

Academic staff' perceptions on research integrity at an institute of higher education, South Africa

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ABSTRACT

Research integrity encompasses various principles to ensure that research findings are trustworthy. Breaches can occur at any point in the research process and have been flagged as a key area of focus for many institutes of higher education. This study sought to explore the perceptions of academic staff on research integrity and breaches thereof in a higher education institution in South Africa. A qualitative case study design was used. Data was analysed thematically. Fifteen participants were enrolled representing various professional levels. We found a complex array of perspectives on research integrity, shaped by academic disciplines, professional experiences, and personal ethics. None of the staff cited the five principles of research integrity. With regards to breaches in research integrity, the main themes were systemic pressures and incentives, and a lack of awareness. Pressure to publish and academic promotion was cited by many participants as a driver of breaches in research integrity, and some staff reported being aware of breaches that had occurred. Our findings suggest the need for more investments in setting up institutional structures that are dedicated to the management of research integrity; ongoing educational opportunities to build research capacity in research ethics and integrity, and institutional support to disincentivise breaches in research integrity.

Keywords: plagiarism, fabrication, dishonesty, research ethics

INTRODUCTION

Research integrity is high on the agenda for many institutes of higher education worldwide. The four principles underpinning research integrity - honesty, accountability, professionalism, and stewardship are documented in the Singapore Statement in 2010 and apply to all phases of research from conceptualisation of the research to reporting, publishing, and dissemination of the findings (World Conference on Research Integrity 2010). Integrity is also one of the five ethical principles to be followed when conducting or supporting research for the World Health Organization (World Health Organization 2017). Despite these global platforms at which research integrity is identified as a fundamental requirement for trustworthy research, there have been many challenges in ensuring that research is conducted in accordance with these four principles (Roje et al 2023, 294). These challenges were deliberated at length at the 6th World Conference on Research Integrity, and the focus of the 2019 Hong Kong principles, which emanated from these deliberations, was on fostering research integrity. The five principles that were formulated and endorsed to mitigate against the perverse incentives and other barriers hindering research integrity are: (i) assess responsible research practices; (ii) value complete reporting; (iii) reward the practice of open science; acknowledge a broad range of research activities; and (v) recognise essential other tasks like peer review and mentoring (Moher et al. 2020, 4). In 2022, the Cape Town statement further identified unfair and equitable research practices that can affect the integrity of research. The Statement highlighted the disadvantages faced by researchers in low- and middle-income countries, including several recommendations on ensuring integrity from study conceptualisation to implementation of research (Horn et al. 2022).

Breaches in research integrity should be seen as a continuum from questionable research practices (for example careless citations) to deliberate misconduct, which includes, but is not limited to, fabrication or falsification of data, and plagiarism. The recent reports of high-profile cases of breaches in research integrity at popular higher education institutions, reiterate the ongoing challenges related to applying and upholding the principles of research integrity (Marcus 2021a; Marcus 2021b; Youmshajekian, 2023). There is limited published information from a South African perspective on how research integrity is facilitated and managed at such institutions. Whilst most institutions have specific modules or courses on research ethics, research integrity is often not taught formally, and many universities in South Africa do not have formal/designated structures for research integrity governance.

This article reports on a case study that focused on one higher education institution in South Africa. This institution does not have a designated office/unit for research integrity. Rather, research integrity issues are managed and facilitated through the Colleges and Schools

and in collaboration with the central Research Office. Whilst scientific research misconduct is covered in institutional and College-level policies, there are no university-wide preventive or awareness programmes in place. Additionally, there are no known formal training programmes that explicitly cover research integrity. Violations in research integrity practices are identified through researcher conduct, but this is very much dependent on whistle-blowing or formal complaints made by other researchers in the field. Hence there is an unclear picture of how research integrity is applied within the identified institution.

