RESEARCH ARTICLE:

Advancing Gender Equity in Higher Education Research

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Abstract

Gender equity in research in higher education is crucial for promoting inclusivity and driving innovation. However, female academics face significant challenges hindering their research output, career advancement, and fair academic representation. Ongoing issues include heavy teaching responsibilities, time constraints, limited access to mentorship and supportive networks, and ingrained biases in institutional cultures. This study explores how universities can enhance gender equity in higher education research and identify the actions which institutions can take to support female academics and address the structural challenges they encounter. A systematic literature review (SLR), following PRISMA guidelines, was undertaken to consolidate peer-reviewed empirical studies published between 2013 and 2023. The articles were assessed for relevance, and a thematic analysis was employed to uncover common barriers and institutional strategies. The review identified systemic and institutional obstacles, such as unequal workload distribution, limited funding opportunities, and insufficient mentorship, as significant barriers to women's research productivity. However, the study also highlights the potential of effective interventions such as gender-sensitive policies, mentorship programmes, leadership development initiatives and equitable research funding mechanisms to foster inclusive academic environments and reduce gender disparities. The study highlights the need for higher education institutions to adopt transformative and systemic strategies that promote gender equity in research. Recommendations include implementing gender-responsive policies, targeted funding initiatives and well-structured mentorship programmes to eliminate the obstacles faced by female academics. This study recommends creating supportive environments that foster women's success in academia. It addresses knowledge gaps through research and thematic trends to inform future research and drive institutional change.

Keywords: *gender equity; higher education; gender disparities; academic advancement; gender inequality*

Introduction

Gender equity in higher education is a multifaceted concept that involves fair and equal treatment of individuals across all areas of academic life, including access, participation, opportunities, and outcomes. It transcends mere numerical equality by aiming to create inclusive environments in which individuals of all genders can thrive and take advantage of academic resources, experiences, and accomplishments (Zabaniotou, 2020). As a fundamental element of just societies, gender equity in higher education is essential for achieving the Sustainable Development Goals (SDGs), particularly SDG 4 (Quality Education) and SDG 5 (Gender Equality) (Condron *et al*., 2023). Higher education plays a crucial role in promoting both individual and societal advancement. For women, it provides immediate benefits such as increased economic independence and improved social well-being. Additionally, it challenges established gender norms to help break disadvantage cycles (British Council, 2022). Moreover, higher education institutions (HEIs) are uniquely positioned to promote and exemplify gender equity, fostering leadership and innovation while accelerating societal progress.

Despite advancements in female enrolment in higher education worldwide, significant disparities exist. Women tend to dominate fields such as the humanities and social sciences but remain underrepresented in science,

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technology, engineering, and mathematics (STEM) and in high-level academic positions. Globally, women hold only 36% of senior academic leadership roles, and their involvement in decision-making contexts, such as boards and hiring committees, is quite limited (Warner *et al*., 2022; Morley, 2014). In South Africa, as of 2016, women occupied only 27.5% of professorial positions, and by 2022, only six out of 26 universities were led by women (Mdleleni *et al*., 2021; Waruru, 2023). A phenomenon known as the 'leaky pipeline' highlights the attrition of women as they progress through academic hierarchies (Clark-Blickenstaff, 2005). Structural challenges, including unequal workload distributions, inadequate institutional support, biases in hiring and promotion processes and societal expectations, create disadvantages for women in academia (Gewin, 2020; King and Frederickson, 2021).

In South Africa, achieving gender equity in higher education is closely tied to the country's overall social justice initiatives, which are rooted in its apartheid history. Despite constitutional guarantees of gender equality and frameworks such as the Gender Equality Strategic Framework, progress in academia has been slow. This is due to structural and cultural obstacles, including patriarchal norms and gender bias (Maphalala and Mpofu, 2017). Women remain underrepresented in leadership roles, research positions, and STEM fields, facing significant gaps in research output, access to funding and mentorship opportunities (Schultz and Rankhumise, 2023; Akala, 2019). These challenges are aggravated by traditional gender expectations, disproportionate caregiving responsibilities and inadequate institutional support (Barrett and Barrett, 2011; Greguletz *et al*., 2019). While the proportion of publications authored by women in South Africa increased from 30.9% in 2005 to 36.4% in 2020, this figure still does not accurately reflect their representation among academic personnel and doctoral degree holders (Mouton *et al*., 2022). Systemic challenges, such as overwhelming administrative duties, a focus on teaching over research, and the impact of the COVID-19 pandemic, have further limited women's research capabilities (Hodgins and Mannix-McNamara, 2021). International initiatives, including the Sustainable Development Goals (SDGs) and specialised programmes like mentorship and leadership training, show promise but require consistent and systemic efforts.

