AWARENESS OF RESEARCH SCHOLARS ON RESEARCH MISCONDUCT

Abstract

With the use of systematic and scientific approach, research allows us to solve problems while also discovering novel information. When we act unfairly or improperly towards another person or object, it is called misconduct. When it comes to research, then stealing the information without proper credit is considered as the research misconduct. The present researcher has attempted to investigate about the awareness of research scholars on research misconduct. Descriptive approach was employed in the present research. All the research scholars of Kazi Nazrul University, Paschim Bardhaman, West Bengal, were treated as the population of the present study. Among them 40 research scholars has been selected as the sample of the study through simple random sampling technique. An Awareness Scale was used for knowing the awareness of research scholars on research misconduct. The study revealed that the awareness of research scholars on research misconduct is average. The study also found that there is no significant difference in the awareness of research scholars on research misconduct with respect to their Gender, Location, Stream and Program. It is also found that there is significant difference in the awareness of research scholars on research misconduct with respect to their Caste and Departments.

Keywords: Awareness, Research, Research Scholar, Misconduct, Research Misconduct

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I. INTRODUCTION

An exploration of new information is similar to the act of researching. It tries to focus upon those areas that are yet to be resolved. The entire process of research is finding out a solution of certain problem with the help of scientific methods. The term "research" and "scientific method" are occasionally used synonymously. The scientific method of analysis which aims to discover and develop a structured body of knowledge. It can be conducted in a more structured and systematic way through research. But there is a difference between Research and Scientific method as research cannot be complete without scientific method and techniques but scientific method is not dependent to research, it has its own autonomy and it can be applicable in anywhere (Sharma & Kulshreshtha, 2021). Research is an organized investigation that produces new, widely applicable knowledge by using recognized scientific methods. The purpose of the investigation is to find out more information about a subject, a phenomenon, or to address a problem. If we break the word "Research" we can find that it is comprised of the terms 're' and 'search'. Re generally signifies 'Again' and search denotes 'To find'. Research is a thorough investigation or inquiry designed specifically to look for novel facts in any field of knowledge (Madaan, 2021). Research is the methodical, objective examination and documentation of controlled observations having the aim of elucidating generalizations, principles or hypotheses that may be applied to foresee and possibly manage events (Refat, 2013).

The research that is an organized effort for the better understanding of the educational process, usually with the goal of increasing its effectiveness, is referred to as educational research. Educational research is referred as the study of educational issues based on the Scientific Method. The primary goals of educational research are to comprehend, clarify, anticipate and manage human behaviour in both societal and individual contexts so that outcomes can be enhanced (Sharma & Kulshreshtha, 2021). The study of moral values, norms, and guidelines for behaviour in order to determine what is and is not appropriate behaviour for people is known as ethics (Gadhiya, 2018). The notion of "ethics" is derived from the Greek word "ethos", which means "character" and the Latin word "mores" which means "mores" (customs). Human conduct is the main focus of the philosophical field of ethics. Its origins are in the Greek term "ethos" which means "way of life" (Chaudhary, 2017). A set of beliefs, conventions, and institutional guidelines are known as "research ethics" serve to define and regulate scientific activity (Sawant, 2012). Webster's definition, "Ethics is the discipline dealing with what is good and bad and with moral duty and obligations" (Lakshmi, 2016). Philip Wheel Wright claims, "Ethics is a branch of philosophy which is the systematic study of selective choice of the standards of right and wrong and by which it may be ultimately directed" (Lakshmi, 2016).

