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ORIGINAL RESEARCH RESEARCH IN ANESTHESIOLOGY

Researchers' perception of the factors regarding unethical research practices: a cross-sectional study

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ABSTRACT

Background: Researchers' understanding of scientific misconduct is limited. It is aimed to investigate perceptions of unethical practises influenced by self-perceived factors through questionnaire.

Methodology: A cross-sectional survey of 118 faculty members. Responses were analyzed using IBM SPSS for quantitative data and N-Vivo for qualitative analysis. Chi-square, Fisher's Exact, Kruskal-Wallis, and Dunn's post-hoc tests were used with significance at $P < 0.05$. Thematic analysis was conducted in N-Vivo following text coding and duplication adjustments.

Results: Significant differences were found in factors influencing unethical practises. Experienced individuals rated 'investigators' knowledge of misconduct rules' ($P = 0.039$) and 'knowledge of misconduct rules' ($P = 0.031$) as strong influences. Gender differences were seen in 'belief in low subject risk' ($P = 0.019$): 36.4% males and 44.3% females viewing it as strong influencer. Education influenced 'My knowledge of misconduct rules' ($P = 0.014$): 57.7% medical graduates, 34.3% post-graduate residents, and 71.4% Ph.D. scholars rate it as strong influencing factor. Age differences were also noted in 'research staff's support for misconduct rules' ($P = 0.003$), with older respondents finding it valuable.

Conclusion: Experience, gender, education, and age affect the perceptions related to unethical research practices. Experienced researchers prioritise misconduct rules more than younger ones. Institutional pressures, penalties, and lack of awareness are strong determinants for unethical research-related practices.

Keywords: Faculty; Perceptions; Plagiarism; Questionnaire; Research Ethics; Scientific Misconduct.

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1. INTRODUCTION

Unethical research practices, such as falsifying data, fabricating results, and plagiarism, are significant academic concerns. These actions undermine the public's trust in science and lead to misleading conclusions, affecting various fields, including medicine and social sciences.[1]

While ethical research is importan for scientific success, increasing demand for researchers to publish, secure funding, and rise up in their careers has led to a rise in misconduct.[2] Institutions and ethics committees may

present or unconsciously promote unethical research practises.[3]

Many studies focus on growing research misconduct. Academic competitions, the demand for multiple publications, and limited funds create a situation where researchers are forced to do so or take unethical shortcuts.[4] Moreover, there is a lack of awareness and resources to deal with this issue.[5] Research held in Nigeria and China proves that institutional strategies, limited finance, and career pressures influence research behaviours to a peak level.[6] Despite worldwide efforts to upgrade research uprightness, there is a finite focus on how researchers recognise their pressures.[7]

There are so many researchers who face conflicts between professional demands and ethics. However, their unethical practices receive minimal attention.[7,8] In underdeveloped countries like Pakistan, which lag in research, there is a lack of information on how individual researchers take their challenges and how their insights affect their ethical choices.[9] Addressing this gap is essential for developing effective interventions that promote research integrity. The first step is identifying key self-perceived factors, including pressures or underlying causes, influencing researchers' tendencies toward scientific misconduct. By recognising these contributing factors, we can implement targeted measures to regulate or modify them, thereby reducing unethical research practises and improving overall research quality. The findings of this study will contribute to the broader conversation on research ethics and assist institutions in creating strategies to prevent misconduct.

The current study aims to investigate investigators' perceptions of unethical research-related practices under the influence of self-perceived factors through a predesigned questionnaire.

2. METHODOLOGY

A survey-based cross-sectional study was conducted under the principles of the Declaration of Helsinki. Informed voluntary consent was obtained from each participant. The sample size was calculated using Yamane's formula, which was 110, with a 95% confidence interval. The study proceeded after receiving an ethical approval letter from the institutional ethical review committee on September 21, 2023, Reference Number: 633/ERC/CMH/LMC. The study duration was five months, from October 01, 2023, to March 01, 2024.

