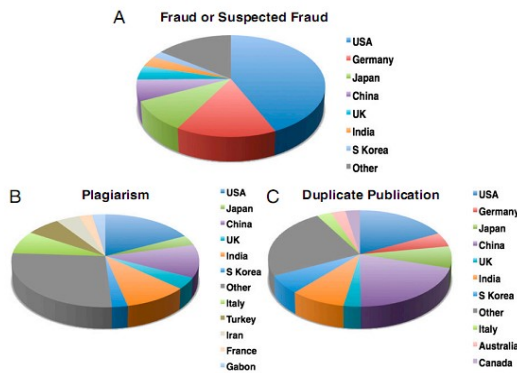


Fig.3: Country of origin of publications retracted for fraud or suspected fraud (A), plagiarism (B), or duplicate publication(C) [3]

This article mainly tries to analyses the possible reasons for such huge amount of canvassing and the ways and means how to minimize such tendency by using moral values and ethics. In this regard, few previous data manipulation instances, especially from India have been mentioned and discussed. This article is written with the believe that case wise analysis and the corresponding conclusion will help the research community to reduce the ill practice of the activity by using moral ethics and values.

## II. BASIC OF RESEARCH & RESEARCH ARTICLE

From the topic selection to the publication a research activity has to cross a numbers of intermediate steps that include research topic selection and literature review, research gap identification, experimental/theoretical simulation, data analysis and interpretation, report writing and lastly publication. It is of no doubt that most of the data canvassing and manipulations take place in the step of data acquisition and interpretation. In most of the cases, unless the claim is ground breaking the academic world has to believe in the data reported by the author regarding which there are so many instances of ill practices among researchers even of very high profile despite of the fact that author of any scientific article has to follow certain code and conducts like good scientific practice (GSP) that demands honesty and integrity. The quality of a scientific article is assessed in terms of the Science to metrics that include

- Impact Factor of the journal, the article gets published in ;
- Citing articles;
- Citing journal;
- The number and order of authors, etc.

The term “Scientometric” denotes a particular component of scientology that deals with the study of science as an information process by applying quantitative (statistical) methods [3].

Thus for a professional, working in the fields of academics it is his/her prime desire to get the best

possible results in terms of all the above mentioned parameters that helps generating the unhealthy necessity of plagiarism.

### III. CONCEPTS OF PLAGIARISM AND ITS TYPES

The word “Plagiarism” has the Latin origin and comes from the words *plagere* = kidnap, and *plagiatum* = “stealing people”. Simply it stands for reusing someone’s work to be your own. The work may be writing, art or other acts of creation.

The plagiarism may be called when one uses the source work completely, or by part or even reusing his/her own previous work. However there is a fallacy to define the act. Now a day the ordinary artificial intelligence based plagiarism checker sometimes overestimates the similarity index by identifying a couple of very commonly used word as plagiarized.

Thus it became necessary to define the plagiarism universally. According to World Association of Medical Editors, when six consecutive words or thirty consecutive characters are copied it is said to be acts plagiarism.

The main offensive part related to the plagiarism is that it misleads the reader. In this regard Samuel Johnson made a witty comment regarding the issue. According to him “Your work is good and original. Unfortunately, the parts that are good are not original, and the parts that are original are not good”. It is “the tendency of literary theft and misappropriation of others spiritual property as a whole” or generally “attributed someone else’s work as your own”.

Plagiarism may be categorized in the following ways:

■ **CLONE** – Copying someone else’s work and claiming to be his/her own;

■ **CTRL-C** – Here the similarity index is very high i.e. most of the sentences are used without alternation.

■ **FIND – REPLACE** – Here the keywords and phrases are changed but a substantial parts are remained same.

■ **REMIX** – Paraphrasing multiple sources which are so arranged that complement each other;

■ **RECYCLE** – Self plagiarism as mentioned before;

■ **HYBRID** – It copies some part with proper citation and other without citation.

■ **MASH UP** – It Blends copied source from various sources;

■ **ERROR 404** – It uses false quotations, which are actually non-existent,

■ **AGGREGATOR** – It uses proper citation but here the existence of own work is negligible;

■ **RE – TWEET** – It actually does not suffer from plagiarism issue as here the citation is proper. However, it uses too many texts from original.

