



Leveraging digital leadership: Female principals leading schools in the 21st Century in KwaZulu-Natal, South Africa

Ntombikayise Nkosi¹ 

¹Department of Educational Foundations, College of Education, University of South Africa, Pretoria, South Africa.

ABSTRACT

The purpose of this study was to examine how female school principals transform intentional vulnerability into a leadership asset within digital spaces. The study focused on female principals in KwaZulu-Natal, South Africa. It explored how vulnerability supports digital leadership amid gender bias and limited access to technology. The study adopted a qualitative interpretive approach, and a narrative inquiry design was used. Data were generated through in-depth interviews with three female school principals from the same education district. Participants were purposively selected. Thematic analysis was conducted using Braun and Clarke's six-step framework, utilising the lens of transformational leadership theory. The findings revealed that participants initially resisted digital leadership due to limited digital skills and fear of failure. By embracing vulnerability, they built trust and collaboration with staff. Digital tools such as WhatsApp, Teams, and Zoom enhanced communication and participation. Vulnerability enabled principals to challenge gender bias, strengthen decision-making, and foster inclusive school environments. The study recommends professional development that integrates digital leadership skills with emotional authenticity and mentorship. Moreover, contributes to leadership research by positioning intentional vulnerability as a strategic strength in digital leadership. It offers a new framework for understanding gender-equitable and inclusive leadership in digitally transforming school contexts.

Keywords: Digital leadership, vulnerability, female, transformation, school.

INTRODUCTION

This study examines how female school principals in KwaZulu-Natal strategically use intentional vulnerability as a leadership strength. In order to navigate systemic gender inequities and challenges associated with digital leadership. Existing research recognises the importance of emotional connection.¹ Moreover, the persistence of gender bias and technological inequality in educational leadership contexts has always been documented.² However, limited research has examined

¹ Brené Brown, *Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead* (Penguin, 2012).

² Vuyisile Msila, "Black Women School Leaders: Building Effective Schools Against the Odds," *Multidisciplinary Journal of Gender Studies* 11, no. 1 (February 25, 2022): 1–23, <https://doi.org/10.17583/generos.8925>; Paola Belingheri et al., "Twenty Years of Gender

vulnerability as a deliberate and strategic leadership practice. This study addresses this gap by positioning intentional vulnerability as a transformative tool for female education leaders.³ South African education policies place significant expectations on school principals. These include the Norms and Standards for Educators (Act No. 27 of 1996) and the Quality Management System under ELRC Collective Agreement No. 2 of 2020, which emphasise instructional leadership and staff support. Despite these policy frameworks, female school principals in KwaZulu-Natal continue to experience systemic barriers. These include gender bias, cultural stigma, restricted access to mentorship, and unequal access to digital tools and professional development opportunities.⁴ Collectively, these conditions weaken leadership authority and constrain professional growth. Traditional leadership models often frame vulnerability as a weakness, discouraging female leaders from engaging openly with uncertainty and skill development in digital contexts.⁵ However, emerging scholarship suggests that vulnerability can enhance trust, collaboration, and authenticity when intentionally enacted.⁶ Despite this insight, there remains a limited understanding of how female school principals strategically use vulnerability to address gender inequities and the digital divide in educational leadership.⁷ This lack of understanding contributes to the marginalisation of female principals in digital leadership spaces and limits the development of inclusive and resilient school environments. Addressing this problem is essential for advancing gender-equitable digital leadership practice. The study, therefore, seeks to answer the following question: How can intentional vulnerability be transformed into a leadership asset within digital spaces?

LITERATURE REVIEW

Digital Leadership and Vulnerability in Education

Digital leadership refers to leaders' ability to strategically use information and communication technology (ICT) to enhance organisational performance.⁸ In educational contexts, it involves the deliberate integration of technology to support teaching, learning, and administrative processes. School principals who practice digital leadership extend their roles beyond traditional administration to create transformative environments that embed technology within curriculum delivery and school management. Research shows that principals with strong digital leadership skills enhance teachers' technological competence, enabling effective classroom integration of digital tools and improved student outcomes.⁹ Effective digital leadership requires developing a shared vision for technology integration, equitable access to digital resources, and a school culture that supports innovation and contemporary learning practices.¹⁰ Visionary leadership is central to this process, enabling school leaders to design and implement long-term digital strategies that support sustainable transformation.¹¹ The adoption of a digital-age learning culture positions technology as a core resource for teaching and

Equality Research: A Scoping Review Based on a New Semantic Indicator," *PLOS ONE* 16, no. 9 (September 21, 2021): e0256474, <https://doi.org/10.1371/journal.pone.0256474>.

³ Nita Lawton-Misra and Tyrone Pretorius, "Leading with Heart: Academic Leadership during the COVID-19 Crisis," *South African Journal of Psychology* 51, no. 2 (June 11, 2021): 205–14, <https://doi.org/10.1177/0081246321992979>.

⁴ Msila, "Black Women School Leaders: Building Effective Schools Against the Odds"; Belingheri et al., "Twenty Years of Gender Equality Research: A Scoping Review Based on a New Semantic Indicator"; Maria Karyotaki et al., "Women's Leadership via Digital Technology and Entrepreneurship in Business and Society," *Technium Soc. Sci. J.* 28 (2022): 246; Labby Ramrathan, "School Curriculum in South Africa in the Covid-19 Context: An Opportunity for Education for Relevance," *PROSPECTS* 51, no. 1–3 (October 6, 2021): 383–92, <https://doi.org/10.1007/s11125-020-09490-1>.

⁵ Brown, *Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead*; Elena Sesana et al., "An Integrated Approach for Assessing the Vulnerability of World Heritage Sites to Climate Change Impacts," *Journal of Cultural Heritage* 41 (January 2020): 211–24, <https://doi.org/10.1016/j.culher.2019.06.013>.

⁶ Brown, *Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead*; Sesana et al., "An Integrated Approach for Assessing the Vulnerability of World Heritage Sites to Climate Change Impacts."

⁷ Lawton-Misra and Pretorius, "Leading with Heart: Academic Leadership during the COVID-19 Crisis."

⁸ Hamada Hussein et al., "Digital Leadership and Sustainable Competitive Advantage: Leveraging Green Absorptive Capability and Eco-Innovation in Tourism and Hospitality Businesses," *Sustainability* 16, no. 13 (June 24, 2024): 5371, <https://doi.org/10.3390/su16135371>.

