

African female doctoral graduates account for success in their doctoral journeys



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Doctoral education is regarded as a crucial engine for development by the knowledge economies, thereby making the research capacity of scholars play a critical factor towards development. Widening participation within doctoral education is seen as a way of enhancing this capacity. However, African scholars produce only 1.4% of all published research, indicating that Africa lacks research capacity. Even though both men and women contribute to the development of their continent and their countries, the number of women holding doctoral degrees on the African continent remains low across all nationalities. In high-income countries, there are 3963 PhDs per million people, whereas in some African countries (such as Tunisia, Egypt and Kenya), the number ranges from 100 to over 1500; however, in most low-income countries (such as Ethiopia, Uganda and Tanzania), the number is less than 100. Much research in doctoral education examines the reasons for low graduation rates and high attrition rates, but little research examines the contributors to the doctoral study for African women, especially in these times when doctoral education is viewed as a driver of the economy. Based on a qualitative study that interviewed 14 women from African countries, this article aimed to investigate how women account for completing doctoral studies. Data were gathered through semistructured interviews and analysed thematically using a capabilities approach as a theoretical framework. The findings suggest that institutional support, peer support and academic support played a role in their achievement.

Contribution: The article contributed to doctoral education scholarship of African women and indicated that religion contributed to African women's success in doctoral programmes, granting them strength to push until completion. This research may greatly encourage more women to enrol in doctoral programmes when reading other women's success stories.

Keywords: African women; doctoral graduates; higher education; capabilities approach; South African.

Introduction

Doctoral education is regarded as a crucial engine for development by the knowledge economies, thereby making the research capacity of scholars play a critical factor towards development (Cloete & Mouton 2015). This is because doctoral education produces 'workers capable of transferring their intellectual and technical expertise to wide-ranging global contexts' Teferra (2015:9). According to Cloete, Sheppard and Bailey (2015b:77), Africa as a whole is in need of 'tens of thousands more PhDs'. As such, it is critical for Africa to expand its PhD programmes and engage in partnerships that will boost the number of PhD holders in the continent (Molla & Cuthbert 2016). African universities are encouraged and supported to strengthen their research capacities in order to meet the skills demands of their knowledge societies and to emerge as centres of excellence to improve citizens' quality of life and well-being, in order to contribute to the African continent's achievement of the Millennium Development Goals (Ezeh et al. 2010). In 2009, nine African universities and four research institutes from West, East, Central and Southern Africa, in collaboration with a few northern universities, created the Consortium for Advanced Research Training in Africa (CARTA) with the goal of promoting internationally competitive research and research training at African universities (Ezeh et al. 2010). The Consortium for Advanced Research Training in Africa sought to help African universities develop multidisciplinary research hubs, facilitate high-quality research on policy-relevant priority issues, build networks of locally trained internationally recognised scholars and improve African universities' ability to lead globally competitive research and training programmes (Ezeh et al. 2010). For example, Ezeh et al. (2010) state that CARTA sought to improve human resources and university-wide mechanisms that are crucial to the programme's

performance and long-term viability through workshops training librarians and graduate programme coordinators (including deans) and provision of bursaries.

The South African government developed policies and made investments to increase the number of doctoral graduates by strengthening competence for academic supervision, offering incentives such as student bursaries for students to study until they reached the doctoral level (Cloete et al. 2015b). Ghana, on the other hand, developed the Education Strategic Plan (2010–2020), which sought to develop the country into a high-income economy and society based on information, knowledge and technology (Government of Ghana 2010). Despite having a higher proportion of doctoral qualified employees in the research workforce than Ethiopia, Ghana has a very low researcher per capita ratio, with only 17 researchers per million inhabitants (World Bank 2014). Ethiopia had a Higher Education Proclamation in 2009, aimed at improving the education sector. In the academic year 2013–2014, female doctoral graduates in Ethiopia constituted 16% – 13 out of 80 (Molla & Cuthbert 2016). The Center for Higher Education and Trust (CHET) conducted research on seven flagship African universities to increase doctoral graduates. The findings showed that 3538 doctoral graduates were produced from 2000–2001 to 2013–2014, with a share of 57%, at the University of Cape Town (UCT). The remaining 43% was a contribution from Makerere University, the University of Ghana, the University of Botswana, the University of Mauritius, the University of Nairobi and Eduardo Mondlane University (Khodabocus 2016).