This study aims to enhance conversations around gender equity in higher education by addressing structural challenges and proposing strategies informed by feminist perspectives. Emphasising inclusivity, cooperative leadership, and transformative policies is essential to overcome biases and create equitable opportunities for women in academia (Mangolotho, 2020; Rosa *et al*., 2020). Aligning institutional practices with global equity objectives will enable higher education to contribute significantly to social transformation.

Theoretical Framework

To promote gender equity in higher education research, it is essential to have a comprehensive understanding of the structural obstacles and systemic disparities that impede women's academic progress. This study is guided by a theoretical framework that combines feminist theory and social capital theory to investigate and confront the challenges women face in academia. These theories provide critical perspectives for analysing how gendered power relations and social networks impact research output and career advancement for women. As Creswell (2014) notes, a theoretical framework is a conceptual foundation that shapes research and understanding by outlining the relationships among variables, concepts, and theories. Additionally, a theoretical framework acts as a lens through which we can perceive and comprehend complex social justice, diversity, and equity issues in multicultural education (Banks, 2017).

Feminist theory serves as the core foundation of this research, offering a critical viewpoint on the gendered power dynamics and biases that persist within academia. This theory emphasises the experiences, agency, and perspectives of women in academic settings, advocating for gender equality and the dismantling of oppressive structures (Jain, 2020). Feminist theory seeks to promote equal opportunities for women worldwide (Kaur and Nagaich, 2019). A fundamental principle of feminist theory recognises how emotions and gendered experiences influence academic work, advocating for eliminating power disparities between researchers and their subjects to foster social justice (Charles and Kerr, 1988). Feminist scholars critique evaluation metrics that emphasise individual accomplishments since these measures often disadvantage women, particularly in environments dominated by 'competitive individualism' (Acker and Wagner, 2019). Feminist praxis in academia challenges these standards and promotes collaborative methods, mentorship and 'alternative career strategies' (Angervall, 2018) to create supportive environments for the professional growth of women. It is important to note that feminist mentorship is not simply a gendered expectation but a proactive effort to disrupt traditional organisational frameworks that marginalise women (Equality Challenge Unit, 2017).

For the Social capital theory, this provides a vital framework for examining the academic experiences of women in this study. This theory explores how access to networks, mentorship, and collaborative opportunities impact research output and career advancement (Laufer, 2004). In academia, social networks play a critical role in shaping professional identities and providing access to resources such as research grants, which are becoming increasingly competitive (Acker and Webber, 2017). However, women often face specific challenges in accessing these networks and the associated benefits, as academic career paths typically follow a masculine framework that marginalises women (Laufer, 2004). Social capital theory highlights how women navigate these networks and use social capital to enhance their academic careers. For women, connecting with influential networks, securing mentorship, and engaging in collaborative opportunities are essential for overcoming the systemic barriers related to gender encountered in academia. Therefore, promoting women's social capital through mentorship initiatives and supportive networks becomes crucial for advancing gender equity in higher education. These initiatives must be backed by broader structural support, including family, community, and institutional resources.

Feminist and social capital theories provide a valuable framework for understanding the challenges women face in academia. Feminist theory highlights systemic biases affecting women's research productivity and academic success, while social capital theory emphasises the importance of mentorship and networks for professional growth. These theories advocate for policies promoting gender equity, support networks, and mentorship opportunities. Women encounter structural obstacles that limit their research output, including unequal resource distribution, caregiving responsibilities, and restricted access to influential networks (Barrett and Barrett, 2011; Greguletz *et al.*, 2019). Despite an increase in the number of women researchers, issues like lack of mentorship, limited role models, and family expectations continue to hinder productivity (Tower *et al.*, 2007; Zulu, 2013). Although some studies suggest that the gender gap in productivity is less pronounced when considering the percentage of women in academia, significant barriers remain, highlighting the need for targeted interventions to foster a more equitable academic environment.