⁹ N. Hafiza Hamzah, M. Khalid M. Nasir, and Jamalullail Abdul Wahab, "The Effects of Principals' Digital Leadership on Teachers' Digital Teaching during the COVID-19 Pandemic in Malaysia," *Journal of Education and E-Learning Research* 8, no. 2 (2021): 216–21.

¹⁰ Hussein et al., "Digital Leadership and Sustainable Competitive Advantage: Leveraging Green Absorptive Capability and Eco-Innovation in Tourism and Hospitality Businesses."

¹¹ Colin Coulson-Thomas, "Visionary Leadership for Fostering Creativity, Innovation and Business Excellence," 2020.

learning, ensuring relevance in rapidly changing educational contexts.¹² Digital citizenship is another critical component that promotes ethical, responsible, and safe technology use among staff and learners.¹³ Continuous system improvement further supports organisational stability while responding to emerging technological demands.¹⁴ Collectively, these elements enable principals to manage resources effectively, promote innovation, and lead schools toward a technology-driven future.¹⁵

Vulnerability in Education

Vulnerability is defined as the willingness to face uncertainty, risk, and emotional exposure with authenticity.¹⁶ Rather than indicating weakness, vulnerability underpins creativity, connection, and resilience. In leadership contexts, vulnerability involves engaging with unfamiliar challenges and making decisions that carry risk but offer opportunities for growth. Within digital leadership, vulnerability may be demonstrated when principals openly acknowledge limitations in digital competence while leading technology integration initiatives. For example, principals who learn alongside teachers during digital training activities model openness, humility, and a willingness to engage in continuous learning. This form of transparency fosters trust and encourages collaborative learning cultures. Brown argues that vulnerability is a key driver of innovation because it creates environments where individuals feel safe to experiment, make mistakes, and develop new skills.¹⁷ For school principals, vulnerability may involve initiating difficult conversations about digital change, setting ambitious goals despite uncertainty, or advocating for innovation in resistant contexts. These practices promote resilience and strengthen relationships within school communities. When vulnerability is combined with digital leadership, principals are better positioned to navigate the complexities of contemporary education. This approach supports technological integration while bridging the gap between traditional practices and the evolving demands of the digital age. It also promotes inclusive and innovative learning environments.

Benefits of Digital Leadership in Schools

Digital leadership supports educators and learners in adapting to technological change and promotes innovative and inclusive educational environments.¹⁸ It enhances student engagement through interactive and personalised learning experiences and strengthens communication and collaboration among teachers, learners, and parents. Digital leadership also advances digital literacy and citizenship. These competencies prepare learners for future careers and encourage ethical use of technology.¹⁹ Digital tools support personalised learning, improve teaching effectiveness, and provide opportunities for continuous professional development. From a transformational leadership perspective, empowering teachers and learners contributes to organisational structures that promote diversity, inclusion, and equitable participation.²⁰ Operational efficiency is another key benefit. Automation reduces administrative workload, allowing principals to prioritise instructional leadership and strategic decision-making. Digital leadership further supports innovation, creative problem-solving, and global learning

¹² Barbara Buchholz, Ricardo Figueiredo, and Takashi Sato, "Digital-Age Learning Culture: Creating the Environment for Success in the Technology-Driven Classroom," *Journal of Educational Technology* 16, no. 2 (2020): 100–113.

¹³ Emanuel Mihardjo and Tigor Alamsjah, "Promoting Digital Citizenship through Effective Leadership," *Journal of Educational Management* 35, no. 3 (2019): 97–110.

¹⁴ Asmitha Tiekam and Hugh Myres, "Digital Leadership Skills That South African Leaders Require for Successful Digital Transformation," in *Technological Leapfrogging and Innovation in Africa* (Edward Elgar Publishing, 2023), 184–206, <https://doi.org/10.4337/9781800370395.00018>.

¹⁵ Juan Sebastián Fernández-Prados, Antonia Lozano-Díaz, and Alexandra Ainz-Galende, "Measuring Digital Citizenship: A Comparative Analysis," *Informatics* 8, no. 1 (March 6, 2021): 18, <https://doi.org/10.3390/informatics8010018>.

¹⁶ Brown, *Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead*.

¹⁷ Brown, *Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead*.

¹⁸ Abid Haleem et al., "Understanding the Role of Digital Technologies in Education: A Review," *Sustainable Operations and Computers* 3 (2022): 275–85, <https://doi.org/10.1016/j.susoc.2022.05.004>; Karyotaki et al., "Women's Leadership via Digital Technology and Entrepreneurship in Business and Society."

¹⁹ Tuğba Erhan, Hasan Huseyin Uzunbacak, and Erhan Aydin, "From Conventional to Digital Leadership: Exploring Digitalization of Leadership and Innovative Work Behavior," *Management Research Review* 45, no. 11 (2022): 1524–43.

²⁰ Cailin S. Stamarski and Leanne S. Son Hing, "Gender Inequalities in the Workplace: The Effects of Organizational Structures, Processes, Practices, and Decision Makers' Sexism," *Frontiers in Psychology* 6 (September 16, 2015), <https://doi.org/10.3389/fpsyg.2015.01400>.

by expanding access to diverse educational resources and promoting equity.²¹ Digital programmes for females strengthen skills in networking, negotiation, and career development, thereby enhancing resilience and adaptability.²² Expanding females' access to ICT supports employment, lifelong learning, and social advancement, aligning with the United Nations Sustainable Development Goals for 2030.²³

Strategies to Leverage Digital Leadership in Schools

Effective digital leadership requires deliberate strategies that promote innovation, collaboration, and growth while embracing vulnerability.²⁴ The integration of digital tools supports school environments characterised by trust and openness, enabling educators and learners to engage meaningfully. A systematic approach to digital leadership aligns leadership practices with institutional vision and values, builds stakeholder confidence, and ensures that cultural change benefits the wider school community.²⁵ Leadership effectiveness depends on strategies that inspire individuals to align with shared goals and vision.²⁶ Vulnerability plays a central role in this process. Vulnerability should be recognised as a leadership strength, as Brown emphasises.²⁷ When leaders acknowledge knowledge gaps and collaborate with staff, they normalise learning and encourage open communication. This approach strengthens trust and promotes mutual empowerment within schools. Collaborative programme development further supports digital leadership. Leaders are encouraged to work with school governing bodies and external partners to design initiatives that promote innovation and learning.²⁸ Successful implementation requires supportive policies and adequate resources. Comprehensive educator training ensures effective integration of digital tools while maintaining school identity.²⁹ Ongoing monitoring and evaluation enable leaders to assess digital initiatives, address challenges, and refine strategies.³⁰ Feedback, recognition, and a focus on growth over perfection support continuous improvement and sustainable innovation.³¹

THEORETICAL FRAMEWORK - Transformational Leadership Theory

Transformational leadership theory, introduced by Burns, emphasises shared purpose, deep motivation, and mutual growth between school principals and staff.³² It seeks to inspire creativity and align individual and collective goals. Moreover, promotes ethical and collaborative transformation within organisations.³³ In the digital age, characterised by rapid technological change and crises such as the COVID-19 pandemic, adaptability and innovation have become essential leadership qualities. Transformational leadership supports organisational resilience and enables systemic change in uncertain

²¹ Dr Shaheen Parveen and Shaikh Imran Ramzan, "The Role of Digital Technologies in Education: Benefits and Challenges," *International Research Journal on Advanced Engineering and Management (IRJAEM)* 2, no. 06 (June 24, 2024): 2029–37, <https://doi.org/10.47392/IRJAEM.2024.0299>.