Although governments and institutions of higher education (HEIs) worldwide are committed to increasing the number of African women in HE (Bitzer et al. 2014), African countries continue to face difficulties in realising their goal of increased doctoral education production (Molla & Cuthbert 2016). This is a result of a lack of funding, as well as a lack of institutional capacity, which may be linked to infrastructure for both students and institutions of higher learning, a paucity of experienced supervisors and aging faculty (Molla & Cuthbert 2016; Teferra 2015). Because of cultural practices that oppress women, male supremacy stifles women's advancement and development. African women in particular face challenges like caring for their families, supporting their husbands' careers and taking care of the sick or elderly in their families, which hinder or delay their doctoral studies (Magano 2011a, 2011b, 2013; Sultana 2012).

According to Desmennu and Owoaje (2018), gender stereotyping, childcare and family duties, violence against women in universities and a lack of role models are all factors that contribute to female under-representation in Nigerian higher education institutions. However, over the past 10 years, more African women have earned PhDs, constituting 30.4% of scientists in sub-Saharan Africa (UNESCO 2017).

The aim of this article is to address the gap in the literature on African women's success stories within doctoral education

by exploring how women from across the African continent account for completing their doctoral degrees. This research investigated what factors contributed to African women doctoral graduates' academic achievement in South Africa.

Literature review

Education is a capability in itself and enables the realisation of other capabilities (Nussbaum 2011; Sen 1999). Doctoral education, as mentioned earlier, is a driver for economic development through the production of intellectual and technical experts who are trained to transfer skills into physical contexts; hence, increasing doctoral graduates is a global concern. According to Nerad (2012), doctoral education is not only the core of a university's research capacities but also a major source of research usefulness and invention in the global knowledge economy. Anderson, Cutright and Anderson (2013) further state that doctoral education is the backbone of scientific innovation and creativity and so drives the global knowledge economy. They argue that PhD graduates should be able to contribute towards social concerns after acquiring the necessary abilities. Scheinin (2017) asserts that a doctoral education equips students with the analytical and critical thinking skills, problem-solving techniques, creativity and intellectual independence required for success in the information economy (Backhouse 2011; Cloete, Sheppard & Bailey 2015a; Lee & Danby 2012). A nation's ability to participate in a global economic environment and consequently develop high-quality knowledge would be enhanced by gaining these skills (Breier & Herman 2017). Because doctoral education is a prerequisite for positions in other specialised fields, like health and social care, as well as for leadership roles in schools, positions in higher education and the advancement of education, it is becoming increasingly important to access and succeed in doctoral programmes.

However, patriarchal culture prioritises men and inhibits women's human rights to varying degrees (Altay 2019). African women, however, are discriminated against as a result of their gender, race and class, putting them at a greater disadvantage in comparison to both African men and white women (Mokhele 2013), as they live in a society that is rife with racism and sexism (Robinson 2013).

Raising academic excellence in universities is a top concern (Matsolo, Ningpuanyeh & Susuman 2018). Therefore, it is crucial that African women earn their doctoral degrees. It is necessary to record the opportunities and freedoms that were available to them, the challenges they experienced and what motivated them to continue to achieve their goals. As Altay (2019) points out, no nation can grow without the assistance of women; hence, contemporary civilisation is the result of men and women working together in modern society. However, doctoral education has been regarded as a lonely experience; thus, students find it challenging to seek the support they need to continue their doctoral journeys, because feeling lonely jeopardises their well-being and academic resilience (Shavers 2010).

Women studying within male-dominated fields generally feel excluded (Banchefsky & Park 2018; Loots, Ts'ephe & Walker 2016; Magano 2013). In a study by Ts'ephe (2014) on the experiences of seven African women pursuing doctoral degrees, the participants said they felt discriminated against because their male mentors did not invite them to social gatherings with male students held off campus. Even though these gatherings were informal, the participants said their male counterparts developed strong personal bonds with both their mentors and their peers, which benefited their academic relationship. However, in a study where 14 African women who graduated for their doctoral degrees from a different South African university stated that they did not feel excluded or treated any differently from their male colleagues, they credited inclusiveness as one of the elements that helped them finish. This could be attributed to the fact that in a study conducted by Ts'ephe in 2021, the female doctoral graduates reported that they had never been part of a cohort during their time of study, in contrast to a study Ts'ephe (2014) conducted at a different university where the cohort system had been implemented.

