

Research Ethics Knowledge of Educational Researchers in Bangladesh

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Abstract

This study aims to determine educational researchers' knowledge of research ethics, focusing on key ethical considerations, standards, norms, principles, guidelines, and codes of conduct. Ethical guidelines are essential in the world of educational research, providing a framework that guides researchers through difficult moral situations, ensuring they conduct their work with integrity, respect, and responsibility. This study used a descriptive cross-sectional survey approach with a quantitative methodology among the educational researchers in Bangladesh. A structured questionnaire was used to evaluate the participants' knowledge about 24 specific research ethics items. Descriptive and inferential statistical analyses were used to measure the percent of correct answers to the ethical knowledge statements and to examine the relationships between the knowledge scores and the demographic characteristics. Overall, the research shows that researchers are broadly knowledgeable of ethics, and there are varying degrees of knowledge across the themes; for example, Assent, Anonymity, Transparency, and Dual Relationships, etc.

Keywords: Research ethics, educational research, ethical guidelines, ethical knowledge, ethical conduct of research.

1. Introduction

Suppose a researcher interviewed a child with mild autism after having the child's verbal consent and felt that she/he had met the ethical requirements of the study. However, the lack of parental consent and informed assent made this act seem ethical but actually a serious breach of research ethics (Alomari et al., 2020).

The domain of research ethics is intricate and continually evolving (Tarboush et al., 2020). As the field of educational research has evolved, so too has the need for ethical guidance, especially in the wake of historical events like the Nuremberg Code and Declaration of Helsinki. To meet this challenge, research associations such as British Educational Research Association (BERA), American Educational Research Association (AERA), European Educational Research Association (EERA), British Psychological Society (BPS) and American Psychological Association (APA) have established ethical codes and guidelines that help researchers to navigate complex research practices. Maintaining high-quality research is a critical ethical responsibility, as substandard

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educational studies can lead to harm, especially when their findings are utilized in decision-making processes by entities like funding agencies, parents, governments, and policymakers (Cohen et al., 2018). By grounding decisions in ethical principles, researchers ensure integrity, respect participants' rights, and uphold the dignity throughout the research process. Given the significant role that educational research plays in shaping policy, practice, and theory, this study can provide insight into the researchers' stance, particularly in relation to these items, from a knowledge perspective.

1.1 Statement of the Problem with Justification

Maintaining ethical standards in research involving human subjects, particularly in the social sciences and education, is increasingly important as researchers hold a fundamental responsibility to protect the rights and well-being of those affected by their studies (Morris MacLean et al., 2019). Present Punch and Oancea (2014) and Oancea (2016) have stated, ethical issues have always that there in educational research. Particularly in the field of special education, ethical considerations related to participant recruitment, informed consent, research procedures, data analysis, disclosure, and the dissemination of knowledge have been highlighted by many researchers (Parekh et al., 2021; Ellis & Beauchamp, 2012). According to Yan & Munir (2004), existing ethical and regulatory frameworks, despite being designed to safeguard children and individuals with developmental disabilities (DD), remain insufficient in promoting fairness and equal access within research practices. Prior to initiating research, it is recommended that researchers evaluate their knowledge of ethical standards and the ethical integrity of their study (Rogelberg, 2008) as ethics is closely related to the scientific quality of research (Rosenthal, 1994). Schack (2004) has identified a direct link between a researcher's ability to conduct ethical research and their knowledge of ethics. Raykov (2019) has called for more extensive studies on research ethics practices stemming from the varying national regulations affecting education research. Since knowledge forms the basis of higher cognitive abilities and translates into the ability to act, examining educational researchers' knowledge of research ethics can help assess their ethical capabilities (Sveiby, 1997, p. 37). Focusing on sound ethical knowledge among researchers can ensure the significance and effectiveness of educational research, contributing positively to the advancement of educational practices and societal benefits.