Through the process of research, we are able to find a new solution to an existing problem in a methodical and scientific manner. When we intentionally or ignorantly act something unfair or improper towards someone or something, it is considered as misconduct. Stealing information without providing acknowledgment to its legitimate owner in an effort to prove one's own superiority is research misconduct. Expert and seasoned researchers who may try to alter their findings to meet their planned findings may do so more frequently. This can be observed in organizationally financed study where the researcher finds it challenging to disclose findings, that are at disagreement with the funder. As a result, some journals demand a declaration of conflict of interest as part of the procedure for submitting research

for publication. Younger researchers may be more likely to engage in ignorant misconduct during studies since they are less conscious of it (Muhammad et al., 2022). When it comes to planning, carrying out, or reporting research, research misconduct was defined in the USA in 1992 as fabrication (to make up data or findings), falsification (altering data or findings), or plagiarism (using someone else's ideas or words without providing due credit) (Dal-Re et al., 2020). The countless “minor offences”, the numerous instances of “sloppy science” and the “questionable research practices” (QRPs) are far more prevalent. Recent surveys indicate that common QRPs include neglecting to report all dependent indicators that are important for a finding, not adequately supervising junior co-workers, using selective citation to support one's own conclusions, and omitting to publish a study that is “negative” (as cited in Haven & van Woudenberg, 2021). Falsification, fabrication, or plagiarism in the planning, carrying out, or reviewing of a study, likewise as in the reporting of study findings, are all considered forms of research misconduct. The phrase "research misconduct" refers to falsification, plagiarism, or fabrication in the planning, carrying out, or reviewing of research and study findings (Jharotia, 2018). There are mainly three types of Research Misconduct such as: Falsification, Fabrication and Plagiarism (FFP). Falsification is the modification of an experiment's observed outcome. A misrepresentation of the research in the research record results from manipulation of research tools, methods, or tools, as well as from changing or omitting data or results. Fabrication is the act of producing new knowledge or information. Making a new data or result preserve is the act of fabricating data. The most frequently fabricated papers are informed consent forms and patient diaries. Plagiarism is claiming ownership of another person's ideas or knowledge without referencing the author. This applies to all works, both published and unpublished, whether they are manuscripts, printed materials, or digital files. The most frequent and serious ethical transgression is plagiarism. Although plagiarism has serious consequences for the careers of people involved and for the scientific endeavour as a whole.

Recently, to improve the quality of research. Research scholars need to be knowledgeable about publication and research ethics. Scholars who undertake research must be aware of misconduct. Being a student of Education, the present investigator wants to know the Awareness of Research Scholars on Research Misconduct. Awareness is the knowledge or perception of a situation or fact. Awareness and consciousness go hand in hand. In the present study ‘Awareness’ means state of being conscious of Research Scholar on Research Misconduct.

In several fields, ethical behavior is essential. Now, it’s become necessary for publication and research also. Research and Publications Conducting research requires careful consideration of ethics. It is the exclusive method of conducting research. Research misconduct doesn't undermine the caliber or integrity of the field. The many issues associated to research misconduct, such as fabrication, falsification and plagiarism, must therefore be known to research academics. The researcher will benefit from this study in order to do their research in an ethical manner. The true purpose and goals of research may be accomplished, and the public may be more inclined to trust research if we perform it with an awareness of scientific misconduct.

II. LITERATURE REVIEW

Okonta and Rossouw (2013) centered on determining the incidence of scientific misconduct among a group of Nigerian scholars. Additionally, Investigations were done into the frequency of particular factors. Resnik et al. (2015) focused on international analysis of policies governing research misconduct. This study aimed to gain additional knowledge about international regulations governing research misconduct. Of the top forty countries for funding research and development, twenty-two have a national strategy against misconduct. Having a national policy was positively connected with both the ranking and the level of research and development spending. Governments should endeavor to harmonize misconduct definitions, define procedures for resolving disagreements if harmonization cannot be reached, and standardize misconduct definitions in order to promote integrity in international research collaborations. Laskar (2017) concentrated on the ideas of research misconduct with the goals of discussing briefly the scope of the issue, its varied manifestations, potential causes, and ways of detection and prevention. The goal of the study was to persuade academic research group leaders to educate their students, aspiring researchers, and research associate on the ethical obligations of scientific research and publications. Saberi-Karimian et al. (2018) focused on find out frequency of research misconduct by academic members in Mashhad University of Medical Sciences in Iran. This study included 157 academic participants. The Martinson study's validated questionnaire was employed. In the past three years, over 43% of the academic members carried out at least one of the top ten unethical behaviours, according to research. Abuhammad et al. (2020) focused on the relationship between religion and research misconduct in graduate nursing students and identified other factors that might affect this issue. The study was cross-sectional descriptive. The findings showed a strong interaction between thoughts of research misconduct and a predictor like religiosity, where higher levels of religiosity were linked to views of research misconduct as a serious problem. Alfaro-Núñez (2022) emphasized on Misconduct incidents that undermine scientific research. According to the study, there is a prevalent attitude among scientists that discussing past failures is frowned upon, especially if they were caused by wrongdoing. This is because readers inside the scientific community may not find such stories to be interesting or relevant. Bouter (2023) studied on Research misconduct and questionable research practices form a continuum. According to the report, research data mismanagement (RDMM) can occur unintentionally or intentionally as problematic research practices. The researcher distinguished between RDMM, which is considered research misconduct, and RDMM, which does not place as much focus on intentionality and sanctions.