²² OECD PUBLIC GOVERNANCE POLICY, "Harnessing the Green and Digital Transitions for Gender Equality: Insights from the 2024 OECD Forum on Gender Equality," 2024.

²³ S. Amulya Jeevanasai et al., "Shades & Shines of Gender Equality with Respect to Sustainable Development Goals (SDGs): The Environmental Performance Perspectives," *Total Environment Research Themes* 8 (December 2023): 100082, <https://doi.org/10.1016/j.totert.2023.100082>.

²⁴ Dr Shaheen Parveen and Shaikh Imran Ramzan, "The Role of Digital Technologies in Education: Benefits and Challenges."

²⁵ Munifah Munifah and Septiana Purwaningrum, "Leadership Strategy: Developing School Culture through Digital Turats Learning," *Cypriot Journal of Educational Sciences* 17, no. 1 (January 31, 2022): 68–80, <https://doi.org/10.18844/cjes.v17i1.6682>.

²⁶ Md Karim Rabiul and Tan Fee Yean, "Leadership Styles, Motivating Language, and Work Engagement: An Empirical Investigation of the Hotel Industry," *International Journal of Hospitality Management* 92 (January 2021): 102712, <https://doi.org/10.1016/j.ijhm.2020.102712>.

²⁷ Brown, *Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead*.

²⁸ Raziye Sancar, Deniz Atal, and Deniz Deryakulu, "A New Framework for Teachers' Professional Development," *Teaching and Teacher Education* 101 (May 2021): 103305, <https://doi.org/10.1016/j.tate.2021.103305>.

²⁹ William Sterrett and Jayson W Richardson, "Supporting Professional Development through Digital Principal Leadership," *Journal of Organizational & Educational Leadership* 5, no. 2 (2020): 4.

³⁰ Pelin Bicen, Shelby D. Hunt, and Sreedhar Madhavaram, "Coopetitive Innovation Alliance Performance: Alliance Competence, Alliance's Market Orientation, and Relational Governance," *Journal of Business Research* 123 (February 2021): 23–31, <https://doi.org/10.1016/j.jbusres.2020.09.040>; Brown, *Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead*.

³¹ Brown, *Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead*.

³² James MacGregor Burns, *Leadership* (New York: Harper & Row, 1978).

³³ Burns, *Leadership*.

environments.³⁴ Vulnerability fosters trust, collaboration, and authentic relationships within digital contexts. For female school principals facing systemic barriers such as gender bias and limited professional networks, vulnerability can strengthen leadership effectiveness. Transparency and emotional authenticity are particularly valuable in digital environments, where trust and cohesion must be intentionally cultivated.³⁵ Transformational leadership also aligns personal and organisational values, and openness to innovation allows transformational leaders to leverage digital tools.³⁶ Collaboration and mentorship further address gaps in support for female leaders. These practices enable female principals to navigate digital leadership challenges and foster inclusive, resilient school environments.³⁷

METHODOLOGY

This study adopted an interpretive qualitative framework, utilising a narrative inquiry approach. Female school principals were invited to share their personal accounts, reflecting on their experiences with digital leadership and the vulnerabilities they encountered. Leaders in the 21st century are increasingly confronted with complex challenges, such as global pandemics, which necessitate the adoption of digital leadership practices. Nonetheless, female school principals face distinct and heightened challenges due to their vulnerability and the pervasive issue of gender discrimination. Data were generated through in-person narrative interviews with three female school principals from the same district of education. Participants exhibited resilience and a willingness to acknowledge their limited digital skills, demonstrating a readiness to step out of their comfort zones and learn alongside their staff. Their narratives revealed moments of introspection, highlighting the ways they adapted and grew through their experiences, aligning with the perspectives of Barkhuizen and Consoli.³⁸ Open-ended interview questions enabled participants to explore their experiences in depth, shedding light on the intricate dynamics of their personal and professional challenges. To conduct interviews with the female school principals, permission was obtained from the circuit managers, who served as gatekeepers, and ethical clearance was obtained from my institution. The three female school principals were assigned pseudonyms and purposively selected based on their gender, roles, and the objectives of this study. Data analysis followed Braun and Clarke's six-step thematic analysis framework: familiarizing with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report.³⁹ The data, collected from three individual participants at different times, facilitated the application of data triangulation as described by Denzin.⁴⁰ Additionally, the member-checking process was employed to validate and ensure the reliability of the findings.

PRESENTATION OF FINDINGS

The findings based on participants' accounts suggest that implementing digital leadership was challenging. Nonetheless, they capitalised on their vulnerable state to foster growth and collaboration. Furthermore, they employed digital leadership to confront gender bias and developed strategies to leverage its potential effectively. When participants were asked to narrate their experiences of vulnerability and digital leadership, they shared the following:

³⁴ Rana B.S. Madi Odeh et al., "The Transformational Leadership Role in Achieving Organizational Resilience through Adaptive Cultures: The Case of Dubai Service Sector," *International Journal of Productivity and Performance Management* 72, no. 2 (January 30, 2023): 440–68, <https://doi.org/10.1108/IJPPM-02-2021-0093>.

³⁵ Sina Eslamdoust, Ji Hoon Lee, and Tahmineh Bohrani, "Enhancing Team Performance in the Digital Age: Impact of Technologically Moderated Communication in the Interplay of e-Leadership & Trust," *International Journal of Business & Management Studies* 5, no. 04 (2024): 56–67.

³⁶ Madi Odeh et al., "The Transformational Leadership Role in Achieving Organizational Resilience through Adaptive Cultures: The Case of Dubai Service Sector."