Methodology

This study employed a systematic literature review (SLR) to evaluate peer-reviewed studies promoting gender equity in higher education research. The review concentrated on empirical articles published between 2013 and 2023. The approach followed PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Wittorski, 2012) to ensure clarity, rigour and reproducibility. The goal of the SLR was to integrate findings from primary research, uncover thematic patterns, and identify prospects for further investigation. The systematic review was conducted in three stages: searching, screening, and analysis (as described by Kitchenham and Charters, 2007). The following sections outline the steps undertaken in each stage. The search targeted reputable databases recognised for their educational and social science research coverage. The selected databases included Scopus, Web of Science, ERIC, and Google Scholar. The following keyword combinations were used: *gender equity in higher education research*, *women academics and research productivity*, *barriers to women in academia*, and *strategies for gender equity in research*. Boolean operators (AND, OR) were employed to refine the searches and ensure relevance. Articles published between 2013 and 2023 were included to capture the latest advancements and challenges. Only English-language publications were considered to enhance accessibility. Empirical studies that had undergone peer review were prioritised, while opinion pieces, editorials and book reviews were excluded.

The following inclusion criteria were applied during the screening process: empirical studies focusing on gender equity in higher education research, papers discussing barriers or strategies for supporting women in academia, and studies published in peer-reviewed journals. The exclusion criteria included studies unrelated to higher education research, theoretical or conceptual papers lacking empirical data, and duplicate publications identified across the databases. The initial search yielded 1,200 articles. After removing duplicates, 950 unique articles were assessed based on their titles and abstracts. From this pool, 150 articles were selected for full-text review based on their relevance to the inclusion criteria. In the data collection process, each article was evaluated for research objectives and methodologies, thematic focus on barriers and/or strategies for gender equity, and key findings and implications for higher education research. The final selection process involved thoroughly reviewing the 150 articles, resulting in 11 studies that met all the inclusion criteria. A PRISMA flow diagram was created to illustrate the selection process (Figure 1). In the thematic analysis, recurring themes were identified, including:
- Systemic barriers (e.g., workload inequality, funding disparities)
- Institutional strategies (e.g., mentorship programmes, gender-sensitive policies)

- Cultural factors affecting women's participation and success in academia.

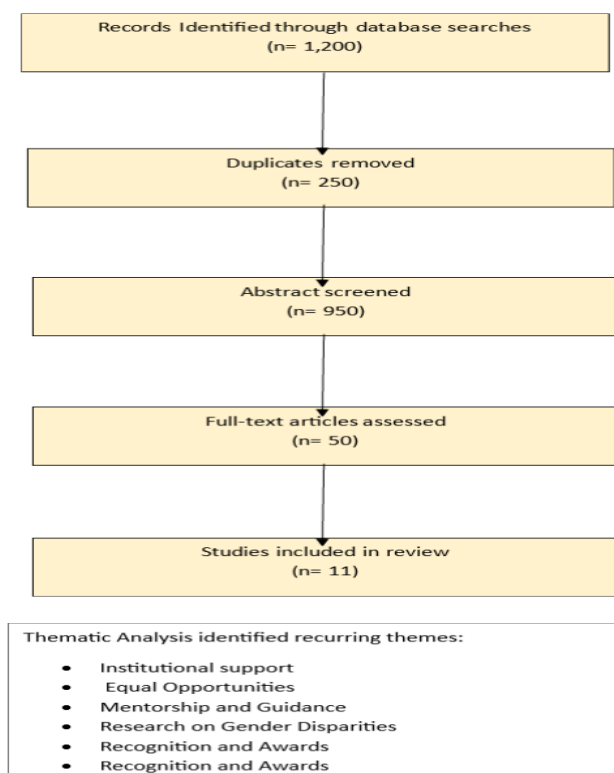Prisma Flow Diagram for Systematic Literature Review

Figure 1: Prisma flow diagram for systematic literature review

The PRISMA flow diagram illustrates the systematic literature review process. It highlights the progression from identifying the records to the final selection of 11 studies and includes thematic analysis notes for clarity.