After reviewing related studies, the researcher found that most of studies are carried out on ascertain the prevalence of scientific misconduct, International Study of Research Misconduct Policies, concepts of research misconduct with the objectives to discuss briefly on the extent of problem, various forms, possible reasons, methods of detection and prevention, find out frequency of research misconduct by academic members, Research misconduct and religiosity correlation among graduate nursing students. These studies were conducted abroad and India, no studies has been done on awareness on research misconduct in West Bengal. There are dearth studies on awareness on research misconduct, especially on research scholars of Kazi Nazrul University. The topic is timely and necessarily which means research and publication ethics plays a vital role in conducting research which comes under recent debates and high time to think it in the way of research for making research effective.

Therefore, the researchers feels that there is a need to explore Awareness of Research Scholars on Research Misconduct.

III. OBJECTIVES OF THE STUDY

1. To know the level of Awareness of Research Scholars on Research Misconduct.
2. To find out the significant difference between Awareness of Research Scholars on Research Misconduct with reference to their Gender (Male and Female), Location (Urban and Rural), Stream (Arts &Science), Program (M. Phil. & Ph. D.).
3. To find out the significant difference between Awareness of Research Scholars on Research Misconduct with reference to their Caste (General, SC & OBC) and Departments.

IV. HYPOTHESES OF THE STUDY

1. **H_{01}:** There will be low level of awareness of Research Scholars on Research Misconduct.

2. **H_{02}:** There is no significant difference in the Awareness of Research Scholars on Research Misconduct with reference to their Gender (Male and Female), Location (Urban and Rural), Stream (Arts &Science), Program (M. Phil. & Ph. D.).

3. **H_{03}:** There is no significant difference in the Awareness of Research Scholars on Research Misconduct with reference to their Caste (General, SC & OBC) and Departments.

V. METHODOLOGY OF THE STUDY

In the current study, descriptive approach was employed. The descriptive method was used to explain and interpret what now exists in practice.

1. Delimitation of the Study

- The study was delimited to only Paschim Bardhaman district of West Bengal**.**
- The study was restricted to the Research Scholars (both M.Phil. and Ph.D.) at Kazi Nazrul University in the said district.

2. **Population of the Study:** All the research scholars of Kazi Nazrul University were treated as population of the present study.

VI. SAMPLE AND SAMPLING PROCEDURE

A representative sample of the entire population was drawn from forty (40) research scholars at Kazi Nazrul University in West Bengal's Paschim Bardhaman region. Simple random sampling was used to choose the sample.

1. **The Tool Used:** The investigators A awareness scale was used for knowing the awareness of research scholars on research misconduct. The tool was a five-point scale, which meant that there were five scale points against each item so that it was possible to determine how much the responder agreed with each item. The awareness scale was

composed of 20 items for determining the awareness of research scholars on research misconduct. Five options were available on the scale: Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree. The individual is asked to select on a 5-point scale how much they agree with each statement. For scoring procedure 5 points were gave for strongly agree, 4 for agree, 3 for neutral, 2 for disagree, and 1 for strongly disagree. The scale was also subjected to expert validation by being sent to five subject-matter experts, who were asked to comment on the tool's validity. The tool was completed after making any necessary changes to the items on their suggestions. Then google form of the tool was prepared for data collection.