The study had 118 participants. The participants included faculty members who remained principal or co-investigators in a research project or were themselves Ph.D. scholars, postgraduate residents, or trainees. In contrast, faculty members who had never been involved in any research were excluded from the study. The data collection tool was a 3-point Likert scale questionnaire, which was validated, reliable, and predesigned questionnaire named "Scientific Misconduct Questionnaire-Revised (SMQ-R)" adopted by Broome ME, et al, 2005.10 A convenience sampling technique was used to reach the target population. The participants themselves filled in each printed questionnaire. The collected responses were gathered and transferred into Excel spreadsheets, from where all the data was imported to IBM-SPSS version 21 for the quantitative analysis. We used NVivo 14 for the qualitative analysis.

Descriptive statistical analysis uses numbers, percentages, means, and standard deviations. We employed Chi-square and Fisher's Exact Test to determine the associations between categorical variables: gender and qualification level. The Kolmogorov-Smirnov test was used to assess the normality of the data distribution. The Kruskal-Wallis test was utilised to statistically compare non-parametric variables, such as participants' age and experience. Following the Kruskal-Wallis test, Dunn's post-hoc test was performed when the p-value was statistically significant ($p < 0.05$) to identify differences within each group.

The qualitative data collected from an open-ended question in each questionnaire was first put into the NVivo 14 software as text and then organized into themes after fixing duplicates and coding the data.

3. RESULTS

The sample comprised 118 faculty members, out of which 52 (44.1%) were juniors qualified with no more than a BDS/MBBS degree with authorship in at least one research article, 35 (29.7%) were enrolled in or completed FCPS/MCPS/M.Phil., 21 (17.8%) were enrolled in or completed Ph.D., and 10 (8.5%) did not specify. There were 48 (40.7%) males and 70 (59.3%) females. The mean age was 36.9 (SD 8.8, median 36.5, range 25-68) years, while the mean experience was 7.7 (SD 4.9, median 7.0, range 1-20) years.

The faculty identified the following as the three most significant factors contributing to unethical research practises: pressure to attain tenure (53.4%), pressure to secure external funding (53.4%), and the effectiveness of organisational rules in mitigating misconduct (52.5%). The same faculty group (participants) ranked the least influential factors in unethical research practises as follows: the likelihood of being caught for misconduct (17.8%), support from other staff for misconduct rules (16.9%), and the severity of penalties (15.3%). Three factors were identified as having a moderate influence on

Table 1: Self-perceived influence of factors leading to unethical research practises (n = 118).

Self-perceived factors	Influence Level		
	No	Some	Strong
1. Investigator competitiveness	14 (11.9)	59 (50.0)	45 (38.1)
2. Pressure on investigators to obtain tenure	7 (5.9)	48 (40.7)	63 (53.4)
3. Pressure on investigators to obtain external funding	14 (11.9)	63 (53.4)	41 (34.7)
4. Severity of penalties for scientific misconduct	18 (15.3)	65 (55.1)	35 (29.7)
5. Chances of getting caught for scientific misconduct if it occurs	21 (17.8)	54 (45.8)	43 (36.4)
6. Investigators' understanding of rules and procedures related to scientific misconduct	12 (10.2)	57 (48.3)	49 (41.5)
7. My own understanding of rules and procedures related to scientific misconduct	15 (12.7)	44 (37.3)	59 (50.0)
8. Other research staff's understanding of rules and procedures related to scientific misconduct	10 (8.5)	75 (63.6)	33 (28.0)
9. Investigators' support of rules and procedures related to scientific misconduct	11 (9.3)	59 (50.0)	48 (40.7)
10. Research coordinator's support of rules and procedures related to scientific misconduct	9 (7.6)	68 (57.6)	41 (34.7)
11. Other research staff's support of rules and procedures related to scientific misconduct	20 (16.9)	65 (55.1)	33 (28.0)
12. Effectiveness of your organization's rules and procedures for reducing scientific misconduct	12 (10.2)	44 (37.3)	62 (52.5)
13. A belief that the level of risk of subjects is quite low in a given study protocol	13 (11.0)	57 (48.3)	48 (40.7)

Data are presented as n (%)

unethical research practices: Other research staff's understanding of scientific misconduct rules (63.6%), Research coordinator support for these rules (57.6%), and Pressure on investigators to secure external funding (53.4%) (Table 1).