³⁷ Eslamdoust, Lee, and Bohrani, "Enhancing Team Performance in the Digital Age: Impact of Technologically Moderated Communication in the Interplay of e-Leadership & Trust."

³⁸ Gary Barkhuizen and Sal Consoli, "Pushing the Edge in Narrative Inquiry," *System* (Elsevier, 2021).

³⁹ Virginia Braun and Victoria Clarke, "Using Thematic Analysis in Psychology," *Qualitative Research in Psychology* 3, no. 2 (2006): 77–101.

⁴⁰ Norman K. Denzin, "Triangulation 2.0 <sup/>," *Journal of Mixed Methods Research* 6, no. 2 (April 23, 2012): 80–88, <https://doi.org/10.1177/1558689812437186>.

Theme 1: From Resistance to the Implementation of Digital Leadership

The findings reveal that resistance to digital leadership was a shared and defining starting point for all three principals. This resistance was not merely technical but was deeply relational, emotional, and identity-based. Limited digital competence intersected with entrenched leadership norms and fear of failure. These factors collectively shaped how the principals initially positioned themselves in relation to digital leadership. Existing literature indicates that school leaders often conceptualise digital leadership as a technical or specialist function rather than a relational practice.⁴¹ This narrow framing intensifies anxiety, particularly during periods of rapid and compulsory change. In this study, resistance emerged as a protective response to uncertainty rather than an unwillingness to lead. Principal A stated, *"I never imagined that digital platforms like WhatsApp and Teams would become such a central part of my leadership. I always relied on face-to-face interactions and traditional communication methods."* This statement reflects a leadership identity anchored in physical presence and embodied authority. Leadership, in this context, was enacted through visibility, proximity, and direct interpersonal engagement. Research suggests that such identities are deeply embedded in school leadership cultures, especially in systems where authority has historically been linked to hierarchical control and physical supervision.⁴²

The resistance expressed by Principal A also reflects a disruption of professional self-concept. The sudden elevation of digital platforms challenged previously successful leadership practices. This dissonance created uncertainty about competence and legitimacy. Transformational leadership literature suggests that identity disruption is often a precursor to leadership growth, particularly when leaders are required to adapt to unfamiliar contexts.⁴³ Principal B's resistance was more explicitly linked to self-doubt and perceived marginalisation. She stated, *"At first, I saw the idea of using WhatsApp and Zoom as impossible. I told myself, this isn't something I can handle. I felt left behind."* The language of impossibility and exclusion is significant. It indicates an internalisation of deficit narratives related to digital competence. Literature confirms that female leaders often experience digital transitions as exclusionary due to unequal access to ICT training, mentorship, and professional networks.⁴⁴ The feeling of being left behind reflects both technological and gendered exclusion.

Digital leadership became a site where broader inequalities were reproduced. Rather than being positioned as learners, female leaders were implicitly expected to perform competently immediately. This expectation reinforced fear of exposure and failure. Brown argues that such contexts discourage experimentation and silence vulnerability, particularly among women in leadership.⁴⁵ Principal C similarly associated resistance with deeply embedded traditional leadership structures. She explained, *"I relied on structured, traditional methods and assumed that managing a school through technology was something beyond my reach."* This narrative reflects the perception of digital leadership as external to established leadership roles. It also reflects the assumption that digital expertise belongs to a specialised or masculine domain. Research indicates that such assumptions reinforce gendered divisions of leadership labour and undermine females' confidence in digital spaces.⁴⁶ In this context, resistance functioned as a response to symbolic exclusion. Digital leadership was perceived as misaligned with the principals' existing leadership identities. This misalignment created hesitation and withdrawal. However, resistance also signalled awareness of limitations, which later became a catalyst for transformation. The transition from resistance to implementation represents a process of leadership redefinition rather than simple skill acquisition. Through gradual engagement with digital tools, the principals reconstructed their leadership identities. Digital leadership was reframed from a technical demand into a relational practice. This process aligns closely with transformational leadership theory,

⁴¹ Hamzah, Nasir, and Wahab, "The Effects of Principals' Digital Leadership on Teachers' Digital Teaching during the COVID-19 Pandemic in Malaysia."; Gülçin Kurkan and Münevver Çetin, "The Perceptions Of Educational Administrators Towards Digital Leadership In The Age Of Artificial Intelligence: A Qualitative Study," *International Journal of Contemporary Educational Research* 11, no. 3 (September 29, 2024): 425–39, <https://doi.org/10.52380/ijcer.2024.11.3.602>.

⁴² Fernández-Prados, Lozano-Díaz, and Ainz-Galende, "Measuring Digital Citizenship: A Comparative Analysis."

⁴³ Coulson-Thomas, "Visionary Leadership for Fostering Creativity, Innovation and Business Excellence."

⁴⁴ Lawton-Misra and Pretorius, "Leading with Heart: Academic Leadership during the COVID-19 Crisis."

⁴⁵ Brown, *Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead*.

⁴⁶ Msila, "Black Women School Leaders: Building Effective Schools Against the Odds."

which emphasises learning, adaptability, and reframing challenges as opportunities for growth.⁴⁷ Transformational leadership does not require leaders to possess complete expertise. Instead, it values openness to learning and collective problem-solving. As principals engaged with digital platforms, they shifted from control-oriented to collaborative leadership. Digital leadership became a means of connection rather than a threat to authority.

Theme 2: Vulnerability as a Catalyst for Growth and Collaboration

Vulnerability emerged as a central mechanism through which leadership transformation occurred. Initially, vulnerability was experienced as discomfort, uncertainty, and emotional exposure. These experiences were intensified by limited digital competence and gendered leadership expectations. Over time, vulnerability was reframed as a leadership strength rather than a deficit. Brown defines vulnerability as the willingness to engage with uncertainty, risk, and emotional exposure.⁴⁸ This definition is strongly reflected in the participants' narratives. In this study, vulnerability was not a passive state but was deliberately enacted. It involved acknowledging limitations, seeking support, and learning in public. These actions challenged traditional leadership norms that equate authority with certainty and control. Principal A stated, *"This experience taught me that vulnerability isn't a weakness; it's a source of strength. By admitting where I needed help, I was able to empower my team to thrive in a digital space."* This statement illustrates how vulnerability facilitated distributed leadership. By acknowledging limitations, the principal disrupted hierarchical boundaries. She created space for teachers to contribute expertise and assume leadership roles. Literature confirms that such practices strengthen trust, shared ownership, and collective efficacy.⁴⁹ For Principal A, vulnerability also functioned as a relational strategy rather than diminishing authority; openness strengthened professional credibility.