Although there is limited research which accounts for how African women across the continent account for completion of doctoral studies, the importance of education in human development is undisputable and cannot be overstated. Teferra (2015) estimates that Africa has contributed 1% of the world's knowledge capital. According to a study undertaken by Ts'ephe (2014) that explores the experiences of black women undertaking doctoral studies at a South African university, participants attributed their successful completion to supportive supervisors, a conducive learning environment and being in peer study groups which provided academic support. African women attributed their successful completion of doctoral studies to institutional support (which comprised of supportive colleagues, good supervision), their belief in a higher power – in this case God – and being treated with respect, dignity and recognition (Ts'ephe 2021¹).

Theoretical framework

The capabilities approach (CA) is a lens that guides this research. Pioneered by Amartya Sen, CA is the alternative framework that assesses and evaluates human development and uses fundamental ideas such as functionings, capabilities, agency, well-being and conversion factors (Nussbaum 2006; Sen 1999). Functionings refer to the achieved outcomes or 'doings' and 'beings' that a person has reason to value (Robeyns 2003; Sen 1999). For example, obtaining doctoral degrees was a valued functioning for African women doctoral graduates; however, the realisation of this desired outcome depended on the real opportunities and freedoms that the women had to acquire education and contribute to their development and well-being. Capabilities, on the other hand, refer to the opportunities and freedoms that people have to realise valuable functionings, the opportunity to

choose who and what they want to be (opportunity freedom) or 'what people are actually able to be and do rather than what resources they have access to' (Walker 2005:103).

The CA is comprehensive in that it considers personal, societal and environmental 'conversion factors' that affect an individual's ability to exercise agency in converting capabilities into functionings (Crocker & Robeyns 2010). Conversion factors are the enablers or hindrances to achieving the desired outputs. As such, the women gave personal, environmental (academic) and social factors that became enablers and hindrances in their doctoral journeys. Provision of access to resources, however, is essential for one's well-being, because the level of that well-being is decided by their capacity to use those resources to attain functionings (valued results) (Robeyns 2003; Sen 1999). As such, the conversion of resources into functionings is influenced by conversion factors (Sen 1999). This implies that having opportunities or freedoms does not guarantee that one will achieve one's goals. Individuals also require agency in addition to having the capabilities and freedoms to choose the beings and doings that they have considered and deemed valuable. Agency is an essential concept within the CA that refers to a person's willingness to put in work or do actions that will enable him or her to obtain his or her desired goals (Crocker & Robeyns 2010). For instance, even though individuals may have all resources to foster success, they still need to do the actual work, to read, write critically and be available for supervision, for example, to be able to produce the desired results.

Methodology

This study was positioned within the interpretivist paradigm, because the paradigm holds that there are different realities, as well as encouraging researchers to draw on their own values and views. By using the narrative inquiry to gain qualitative insight into the lives and aspirations of African women doctoral graduates, with a focus on how these experiences impact their valued beings and doings, a qualitative approach was used to achieve an intimate understanding of the research participants (Denzin & Lincoln 2011; O'Leary 2010).

Participants of this study were 14 African women doctoral graduates who had completed their doctoral studies within the maximum of five years at the time when the interviews were conducted. Participants were purposively selected because the researcher wanted a deeper understanding of their doctoral journeys (Neuman 2007) to understand how they account for their success within doctoral education. Although nationality was not within the criteria for the selection of participants, the researcher interviewed African women from various countries across Africa, who happened to have obtained their doctorates from one African university. The researcher applied for ethical clearance from the university where she was studying. After the approval was granted, the researcher further contacted the Alumni Office to request a list of women falling within this category; but for

1. Facets of sections in this article are based on Ts'ephe (2021), under supervision of Dr T. Calitz and co-supervisor Dr K. Adeyemo, assessed at <http://hdl.handle.net/2263/80526>

ethical reasons, the office rather sent an e-mail to all potential graduates, in which the researcher's contact details were provided so that whoever was interested in the study could contact the researcher. The researcher sent further information about the study, including the consent form that interested women needed to complete in order to participate, by e-mail to those who contacted her. From that point, the participants and the researcher scheduled appointments for the interviews. The researcher met each participant at the place of their choice or conducted virtual meetings and asked the questions under the theme 'attributes to your success' followed by probe questions for clarity where necessary (Maree 2007).