Table 1: Summary of selected studies

Author(s)	Theme	Key Findings
Rabinowitz and Valian (2022)	Institutional support	Addressing systemic barriers to advance equity in research careers beyond sponsorship
Thomson *et al.* (2022)	Institutional support	Empowering change agents through collaborative communities of practice for gender equity
Galán Muros et al. (2023)		Collaborative governance for gender equality in academia
Wilton and Ross (2017)	Institutional support	Prioritising wellness for women's academics to ensure work-life balance
Brugère, (2020).	Institutional support	Institutional responsibility for holistic employee wellbeing
European Commission (2019)	Institutional support	Advancing gender equality through comprehensive gender equality plans
Llorens, *et al.* (2021)	Institutional support	Promoting Gender Equity in Research Funding through proactive agency initiatives
Wolhuter, *et al.* (2013)	Equal Opportunities	Gender equity and research productivity in post-1994 South African academia
Sebo and Schwarz (2023)	Equal Opportunities	Gender disparities in scholarly publishing and leadership roles
Aiston and Jung (2016)	Equal Opportunities	Barriers to women's advancement in academia
De Welde and Stepnick (2023)	Equal Opportunities	Gender inequities in academic leadership and career advancement

Akala (2019)	Equal Opportunities	Persistent structural gender disparities in South African higher education resulting in a predominance of male students in doctoral programmes
DHET (2020)	Equal Opportunities	By 2020, only 48% of academic staff in higher education institutions had PhDs, limiting their eligibility to supervise doctoral candidates.
Klenk *et al.* (2022) Vedung (1998)	Equal Opportunities	Policies to increase women's representation in senior academic positions can be grouped into three primary tools: regulation, funding, and information.
Galán Muros *et al.* (2023)	Equal Opportunities	Advocate increased awareness about gender inequality and fostering a culture of gender equality within higher education institutions (HEIs)
Eshetu, *et al.* (2024}	Mentorship and Guidance	The role of continuous monitoring systems in advancing gender equity in higher education
Maphalala and Mpofu (2017)	Mentorship and Guidance	The transformative role of mentorship in advancing Black women's careers in academia
Zulu (2021)	Mentorship and Guidance	Mentorship as a catalyst for advancing Black women academics to professorships
Monnapula-Mapesela (2017)	Mentorship and Guidance	Building empowering university environments for the advancement of Black women academics
Monnapula-Mapesela (2017)	Mentorship and Guidance	Capacity-building and mentorship as catalysts for advancing black women academics
Kasprowicz *et al.* (2020)	Mentorship and Guidance	The underrepresentation of Black women in academia remains a significant challenge, necessitating focused interventions to bridge the gap.
Bell *et al.* (2021)	Mentorship and Guidance	Advancing equity through targeted development programmes for Black women academics
Boateng (2018)	Mentorship and Guidance	Mentorship and networking as enablers for advancing Black women in academia
Lumpkin (2011)	Mentorship and Guidance	Informal mentoring, characterised by its voluntary nature, can provide substantial coaching to mentees.
Rosa and Clavero (2020)	Research on Gender Disparities	The 'meritocracy myth' in higher education and Its impact on gender equality
Rosa and Clavero (2020)	Research on Gender Disparities	Reconciling gender equality policies with the masculine bias of academic meritocracy
Gewin (2020)	Research on Gender Disparities	Addressing institutional gender imbalances in higher education through contextual research
Barber *et al.* (2021)	Research on Gender Disparities	Gender disparities in academic output and representation during the pandemic: A consequence of work reorganisation
Galán Muros *et al.* (2023)	Research on Gender Disparities	Addressing gender gaps in academia and the role of institutional research and data-driven approaches in achieving gender equity
Morgan *et al.* (2017)	Recognition and Awards	Awards validate and bring visibility, help attract funding, hasten career advancement, and consolidate career accomplishments.
Howell (2022)	Recognition and Awards	Recognising more accomplished women as recipients of awards may help bridge the gender gap in science.
Howell (2022)	Recognition and Awards	The importance of role models in advancing women in academia and mitigating gender disparities

Findings and Discussion

This section highlights the key themes identified through a systematic literature review on enhancing women's roles in higher education research. Five main themes emerged: institutional support, equal opportunities, mentorship and guidance, research on gender disparities, and recognition and awards. These themes highlight women's complex challenges in higher education research and demonstrate their interconnectedness. Addressing these issues effectively requires a comprehensive strategy combining institutional, societal, and individual efforts. This approach aims to create an environment where women can thrive and contribute equally to academic and research fields.