Staff responded with increased engagement and responsibility. This aligns with research suggesting that transparent leadership fosters psychological safety and collaboration, particularly in digital contexts.⁵⁰ Principal B reflected, *"Not knowing can be transformative. By embracing my limitations, I was able to challenge the cultural biases that held me back."* These narrative positions vulnerability as an act of resistance. In patriarchal leadership contexts, female leaders are often expected to demonstrate certainty, obedience, and emotional restraint.⁵¹ By openly acknowledging "not knowing," the principal rejected deficit-based leadership expectations. She asserted an alternative leadership identity grounded in authenticity and learning. This reframing of vulnerability enabled Principal B to confront internalised doubt. It also disrupted external perceptions of leadership competence. The literature suggests that when female leaders articulate uncertainty without apology, they challenge gendered assumptions about authority and expertise.⁵² Vulnerability thus became a means of reclaiming leadership agency. Principal C emphasised the relational and collaborative outcomes of vulnerability. She stated, *"I shared my concerns openly, admitting my struggles with digital leadership. To my surprise, involving teachers helped me."* This experience demonstrates how vulnerability facilitated collective problem-solving. By modelling openness, the principal normalised learning and experimentation. Teachers responded by offering support, ideas, and technical expertise. Research suggests that when leaders model learning behaviours, staff are more likely to engage in innovation and risk-taking.⁵³ In this case, vulnerability fostered a culture of mutual learning, and leadership was no longer individualised. It became shared and relational. Across all narratives, vulnerability functioned as a bridge between uncertainty and growth. It enabled creativity by reducing fear of failure and strengthened relationships by fostering trust and openness. It supported collective learning by

⁴⁷ Burns, *Leadership*.

⁴⁸ Brown, *Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead*.

⁴⁹ Lawton-Misra and Pretorius, "Leading with Heart: Academic Leadership during the COVID-19 Crisis."

⁵⁰ Brown, *Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead*.

⁵¹ Stamarski and Son Hing, "Gender Inequalities in the Workplace: The Effects of Organizational Structures, Processes, Practices, and Decision Makers' Sexism."

⁵² Msila, "Black Women School Leaders: Building Effective Schools Against the Odds."

⁵³ Sterrett and Richardson, "Supporting Professional Development through Digital Principal Leadership."

encouraging shared responsibility. These outcomes align closely with transformational leadership principles, which emphasise empathy, shared vision, and mutual development.⁵⁴

Theme 3: Digital Leadership as a Tool for Challenging Gender Bias

The findings indicate that digital leadership enabled female principals to use strategic tools to confront systemic and cultural gender bias. Gendered leadership barriers remain deeply entrenched in educational contexts, particularly within male-dominated districts and traditional communities.⁵⁵ These barriers often manifest through exclusion from decision-making spaces, heightened scrutiny, and diminished leadership authority. In this study, digital leadership created alternative pathways for exercising authority. It enabled female principals to reposition themselves within leadership hierarchies. Digital tools offered structured spaces where leadership was enacted through communication, coordination, and facilitation rather than physical dominance or hierarchical control. Principal A reflected, *“As a woman leading in a male-dominated district, I often felt the weight of judgment ... It wasn’t until I allowed myself to be vulnerable that things began to shift.”* This narrative illustrates how vulnerability, when combined with digital leadership, enhances credibility rather than undermining authority. The principal’s openness signaled confidence and authenticity. Digital competence further reinforced her leadership legitimacy. Research suggests that female leaders are frequently judged more harshly than their male counterparts and are expected to conform to contradictory leadership norms.⁵⁶ In this context, vulnerability functioned as a counter-narrative. It disrupted deficit perceptions by reframing leadership as relational and inclusive.

Digital leadership amplified this shift by making leadership visible through action rather than assertion. Principal B stated, *“As a woman in a community where traditional gender roles are strong, I often felt my leadership questioned.”* This experience reflects cultural expectations that position women as supporters rather than decision-makers. Such expectations restrict leadership agency and reinforce patriarchal authority structures. Literature confirms that female leaders in traditional communities often face resistance when asserting autonomy or authority.⁵⁷ For Principal B, digital leadership provided a platform to bypass informal gatekeeping. Digital communication reduced reliance on male-dominated physical spaces where authority was contested. Leadership could be enacted through planning, coordination, and facilitation. This shift enabled greater control over decision-making processes and reduced opportunities for marginalisation. Principal C highlighted the empowering function of digital tools. She stated, *“Digital leadership gave me the ability to lead discussions confidently, avoid dismissive attitudes, and build a school environment where everyone felt valued and heard.”* This narrative indicates the role of digital platforms in shaping interactional dynamics. Online spaces created structured and moderated environments. These environments reduced interruptions, dominance, and dismissive behaviour.

Research suggests that digital platforms can democratise participation by regulating turn-taking and amplifying marginalised voices.⁵⁸ In this study, digital leadership enabled more equitable dialogue. Authority was exercised through facilitation rather than positional power, which supported inclusive decision-making and collective engagement. Digital leadership, therefore, functioned as both a practical and symbolic resource. Practically, it enhanced communication, visibility, and coordination. Symbolically, it challenged gendered assumptions about who leads and how leadership is enacted. By confidently occupying digital spaces, female principals asserted legitimacy and disrupted patriarchal norms. These practices align with inclusive and transformational leadership models that prioritise equity, participation, and shared leadership.⁵⁹ Transformational leadership emphasises empowerment and

⁵⁴ Burns, *Leadership*.

⁵⁵ Msila, “Black Women School Leaders: Building Effective Schools Against the Odds.”

⁵⁶ Stamarski and Son Hing, “Gender Inequalities in the Workplace: The Effects of Organizational Structures, Processes, Practices, and Decision Makers’ Sexism.”

⁵⁷ Msila, “Black Women School Leaders: Building Effective Schools Against the Odds.”

⁵⁸ Karyotaki et al., “Women’s Leadership via Digital Technology and Entrepreneurship in Business and Society.”

⁵⁹ Munifah and Purwaningrum, “Leadership Strategy: Developing School Culture through Digital Turats Learning.”

ethical influence rather than dominance.⁶⁰ In this study, digital leadership enabled female principals to enact these principles in contexts marked by gender inequality.