2. **Statistical Techniques:** The data was analyzed using percentages, mean, and SD. The hypotheses were verified using the Mann-Whitney U and Chi-Square tests (as data were non-normal).

VII. RESULTS AND DISCUSSION

Table 1: Tests of Normality

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
RM	.092	40	.200*	.909	40	.004

a. Lilliefors Significance Correction

In the above Table 1 we can see that, the p value of Shapiro-Wilk Test in case of Awareness on Research Misconduct is 0.004 ($p<0.05$), so we can say that data are non-normally distributed.

Table 2: Descriptive Statistics

Descriptive Statistics				Std. Error
Research Misconduct	Mean		83.73	1.734
	95% Confidence Interval for Mean	Lower Bound	80.22	
		Upper Bound	87.23	
	5% Trimmed Mean		84.44	
	Median		83.00	
	Variance		120.204	
	Std. Deviation		10.964	
	Minimum		42	
	Maximum		100	
	Range		58	
	Interquartile Range		13	
	Skewness		-1.223	.374
	Kurtosis		4.049	.733

1. **Testing H_{01}:** The researchers validate the H_{01} with the assistance of the cut-off point. Here Cut-off Point is M ± 1 σ. It means, Mean=83.73, N=40 and σ = 10.96. Hence M +1 σ is 83.73+ 1 × 10.96 = 94.69 And M – 1σ=83.73-1×10.96=72.77. Most of University Ph.D. and M.Phil. Scholars (29 in number) i.e., 72.5% of scholars were lies between 72.77 to 94.69 scores. Hence, it can be said that the level of Awareness of Research Scholars on Research Misconduct is moderate.

Table 3: The level of Awareness of Research Scholars on Research Misconduct

Scores	Frequency	Percentage	Level of Awareness
Above 94.69	7	17.5%	High
Between 72.77 – 94.69	29	72.5%	Moderate / Average
Below 72.77	4	10%	Low
Total	**40**	**100%**	

Table 4: Mann-Whitney U Test

Variables		N	Mean	Mann Whitney U Value	Z value	p	Remarks
Gender	Male Research Scholars	25	20.18	179.500	-0.224	0.823	Not Significant
	Female Research Scholars	15	21.03				
Location	Rural Research Scholars	19	18.84	168.000	-0.854	0.393	Not Significant
	Urban Research Scholars	21	22.00				
Stream	Arts Research Scholars	22	17.95	142.000	-1.524	0.128	Not Significant
	Science Research Scholars	18	23.61				
Program	M.Phil. Research Scholars	5	23.70	71.500	-0.655	0.513	Not Significant
	Ph.D. Research Scholars	35	20.04				

2. Testing H_{02}

- **Gender (Male and Female):** In order to find the difference between the Awareness of Male and Female Research Scholars on Research Misconduct, Mann-Whitney U test was utilized. The above test statistics (Table 4) shows that the Mann-Whitney U value = 179.500, Z value = -0.224, P = 0.823 (P>0.05). Hence, it is not significant and H_{02} (Male & Female) is retained. Therefore, it can be said that there is not significant difference between Male and Female research scholars upon the awareness of Research Misconduct. It is also found that the mean score of Female Research Scholars is greater than the Male Research Scholars. That is to say that the awareness of Female Research Scholars on research misconduct is comparatively higher than that of male research scholars. Because female students spend more time doing their homework at home, read more carefully and exhibit higher perseverance when faced with challenging or uninteresting activities.