The study showed that there were no major differences in how men and women viewed the reasons for unethical research practices, except for one belief about low subject risk in a study (P = 0.019), where 20.8% of men thought it had no effect, compared to only 4.3% of women. However, most males (43.8%) and females (51.4%) perceived this factor moderately influencing unethical research practices. In this respect, most males considered investigator competitiveness a strong influence, while most females considered it only moderate. The maximum number of both genders rate secure tenure, their understanding of misconduct rules, and the effectiveness of organisational misconduct policies as strong influencing factors. Both genders perceive funding pressure on investigators, penalties for misconduct, risk of detection for misconduct, investigators' knowledge of misconduct rules, research staff's knowledge of misconduct rules, investigators' adherence to misconduct rules, research coordinator's support for misconduct rules, and research staff's support for misconduct rules as moderate concerns that can influence unethical research practices (Table 2).

The study found no significant differences among qualification levels except personal knowledge of misconduct rules (P = 0.014). Most respondents at the graduate level of qualification consider the effectiveness of organisational misconduct policies, tenure pressure on investigators, and their knowledge of misconduct rules to be factors that can strongly influence unethical research practises (Table 4). The same respondents perceived research staff's support for misconduct rules, research-related staff's knowledge of misconduct rules, and penalties for misconduct as factors that only somewhat influence unethical research practices. In the same context, most respondents, who were at the postgraduate level of education, believed that tenure pressure on investigators and belief in low subject risk in a study were the strong factors that may influence unethical research practice. In their opinion, the research staff's knowledge of misconduct rules, investigator competitiveness, and research coordinators' support for misconduct rules can influence unethical research practices. It was observed that most Ph.D. scholars as

Table 2: Cross-tabulation of 'self-perceived influence of factors leading to unethical research practices' with 'gender' (N = 118)

Self-perceived factors		Males (n = 48)	Females (n = 70)	P-value
1	None	7 (14.6)	7 (10.0)	0.172
	Some	19 (39.6)	40 (57.1)	
	Strong	22 (45.8)	23 (32.9)	
2	None	5 (10.4)	2 (2.9)	0.087
	Some	15 (31.3)	33 (47.1)	
	Strong	28 (58.3)	35 (50.0)	
3	None	8 (16.7)	6 (8.6)	0.271
	Some	22 (45.8)	41 (58.6)	
	Strong	18 (37.5)	23 (32.9)	
4	None	11 (22.9)	7 (10.0)	0.147
	Some	25 (52.1)	40 (57.1)	
	Strong	12 (25.0)	23 (32.9)	
5	None	11 (22.9)	10 (14.3)	0.294
	Some	23 (47.9)	31 (44.3)	
	Strong	14 (29.2)	29 (41.4)	
6	None	6 (12.5)	6 (8.6)	0.765
	Some	22 (45.8)	35 (50.0)	
	Strong	20 (41.7)	29 (41.4)	
7	None	7 (14.6)	8 (11.4)	0.319
	Some	14 (29.2)	30 (42.9)	
	Strong	27 (56.3)	32 (45.7)	
8	None	3 (6.3)	7 (10.0)	0.489
	Some	29 (60.4)	46 (65.7)	
	Strong	16 (33.3)	17 (24.3)	
9	None	4 (8.3)	7 (10.0)	0.753
	Some	26 (54.2)	33 (47.1)	
	Strong	18 (35.7)	30 (42.9)	
10	None	5 (10.4)	4 (5.7)	0.283
	Some	30 (62.5)	38 (54.3)	
	Strong	13 (27.1)	28 (40.0)	
11	None	11 (22.9)	9 (12.9)	0.055
	Some	29 (60.4)	36 (51.4)	
	Strong	8 (16.7)	25 (35.7)	
12	None	7 (14.6)	5 (7.1)	0.422
	Some	17 (35.4)	27 (38.6)	
	Strong	24 (50.0)	38 (54.3)	
13	None	10 (20.8)	3 (4.3)	**0.019***
	Some	21 (43.8)	36 (51.4)	
	Strong	17 (35.4)	31 (44.3)	

P values are from χ^2 or Fisher's Exact tests.
Data are given as n (%); P < 0.05 is considered significant

Table 3: Years of experience in research' across levels of 'influence of self-perceived factors leading to unethical research practices (N = 118)