1.2 Research Question

The purpose of this research is to investigate the knowledge of educational researchers concerning ethical themes, considerations, standards, norms, principles, guidelines, and codes of conduct (macro) with particular focus, especially concentrating on their knowledge. To achieve the purpose of the study the following research questions was addressed-

- a. To what extent do educational researchers in Bangladesh possess knowledge regarding research ethics?

2. Literature Review

According to Johnson (2009), the working goal of educational research is "to provide pragmatic ethical solutions to local and societal problems," and ethical guidelines do not necessarily hinder research design or outcomes; in fact, they can contribute to enhancing the overall quality (Tangen, 2013). The study regarded educational research ethics as three interrelated realms: (1) ethics within the research community, (2) ethical duties to participants, and (3) the influence of educational research on policy, practice, and education quality. Brooks et al. (2014) have differentiated between "foundational principles" like respect for individuals, justice, beneficence, and non-maleficence, and "practical implications" which include considerations like risk assessment, informed consent, participant benefits, and selection of projects and participants, as outlined in regulations, legislation, and ethical review boards (pp. 27-32). Examining the literature on scientific research ethics related to human involvement (Pring, 2000; Spaulding, 2009; Stutchbury and Fox, 2009), one can confront researchers with two primary categories of principles and responsibilities that manifest at different levels throughout the research process: ethical principles related to the personal norms and values of researchers (micro level) and ethical principles related to the research framework (macro level). Banks et al. (2013) have presented ethics in two ways: as regulations to be followed and as decision-making processes. In response to all these calls for ethical considerations, professional associations, research organizations, and universities have established research ethics codes that aim to foster a culture of respect and protection for research participants. The ethical framework of any research evaluates the researcher's behaviors and conduct in their pursuit for knowledge (Midgley et al., 2014). The key purpose of these principles is to encourage researchers' accountability and responsibility, which will result in higher public trust in the conduct of research (Mogra, 2017). Thus, research-ethical competence exists at the same time on an individual, collective, and institutional level (ALLEA, 2023).

Bangladesh, a nation with a rapidly evolving education landscape, has seen an increase in educational research initiatives (Chowdhury et al., 2018). However, the ethical ramifications of research, particularly educational research, have remained unexplored. Research-informed teaching and formal ethics codes are increasingly stressed, so ethical competence matters more than ever. Yet ethics is still mostly framed by medicine, leaving little room for the context-specific dilemmas of educational research, especially for practitioner-researchers (Afdal et al., 2026). One potential explanation for this phenomenon could be the longstanding trend within the research community where not much studies have been conducted by professional and academic researchers on their peers, including other researchers and academics (Wiles et al., 2006). This suggests that the dynamics of the research community itself are an area that has not been explored.

Research ethics is the code that governs the behavior of scientists in research and what is regarded as good practice and proper behavior in research (Bradburn and Maher, 2005). Several proposed ways have been suggested to conduct research on ethics (Rogelberg, 2008). Smit (2018) emphasized ethical sensitivity as a precondition for an analytical approach to ethics. His suggestion for future studies has motivated the researchers to

explore the adherence of the educational researchers to the ethical aspects of research (Creswell, 2012, P. 67). In conclusion, knowledge of research ethics is the knowledge of facts, concepts and contexts of the principles and guidelines that are used to ensure the integrity, respect and responsibility in conducting research on human participants, animals or data that creates trust and accountability in the scientific research community.

2.1 Conceptual Framework

The findings on the current state of educational researchers' knowledge of research ethics are useful as an important benchmark to understand the current situation and inform future interventions.

Figure 1

Conceptual framework



3. Methodology

This study has adopted a non-experimental quantitative approach, aligning with Sukamolson's (2007) categorization of quantitative research into survey, correlational, experimental, and causal-comparative types. A descriptive cross-sectional survey design has been adopted to assess knowledge, aligning with the purpose of descriptive research to describe and interpret the current status of individuals, conditions, settings, or events as they exist (Dulock, 1993). In this study, our aim is to objectively investigate the state of research ethics knowledge among participants and for that, we have administered a web-based survey (Solomon, 2001).