- **Location (Rural and Urban):** In order to find the difference between the Awareness of Rural and Urban Research Scholars on Research Misconduct, Mann-Whitney U test was utilized. From the Table 4, it is found that Mann-Whitney U value is 168.000, Z value = -0.854, P = 0.393 (P>0.05). Hence, it is not significant and H_{02} (Rural & Urban) is being accepted. Therefore, it can be claimed that there is no significant difference between the awareness of Rural and Urban Research Scholars on Research Misconduct. It is also found that the mean awareness score of Urban Research Scholars is comparatively greater than the Rural Research Scholars. Because urban student has access to everything, their financial aspect is good. So, they can take all their necessary measures and they are made more interested in education from the beginning.

- **Stream (Arts and Science):** In order to find the difference between the Awareness of Arts and Science Research Scholars on Research Misconduct, Mann-Whitney U test was utilized. The above test statistics (Table 4) shows that the Mann-Whitney U value = 142.000, Z value = -1.524, P = 0.128 (P>0.05). Hence, it is insignificant and H_{02} (Arts & Science) is retained. Therefore, it can be said that there is not significant difference between Arts and Science research scholars upon the awareness of Research Misconduct. It is also found that the mean score of Science Research Scholars is greater than the Arts Research Scholars. That is to say that the awareness of Science Research Scholars on research misconduct is comparatively more favorable than that of Arts research scholars. Science research scholars can operate systematically in any task since they begin their studies in a logical and scientifically based manner. It is said that the Awareness of Science Research Scholars on Research Misconduct is greater than their counterparts.

- **Program (M.Phil. & Ph.D.):** In order to find the difference between the Awareness of M.Phil. and Ph.D. Research Scholars on Research Misconduct, Mann-Whitney U test was utilized. The above test statistics (Table 4) shows that the Mann-Whitney U value =71.500, Z value = -0.655, P = 0.513 (P>0.05). Hence, it is not significant and H_{02} (M.Phil. & Ph.D.) is retained. Therefore, it can be said that there is no significant difference between M. Phil and Ph. D. research scholars upon the awareness of Research Misconduct. It is also found that the mean score of M. Phil. Research

Scholars is greater than the Ph. D. Research Scholars. That is to say that the awareness of M. Phil. Research Scholars on research misconduct is relatively higher than that of Ph. D. research scholars. They are more aware of their work because the M. Phil. is the most advanced master's degree and there is less time to complete the research work.

3. Hypothesis H_{03}

Table 5: Results of Chi-square Test

	Groups	N	Mean	Chi-square	df	p	Remarks
Caste	General	22	85.50	9.050	2	0.011	Significant
	SC	7	78.29				
	OBC	11	83.64				
Department	Animal Science	5	91.60	25.800	13	0.018	Significant
	Applied Psychology	1	85.00				
	Bengali	1	78.00				
	Chemistry	1	79.00				
	Education	8	87.25				
	English	2	91.00				
	Geography	6	80.33				
	Hindi	6	67.50				
	History	1	92.00				
	Mathematics	2	83.00				
	Mining & Metallurgy	2	98.00				
	Conservation Science	1	89.00				
	Philosophy	3	87.00				
	Political Science	1	90.00				

- **Caste (General, SC and OBC):** The above test statistic (Table 5) shows that the Chi-Square value = 9.050, df = 2, P = 0.011 ($P<0.05$). Hence, it is significant and H_{03} is rejected, it can be said that, there is significant difference among the awareness of General, SC and OBC research scholars on research misconduct. It is also found that the mean awareness score of general research scholars is greater than the other research scholars. That is to say that the awareness of general research scholars is comparatively higher than that of others research scholars. Compared to the General categories, SC and OBC have lower social and educational standing. Because general students have access to anything and are in a better financial position than SC and OBC students. Also, most SC and OBC scholars are first generation learners. That's why awareness of general research scholars is comparatively higher.