There are various factors that enable or hinder one's success within doctoral studies, and these factors may be personal, academic and social. Interview questions were formulated around the factors that could be personal (attributes such as making time for one's studies, resting, being able to read and understand one's work), academic or institutional (for example, supervision, availability of resources) and social or environmental (such as family and friends' support). This is because doctoral studies' success relies on the relationship between these three aspects: personal, academic and environmental or social. Family support or lack thereof (social) therefore influences students' performance (their ability to concentrate on their studies and be critical thinkers), as well as the conducive working space, because all three parts are intertwined to complete doctoral studies. The CA's strength is that it incorporates both personal capabilities – such as skills, attitudes, knowledge and information – and the options available to act (agency) on them given one's social environment and limits. The combined capacity set for that person is shaped by general conversion factors, which work out as each person's specific conversion factors thus differ from person to person. One conversion factor does not work on its own but rather in the presence of agency intersects with other conversion factors to shape an individual's life.

The researcher wanted to understand the participants' personal, social and institutional contexts to better grasp how they interpret or make meaning of their PhD paths. A qualitative approach enabled this as it afforded the researcher an opportunity to comprehend environmental factors and their impact on participants' experiences (Creswell & Poth 2016).

The interviews were recorded and transcribed verbatim. The researcher listened to the recordings as well as read the transcripts to find the common themes that came up as attributes to the participants' success through their doctoral journeys. The data were analysed using thematic analysis. This entailed reading the transcriptions several times to become comfortable with the interviews. Using the ATLAS.ti software (ATLAS.ti Scientific Software Development GmbH, Berlin, Germany), the themes or statements significant to the study that emerged from the data were discovered and coded in each text. The responses were organised into categories or subthemes by grouping statements that had the same

meaning or idea. According to the guideline for research ethics, each participant was assigned a pseudonym to protect their identity. The findings of this research that relate to the capabilities that enabled African women's completion of doctoral studies are discussed in the 'Results and discussion' section.

Ethical considerations

The study was conducted in fulfilment of the requirements for the degree of *philosophiae* (PhD) at the University of Pretoria, and the ethical clearance was granted by the ethics committee within the Faculty of Education at the university. The ethical clearance number for this study is EM 18/04/02 and was granted on 04 July 2018. The study adhered to ethical principles governing social research; as such, the considered ethical principles were informed consent, confidentiality, anonymity, no harm to participants, respecting autonomy and providing equality, thus treating participants equally (Hammersley & Traianou 2012). A flash disc on which data were stored was submitted at the Education Management Policy Studies Department upon completion of the degree, which will be stored for 15 years.

Results and discussion

This section discusses the significant findings that African women claimed to have contributed to their PhD success. As mentioned, the research was conducted through the lens of CA, which is interested in what people can achieve, how they may choose to live the life they value and hence what they consider to be well-being (Sen 1999). Capabilities that emerged from the data that enabled the African women doctoral graduates' success are the following: belief in God; respect, dignity and recognition; the capability of voice; encouragement from supervisor; institutional support; family support; educational resilience; and self-efficacy.

Belief in God

Most participants indicated that their belief in God played a huge role, and even in the most difficult times they never gave up because they believed it was a process, and God did not allow them to be accepted in doctoral programmes only to leave without completion. They also believed that God orchestrated their life journeys, hence intending for them to meet with people who would help them move towards their goal of attaining their doctoral degrees along the way:

'Where God says, "just ask and I will respond," and I never gave up asking, and I said, "God, you know my intentions, and you know how hard I have been working towards this, and you know what's best for me, but I am just asking that let the doors open."' (Keabetswe, 53 years old, married)

'I think it was God's plan that I change the lives [*careers*], not the way I wanted to, so it came as I learned to be a teacher that you are a lifelong learner; that's where I started to dream bigger.' (Botle, 47 years old, married)

'I needed two or three participants more to continue, so I had to go to [*naming the area*] to look for another teacher; that is where God helped me.' (Pablo, 35 years old, married)

'I am a Christian, and the Bible says all things work together for good.' (Mandisa, 40 years old, married)

Most participants had thought they were capable to succeed because even on days when they felt things were difficult, they drew their strength from their belief in God and continued to work towards achieving their goals. Landau et al. (2018) mention that the belief that one's life is under God's direction can inspire one to work for their own objectives, but it can also have no effect and even demotivate one. However, for this group of participants, believing in God motivated them to pursue their goal of attaining doctoral degrees; hence, they took action towards the realisation of this goal.