3.1 Population and Sampling

The study population comprises individuals from Bangladesh involved in educational research in any capacity. Educational researchers were initially defined narrowly as

professional researchers working in universities, research institutes, or government education research departments, while teachers, practitioners, and policy makers were mainly viewed as users of research rather than researchers themselves. Over time, this definition became broader, recognizing practitioner-researchers and policy-making researchers as legitimate educational researchers who can also produce educational knowledge (Lingard & Gale, 2010). Following this very concept of educational researchers, a list-based sampling frame was manually developed which was used to conduct Internet-based surveys (Fricker, 2012).

The study has incorporated probability sampling, in particular simple random sampling, to ensure every member of participation has a chance of inclusion. Randomization in such sampling techniques lowers selection bias and ensures the sample is representative of the entire population (Ahmed, 2024). The sample size for this study is $n=120$. As practical limitations such as budget, time, and resources also play a crucial role in determining the feasible sample size (Bartlett et al., 2001), Hair et al. (2018) have suggested that in general a sample of 100 can be adequate.

3.2 Data Collection Tools and Methods

Following the sampling frame, respondents were contacted via email and an online questionnaire was sent. The percentage of questionnaires returned divided by the number mailed (50% or more return is recommended by Creswell, 2012) was an important consideration to ensure the effectiveness of the survey. Reminders and supplemental e-mails were sent as well to encourage participation. The data collection was designed utilizing google forms with a consent letter in the heading and the consent form file was also attached. There were descriptions and instructions to guide the respondents in each section. The online questionnaire consisted of two sections comprising 29 questions, of which questions 1-5 addressed demographic and background information, while questions 6-29 consisted of statements related to research ethics knowledge.

3.3 Pilot Study of Validity and Reliability

Hair et al., (2003) suggested that the number of participants in the pilot stage should be in the range of 5-30. Therefore, the research instrument was tested in a pilot study with 30 participants prior to the collection of main data. The value of Cronbach's alpha (1951) for the pilot test was 0.835 and for the main test was 0.743 which shows acceptable to good reliability. In addition, feedback from the participants was gathered and content validity of the questionnaire was verified via expert opinion.

3.4 Limitations and Delimitations

Presenting research limitations is an ethical part of scientific investigation that is usually not controllable by the researchers, yet it eventually effects the study results (Drotar, 2007). This research employed self-reported data which may have some limitations due to inadequate self-knowledge, memory errors, contextual influences, and respondents' inability to accurately report their own thoughts or behaviors (Holbrook, 2008). Although a sampling frame facilitates participant selection, its limited coverage of the target

population may impair the study's validity and comprehensiveness (Fowler, 2009). However, the use of random selection in this study has helped reduce self-selection bias and other biases that impair population validity (McEwan, 2020). Further, moderately small number of sample size was used due to time constrains. This study focuses on educational researchers within Bangladesh, limiting the study's applicability to similar demographic and geographical contexts.

3.5 Ethical Concerns

In survey research, ethical concerns cover confidentiality, the use of incentives, and the protection of both participants and interviewers (Fowler, 2009). Ethical guidelines of AERA, BERA, EERA, and BPS's four fundamental ethics guidelines for Internet-mediated Research (2013, p. 5) were also considered.

4. Results

A total of 120 participants took part in a cross sectional survey where every participant was asked 29 questions, of which 5 questions were on demographic and background information, and 24 statements to determine the research ethics knowledge of the participants.