Theme 1: Institutional support

Relevant research highlights ongoing gender inequalities in academia and the need for systemic changes to promote equity. Women in academic environments face several challenges, including difficulties with work-life balance, lower publication and citation rates, limited success in securing funding, and underrepresentation in leadership roles (Rabinowitz and Valian, 2022; Thomson *et al*., 2022). While mentorship programmes and family-friendly policies are valuable, isolated efforts are insufficient for lasting improvements (Rabinowitz and Valian, 2022). Collaborative approaches, like co-designed communities of practice (CoPs), have proven effective in promoting knowledge sharing and instigating institutional change, allowing advocates for gender equity to operate with credibility and support (Thomson *et al*., 2022). Higher education institutions (HEIs) are crucial in partnering with governments to co-create gender equality policies that produce sustainable outcomes (Galán Muros *et al*., 2023). Implementing gender equality plans (GEPs) backed by strong governance, legislation, resources, and wellness initiatives can address systemic disparities and assist women in balancing academic and caregiving responsibilities (European Commission, 2019; Wilton and Ross, 2017; Brugère, 2020). Equitable funding is essential for advancing women's careers. Despite gradual progress toward gender balance, women still face significant obstacles when applying for grants. Continuous monitoring of gender disparities by funding organisations, along with strategies like gender quotas for grant submissions and awards, can help to ensure more equitable resource allocation and enhance inclusivity in research funding (Charlesworth and Banaji, 2019; Llorens *et al*., 2021). These combined efforts emphasise the importance of institutional, structural, and policy-oriented strategies in advancing gender equity in academia.

Theme 2: Equal opportunities

In the academic landscape of South Africa post-1994, the pursuit of gender equity and the enhancement of research output have become crucial priorities. The advancement of women to senior academic positions remains a significant challenge, not only in South Africa but worldwide. Given that research contributions are vital for career progression, increasing the productivity of female scholars is essential. This effort aims to foster both gender equity and the development of more inclusive educational institutions (Wolhuter *et al*., 2013). In recent decades, there has been an increased focus on the experiences and status of female academics. While female enrolment in undergraduate programmes has risen globally, the trend varies by region. Despite progress, women continue to face obstacles in advancing to senior leadership positions. A 2012 manifesto called for greater female participation in academic leadership and research (Aiston and Jung, 2016). Women are underrepresented as authors in scholarly publications, mainly as last authors, reflecting male leadership roles. This underrepresentation is influenced by various regional and institutional factors (Sebo and Schwarz, 2023). South African universities, particularly universities of technology, struggle with gender equality (De Welde and Stepnick, 2023; Wheeler and Wiese, 2024). Even with rising female enrolment, women remain underrepresented in leadership and research roles (Engelbrecht, 2022), partly due to unequal distribution of childcare and household responsibilities, which impacts their productivity and career advancement (De Welde and Stepnick, 2023). Structural and systemic gender disparities persist in South African higher education, resulting in a predominance of male students in doctoral programmes and their swift advancement into senior leadership roles (Akala, 2018). Women have also made some progress at undergraduate levels, yet their influence on institutional policies, procedures, and decision-making remains minimal.