Respect, dignity and recognition

All participants except two indicated that they felt respected, treated with dignity and recognition during their doctoral studies. They further mentioned that they felt they were not discriminated against because of their race and gender:

'She [*supervisor*] was very kind to me.' (Mandisa, 40 years old, married)

'[T]he [*supervisor*] guided me in such a way that she did not have to do anything for me, but she gave me that courage to do things for myself; I have learned a lot through her being my supervisor.' (Botle, 47 years old, married)

'[M]y supervisor always used to push me constantly, and you know sometimes when you are feeling lazy you need that push, so she was a pillar of support; I think it is very important to have human support that is really pushing you. My supervisor was an open-minded person, so I never felt undermined or anything like that.' (Hope, 37 years old, married)

'[H]e [*supervisor*] really motivated me, and even when I was on maternity leave, he made sure that I was okay, that I was going to come back. Having a supervisor who understands – because some supervisors don't understand, they talk down on you just because you are now a mother and a student; they don't know how to relate with you.' (Sibongile, 33 years old, married)

Respect, dignity and recognition were values shared by every participant. Participants who expressed a feeling of not being treated with respect, particularly by their supervisors, mentioned that it was one of the causes of the completion delay. Furthermore, the lack of this capability had a possibility of either contributing to participants' confidence or lack thereof. According to Walker (2008), being able to respect oneself and others, being treated with dignity and being recognised and considered equally by lecturers and peers are all examples of recognition and respect. Being treated with respect, dignity and recognition motivated participants to gather their strength to continue working on their research even in times when they felt they could not see any progress, because they did not feel undermined but received words of encouragement from their supervisors. Some indicated that even though they would have thoughts of giving up, they knew their supervisors believed in them so much that they would not allow them to quit. The need for effective supervision has been reaffirmed by Bitzer (2007) and Magano (2011b), who also stressed the necessity of supervisors who

care about students on a personal level in addition to their academic performance.

The capability of voice

Feeling like they are respected and treated with dignity and recognition then fosters a capability of voice for the women; they are free to express their thoughts when they feel the environment is conducive to do so, where they do not feel like they are being judged or undermined. Most women stated that their supervisors allowed them to express their thoughts, and they did not feel undermined by them. This means that the participants had the freedom to communicate with their supervisors as well as being able to be heard; thus, they felt respected, treated with dignity, and recognised:

'I found I could ask and suggest stuff to my professor, she asked for my opinion, and you know, I started coming out.' (Mandisa, 40 years old, married)

Mandisa indicated that coming from a country where they hardly see or interact with any white people, she felt intimidated when she first met up with her supervisor, who was also as old as her mother, but soon she realised that the supervisor encouraged her to state her thoughts, and that made her comfortable:

'I would listen to what she says, and she would also give me that room to think for myself and express what I say.' (Hope, 37 years old, married)

All participants mentioned that their supervisors accommodated their contribution through engaging in discussions at which they allowed them to voice their views. Even those who at first felt threatened to participate, they realised that their supervisors encouraged engagement in discussions, which thus developed their critical thinking and practical reasoning. Bonvin and Dif-Pradalier (2010) define the capability for voice as the ability to express one's opinions and thoughts and make them count in the process of public conversation.

Institutional support

The institution provided all the tools they needed to work, including working space in the library or offices, Internet access, computers and support sessions on topics such as proposal writing, methodology, literature review, analysis, academic writing and so on:

'The library had all the resources I needed, the Wi-Fi, the connection, and I was also able to borrow books from other universities through the library, so that was the main resource I was able to use.' (Pablo, 35 years old, married)

'I had the office space, [*which*] was very helpful in that it took me away from the environment where I have got a lot of distractions to an environment where I had access to the library and stuff and Internet as well.' (Hope, 37 years old, married)

'I think the research common itself, we have the best research common that I know of; it's a facility where you go and study as much as you can sit there; it's conducive for studying. I think the research common, the library and the reading material that they have, you know, we had the support, the librarian, and we are

allocated the librarian to help you with articles, you know. We have a lot of resources to help you succeed.’ (Mpho, 54 years old, widowed)