Theme 4: Strategies to Leverage Digital Leadership

The findings reveal that effective digital leadership was sustained through deliberate and intentional strategies. These strategies included collaboration, vulnerability, leadership adaptability, capacity building, and community engagement. Rather than emerging spontaneously, these practices were consciously enacted. They enabled female principals to navigate uncertainty and sustain leadership effectiveness in digital contexts. These strategies align with contemporary digital leadership frameworks that emphasise relational leadership, continuous learning, and stakeholder engagement.⁶¹ Digital leadership in this study was not defined by technological sophistication but by how technology was used to support people, relationships, and shared goals. Collaboration emerged as a foundational strategy. Digital tools created spaces for collective problem-solving and shared decision-making. Principal A stated, *"I openly admitted that I wasn't confident in my digital skills and asked for help."* This statement reflects professional humility and a willingness to learn publicly. By acknowledging limitations, the principal repositioned leadership as a collective endeavour rather than an individual responsibility. Brown argues that leaders who normalise learning foster resilient organisational cultures.⁶²

In this study, collaboration reduced isolation and redistributed expertise as teachers became contributors rather than recipients of leadership directives. This strengthened trust and mutual accountability. Vulnerability functioned as a sustained leadership strategy rather than a temporary response to crisis. Principal C reiterated, *"I shared my concerns openly, admitting my struggles with digital leadership."* This ongoing openness reinforced psychological safety. Staff felt permitted to experiment, ask questions, and learn without fear of judgment. Research confirms that such environments are essential for innovation and growth in digital contexts.⁶³ Adaptability also emerged as a critical strategy. Digital leadership requires principals to move beyond traditional, face-to-face leadership models. Leadership practices were adjusted to suit virtual and hybrid environments. This shift required flexibility in communication, decision-making, and relationship-building. Fernández-Prados et al. note that leadership adaptability is essential in digitally mediated educational environments, where interaction patterns differ from those in physical settings.⁶⁴ Capacity building was evident in the principals' intentional use of accessible digital tools. Principal B noted, *"Through simple tools like WhatsApp, we connected more deeply than I ever imagined."* This highlights the importance of familiarity and accessibility in digital leadership. Rather than introducing complex systems, the principals leveraged tools already embedded in daily practice. Studies confirm that simple and familiar technologies often generate stronger engagement and collaboration than advanced platforms.⁶⁵

Community engagement was strengthened through WhatsApp, Teams, and Zoom. These platforms enabled ongoing dialogue with staff, parents, and learners. Communication became timelier and more transparent. Responsiveness increased, and shared responsibility was reinforced. Digital platforms thus extended leadership beyond the school management team to the broader school community. Leadership adaptability also facilitated a shift from hierarchical authority to participatory leadership. Decision-making became more inclusive as previously marginalised voices gained visibility. This aligns with inclusive leadership models that emphasise shared leadership and equity.⁶⁶

DISCUSSION

The findings indicate that female school principals face complex, intersecting challenges in their leadership roles, particularly regarding digital leadership, gender bias, and entrenched leadership norms.

⁶⁰ Burns, *Leadership*.

⁶¹ Gerald C Kane et al., "How Digital Leadership Is (n't) Different," *MIT Sloan Management Review* 60, no. 3 (2019): 34–39.

⁶² Brown, *Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead*.

⁶³ Sterrett and Richardson, "Supporting Professional Development through Digital Principal Leadership."

⁶⁴ Fernández-Prados, Lozano-Díaz, and Ainz-Galende, "Measuring Digital Citizenship: A Comparative Analysis."

⁶⁵ Erhan, Uzunbacak, and Aydin, "From Conventional to Digital Leadership: Exploring Digitalization of Leadership and Innovative Work Behavior."

⁶⁶ Munifah and Purwaningrum, "Leadership Strategy: Developing School Culture through Digital Turats Learning."

These findings are consistent with existing literature, which shows that female education leaders often operate within contexts shaped by patriarchal expectations, limited access to digital training, and heightened scrutiny of their leadership practices.⁶⁷ Similar to previous studies, this research confirms that digital transformation requires adaptability, collaboration, and continuous learning, especially during periods of rapid technological change.⁶⁸ The leadership practices demonstrated by the principals align with transformational leadership theory, which emphasises shared purpose, empowerment, and responsiveness to change.⁶⁹ A key similarity with existing scholarship is the recognition that collaboration and relational leadership strengthen trust and organisational learning. Prior research highlights that shared leadership and collegial support enhance innovation and resilience in educational settings.⁷⁰

However, this study extends the literature by identifying vulnerability as the primary mechanism enabling collaboration. While vulnerability is acknowledged in leadership literature as a source of connection and courage, it is often treated as an individual emotional experience rather than a deliberate leadership strategy.⁷¹ In contrast, the findings demonstrate that female principals intentionally enacted vulnerability by admitting limitations and seeking support, thereby fostering collective responsibility and shared learning. The findings also reveal a point of tension with traditional leadership models that equate effectiveness with certainty, control, and technical expertise. Much of the leadership literature assumes that leaders must project confidence and mastery, particularly in digital contexts. This study challenges that assumption by showing that vulnerability enhanced leadership credibility rather than undermining authority. By openly acknowledging uncertainty, the principals built trust, strengthened relationships, and turned uncertainty into opportunities for growth. This finding contradicts dominant deficit-oriented views of vulnerability and calls for a redefinition of leadership effectiveness in digitally mediated environments. In relation to gender bias, the findings are consistent with literature documenting females' marginalisation in decision-making spaces and the persistence of cultural norms that position females as secondary leaders.⁷²

However, this study contributes new insight by demonstrating how digital leadership can function as a counter-space to gendered power relations. Digital platforms enabled structured participation, reduced dismissive interactions, and amplified the voices of female leaders. While previous studies often frame digital tools as instruments of efficiency and communication, this study positions them as mechanisms for equity and inclusion. Furthermore, the findings align with research highlighting the benefits of digital platforms such as WhatsApp, Teams, and Zoom in enhancing communication and engagement.⁷³ However, this study adds by showing that accessible and familiar technologies were more impactful than complex digital systems. Their effectiveness lay in relational accessibility and ease of use rather than technical sophistication. This challenges assumptions that advanced technologies are essential for effective digital leadership and highlights the importance of contextually responsive practices.

RECOMMENDATIONS

To address the complexities of leadership in the digital age, female school principals can adopt several strategies to promote meaningful change. Viewing vulnerability as a leadership strength rather than a weakness enables principals to foster inclusive and innovative school environments. Leadership development programmes may emphasise emotional authenticity and the strategic use of vulnerability to strengthen resilience and collaboration. Training can prioritise transformational leadership alongside

⁶⁷ Msila, "Black Women School Leaders: Building Effective Schools Against the Odds"; Stamarski and Son Hing, "Gender Inequalities in the Workplace: The Effects of Organizational Structures, Processes, Practices, and Decision Makers' Sexism."