The 'leaky pipeline' effect is evident, with low female PhD student engagement and high attrition rates (Department of Higher Education and Training [DHET], 2019). Black academics and women are underrepresented in university leadership and research roles (DHET, 2020). By 2020, only 48% of academic staff in higher education institutions had PhDs, limiting their eligibility to supervise doctoral candidates (DHET, 2020). Female enrolment remains higher at undergraduate and honours levels, but male students dominate at master's and doctoral levels (DHET, 2020). Women in academia often face significant challenges when accessing predominantly male networks shaped by power dynamics and stereotypes. According to White *et al*. (2011), women experience more difficulty than men in joining these networks. Creamer (1998) notes that influential men frequently dominate existing networks, creating obstacles to achieving equal opportunities. This situation can hinder women's chances for promotion and success in research (Gardiner *et al*., 2007, cited by Barrett and Barrett, 2011). To enhance academic productivity, women need to access research networks; however, addressing gendered power dynamics is crucial. Establishing transparent criteria for evaluation and ensuring equitable access to research funding, resources, and leadership positions are vital steps (Klenk *et al*., 2022; Vedung, 1998). Galán Muros *et al*. (2023) emphasise the need to raise

awareness about gender inequality and to foster a culture of equality within higher education. Schultz and Rankhumise (2023) discuss support for emerging researchers through initiatives like the University Capacity Development Grant (UCDG), which reduces administrative and teaching duties. However, challenges remain, including heavy workloads, limited funding, inadequate research preparation, and unsupportive environments, all of which hinder the productivity of early-career academics.

Theme 3: Mentorship and guidance

Studies show that mentoring relationships significantly benefit individuals in navigating their careers. Research by Lumpkin (2011) indicates that mentees adapt better to workplace cultures. In addition, mentoring leads to more promotions, greater commitment, and higher career satisfaction, as found by Gardiner *et al*. (2007). This suggests that mentorship is crucial for career satisfaction. Academics with mentors experience more support and less anxiety in communication. Universities should, therefore, implement mentorship programmes that connect junior women academics with experienced mentors for guidance and advocacy. Eshetu *et al*. (2024) recommend that continuous monitoring systems be conducted regularly through collecting and analysing gender disparity data to inform evidence-based policymaking and to track progress toward achieving gender equity in higher education. Mentorship is crucial for advancing Black women in academia, particularly in research output and career development. Maphalala and Mpofu (2017) highlight the importance of mentorship programmes in South African higher education to enhance women's contributions. Zulu (2021) advocates for mentorship for Black women academics to attain professorships, while Monnapula-Mapesela (2017) emphasises the need for supportive university environments. Boateng (2018) notes that mentorship is vital for professional advancement, and Kasprowicz *et al*. (2020) and Bell *et al*. (2021) stress the importance of tailored capacity-building initiatives. South African universities have launched specific development programmes to promote the advancement of Black women academics and to mitigate the historical disadvantages associated with race and gender (Bell *et al*., 2021). Mentorship is essential in these programmes (Boateng, 2018).

Furthermore, academic associations and social networks create important opportunities for collaboration, allowing emerging Black women academics to utilise the knowledge of seasoned researchers and to engage in joint endeavours that align with their research interests. Angelique *et al*. (2002) emphasise the long-term benefits of mentorship, including coaching, support, and protection for mentees. They note that activity-focused mentoring enhances success by imparting essential skills and research norms. Lumpkin (2011) highlights that informal mentoring, being voluntary, offers significant coaching to mentees while also providing mentors with personal rewards and valuable relationships. The literature on mentoring in higher education, however, highlights significant limitations, particularly related to power imbalances in position, gender, and mentor/mentee dynamics (Van Tuyle and Watkins, 2010). This often reinforces existing hierarchies, limiting equitable relationships for newer professionals (Angelique *et al*., 2002). Mentors may misuse their authority over female mentors, sometimes either fostering supportive partnerships or exerting control, which hinders mentees' expression of their concerns (Heinrich, 1995). A 'power with' approach in woman-to-woman mentoring can enhance mentee self-confidence (Van Tuyle and Watkins, 2010). In short, the literature emphasises the need for further research and strategies to create equitable mentoring programmes relating to feminist, social capital, and transformational leadership theories.