Self-perceived factors		Years of experience		
		Mean (SD)	Median	P
1	None	8.2 (6.2)	8.0	0.880
	Some	7.5 (5.1)	6.5	
	Strong	7.7 (4.5)	8.0	
2	None	9.8 (7.8)	9.0	0.397
	Some	6.9 (4.9)	5.0	
	Strong	7.9 (4.7)	7.0	
3	None	7.8 (4.7)	6.0	0.864
	Some	7.9 (5.3)	7.0	
	Strong	7.2 (4.6)	7.0	
4	None	6.1 (6.1)	4.0	0.061
	Some	8.5 (4.9)	8.5	
	Strong	7.1 (4.2)	7.0	
5	None	6.7 (5.0)	5.0	0.561
	Some	8.0 (4.5)	8.0	
	Strong	7.6 (5.5)	7.0	
6	None	5.3 (2.5)	5.0	0.039
	Some	6.7 (5.0)	5.0	
	Strong	9.2 (4.9)	10.0	
7	None	7.5 (6.2)	5.5	0.031
	Some	5.7 (3.6)	5.0	
	Strong	9.0 (5.1)	9.0	
8	None	5.4 (2.5)	5.0	0.529
	Some	7.7 (5.1)	7.0	
	Strong	8.2 (5.0)	8.0	
9	None	7.2 (6.6)	4.5	0.257
	Some	7.0 (4.7)	6.0	
	Strong	8.5 (4.9)	8.0	
10	None	7.9 (6.9)	5.0	0.748
	Some	7.8 (4.7)	7.5	
	Strong	7.4 (5.1)	6.0	
11	None	6.5 (5.5)	5.0	0.122
	Some	8.4 (5.2)	8.0	
	Strong	6.5 (3.8)	6.5	
12	None	6.3 (5.3)	5.0	0.466
	Some	7.3 (5.5)	6.0	
	Strong	8.1 (4.5)	8.0	
13	None	9.6 (6.3)	10.0	0.534
	Some	7.1 (4.4)	7.0	
	Strong	7.7 (5.1)	7.0	
Total		**7.7 (4.9)**	**7.0**	

Table 4: Cross-tabulation of 'self-perceived influence of factors leading to unethical research practices' with 'educational qualification' (N = 118)

Self-perceived factors		BDS/MBBS (n = 52)	FCPS/MCPS/M Phil (n = 35)	PhD (n = 21)	Missing (n = 10)	P-value
1	None	7 (13.5)	3 (8.6)	2 (9.5)	2 (20.0)	0.593
	Some	24 (46.2)	22 (62.9)	10 (47.6)	3 (30.0)	
	Strong	21 (40.4)	10 (28.6)	9 (42.9)	5 (50.0)	
2	None	2 (3.8)	4 (11.4)	0	1 (10.0)	0.284
	Some	19 (36.5)	12 (34.3)	11 (52.4)	6 (60.0)	
	Strong	31 (59.6)	19 (54.3)	10 (47.6)	3 (30.0)	
3	None	2 (3.8)	8 (22.9)	2 (9.5)	2 (20.0)	0.124
	Some	27 (51.9)	18 (51.4)	12 (57.1)	6 (60.0)	
	Strong	23 (44.2)	9 (25.7)	7 (33.3)	2 (20.0)	
4	None	7 (13.5)	8 (22.9)	2 (9.5)	1 (10.0)	0.671
	Some	28 (53.8)	19 (54.3)	11 (52.4)	7 (70.0)	
	Strong	17 (32.7)	8 (22.9)	8 (38.1)	2 (20.0)	
5	None	8 (15.4)	9 (25.7)	2 (9.5)	2 (20.0)	0.397
	Some	23 (44.2)	14 (40.0)	10 (47.6)	7 (70.0)	
	Strong	21 (40.4)	12 (34.3)	9 (42.9)	1 (10.0)	
6	None	4 (7.7)	5 (14.3)	2 (9.5)	1 (10.0)	0.677
	Some	24 (46.2)	19 (54.3)	8 (38.1)	6 (60.0)	
	Strong	24 (46.2)	11 (31.4)	11 (52.4)	3 (30.0)	
7	None	3 (5.8)	8 (22.9)	1 (4.8)	3 (30.0)	0.014*
	Some	19 (36.5)	15 (42.9)	5 (23.8)	5 (50.0)	
	Strong	30 (57.7)	12 (34.3)	15 (71.4)	2 (20.0)	
8	None	3 (5.8)	4 (11.4)	1 (4.8)	2 (20.0)	0.202
	Some	29 (55.8)	26 (74.3)	14 (66.7)	6 (60.0)	
	Strong	20 (38.5)	5 (14.3)	6 (28.6)	2 (20.0)	
9	None	3 (5.8)	3 (8.6)	2 (9.5)	3 (30.0)	0.363
	Some	27 (51.9)	19 (54.3)	9 (42.9)	4 (40.0)	
	Strong	22 (42.3)	13 (37.1)	10 (47.6)	3 (30.0)	
10	None	4 (7.7)	3 (8.6)	1 (4.8)	1 (10.0)	0.407
	Some	25 (48.1)	20 (57.1)	16 (76.2)	7 (70.0)	
	Strong	23 (44.2)	12 (34.3)	4 (19.0)	2 (20.0)	
11	None	9 (17.3)	6 (17.1)	3 (14.3)	2 (20.0)	0.874
	Some	29 (55.8)	18 (51.4)	14 (66.7)	4 (40.0)	
	Strong	14 (26.9)	11 (31.4)	4 (19.0)	4 (40.0)	
12	None	2 (3.8)	6 (17.1)	3 (14.3)	1 (10.0)	0.369
	Some	19 (36.5)	14 (40.0)	6 (28.6)	5 (50.0)	
	Strong	31 (59.6)	15 (42.9)	12 (57.1)	4 (40.0)	
13	None	7 (13.5)	5 (14.3)	0	1 (10.0)	0.682
	Some	26 (50.0)	16 (45.7)	10 (47.6)	5 (50.0)	
	Strong	19 (36.5)	14 (40.0)	11 (52.4)	4 (40.0)	