⁶⁸ Hamzah, Nasir, and Wahab, "The Effects of Principals' Digital Leadership on Teachers' Digital Teaching during the COVID-19 Pandemic in Malaysia."; Tiekam and Myres, "Digital Leadership Skills That South African Leaders Require for Successful Digital Transformation."

⁶⁹ Burns, *Leadership*.

⁷⁰ Lawton-Misra and Pretorius, "Leading with Heart: Academic Leadership during the COVID-19 Crisis."

⁷¹ Brown, *Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead*.

⁷² Msila, "Black Women School Leaders: Building Effective Schools Against the Odds."

⁷³ Erhan, Uzunbacak, and Aydin, "From Conventional to Digital Leadership: Exploring Digitalization of Leadership and Innovative Work Behavior."

practical skills in digital tools, inclusivity, and trust-building. The integration of digital platforms such as WhatsApp, Teams, and Zoom into leadership practice can enhance communication, resource sharing, and equitable decision-making. Schools can invest in professional development to ensure that leaders and staff are competent in using these tools, thereby strengthening cohesion and engagement. Additional training is required to equip leaders with skills to manage diverse teams and address cultural barriers effectively. As digital leadership requires adaptability, female principals might adopt flexible leadership approaches suited to virtual and hybrid environments. Continuous institutional support is essential to sustain this transition. Digital leadership further provides opportunities to address systemic gender bias. Female principals can use digital tools to assert leadership authority and promote inclusive participation. Mentorship and peer-support networks offer further guidance. Continuous learning remains critical, and ongoing professional development supports knowledge sharing, innovation, adaptability, and resilient educational environments.

CONCLUSION

This study highlights the transformative leadership experiences of female school principals in the digital age. The findings demonstrate that these leaders exhibit resilience, adaptability, and a strong commitment to inclusivity. By embracing vulnerability as a strategic leadership tool, female principals foster collaboration, innovation, and collective growth within their schools. Through the effective use of digital tools and adaptive leadership strategies, they challenge traditional barriers and foster equitable, empowered school communities. Digital leadership emerges as a critical mechanism for addressing systemic gender inequities and advancing educational equity. The integration of accessible digital platforms enhances communication, facilitates resource sharing, and promotes inclusive engagement among stakeholders. These practices strengthen leadership effectiveness and contribute to positive cultural transformation within schools. By prioritising inclusivity, collaboration, and digital innovation, female school principals redefine contemporary educational leadership. This study contributes to the growing body of research on gender, leadership, and digital transformation and offers a framework for advancing equitable and sustainable leadership practices in education.

BIBLIOGRAPHY

- Amulya Jeevanasai, S., Parth Saole, Ayush G Rath, Sanyogita Singh, Sunil Rai, and Manish Kumar. "Shades & Shines of Gender Equality with Respect to Sustainable Development Goals (SDGs): The Environmental Performance Perspectives." *Total Environment Research Themes* 8 (December 2023): 100082. <https://doi.org/10.1016/j.totert.2023.100082>.
- Barkhuizen, Gary, and Sal Consoli. "Pushing the Edge in Narrative Inquiry." *System*. Elsevier, 2021.
- Belingheri, Paola, Filippo Chiarello, Andrea Fronzetti Colladon, and Paola Rovelli. "Twenty Years of Gender Equality Research: A Scoping Review Based on a New Semantic Indicator." *PLOS ONE* 16, no. 9 (September 21, 2021): e0256474. <https://doi.org/10.1371/journal.pone.0256474>.
- Bicen, Pelin, Shelby D. Hunt, and Sreedhar Madhavaram. "Coopetitive Innovation Alliance Performance: Alliance Competence, Alliance's Market Orientation, and Relational Governance." *Journal of Business Research* 123 (February 2021): 23–31. <https://doi.org/10.1016/j.jbusres.2020.09.040>.
- Braun, Virginia, and Victoria Clarke. "Using Thematic Analysis in Psychology." *Qualitative Research in Psychology* 3, no. 2 (2006): 77–101.
- Brown, Brené. *Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead*. Penguin, 2012.
- Buchholz, Barbara, Ricardo Figueiredo, and Takashi Sato. "Digital-Age Learning Culture: Creating the Environment for Success in the Technology-Driven Classroom." *Journal of Educational Technology* 16, no. 2 (2020): 100–113.
- Burns, James MacGregor. *Leadership*. New York: Harper & Row, 1978.
- Coulson-Thomas, Colin. "Visionary Leadership for Fostering Creativity, Innovation and Business Excellence," 2020.
- Denzin, Norman K. "Triangulation 2.0 <sup/>." *Journal of Mixed Methods Research* 6, no. 2 (April

23, 2012): 80–88. <https://doi.org/10.1177/1558689812437186>.

Dr Shaheen Parveen and Shaikh Imran Ramzan. “The Role of Digital Technologies in Education: Benefits and Challenges.” *International Research Journal on Advanced Engineering and Management (IRJAEM)* 2, no. 06 (June 24, 2024): 2029–37.

<https://doi.org/10.47392/IRJAEM.2024.0299>.

Erhan, Tuğba, Hasan Huseyin Uzunbacak, and Erhan Aydin. “From Conventional to Digital Leadership: Exploring Digitalization of Leadership and Innovative Work Behavior.” *Management Research Review* 45, no. 11 (2022): 1524–43.

Eslamdoust, Sina, Ji Hoon Lee, and Tahmineh Bohrani. “Enhancing Team Performance in the Digital Age: Impact of Technologically Moderated Communication in the Interplay of e-Leadership & Trust.” *International Journal of Business & Management Studies* 5, no. 04 (2024): 56–67.

Fernández-Prados, Juan Sebastián, Antonia Lozano-Díaz, and Alexandra Ainz-Galende. “Measuring Digital Citizenship: A Comparative Analysis.” *Informatics* 8, no. 1 (March 6, 2021): 18. <https://doi.org/10.3390/informatics8010018>.

Haleem, Abid, Mohd Javaid, Mohd Asim Qadri, and Rajiv Suman. “Understanding the Role of Digital Technologies in Education: A Review.” *Sustainable Operations and Computers* 3 (2022): 275–85. <https://doi.org/10.1016/j.susoc.2022.05.004>.