Table 1

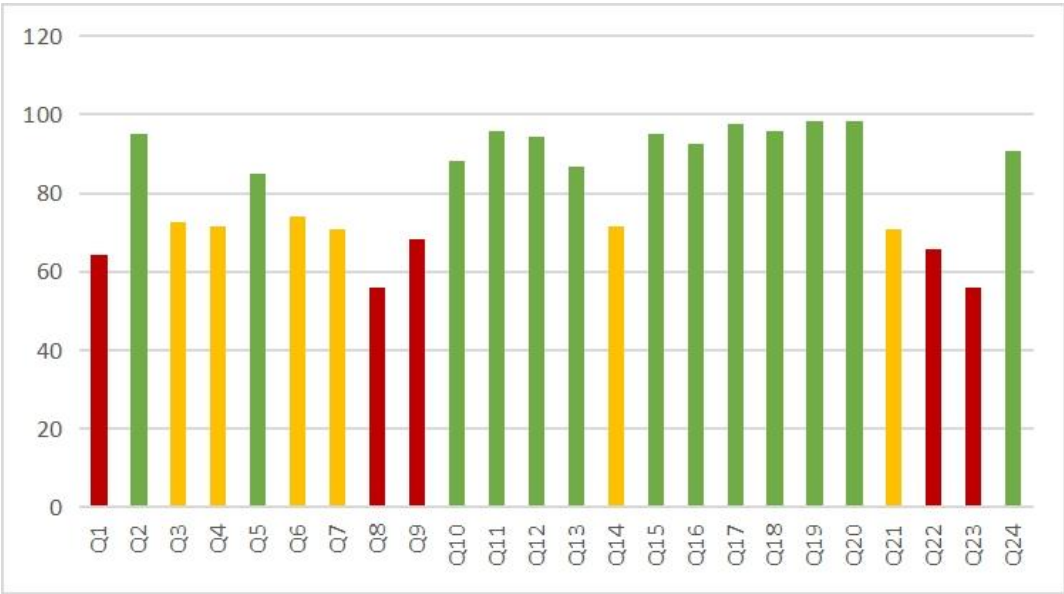
Frequency table of demographics of participants

Demographic Characteristics		Number	Percent
Sex	Male	60	50
	Female	60	50
Current academic status	Bachelor's running or completed	11	9.17
	Master's running or completed	4	3.33
	MPhil running or completed	90	75
	Ph.D. running or completed	15	12.5
Orientation to research ethics during academic pursuits	Yes	108	90
	No	12	10
	Specific ethical guideline/s	96	80
References or sources of responses to the questionnaire	Academic courses on research	87	72.5
	Intuition	70	58.33
	Personal experience	63	52.5

4.1 Research Ethics Knowledge of the Educational Researchers

The survey featured 24 statements with “Yes” or “No” responses on a nominal scale, where 1 point was awarded for each correct answer and total knowledge scores were calculated by aggregating all correct responses.

Figure 2
Percentage of correct answers for each question



The study has found that on average participants gave 81.45% correct answers to the knowledge assessment questions (Figure 2). Questions 1, 8, 9, 22, and 23 had scores less than 70% scores (red color coded), questions 3, 4, 6, 7, 14, and 21 had scores between 70% - 80% (yellow color coded), and the rest of the questions had scores greater than 80% (green color coded). Table 02 presents the descriptive statistics of knowledge scores among 120 participants, where the mean score was 19.26 and the median was 20, indicating a moderately balanced distribution of knowledge levels. The scores ranged from 10 to 24 with a standard deviation of 3.52, while the first and third quartiles were 17 and 22 respectively, reflecting moderate variability among participants.

Table 2
Table of summary statistics of knowledge score

Knowledge score	
Total observations	120
1 st Quartile	17.00
Mean	19.26

Median	20.00
3 rd Quartile	22.00
Standard deviation	3.52
Minimum score	10
Maximum score	24

4.2 Research Ethics Knowledge Level of the Educational Researchers

To evaluate the research ethics knowledge of the participants the study has employed Bloom's cutoff scores widely used to categorize knowledge level of the participants (Bloom, 1968). Three levels of knowledge have been determined: High, Moderate, and low, based on knowledge scores (Table 3).