P values are from χ^2 or Fisher's Exact tests.
Data are given as n (%); P < 0.05 is considered significant

participants perceived factors of their knowledge of misconduct rules, Belief in low subject risk in a study, and Investigators' knowledge of misconduct rules owned the strongest influence on unethical research practice. The same respondents had the opinion that the factors, namely, The research coordinator's support for misconduct rules, the Research staff's support for misconduct rules, and the Research staff's knowledge of misconduct rules, were of some value to unethical research practices (Table 2).

Kolmogorov-Smirnov tests indicated that the frequency distribution curves of 'age' and 'years of experience' significantly differed from normal distribution ($P < 0.001$). Then Kruskal-Wallis tests were used to determine any significant differences between the different levels of influence in terms of 'age' and 'years of experience'. Significant differences were seen in 'investigators' understanding of rules and procedures related to scientific misconduct', 'my understanding of rules and procedures related to scientific misconduct', and 'other research staff's support of rules and procedures related to scientific misconduct' ($P < 0.05$) (Table 3). Dunn's post-hoc tests revealed no significant difference in age nor years of experience between the levels of influence of 'investigators' understanding of rules and procedures related to scientific misconduct'Participants who reported 'strong' influence of 'my understanding of rules and procedures related to scientific misconduct' were

Table 5: Themes developed from the open-ended question, 'What other reasons do you think are there for unethical research practices?'

Other reasons for unethical research practices (N = 118)	n (%)
Publication requirements for hiring, job security, and promotion	12 (10.2)
Difficulty in collecting enough data and lack of funds	6 (5.1)
No laws against unethical research practices	5 (4.2)
Influence of senior faculty	4 (3.4)
Prioritizing quantity over quality	3 (2.5)
Lack of research experience and guidance	3 (2.5)
General lack of sincerity	3 (2.5
Long waiting time before publication	2 (1.7)
Lack of interest/participation of co-investigators	2 (1.7)
Lack of appreciation for doing it the right way	1 (0.8)
Competition for the 'highest number of publications' award	1 (0.8)
Pressure to produce desirable results	1 (0.8)

significantly older (P = 0.010) and had more years of experience (P = 0.028) than those who reported 'some' impact. Those who reported 'some' influence of 'other research staff's support of rules and procedures related to scientific misconduct' were significantly older in age compared to those who reported 'no' (P = 0.012) or 'strong' influence (P = 0.037) (Table 3).