Theme 4: Research on gender disparities

In the competitive context of higher education, a 'merit' system routinely jeopardises gender equality policies conceptualised as gender-neutral but essentially masculine (Rosa and Clavero, 2020). Gender equality policies in higher education, portrayed as gender neutral, often clash with a merit system that inherently privileges masculine norms in the competitive environment of academia (Rosa and Clavero, 2020). Research within the institution to pinpoint areas where gender imbalances occur is essential to addressing these inequities. For instance, the COVID-19 pandemic and the imposed prevention measures enhanced existing gendered inequalities and amplified enduring privileges and disadvantages in society, including in higher education and research (Gewin, 2020). Based on this information, specific programmes can be developed to support gender parity in research opportunities, financing, and recognition. The first step in the world of research opportunities is thorough data collecting. This entails gathering data on the number of research projects, fellowships and grants offered by an organisation, classifying them according to academic level, department, and field, and analysing the gender distribution of the recipients over time. Recent studies show that when the reorganisation of working time and space were imposed on academics during lockdowns, women published fewer papers as first/corresponding

authors and co-authors than men (Barber *et al*., 2021; Kasymova *et al*., 2021; King and Frederickson 2021) and that their voices were heard less often in scientific responses to the pandemic (Saglamer *et al*., 2021). Further research is needed to identify significant gender gaps in the findings, to assess which departments have more significant imbalances, and to monitor trends over time. Exploring potential causes like biases in hiring and institutional policies is essential to understanding the challenges better. Engaging stakeholders, including academics, can help to gather qualitative data on the experiences of underrepresented genders.

Identifying gender gaps in research opportunities, financing, and recognition is essential. Tailored research is needed to address specific gender imbalances and the impact of events like the COVID-19 pandemic. Galán Muros *et al*. (2023) recommend developing systems to collect longitudinal, gender-disaggregated data on staff hiring, performance, and promotion. Gender inequality factors vary by region, country, and institution, so governments should create or adapt monitoring systems to track gender disparities and the effectiveness of interventions. This would enhance accountability and ideally combine administrative data with staff surveys for a comprehensive overview of gender inequalities. Data-driven decision-making is vital for promoting accountability and ethical practices. Research identifying gender disparities in research opportunities and funding should guide targeted initiatives. Future steps should include exploring the impact of the pandemic, conducting institutional analyses, and developing longitudinal data collection systems. Insights from feminist and social capital theories can help to transform power dynamics in academia to achieve gender equity.

Theme 5: Recognition and awards

Awards validate and bring visibility, help to attract funding, hasten career advancement, and consolidate career accomplishments (Morgan *et al*., 2017). Scholars who engage in discourse about the continued low rates of women's career progression often blame the pipeline as the source of the problem (Cannady *et al*., 2014; Gasman *et al*., 2011; Husbands-Fealing and Myers, 2012). At the same time, they acknowledge that pipelines are faulty ('leaking) and leave competent academics at the lower level of the trajectory, particularly eligible women, in the allocation of faculty roles (Kulis *et al*., 2002; Ryan *et al*., 2009). An increase in the 'flow in the pipeline' is not a panacea (Glass and Minnotte, 2010), considering the emphasis universities place on research and publication as essential for career progression and academic recognition. However, the role of women can be advanced in research by recognising their achievements through awards, honours and grants that highlight their contributions in their respective fields. By giving out specialised awards, honours and grants, institutions recognise the unique contributions made by academics. Morgan *et al*. (2017) contend that although striving for gender equality requires long-term efforts across society, it does not preclude immediate and targeted action for women, men, and other genders. The focus on awards within the broader context of gender discrimination should, therefore, be a call to attention to a highly visible yet largely uncontested area. Howell (2018) contends that awards allow recognition of individuals for outstanding achievements and demonstrating gratitude for awardees' contributions – both worthy reasons to include more women recipients. Such individuals can potentially raise the public visibility of an organisation and attract more support for the organisation's missions. Women recipients can be important in achieving this goal. Howell (2022) points out that recognising more accomplished women as recipients of awards may help to bridge the gender gap in science. Highlighting inspiring role models will attract more talented women who will advance the field. This can mitigate the leaky pipeline, especially the long-standing leak of women from academic medicine, the source of many award recipients (Howell, 2022). These findings relate to feminist and social capital theories, which critique the power dynamics and academic biases favouring masculine norms. By recognising women through awards, institutions can challenge these biases, promote gender equity, and create more inclusive academic environments. This approach aligns with the understanding that building networks and advancing careers are crucial for achieving gender parity in academia.