This study thus aimed to explore academic perspectives on research integrity and their understanding of how this is managed within the identified institution. To achieve this, the study applied the theory of academic capitalism and professional ethics as a conceptual framework to gain better insights into the research area. Academic capitalism points to the capitalist values used by institutions of higher education (McNay 2021, 781), where research is commodified to be market-driven, and researcher performance is measured by research output. Professional ethics refer to the ethical principles and standards of conduct that guide researchers within the research space (Barrow, Brannan and Khandhar 2022) to ensure that they act responsibly and ethically and in the best interest of research participants and the public at large. These would include, amongst others, a code of conduct, application of virtue ethics (honesty, integrity, fairness); and an understanding of what constitutes responsible research and scientific misconduct.

METHODS

Study setting

The study was conducted at a higher education institution in South Africa. The university comprises four colleges: (i) Health Sciences, (ii) Humanities, (iii) Agriculture, Engineering and Science and (iv) Law and Management Studies.

Study design

This was a case study, using a qualitative approach.

Sampling

Purposive sampling was used to identify 15 academic staff members.

Ethical considerations

The research was conducted in accordance with the University of KwaZulu-Natal's Research Ethics Policy and with BERA's Ethical Guidelines for Educational Research. Ethics approval

was obtained from the University of KwaZulu-Natal Biomedical Research Ethics Committee (BE1220/2020), and gatekeeper permission was obtained from the University's Registrar's Office. All volunteers provided informed consent prior to study participation and were informed of their rights to privacy and confidentiality. Data anonymity was maintained by allocating pseudonyms so as to protect the participants' identity (for example, Participant A, Participant B, etc).

Data was stored securely with only the research team having access to the raw data, and all electronic data is password protected. Data will be stored for five years in accordance with the institutional policy.

Data collection

A semi-structured interview schedule was used to explore staff perspectives on research integrity, prior training on research integrity, perceived breaches of research integrity, and perceptions on contributory factors to breaches in research integrity. The questions and probes were guided by the identified conceptual framework used in the study. Staff were informed about the research via the university's online notice system. Staff who indicated that they were interested in participating provided their contact details. A member of the research team then contacted the staff member to set up an appointment for the interview to take place. This was done either online using Microsoft Teams or Zoom or in person, depending on the participant's preference.

The interview was approximately 30 minutes in duration, and all ethical considerations, such as participant autonomy, privacy, confidentiality, and respect for human dignity, were upheld. Informed consent was obtained from all interested volunteers prior to the commencement of the study. Pseudonyms were used to protect participants' identities. The interviews were recorded after obtaining informed consent from each participant.

Data analysis

The interview recordings were transcribed onto a Microsoft Word document and thereafter entered into NVIVO for thematic analysis. Validity of the data was achieved using member verification, peer debriefing, and a clear audit trail. The interview recordings were first transcribed verbatim, and the researchers read each narrative to ensure data familiarisation. Initial themes were generated where the transcripts were coded to identify and label meaningful segments by breaking down the data into smaller, more manageable parts. The researchers searched for themes by grouping related codes to form potential themes with the intention of

establishing an accurate representation of the data. These themes were generated independently and then discussed within the research team to ensure consensus for the final selected themes.

FINDINGS

Profile of participants

The 15 study participants included four lecturers, three senior lecturers, four associate professors, and four professors across all four colleges of the university. Eight participants (53%) were males. The number of years of employment of the participants at the university ranged from 4 to 40, with a mean of 16.5 years.

Staff perceptions of research integrity

Two main themes emerged, namely, researcher conduct and perceived reasons for breaches in research integrity. Our analysis revealed several nuanced sub-themes that indicate both commonalities and variations in how research integrity is perceived and applied across different academic disciplines and roles.

Theme 1: Researcher conduct

Sub-theme 1. Honesty

Fourteen participants highlighted honesty when describing their understanding of research integrity.

“I guess just honestly, honesty in research, proper referencing, not plagiarizing, not self-plagiarising. But in terms of integrity and doing worthwhile research.” (Participant B)

“Research integrity is doing the research with honesty, [and] transparency with the best interest of the participants in mind, without causing any harm”. (Participant D)

Honesty was seen as a moral principle embedded in one's character, hence research conduct was considered to be grounded in virtue ethics, that is moral reasoning that guides one's conduct, as articulated in the response below.