Table 5 presents additional reasons for unethical research practices. These are the themes developed from the open-ended question, which prompted the participants to write about any other reason why unethical research practises exist. The top 3 reasons identified were 'publication requirements for hiring, job security, and promotion' (n = 12), 'difficulty in collecting enough data and lack of funds' (n = 6), and 'no laws against unethical research practices' (n = 5).

4. DISCUSSION

This study explores self-perceived factors leading to unethical research practises among faculty at a private medical institute in Lahore. The findings underscore the multifaceted nature of research misconduct, shaped by individual beliefs, professional experiences, and systemic challenges. These results are consistent with trends observed in recent literature on ethics in academic research, particularly within medical institutions.[10, 11]

In the present study, female faculty members were significantly more supportive than their male counterparts regarding the belief that low subject risk leads to unethical research practices. This observation aligns with existing research that highlights gender differences in ethical decision-making. Studies consistently indicate that women in academia tend to demonstrate greater ethical sensitivity than men. One study found that female researchers often prioritise participant welfare and are more cautious about the ethical implications of research protocols.[11] Gigol T. proposed that national culture could indirectly affect gender differences in unethical research behaviour. Consequently, women tend to view low-risk research as a possible route to unethical outcome practises.[12]

This gender disparity may stem from varying professional pressures or socialisation processes. Women in academia, particularly in male-dominated fields like medicine, often face heightened scrutiny and may feel compelled to adhere more strictly to ethical guidelines to maintain credibility.[13, 14] Recognising these differences is crucial for developing targeted interventions addressing gender-specific research ethics challenges.

Faculty members who reported a "strong" influence of their understanding of rules and procedures related to scientific misconduct were significantly older and had more experience than those who reported "some" influence, which implies that adherence to rules increases with age and professional experience. This aligns with a narrative review on the ethical review process in educational research that highlighted that senior researchers frequently have a greater awareness of ethical standards because of their ongoing professional development and extended exposure to ethical challenges. In conducting ethical research, the researcher's development is far more crucial than administrative control.[15] Conversely, younger faculty members or those with less experience might not have a thorough knowledge of ethical research methods, which would cause variations in their adherence to policies. This emphasises the importance of integrating ethics education into early career training programmes.[16] Institutions ought to consider developing mentorship programmes where senior academics can help junior colleagues deal with ethical dilemmas.[15, 17]

The results also indicated that faculty members who reported "some" influence of 'research staff's support of rules and procedures related to scientific misconduct' were significantly older than those who reported "no" or "strong" influence. This finding highlights the

importance of collaborative environments for promoting ethical behavior. Support from research staff can serve as a critical buffer against misconduct, particularly for mid-career faculty who may rely on team dynamics for decision-making.[16, 17]

Recent studies have emphasised the role of institutional culture in shaping ethical conduct. Strong collaborative networks and mentorship structures are essential for fostering a culture of integrity. At the same time, inconsistencies in support from research staff can create ethical ambiguities.[17,18] Institutions must prioritise consistent ethics training and clear communication of guidelines to all team members, ensuring alignment in ethical standards across research groups.[16, 18]

The thematic analysis revealed three primary reasons for unethical research practises: publication requirements for hiring, job security and promotion; difficulty in collecting sufficient data and lack of funds; and the absence of laws against unethical practises. These systemic factors mirror challenges documented in recent literature.[15, 18]

The "publish or perish" culture remains a dominant driver of unethical behaviour in academia. Faculty often face immense pressure to produce high-impact publications to secure promotions, tenure, and funding. Publication pressure significantly correlates with questionable research practises, including data manipulation and selective reporting. This pressure is especially intense in medical institutions where research productivity is frequently a crucial criterion for career progression.[19] Institutions must implement comprehensive evaluation measures that put research quality above quantity to lessen the consequences of publication pressure. Initiatives such as the San Francisco Declaration on Research Assessment (DORA) promote broader standards, such as societal effect and research transparency.