Table 3

Bloom's cutoff categories for the knowledge score

Category	Scores (%)	n	%
High level	20-24 (80%-100%)	64	53.33%
Moderate level	15-19 (60%-79%)	47	39.17%
Low level	<15 (<60%)	9	7.5%
Total		120	100%

The high-level category was for 80% - 100% scores and half of the participants (53.33%) fall in this category. In the moderate-level category, there were 39.17% of participants, and the score range was 60% - 79%. About 9 (7.5%) of the participants fall in the low-level category where scores were less than 60%.

4.3 Correlations between Knowledge Score and Different Demographic Factors

We have incorporated bi serial correlation here because it accurately assesses the relationship between continuous variables, like knowledge scores, and dichotomized variables, such as having publications or not (Pearson, 1909). This approach gives a more nuanced picture of the relationship between these binary demographic measures and continuous outcomes that may be overlooked by simpler correlation measures. The null hypothesis (H_0) for the correlation tests was that there is no significant correlation between the knowledge scores and demographic characteristics. The alternative hypothesis (H_1), indicated that there is a significant correlation between knowledge scores and the demographic characteristics.

Table 04 indicates the extent of correlation between knowledge scores and different demographic characteristics including correlation coefficient, t statistic, degree of freedom (df) and p-value. The criterion for rejecting or not rejecting the null hypothesis

primarily revolves around the p-value; a threshold commonly used is 0.05. The correlation coefficient for the "Having publications" is positive (0.21396) and the p-value is significant (0.01895), which means that the null hypothesis is rejected. This means that there is a significant positive correlation between number of publications and knowledge scores. Other variables, however, have not been rejected as they did not have a p-value below 0.05, indicating that their association with the scores on knowledge is not significantly different from zero.

Table 4

Correlation between Knowledge Score and Different Demographic Characteristics

Demographic Characteristics	Correlation Coefficient	t statistic	df	p-value	H ₀ : True correlation is 0.
Sex	-0.03553	-0.38622	118	0.7	Not rejected
Orientation to research ethics during academic pursuits	-0.12182	-1.3333	118	0.185	Not rejected
Having publications	0.21396	2.3793	118	0.01895	Rejected
Ethical guideline/s as a reference or source of responses	0.172584	1.9033	118	0.05944	Not rejected
Academic courses on research as a reference or source of responses	0.13727	1.5054	118	0.1349	Not rejected
Personal experience as a reference or source of responses	-0.06937	-0.75542	118	0.4515	Not rejected
Intuition as a reference or source of responses	-0.06625	-0.72122	118	0.4722	Not rejected

To determine whether significant differences exist in the knowledge scores across the four categories of current academic status, the study conducted an ANOVA test. The dependent variable in this test was the score on the knowledge test, and the independent variable was the variable of current academic status. The hypotheses for this test were established as follows:

Null Hypothesis (H₀): There is no significant difference in the means of knowledge score across the four categories of the current academic status.

Alternative Hypothesis (H₁): At least one category has a different mean knowledge score compared to the others.

Table 5
ANOVA table for Current Academic Status

Source of Variation	df	Sum Square	Mean Square	F value	Pr(>F)	H ₀
Current academic status	3	72.6	24.20	2.299	0.0811	Not rejected
Residuals	116	1221.1	10.53			

After fitting a one-way ANOVA model, the analysis revealed 3 degrees of freedom for the variable of current academic status and 116 degrees of freedom for the residuals. The overall sum of squares for the current academic status variable was 72.6, whereas the residual sum was 1221.1. The mean sum of squares for the current academic status variable was calculated to be 24.20, with an F value of 2.299. The p-value obtained was 0.0811, exceeding the conventional significance level of 0.05. This result, being marginally significant at the 0.1 level, implies potential evidence against the null hypothesis, though the evidence is not compelling. As the H₀ couldn't be rejected the study concluded that there was no significant difference in the means of knowledge score across the four categories of the current academic status.