“Well for me integrity means 2 things. {Inter: Yes} The one thing is honesty, and the other is acting in terms of my moral principles, so that's how I would define it broadly.” (Participant C)

On the other hand, the majority of participants viewed breaches in research integrity as academic dishonesty, particularly fabrication of data and plagiarism.

“Yeah, I mean we we've heard of people plagiarizing, and obviously.... somebody who plagiarized their whole PhD. The PhD was retracted.” (Participant F)

“I think what's happening is that people are doing research, and they are claiming that it's their own work. But it's not necessarily their own, because other people are writing stuff and doing stuff for others.” (Participant G)

“Falsifying results is one of the things, falsification of results, to make them fit, an image of what you think should happen”. (Participant I)

The commencement of research without obtaining the necessary ethics clearance was also identified as a breach of research integrity.

“I have, heard corridor stories, and I can't tell you for sure. But like every now and again, there will be a student who thinks, you know they can just start their research without getting ethical approval from the committees.” (Participant D)

Sub-theme 2. Nuances between research ethics and integrity

Participants identified a link between research ethics and research integrity and believed that research ethics was fundamental to ensuring integrity in research practice. Participants highlighted the need for beneficence in research and the need to ensure that participants' rights and interests are upheld.

“So, I mean if you think about research in terms of integrity it would be linked to obviously the research ethics that one is linked to. I do not see it separate from ethics.” (Participant F)

“Well, I think generally, there's just an accepted standard of maintaining a certain level of ethics when you're conducting research”. (Participant G)

“Yeah, it's- - It's kind of acting ethically and - - and in the best sort of interests of - - of your participants in - - in the case of - - of actual human participants.” (Participant J)

Several staff members highlighted the complexities and grey areas involved in ensuring research integrity, especially in clinical research where the boundaries between clinical practice and research can blur.

“I think part of the difficulty is...especially in clinical medicine is that there's- - there's often quite a bit of overlap and grey area between...what the data that we collect for clinical monitoring and clinical data reporting...and what is required for research.” (Participant A)

The responses suggest that participants viewed research integrity as more than just following a set of clear-cut rules, but rather nuanced decision-making and ethical reasoning when conducting research.

“Well, yeah research integrity is basically following the right process is following the right steps you know not- - not you know following what I mean is not committing fraud in this such as making up...uhm because sometimes it's quite dodgy.” (Participant M)

Theme 2: Perceived reasons for breaches in research integrity

An analysis of staff responses on why breaches in research integrity occur revealed several themes that incorporate both systemic and individual factors contributing to these issues.

Sub-theme 1. Systemic Pressures and Incentives

Participants reported the impact of systemic pressures, such as the "publish or perish" work culture and performance metrics that often promote quantity over quality, leading to unintended compromises in research integrity.

“It could be tempting for everyone right? Because in academia we know, you know this, publish or perish right? Like yeah, look at your PUs (productivity units)... like I've had a big problem with the whole system.” (Participant M)

Some of the measures used to assess the performance of academics at this institution include research output (the number of publications) and student throughput (the number of students who graduate within a stipulated period). These measures are also considered during the academic promotion process. Participants felt that the existing academic reward systems can inadvertently encourage unethical research behaviours that could result in possible research misconduct.

“I would guess from experience, I mean there is pressure to publish both and as for students, pressure to do well”. (Participant C)

“There's a very positive loop in that is that if you do research, you get money to do more research, and the more research you do, the more money you get, the more you can get promoted.” (Participant K)

“... I think people all want to move up the corporate ladder. And I think, you know, if you get so many articles, then, you know, they'll get promoted.” (Participant O)

Academic pressure was seen as being not limited to staff only. It was suggested that students resort to plagiarism or data fabrication as they are under pressure to complete their qualification within a specified time frame. It was further reported that the majority of students at this tertiary institution are from lower socio-economic quintiles and receive government-subsidised funding. They are therefore eager to complete their qualification and enter the workforce as quickly as possible.