Difficulty in collecting sufficient data and securing funding was the second most frequently reported reason for unethical practises. Due to the lack of resources, researchers may take shortcuts or create false data to fulfill publication criteria and meet deadlines.[20] Systemic changes are necessary to address these problems and guarantee fair resource allocation. Collaborative research projects, where universities pool resources and expertise, may alleviate some of these pressures. Additionally, transparent reporting procedures for difficulties encountered during data collection can maintain ethical standards without penalizing researchers for uncontrollable circumstances.[19, 20]

The absence of laws against unethical research practices was the third most frequently reported reason for unethical practices. While ethical guidelines exist, enforcement remains inconsistent, particularly in countries with limited regulatory infrastructure. Robust oversight mechanisms are needed to ensure accountability, including independent ethics committees and regular audits.[21] Strengthening regulatory frameworks is essential for fostering a culture of integrity. For example, the European Code of Conduct for Research Integrity (2018) provides a comprehensive framework for promoting ethical behavior that can serve as a model for institutions globally.

More specifically, from our own Pakistan, a systematic review reported that the training of the academic community to raise awareness of all the forms and aspects of unethical research practices and their terrible emerging societal harmful effects is the prime responsibility of the local research organisations and academic centers to raise the standard of research and publication from all corners of the country.[22] Another local study suggested that even the officials from local governance and welfare organisations should play their role to decline or negate the ongoing unethical research practices through awareness and rational policymaking across the country.[23]

5. CONCLUSIONS

unethical research practices are influenced by experience, age, education, and institutional pressures. Experienced and older individuals place greater importance on misconduct rules than younger researchers. Gender differences are minimal, though males tend to downplay the subject risk. Institutional factors, such as publication pressure, funding limitations, and inadequate regulations, strongly drive unethical behaviour. Education raises awareness and improves adherence to ethical standards, while penalties and detection risks have less effect.

6. LIMITATIONS

The study as certain limitations. First, conducting the study at a single institute resulted in a smaller sample size, thereby limiting the generalizability of its findings. Furthermore, a longitudinal study design could enhance the study's cross-sectional design, which reflects a brief time period.

7. Recommendations from this study

This study emphasises the need for a comprehensive strategy to counteract unethical research practices. Key recommendations for institutions include integrating ethics education into faculty development programmes, encouraging senior faculty to mentor young researchers, and shifting the focus from publication quantity to research quality.

Additionally, establishing independent ethics committees, frequent audits, and sufficient funds and resources are essential for fostering a culture of integrity in research. By addressing the challenges of individual beliefs, professional experiences, and systemic pressures through targeted interventions and by cultivating a culture of honesty, institutions can sustain the highest ethical standards of research.

8. Acknowledgements

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9. Conflict of Interest

There is no conflict of interest of any type exist among the authors.

10. Authors Contribution

Ayesha Sadiqa formulated the research question, designed the study, analyzed data, drafted and reviewed the manuscript, supervised the study, and assisted in sampling. Faiza Fatima Chishti actively contributes to sample collection, data analysis, manuscript drafting and refinement, and proofreading. Hood Ahmed actively participated in research design and sample collection, drafting several manuscript sections and managing the preparation process. Zahra Fatima actively engages in research design, contributes to sample collection, writes various sections of manuscripts, and oversees the preparation process.