4.4 Finding Factors that Influence the Knowledge Scores

After performing the correlation test the study fitted a multiple linear regression where knowledge score was the response variable and the demographic characteristics were the independent variables. Given that the research employs knowledge scores as the continuous response variable, spanning a range of values rather than fitting into two distinct categories, the use of a standard multiple linear regression model aligns appropriately with the analytical needs of the study, contrary to the inapplicability of such models for binary dependent variables (Tabachnick and Fidell, 2001). The model was,

$$\begin{aligned}
 \text{Knowledge score} = & \beta_0 + \beta_1 \times \text{Sex} \\
 & + \beta_2 \times \text{Orientation to research ethics during academic pursuits} \\
 & + \beta_3 \times \text{Number of publications} \\
 & + \beta_4 \times \text{Academic status} \\
 & + \beta_5 \times \text{Ethical guideline/s as a source} \\
 & + \beta_6 \times \text{Academic course in research as a source} \\
 & + \beta_7 \times \text{Personal experience as a source} \\
 & + \beta_8 \times \text{Intuition as a source}
 \end{aligned}$$

Estimated coefficient values, standard errors, t-statistic values, and p-values for the parameters (β_i) of the demographic characteristics were calculated to fit the model. Importantly, the factors of orientation to research ethics during academic studies and number of publications were found to be significant with P-values indicating that the variables may have a meaningful relationship with the knowledge scores. On the other

hand, variables such as sex, academic status and other variables did not significantly affect as shown by their p values. The results of the F-statistic and the p value (table 6) showed that the overall model was valid with F-statistic of 3.034 and p value of 0.002002; the values were statistically significant which indicated that at least one of the independent variables significantly affects the knowledge scores.

Table 6
Estimated Coefficients and t-test Measures

Demographic Characteristics	Estimated Coefficients (β_i)	Std. Error	t value	Pr(> t)	Significant Effects on Knowledge score
Sex	0.078784	0.57632	0.137	0.8915	No
Orientation to research ethics during academic pursuits	0.782191	0.39284	1.991	0.0490	Yes
Number of publications	0.28146	0.12224	2.302	0.0232	Yes
Academic status	-0.05061	0.08203	-0.617	0.5385	No
Ethical guideline/s as a source	0.481775	0.74385	0.648	0.5186	No
Academic course in research as a source	1.158462	0.68405	1.694	0.0932	No
Personal experience as a source	-1.14743	0.59759	-1.920	0.0575	No
Intuition as a source	1.188349	0.59693	1.991	0.0490	Yes

Table 7
Model Evaluation Measures

Measures	Values	Degrees of freedom
Residual standard error	3.047	109
Adjusted R-squared	0.146	-
F-statistic	3.034	10 and 109
p-value	0.002002	-

This table provides key measures to evaluate the fitted multiple linear regression model, each offering insights into different aspects of the model's performance:

Residual Standard Error (3.047 with 109 degrees of freedom): In regression analysis,

Residual Standard Error, also known as Residual Standard Deviation, measures the discrepancy between the observed values' standard deviation and the predicted values from the model. A lower residual standard error indicates a closer fit of the model to the data. The degrees of freedom (109 in this case) also called divergence (Kato, 2009), are calculated as the number of observations minus the number of estimated parameters, suggesting the amount of independent information used to calculate the error.

Adjusted R-squared (0.146): A value of 0.146 suggests that, once adjusting for the number of predictors, the model accounts for 14.6% of the variability in the dependent variable. This value helps in assessing the explanatory power of the model while penalizing for adding variables that do not improve the model significantly.

F-statistic (3.034 with 10 and 109 degrees of freedom): An F-statistic of 3.034 suggests that the model is statistically significant, at least one of the predictors is related to the response variable.

P-value (0.002002): A p-value of 0.002002 is well below the conventional threshold of 0.05, highlighting strong evidence against the null hypothesis and suggesting the model, as a whole, is significant.