Implications for Policies and Future Studies

The findings reveal women's significant challenges in higher education research, particularly regarding gender equity. While progress has been made, persistent systemic issues such as limited research funding, insufficient representation in leadership roles, and unequal recognition continue to exist. These challenges highlight the need for comprehensive interventions that support the career development and well-being of female academics. Key recommendations include developing gender equity plans (GEPs), implementing family-friendly policies, and establishing wellness programmes to improve work-life balance. Mentorship opportunities and inclusive networking are essential to building social capital and enhancing women's visibility and access to professional networks. Feminist theory emphasises the urgent need to dismantle patriarchal structures in academic institutions, while

social capital theory highlights the importance of creating networks that facilitate women's professional advancement. Addressing biases and recognising and celebrating women's achievements through awards and honours is crucial to ensure fair representation. Ongoing studies and institutional assessments are necessary to monitor progress, evaluate policy effectiveness, and identify areas for improvement. This article highlighted the importance of combining feminist and social capital theories to address power dynamics and systemic inequalities in higher education institutions and help women academics realise their full potential. It is suggested that policy reforms should be aligned with cultural changes and that future research should concentrate on developing innovative strategies to promote gender equity.

Immediate and proactive measures in policies for higher education are essential to create inclusive academic environments. Universities should incorporate gender equity into their missions and strategic frameworks, supported by dedicated departments and allocated funding. It is crucial to revise recruitment, retention, and promotion policies to address systemic biases and to provide clear pathways for women and marginalised groups to reach leadership positions through mentorship and professional development initiatives. Fair funding distribution should be applied to promote diversity and innovation, particularly in STEM fields and medical sciences. Policies need to recognise intersecting identities such as race and disability, with tailored data collection to address specific challenges these groups face. Providing flexible work options and equitable parental leave is essential for balancing professional responsibilities with caregiving duties. Implementing mandatory unconscious bias training and fostering supportive institutional cultures are important steps, as are establishing systems to evaluate the effectiveness of equity initiatives. Collaborative efforts through global partnerships can further enhance the success of localised approaches by sharing best practices and experiences.

Future research should focus on key areas to drive meaningful progress. These areas include tracking the career paths of female academics through longitudinal studies to assess the effectiveness of equity initiatives, such as mentorship programmes. Additionally, analysing how gender-neutral policies may unintentionally reinforce existing inequalities is essential. Research should also explore the combined effects of gender, race, class, and disability on marginalised women, which can lead to more tailored interventions. Furthermore, examining gender relations across various academic fields will help to develop discipline-specific strategies. It is important to explore the role of male academics and administrators in promoting equity, the lasting effects of the COVID-19 pandemic on gender disparities, and the challenges women encounter in advancing their research and scholarship, particularly in enhancing their visibility and representation.

Conclusion

The challenges facing women in academia are pressing, particularly in STEM fields where gender disparities such as pay gaps and lower publication rates continue to exist. Although the number of female doctoral graduates is increasing, their representation diminishes at higher academic levels, limiting decision-making diversity. To address these disparities, it is essential to implement strategies such as family-oriented policies, mentorship programmes and wellness initiatives. Supportive networks are crucial for helping women advance in their careers; however, existing power dynamics and stereotypes can present significant obstacles. Universities must foster inclusive environments and adopt 'power with' mentoring models to empower women. Recognising women's achievements through awards and grants is vital for affirming their contributions and enhancing their visibility in institutions. A comprehensive approach that combines policy changes, mentorship and cultural shifts is necessary to create an academic environment where women can thrive.

Declarations

Interdisciplinary scope: The study adopts an interdisciplinary framework integrating perspectives from education, sociology, gender studies, policy evaluation, and organisational leadership. It aims to examine the structural challenges and university regulations that hinder gender equality in higher education and explores measures for promoting equality.

Authors contributions: Conceptualisation (Nkosi and Maphalala); Literature review (Maphalala and Nkosi); methodology (Maphalala); software (N/A.); validation (Nkosi); formal analysis (Maphalala and Nkosi); investigation (Maphalala and Nkosi); data curation (Maphalala) drafting and preparation (Maphalala and Nkosi); review and editing (Maphalala and Nkosi); supervision (N/A); project administration (Maphalala); funding acquisition (N/A). All authors have read and approved the published version of the article.

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