11. REFERENCES

1. Lievore C, Rubbo P, Dos Santos CB, Picinin CT, Pilatti LA. Research ethics: a profile of retractions from world class universities. Scientometrics. 2021;126(8):6871-89. DOI: 10.1007/s11192-021-03987-y
2. Mandal M, Bagchi D, Basu SR. Scientific misconducts and authorship conflicts: Indian perspective. Indian J Anaesth. 2015;59(7):400-05. DOI: 10.4103/0019-5049.160918
3. Brown C, Spiro J, Quinton S. The role of research ethics committees: Friend or foe in educational research? An exploratory study. Br. Educ. Res. J. 2020;46(4):747-69. DOI: 10.1002/berj.3654
4. Sivasubramaniam SD, Cosentino M, Ribeiro L, Marino F. Unethical practices within medical research and publication–An exploratory study. IJEI. 2021;17:1-13. https://doi.org/10.1007/s40979-021-00072-y
5. Abimbola IO, Tola O, Popoola BG, Folorunso JO, Amao-Taiwo B, et al. Unethical research practices: an empirical evaluation of 'abeg add my name'malady in Nigeria. Hallmark Univ. 2021;3(1):191-204.
6. Yu L, Miao M, Liu W, Zhang B, Zhang P. Scientific misconduct and associated factors: a survey of researchers in three Chinese tertiary hospitals. Account Res. 2021;28 (2):95-114. https://doi.org/10.1080/08989621.2020.1809386
7. Drolet MJ, Rose-Derouin E, Leblanc JC, Ruest M, Williams-Jones B. Ethical issues in research: Perceptions of researchers, research ethics board members and research ethics experts. J Acad Ethics. 2023;21(2):269-92. DOI: 10.1007/s10805-022-09455-3
8. Xing S. Ethical conflict and knowledge hiding in teams: Moderating role of workplace friendship in education sector. Front Psychol. 2022;13:824485. DOI: 10.3389/fpsyg.2022.824485
9. Fazal A. Ethical issues in conducting cross-cultural research in low-income countries: a Pakistani perspective. Asian Bioeth Rev. 2022;14(2):151-68. DOI: 10.1007/s41649-021-00196-w
10. Broome ME, Pryor E, Habermann B, Pulley L, Kincaid H. The scientific misconduct questionnaire—Revised (SMQ-R): Validation and psychometric testing. Account Res. 2005;12(4):263-80. DOI: 10.1080/08989620500440253
11. Grady C. Bioethics in the oversight of clinical research: institutional review boards and data and safety monitoring boards. Kennedy Inst Ethics J. 2019;29(1):33-49. DOI: 10.1353/ken.2019.0009
12. Gigol T. Gender differences in engagement in unethical pro-organizational behavior—two studies in Poland. Sustainability. 2020; 13(1):39. DOI: 10.3390/su13010039
13. Hundera M, Mudde HL. A comprehensive analysis of gender dynamics in organizations: Integrating social, structural and individual dimensions. Eur J Educ. 2024; 59(4):e12722. DOI: 10.1111/ejed.12722
14. Li B, Jacob-Brassard J, Dossa F, Salata K, Kishibe T, Greco E, et al. Gender differences in faculty rank among academic physicians: a systematic review and meta-analysis. BMJ open. 2021;11:e050322. DOI: 10.1136/bmjopen-2021-050322
15. Head G. Ethics in educational research: Review boards, ethical issues and researcher development. EERJ. 2018; 19(1):72-83. https://doi.org/10.1177/1474904118796315
16. Miteu GD. Ethics in scientific research: a lens into its importance, history, and future. Ann Med Surg

(Lond). 2024;86(5):2395-98. DOI: 10.1097/MS9.0000000000001959

17. Bukusi EA, Manabe YC, Zunt JR. Mentorship and ethics in global health: fostering scientific integrity and responsible conduct of research. Am J Trop Med Hyg. 2018;100(1 Suppl):42. DOI: 10.4269/ajtmh.18-0562
18. Odole EB. Factors that encourage unethical practices by organizational leaders in Nigeria. Walden University; 2018. in Nigeria.
19. Kearney M, Downing M, Gignac EA. Research integrity and academic medicine: the pressure to publish and research misconduct. J Osteopath Med. 2024;124(5):187-94. DOI: 10.1515/jom-2023-0211
20. Vie KJ. Can research integrity prevail in the market? Lessons from commissioned research organisations. Account Res. 2022;29(7):415-41. DOI: 10.1080/08989621.2021.1937603
21. Desmond H, Dierickx K. Research integrity codes of conduct in Europe: Understanding the divergences. Bioethics. 2021;35(5):414-28. DOI: 10.1111/bioe.12851
22. Guraya SY, Norman RI, Khoshhal KI, Guraya SS, Forgione A. Publish or Perish mantra in the medical field: A systematic review of the reasons, consequences and remedies. Pak J Med Sci. 2016;32(6):1562-67. DOI: 10.12669/pjms.326.10490
23. Adnan M, Ali A, Aslam S. Economic issues and ethical journalism in Pakistan: Prospects and challenges. GSSR. 2019;4(1):8-15. DOI: 10.31703/gssr.2019(IV-I).02