All participants emphasised the important role played by the university in the provision of resources and infrastructure that fostered their success in their doctoral studies. They stated that there was a conducive working environment, either at the library or offices which were allocated for staff. There was an Internet connection, as well as supportive librarians who assisted whenever students needed help. Only one participant indicated that she did not get the books she wanted from the university library and had to communicate with her sister in Canada to help her search for those books. On the other hand, one participant also indicated that the university had an agreement with the nearby university, that students could go and use their library when in need and were provided with access cards to be able to go whenever they needed assistance. Additionally, support sessions were conducted on methodologies, literature review, proposal writing which students found beneficial. Gokalp (2011) attest to the arranging of writing retreats for students to help them finish their doctoral studies on time. Writing is emphasised as a fundamental talent that has a substantial impact on both students’ ability to complete their training and their possibilities of pursuing an academic career path (Archer 2010). Supervision also plays a key role in students’ success. For example, students working hand in hand with their supervisors increases chances of completion and hence their career paths (Madan 2021), and further interlinks with being respected, treated with dignity and recognition.

Encouragement from supervisor

Participants stated that they had supportive supervisors who encouraged them even when they felt like quitting. Their supervisors pushed them to never quit. One participant further mentioned that her supervisors provided funding information and recommended that she apply:

‘My supervisor would never let me give up, anyway.’ (Hope, 37 years old, married)

‘I also thought like those other women, why am I torturing myself, maybe I am not cut out for this thing, so there were moments like that and then Prof would suddenly write a message: “how are you, Mandisa, how are you progressing?”’ (Mandisa, 40 years old, married)

‘I had supportive supervisors. I had one international supervisor, he was very efficient; you work with international people, they will never disappoint you. Here information flows, like we are always getting these e-mails saying, “hey, there is a fund, funds open for application, you can apply,” so we apply. Even the supervisors recommend.’ (Tsholo, 38 years old, married)

The quotes above indicate that the participants experienced supportive supervisors. As research shows, a significant portion of the success and quality of postgraduate study depends on efficient supervision (Igumbor et al. 2022). Additionally, according to Bitzer (2007), supervision is crucial to students’ development.

Family support

All participants said they had the support of their families. Some women said their spouses were understanding. However, one woman said that pursuing PhD studies had a negative impact on her family, because while her husband was initially supportive, he became dissatisfied as she spent more time in the laboratory and less time caring for her family. Some mentioned how supportive their mothers, fathers, brothers and sisters were:

‘It is always important to have a spouse that supports you. I could be working at 3 in the morning and the baby would cry; he [husband] would tell me to continue working on my research while he takes care of the baby.’ (Mandisa, 40 years old, married)

‘My husband did not have any problem; he knew I am this person who wants to study, and honestly, he gave me all the support. It’s just that when time goes on, when they now start to feel that they cannot feel you at all at home, then it becomes a problem, like you are no longer cooking for them, you are no longer cleaning.’ (Tsholo, 38 years old, married)

‘I think the biggest thing is family support. It is very important to have human support.’ (Hope, 37 years old, married)

All participants indicated that family played a huge role in their completion of doctoral studies. Because of the dedication required when embarking on a doctoral journey, participants reported that they could not spend as much time with their families as they liked, and some could not take care of their children or husbands as needed. However, having their family members understand and support them by performing roles that participants were expected to perform enabled them to focus more on their research. Rockinson-Szapkiw, Spaulding and Bade (2014) and Springer, Parker and Leviten-Reid (2009) affirm that family is a crucial support structure for doctoral students. According to Nussbaum (2000), women are able to function well when they are given the necessary support such as good nutrition, education and family support.

Educational resilience

All participants demonstrated resilience, as they did not quit when encountering challenges during their doctoral studies. One participant lost her husband during her doctoral journey, another was writing up her thesis a month after giving birth, others took time off from their studies due to having children, while the other ran out of funding as she competed on her fourth year of study:

‘Life happened in the process, you know, like I said. I joined the university and joining the university in itself had its own challenges, and I said before that in the process of me pursuing my doctoral degree, my husband passed on.’ (Mpho, 54 years old, widowed)

‘Now I have baby number 1, I take a year off and she – you know when you have children things change, because they get sick, they want your attention; it’s a different ball game altogether.’ (Hope, 37 years old, married)

‘From 9 AM to 4 PM it’s time for studying; once it’s 9 PM until the next morning, I am a mother, I am a wife and this is a little baby: he needs my attention, he needs my time. I only had to take the

baby to creche and then come to school, and I made sure when it's 4 o'clock, I go back to being a mother, to being a wife.' (Pablo, 35 years old, married)