### IV. FEW PARTICULAR CASES OF PLAGIARISM/DATA FABRICATION IN INDIA:

There are several cases of fraud research, data manipulation, and plagiarism in India since last several years in different premier institutes like IITs, NITs or central Universities. Few of which are mentioned below:

a. IIM Indore [4]: In the year of 2012 IIM Indore director Prof. N. Ravichandran and another senior faculty Prof. Omkar D. Palsule-Desai was accused of plagiarism by another Ahmedabad researcher. As per the allegation they had used most of the material in the paper from Supreme court based judgment without adequate referencing.

b. Controversy of Sangiliyandi Gurunathan [5]: The year 2011 was marked in this field mainly due to Sangiliyandi Gurunathan controversy case where Prof. Sangiliyandi Gurunathan of Kalasalingam University was found to be attached with data canvassing and plagiarism.

c. Dr. Ram Singh Controversy [6]: A private practitioner in Moradabad U.P. was suspected to be involved in research fraud activity .

d. Calcutta University Controversy [7]: One of the most ancient academic institute of the country, University of Calcutta got heavily defamed when Prof M.R. Adhikari and his scholar L.K. Pramanik got caught red handed in reusing an article published in the year of 1970 with their name. American Mathematical Society cautioned all the related institute regarding the issue. Later Prof M.R. Adhikari shifted entire blame to his scholar claiming that his name was used without the consent.

e. Controversies in IITs [8-10]: Even after being prime academic as well as technical institute in India, Indian Institute of Technologies are not free from instance of plagiarism. IIT KGP professor Dr. R.N.P. Choudhary lost his position as head of the Physics department when one of the junior faculty Dr. A.K. Thakur proved that Prof. Chaudhary has published a paper without assigning the deserved credit to Dr. Thakur. An IIT Delhi faculty Dr. Anup Kr. Ghosh got caught in involvement with the act of plagiarism. IIT Kanpur is no exception where Prof. Ashok Kumar of Bioscience and Bioengineering had to retract to of his research articles that were found to be indulging Plagiarism.

#### V. POSSIBLE REASONS FOR PLAGIARISM/DATA FABRICATION AND SOCIAL RESPONSIBILITIES

There are several issues for the increasing tendency of plagiarism of which the most prominent and unforgivable reason is the lack of ethics and human values which needs serious attention. The main reason behind the fact that the ethical lacking leaks into the field of academics is due to the fact that the timely publication of research article is one of the major parameters in the career growth. The career includes both the economic aspects as well as respectable position in the fields of academics.

Apart from the above, one of the major components of plagiarism is the self- plagiarism. This is mainly associated with the laziness of the author, negligence as well as the limitation of the author's thought.

In the age of internet where information is very easily available it creates both the positive as well as negative effect. The negativity includes generation of laziness which insists authors to reuse his/her readily available previous text casually especially for the portion that are off focus. Sometimes due to the lack of awareness authors thinks that reuse of his/her own texts is not a very big issues and thus self-plagiarism is generated. From another angle, when due to the demand of institution or self-growth or when a dedicated researchers works in the same fields for numbers of years and has written a good many numbers of articles on the related topic, it is the lack of new words/thoughts the authors get compelled to use the same word that has already been reported from his/her side and contributed to the self-plagiarism. Thus a proper awareness, dedication, sense of ethics and proper human values can bring a pause to this serious issue and ultimately eliminate them.

#### VI. CONCLUSIONS

This article is revisits the issues of data canvassing, data fraud and plagiarism in scientific research articles and its relation to basic human values and ethics. In this context the term "Plagiarism" has been defined and its different types and categories have also been introduced. The statistics of alarmingly growing plagiarism issues throughout the globe has been presented and discussed. Also several specific important plagiarism related controversies in India have been presented here. It has been shown that though intentionally committed plagiarism issues are now of major concerns however the issue of casually done self-plagiarism is another matter to be properly handled and for the academic society should seriously discourage the junk research article. Above all the academic person should listen the call of his own values and ethics.

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