“It's about expedience you know if you're a student. A lot of students just want to get done. They want to pass you know and - -and really you know and that- - that often is also has underlying economic issues.” (Participant N)

Sub-theme 2. Gaps in education and policy implementation

While systemic pressures shape researcher behaviours, gaps in education and policy implementation create additional vulnerabilities. Some staff suggested that breaches in research integrity may be due to educational gaps, particularly among students.

“I think from students' point of view some of it is especially, I'm talking about the Med students it's ignorance, not understanding the process.” (Participant A)

“...sometimes ignorance of, for example, plagiarism, how to appropriately cite other documents.” (Participant C)

It was further suggested that while induction programmes are available to newly employed staff via the university's human resources division, such initiatives are generic and do not cover the details of the various institutional policies related to research. A participant who reported inadequate formal training upon induction revealed a gap in preparing new faculty to meet the institution's research integrity standards.

There was also a reported discrepancy between the existence of institutional policies intended to uphold research integrity and the actual behaviours of individuals within these frameworks.

“There's no real monitoring to know who's actually writing and submitting the work.” (Participant G)

“... the institution doesn't think that they're in conflict because you as a professional would behave professionally. So, there's no conflict okay. But- - but when you actually get practical about it there is a conflict because there are choices involved you know.” (Participant O)

It is therefore likely that there is a combination of disregard for, and a lack of awareness of, institutional policies that could influence the practice of research integrity amongst staff and students.

DISCUSSION

Our findings revealed a complex array of perspectives on research integrity, shaped by various academic disciplines, professional experiences, and personal ethics. The tendency toward

discipline-specific interpretations suggests that research integrity training and policies may need to be tailored to address the specific needs and ethical concerns of different disciplines. Notably, none of the participants cited the five principles of research integrity. Staff involved in clinical research or studies involving human subjects emphasised aspects such as patient confidentiality, informed consent, and ethical treatment of participants. In contrast, staff in fields like the humanities or social sciences focused more on issues like plagiarism, originality of ideas, and ethical dilemmas in theoretical research. Many staff view research integrity as an inherent academic virtue that involves honesty, proper citation, and avoidance of plagiarism, which are fundamental to scholarly work. The interchangeable use of ethics and integrity has been observed by Wessels, Visagie, and Heerden (2015, 43) when analysing research conducted in the early 2000s by Cossette, where gaps in research ethics were referred to as gaps in research integrity. The lack of awareness of research integrity in sub-Saharan universities has been noted by Bain et al. (2022), and it has been stressed that the difference between research ethics and research integrity must be stipulated in educational programs. Furthermore, in our study, the concepts of ethical reasoning and judgement were mentioned in the context of complex situations. The ability to navigate these grey areas requires a deep understanding of both ethical principles and practical applications, suggesting that advanced training in ethical decision-making could be crucial for researchers.

Whilst participants did allude to being aware of breaches in research integrity, none admitted to having conducted breaches themselves. In another South African study, 10 per cent of participants reported having witnessed research misconduct (Augustine et al. 2023, 3). What was also interesting about the responses from the study participants was that no one was able to explicitly cite a particular case involving breaches in research integrity. Thus, participants were aware of breaches but appeared to distance themselves from such occurrences. This finding is consistent with that reported by Reyes Elizondo and Kaltenbrunner (2024, 12) who point out that these reported cases of breaches in research integrity tend to be shrouded in outrage and shame when uncovered. Thus, the stigma attached to such reporting could suggest that breaches in research integrity remain an underexplored research area. This reiterates the need for further research to unpack researchers' behaviour and conduct.

With regard to the factors that may influence breaches in research integrity, systemic pressures, notably the 'publish or perish' culture, was recognised as a primary driver. As with many other tertiary institutions, the institution uses a performance-based matrix to assess staff competency and readiness for promotion. The number of published articles and graduated students is an important aspect of this matrix. This culture tends to promote quantity over quality, leading to several unintended consequences. The pressure to meet minimum criteria

based on the level of the staff (lecturer, senior lecturer, associate professor, professor) can push researchers to manipulate data or rush studies that compromise the integrity of the research. The increase in researchers and resulting increased pressure on academics and institutions to publish has been noted globally across high-income countries like the United States of America (Alberts et al. 2014, 5774), the United Kingdom (Joynson and Leyser 2015, 4), and the Netherlands (Labib et al. 2014, 253), as well as low- and middle-income countries like South Africa (Augustine et al. 2023 6; Pillay 2019, 1). Despite recommendations over the past decade on how to mitigate the negative influence that the highly competitive academic environment and job assessments may have on research practices, this issue is still relevant in our setting.