5. Discussion and Recommendations

5.1 Major Findings

A cross sectional survey with a total of 29 questions was implemented with 120 participants including 5 questions related to demographic and background information and 24 questions related to the statements of research ethics knowledge. The percentage of correct answers were on average 81.45% , 5 questions were less than 70% correct, 6 questions were between 70% and 80% correct, and 13 questions were more than 80% correct. Overall, the scores of the 120 participants had a moderately balanced distribution with moderate variability, with a mean of 19.26, median of 20, standard deviation of 3.52, and a range of 10-24 (Q1 = 17, Q3 = 22). Based on knowledge score cutoffs, 53.33% of participants achieved a high level (80%-100%), 39.17% reached a moderate level (60%-79%), and 7.5% fell into the low-level category (less than 60%). A bi serial correlation analysis was conducted to assess the relationship between continuous knowledge scores and dichotomous demographic variables, testing the null hypothesis of no correlation against a 0.05 significance threshold. The results revealed that only "having publications" had a statistically significant positive correlation with higher knowledge scores ($r = 0.21396$, $p = 0.01895$), whereas all other demographic variables failed to reach statistical significance. To determine if significant differences exist in continuous knowledge scores across four academic status categories, a one-way ANOVA test was conducted to test the null hypothesis of equal means against the alternative hypothesis that at least one category differs. The analysis revealed 3 degrees of freedom for academic status with a sum of squares of 72.6 (mean sum of squares of 24.20) and 116 degrees of freedom for residuals with a sum of squares of 1221.1. This yielded an F value of 2.299 and a p-value of 0.0811. This p-value is greater than the standard 0.05 significance level, and so the null hypothesis was not rejected, but it was marginally

significant at the 0.1 level of significance, suggesting that there is no significant difference in mean knowledge scores by academic status. To determine the factors that affect these knowledge scores, the data was analyzed using a multiple linear regression model as opposed to a binary model. The model assessed the impact of sex, being oriented to research ethics in academic endeavors, number of publications, academic status, and using ethical guidelines, academic courses, personal experiences, or intuition as sources. Based on the estimated coefficient parameters, it was found that the orientation toward research ethics and the numbers of publications had significant effect on the knowledge score while the other background variables had no significant effect.

The overall validity of the regression model was supported by an F-statistic of 3.034 with 10 and 109 degrees of freedom and a p-value of 0.002002, indicating that the model is statistically significant and at least one predictor influences the scores. The model produced a residual standard error of 3.047 with 109 degrees of freedom, which measures the discrepancy between observed and predicted values using independent error information, also termed divergence. Finally, the adjusted R-squared value was 0.146, demonstrating that the model explains 14.6% of the variance in knowledge scores after adjusting and penalizing for the number of predictors.

5.2 Discussion

Although many researchers have encountered research ethics academically, just slightly more than half achieved a score higher than 80% in demonstrating their knowledge. A research from the United States (Heitman et al., 2007) have also highlighted a pervasive lack of knowledge on the responsible conduct of research, irrespective of previous educational backgrounds similar to this study's findings. This likely happens because the ethics courses taught in universities are inconsistent in what they cover and how well they prepare students as highlighted by Kalichman and Plemmons (2007). While the significance of instructional techniques in ethics courses is acknowledged, the focus on delivery methods has been notably less prominent than on the content or objectives within the ethics training discourse (Waples et al. 2009). Barry and Ohland (2009) in particular argue for an intensive evaluation of the teaching methods used in ethics education in order to improve the development of future courses.

Despite an average score of >80%, we found that there were still some important gaps in the knowledge of the key aspects of research ethics, including competence, anonymity, and transparency. However, almost all of the respondents (nearly 95%) agreed that informed consent is important prior to the commencement of research, which was also reported by another study conducted in India (93.6%) (Shivananda et al., 2020). This is in contrast to the issues of informed consent in research contexts in Egypt (Rashad, Phipps, and Haith-Cooper, 2004). While 88.33% of educational researchers were aware of the importance of avoiding data fabrication, other studies have shown some researchers find data fabrication acceptable, especially for publications and grants (Eastwood et al., 1996; Kalichman and Friedman, 1992). Regarding authorship, slightly over half of the participants responded correctly, highlighting that authorship misuse is more common in studies from France, South Africa, India, and Bangladesh than in those from the USA,

UK, or international journal contexts (Singh, 2009). Our findings also suggest that prior research ethics knowledge, academic status, and sex do not independently predict the depth of ethics knowledge. Only having publications showed a positive correlation with better knowledge scores.