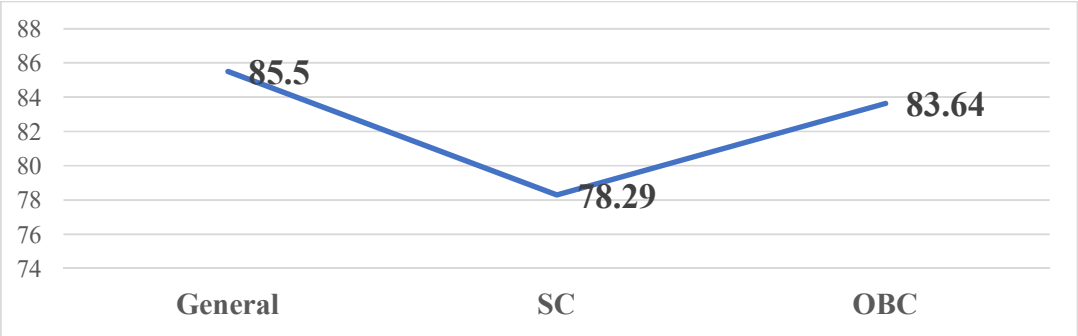

Figure 1: The Mean Score of Awareness Research Scholars on Research Misconduct with respect their Caste

- **Departments:** The above test statistic (Table 5) shows that the Chi-Square value =25.800, df = 13, P =0.018 (P<0.05). Hence, it is significant and H_{03} is rejected, it can be said that, there is significant differences among the awareness of research scholars in various departments on research misconduct. It is also found that the mean awareness score of Mining & Metallurgy department research scholars on research misconduct is greater than their counterpart. That is to say that the awareness of Mining & Metallurgy department research scholars is reasonably higher than that of others department research scholars on research misconduct. Mining & Metallurgy is a practical and most advanced science subject. We know practical matters are very conscious. They must invest a lot of time in their study, get knowledgeable about the different types of research misconduct, and finish their work in a professional manner. So, they are very good for research field.

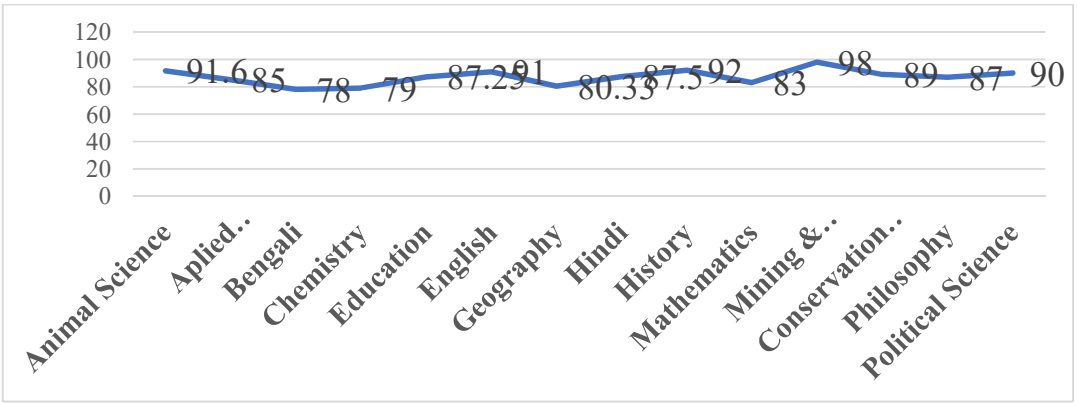

Figure 2: The Mean Score of Awareness Research Scholars on Research Misconduct with respect their Department.

VIII. CONCLUSION

From the foregoing discussion, we draw the conclusion that ethical research is a crucial component of conducting research. In an effort to improve research quality, Research scholars need to understand the ethics of publishing and conducting research. Scholars of research must be aware of misconduct in research. Because research is intended to be a

systematic endeavour with increased effectiveness for new solutions. The findings of the present study indicate that awareness of research scholars on research misconduct in West Bengal's Kazi Nazrul University is average. It is important to consider solutions to increase research scholars' awareness on research misconduct at Kazi Nazrul University in West Bengal in order to promote high-quality research.

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