'Whenever my child is sleeping, I would find my space and type. I wouldn't bathe the kids and prepare them for school, so my children are more close to my husband because he would prepare them in the morning for school, prepare their lunch boxes, because usually I would wake up – even after I defended my proposal, it became like a lifestyle to always wake up in the middle of the night, one hour, two hours, but not frequently, but maybe three days a week, just to catch up – so then I would wake up late, and it would be later than the time my children go to school, so my husband would wake up, bathe them. He loves it, he enjoys it, so he would pack the lunch boxes.' (Mandisa, 40 years old, married)

All participants mentioned that they encountered challenges on their doctoral journeys; however, they persisted until they completed. Although some took longer than 3 years due to challenges such as having children during their studies, running out of funding due to taking longer than 3 years on their studies, a lack of supervision and other reasons, none of them gave up on their dream. Walker (2006) defines educational resilience as having the ability to balance school, employment, and life; being able to negotiate risk, having academic perseverance, being responsive to opportunities within education as well as being adaptive to limiting situations. This means individuals have goals and expectations for the future. All women demonstrated these qualities and eventually obtained their doctorates.

Self-efficacy

There were several challenges encountered by participants within their doctoral studies. However, despite the hurdles they faced on their PhD paths, four participants expressed confidence in their ability to succeed:

'My strong point, I think, is never quit. If I was a weak person, I think I would have quitted my PhD, because a lot of things came in the process and it required the strength, the resilience in me which I think I proved myself to be a very strong person with a strong character, and you know, the determination to get what I want. (Mpho, 54 years old, married)

'There is no room to quit, and I said I want to end up in NGO [nongovernmental organisation] route; my topic is a humanitarian topic, so that is what I need to get to where I want to be, so I needed to complete it.' (Hope, 37 years old, married)

'So there were a lot of things that would have discouraged me, but I was determined to conclude it.' (Dineo, 53 years old, married)

'I could access the library, hence had a conducive working space, with Internet. I could apply myself, since I was away from home; I did not have any family to take care of and so on. Leaving my family behind, I had time, but even if I had them, I think I have discipline – well, one of my personal attributes I would say is discipline.' (Itumeleng, 44 years old, married)

Despite the difficulties faced by the participants during their doctoral studies, four participants had confidence in their academic capabilities and firmly felt they could complete anything they set their minds to. This quality enables success

and is attested to by Crumb et al. (2020), who state that women's efficacy and resilience drive them to persist in doctoral programmes. Additionally, factors that contribute to the development of self-efficacy are the student's relationship with the supervisor, access to resources such as writing workshops, access to computers, Internet and so on.

Conclusion

This article demonstrates that African women doctoral graduates' belief in God served as the root of their success. This is because it granted them a positive mindset as they trusted that God would carry them through the challenges they could face in their doctoral journeys. Resources such as working space, Internet, funding, safe housing and helpful supervision, together with the effort they put in, allowed them to be critical thinkers capable of conducting research independently. This agency was demonstrated mainly in actions they took to overcome challenges that encountered on their individual journeys. It was also important to have family support during this time; hence, they could communicate with their loved ones when they needed help and say what kind of help they needed from them; having immediate family members as their support structure played a huge role in these women's successful completion of their doctoral studies. The research recommends that African women within doctoral studies, specifically, be treated with respect, dignity and recognition within the institutions of higher learning and particularly by their supervisors. Being recognised or seen helps build their confidence; as a result, they become encouraged to communicate their views, challenges and concerns with the supervisors, and hence they become critical thinkers who have a voice. Many participants told themselves that there is a reason why their application to study was accepted; they claimed to remind themselves of this whenever they felt they were not making progress with their research. This helps in their retention until completion, because they tend to also believe in their capabilities. In this research, all participants except one who were supervised by male supervisors indicated that they did not experience any gender inequalities.

Because there is limited research on strategies that enable success in doctoral studies, this research hopes to shed some light as well as start conversations within doctoral studies, thereby encouraging more African women to not only enrol for doctoral studies but also continue until completion.

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Competing interests

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Authors' contributions

L.T. was responsible for the conceptualisation, data collection, analysis and write-up of the article. C.P. provided supervision of the work, and this included the critical review of the article.

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Data availability

Data will be made available upon request.

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