Hamzah, N Hafiza, M Khalid M Nasir, and Jamalullail Abdul Wahab. “The Effects of Principals’ Digital Leadership on Teachers’ Digital Teaching during the COVID-19 Pandemic in Malaysia.” *Journal of Education and E-Learning Research* 8, no. 2 (2021): 216–21.

Hussein, Hamada, Omaina Munawar Albadry, Vijju Mathew, Bassam Samir Al-Romeedy, Omar Alsetoohy, Mahmoud Abou Kamar, and Hazem Ahmed Khairy. “Digital Leadership and Sustainable Competitive Advantage: Leveraging Green Absorptive Capability and Eco-Innovation in Tourism and Hospitality Businesses.” *Sustainability* 16, no. 13 (June 24, 2024): 5371. <https://doi.org/10.3390/su16135371>.

Kane, Gerald C., Anh Nguyen Phillips, Jonathan Copulsky, and Garth Andrus. “How Digital Leadership Is (n’t) Different.” *MIT Sloan Management Review* 60, no. 3 (2019): 34–39.

Karyotaki, Maria, Lizeta Bakola, Athanasios Drigas, and Charalabos Skianis. “Women’s Leadership via Digital Technology and Entrepreneurship in Business and Society.” *Technium Soc. Sci. J.* 28 (2022): 246.

Kurkan, Gülçin, and Münevver Çetin. “The Perceptions Of Educational Administrators Towards Digital Leadership In The Age Of Artificial Intelligence: A Qualitative Study.” *International Journal of Contemporary Educational Research* 11, no. 3 (September 29, 2024): 425–39. <https://doi.org/10.52380/ijcer.2024.11.3.602>.

Lawton-Misra, Nita, and Tyrone Pretorius. “Leading with Heart: Academic Leadership during the COVID-19 Crisis.” *South African Journal of Psychology* 51, no. 2 (June 11, 2021): 205–14. <https://doi.org/10.1177/0081246321992979>.

Madi Odeh, Rana B.S., Bader Yousef Obeidat, Mais Osama Jaradat, Ra’ed Masa’deh, and Muhammad Turki Alshurideh. “The Transformational Leadership Role in Achieving Organizational Resilience through Adaptive Cultures: The Case of Dubai Service Sector.” *International Journal of Productivity and Performance Management* 72, no. 2 (January 30, 2023): 440–68. <https://doi.org/10.1108/IJPPM-02-2021-0093>.

Mihardjo, Emanuel, and Tigor Alamsjah. “Promoting Digital Citizenship through Effective Leadership.” *Journal of Educational Management* 35, no. 3 (2019): 97–110.

Msila, Vuyisile. “Black Women School Leaders: Building Effective Schools Against the Odds.” *Multidisciplinary Journal of Gender Studies* 11, no. 1 (February 25, 2022): 1–23. <https://doi.org/10.17583/generos.8925>.

Munifah, Munifah, and Septiana Purwaningrum. “Leadership Strategy: Developing School Culture through Digital Turats Learning.” *Cypriot Journal of Educational Sciences* 17, no. 1 (January 31, 2022): 68–80. <https://doi.org/10.18844/cjes.v17i1.6682>.

POLICY, OECD PUBLIC GOVERNANCE. “Harnessing the Green and Digital Transitions for Gender Equality: Insights from the 2024 OECD Forum on Gender Equality,” 2024.

- Rabiul, Md Karim, and Tan Fee Yean. "Leadership Styles, Motivating Language, and Work Engagement: An Empirical Investigation of the Hotel Industry." *International Journal of Hospitality Management* 92 (January 2021): 102712. <https://doi.org/10.1016/j.ijhm.2020.102712>.
- Ramrathan, Labby. "School Curriculum in South Africa in the Covid-19 Context: An Opportunity for Education for Relevance." *PROSPECTS* 51, no. 1–3 (October 6, 2021): 383–92. <https://doi.org/10.1007/s11125-020-09490-1>.
- Sancar, Raziye, Deniz Atal, and Deniz Deryakulu. "A New Framework for Teachers' Professional Development." *Teaching and Teacher Education* 101 (May 2021): 103305. <https://doi.org/10.1016/j.tate.2021.103305>.
- Sesana, Elena, Alexandre S. Gagnon, Alessandra Bonazza, and John J. Hughes. "An Integrated Approach for Assessing the Vulnerability of World Heritage Sites to Climate Change Impacts." *Journal of Cultural Heritage* 41 (January 2020): 211–24. <https://doi.org/10.1016/j.culher.2019.06.013>.
- Stamarski, Cailin S., and Leanne S. Son Hing. "Gender Inequalities in the Workplace: The Effects of Organizational Structures, Processes, Practices, and Decision Makers' Sexism." *Frontiers in Psychology* 6 (September 16, 2015). <https://doi.org/10.3389/fpsyg.2015.01400>.
- Sterrett, William, and Jayson W. Richardson. "Supporting Professional Development through Digital Principal Leadership." *Journal of Organizational & Educational Leadership* 5, no. 2 (2020): 4.
- Tiekam, Asmitha, and Hugh Myres. "Digital Leadership Skills That South African Leaders Require for Successful Digital Transformation." In *Technological Leapfrogging and Innovation in Africa*, 184–206. Edward Elgar Publishing, 2023. <https://doi.org/10.4337/9781800370395.00018>.

ABOUT AUTHOR

Dr. Ntombikayise Nkosi is a Senior Lecturer in Sociology at the University of South Africa (College of Education), Department of Educational Foundations. She holds a PhD in Social Justice in Education from the University of KwaZulu-Natal. Previously, she served as Deputy Chief Education Specialist in the Information Systems & Strategic Sub-Directorate at the Gauteng Department of Education. Her career also includes roles at Rosebank College as Head of Academics (Durban campus) and various leadership positions in the KZN Department of Education, including teacher, head of department, deputy principal, and principal of Waterloo Primary School. Dr Nkosi is a grant recipient under the Women in Research (WiR) programme and leads the Women in Leadership and Management (WiLM) project in KwaZulu-Natal. Her work is funded under the UNISA Engaged Scholarship programme and the NRF Switzerland/SA Lead Agency. She has presented her research at numerous national and international conferences and has authored several book chapters and peer-reviewed journal articles. Dr Nkosi has supervised multiple master's and doctoral students. Her research focuses on gender issues in education and community-based participatory research (CBPR). A strong advocate for gender equality, Dr Nkosi actively challenges stereotypes and misconceptions surrounding women in leadership. She collaborates with communities to provide insights on gender issues and to develop innovative solutions. Her inspiring journey reflects resilience, determination, and the courage to overcome the often-unseen challenges women face.