There is a call for research bodies to provide comprehensive training in research design, methodologies, and ethical practices (Torrence et al., 2017). Advocates for ethics training have argued that it can enhance complex decision-making within organizations and reduce the likelihood of future ethical issues (Mumford et al., 2008). Integrating well-known current events can also stimulate discussion and enhance the learning of ethical content (Grier and Firestone, 1998). Additionally, other techniques that might be employed include visual aids, videos, role-playing, debates, handouts, case studies, and outlines (e.g., Mumford et al. 2008). Although research on the efficacy of Responsible Conduct of Research programs shows improvement (Watts et al., 2016), brief training sessions, such as workshops are deemed insufficient for deep ethical understanding (Adeleye and Ogundiran, 2013). RCR education has shown signs of progress in enhancing various ethics-related educational outcomes, such as moral reasoning, knowledge, and ethical decision-making skills (Torrence et al., 2017). Such collaborative efforts mirror real-world ethical decision-making scenarios, preparing trainees for making ethical choices amidst varied viewpoints (LeClair et al. 1999). Discussion can be integrated in research ethics training as it ranks as the second most popular teaching method with trainees generally favoring it over lectures for acquiring ethical concepts (Pettifor, Estay, and Paquet 2002). This preference aligns well with adult learning theories, which emphasize the value of experiential learning and interactive dialogue in reinforcing comprehension and mastery of ethical matters (LeClair and Ferrell 2000; Pettifor, Estay, and Paquet 2002). Despite the growing regulation of educational research ethics over the last sixty years (Brevik, 2013), there has hardly been research assessing the ethics knowledge of educational researchers, in contrast to the more frequent evaluations in medical, bio, and health research fields as mentioned above. Moreover, although the international ethical standards and guidelines for educational research are available, Bangladesh lacks specific guidelines tailored to its social science research landscape, especially in educational fields (Islam and Hossain, 2020). In Bangladesh, the scarcity of formal IRBs and ERCs means that researchers generally obtain departmental or academic approval, although ethical clearance from National Ethical Review Committee (NERC) is often not adequately pursued (Islam & Hossain, 2020). The lack of Institutional Review Boards (IRBs) in the field of education is a conspicuous absence as their presence could be vital in the ethical oversight (Howe and Dougherty, 1993). The report recommends that ethics education should be improved by designing and implementing a thorough training programs that will reduce the identified gaps in the understanding of the ethical principles (dual relationship, transparency and others). It is crucial to improve the ethical review system so that no research is approved without proper ethical review. Open access policies and frequent updates of ethical guidelines will help keep up with the changing nature of research and technology, thereby promoting openness. In addition, clear conflict of interest policies will preserve integrity and reduce bias in research findings, which will create a research educational

environment that is likely to be trusted.

5.3 Conclusion

This report strongly highlights the importance of ethics in the field of educational research, pointing out that while there is a general awareness of the ethical aspects of educational research among the educational researchers in Bangladesh, there are still significant gaps. The research highlights the importance of continuous education and consistent enhancement in research ethics knowledge and practice. It emphasizes the need for improved institutional structures and a deeply ingrained culture of ethical research practices, with particular focus on universities and research institutions to play a significant role. It also highlights the importance of regular revision of the ethical guidelines to address emerging challenges and research methodology advancements. It is significantly important to arrange comprehensive training programs regarding research ethics that are not only targeted at new researchers but are also recurrent for seasoned researchers to reinforce their understanding and commitment to ethical practices. This research envisions that increased moral sensibility in educational research will make it more trustworthy and credible in the eyes of the public, and thus lead to a significant improvement in educational practices and policies.

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