These sentiments align with the conceptual framework used in this study in that research has become commercialised in institutions of higher education to the extent that it drives researcher behaviour. Yet the standards set for professional ethics demand that researchers behave ethically and with integrity. These competing forces within the higher education environment need a closer examination, and more research is required in this area to explore the impact of the system on individual behaviours.

Collectively, this calls for more investments in setting up institutional structures that are dedicated to the management and oversight of research integrity. This is supported by other authors who also highlight the value of a dedicated office for research integrity, which would provide guidance, training, and management of research integrity issues and related breaches thereof (Robishaw et al., 2020; Simiyu, Davdison and Buraimoh 2021, 104). While participants in this study did not specifically highlight issues of conflicts of interest (financial or ideological) in research, such an office would be able to support in managing such cases.

Participants also highlighted the need for ongoing educational opportunities to build research capacity in research ethics. This finding is supported by Labib et al. (2021, 253), who also identified the need for research integrity-specific education, and propose that educational initiatives should be tailored to the discipline-specific needs of researchers and that such instruction should be in both formal and informal formats. This suggests a clear understanding of the institutional needs, the context-specific nuances that influence and shape researcher conduct, and the need for an appropriate governance framework that is both flexible and operational. Thus, a one-size-fits-all approach should be avoided. Institutional policies should be tailored to cultivate all the principles of research integrity throughout the research process, and the indicators used to assess the performance of staff should be revised to disincentivise poor research practices. This further calls for decolonising understanding and training in research integrity (Datta 2017, 4). This means that the imported market-driven approach to research must be re-examined for its relevance within the South African and African context.

Given that researchers are at different levels of development and prior learning and preparedness for the research space could differ significantly across educational and socio-cultural lines, institutions of higher education need to identify strategies that could better support capacity development, as opposed to focusing exclusively on investments through research output. Such strategies could include greater mentorship in research, where early-career academics are integrated and supported by larger existing research hubs, instead of the current individualistic approach to the research agenda. This could ease the pressure off these academics to 'publish or perish'.

RECOMMENDATIONS

Based on these insights, we propose the following institutional recommendations to enhance research integrity:

- Establish a dedicated research integrity office responsible for guidance, education, and oversight;
- Provide tailored training programmes that address discipline-specific integrity concerns for staff and students;
- Adjust academic promotion criteria to value quality and ethical research practices over output quantity; and
- Foster mentorship hubs where experienced researchers support early-career academics.

STUDY STRENGTHS AND LIMITATIONS

The study provided interesting insights into the complexities of maintaining research integrity in an environment that places huge demands on research output and throughput but provides sub-optimal support to facilitate good researcher behaviours. Despite the value of this study, some limitations were observed. The combination of in-person and online interviews may have influenced the participants' responses. The generalizability of our findings is limited to the affected institution. Future research should involve a wider range of participants across the various academic disciplines and professional levels.

CONCLUSION

Academic staff have personalised paths toward understanding research integrity, cultivated by experiences and self-motivation. Whilst research integrity is seen as a fundamental academic virtue, there is variability in staff understanding and implementation thereof. There is a critical

need for more robust, continuous, and accessible research integrity training programs that cater to diverse academic levels and disciplines. Expanding the reach and frequency of training could help strengthen the overall culture of research integrity across the university.

This study highlights the need to navigate the tension between systemic performance pressures and ethical research conduct, drawing on both academic capitalism and professional ethics frameworks. Future strategies must go beyond individual compliance to institutional reform that recognises and addresses the structural incentives misaligned with research integrity.

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