

#### Journal of Culture and Values in Education

https://cultureandvalues.org

E-ISSN: 2590-342X

Volume: 8 Issue: 2 2025

pp.44-63

# Educational Access and Success: Unravelling Challenges faced by Children of Widows in Sub-Saharan Africa

#### Ratidzai Shoko<sup>a</sup>

a. Department of Educational Foundations, University of South Africa.

Email: shokor@unisa.ac.za

#### **Article Info**

Received: September 17, 2024 Accepted: March 02, 2025 Published: August 14, 2025



10.46303/jcve.2025.19

#### How to cite

Shoko, R. (2025). Educational Access and Success: Unravelling Challenges faced by Children of Widows in Sub-Saharan Africa. *Journal of Culture and Values in Education*, 8(2), 44-63. <a href="https://doi.org/10.46303/jcve.2025.19">https://doi.org/10.46303/jcve.2025.19</a>

#### **Copyright license**

This is an Open Access article distributed under the terms of the Creative Commons Attribution 4.0 International license.

#### **ABSTRACT**

It has been established that widowhood has detrimental impacts on both the widow and the children. Extreme poverty and widowhood are linked, and this has a significant effect on children. The claim is that the absence of the father reduces the financial resources available to the children, adversely affecting their ability to access and succeed in school. This paper explores how widowhood affects children's achievement in school and access to it. Intersectionality will serve as the theoretical foundation for this investigation. Descriptive research will be used in this conceptual work. Information was gathered from e-books, academic papers, and research articles. The collected data was examined, and the conclusions were stated. The study results showed that the widow's financial situation influences the children's academic progress and access. It was shown that children whose mothers come from stable financial backgrounds are more likely to have access to educational facilities and excel in their studies. In contrast, those whose mothers' income is unpredictable are more likely to have difficulties getting to and succeeding in school. Resources should be provided to widows' children so that they can succeed in their academic work. To help widows care for their children without experiencing any issues, there should be policies that support widows' immediate access to their husbands' estates.

#### **KEYWORDS**

Access; education; orphans and vulnerable children; success; widowhood.

#### INTRODUCTION

Widowhood is a serious societal problem with wide-ranging effects in Sub-Saharan Africa, especially for the children of widows. These children frequently encounter particular difficulties getting an education, which is a basic right and a vital route out of poverty and thriving in it. Education reduces the risk of poverty and provides students with the employability skills demanded in the labour market (Brown & James, 2020). The Sustainable Development Goal (SDG) 4 emphasises the importance of education as a means to improve young people's trajectories, building on the success of the Millennium Development Goals (MDGs) in expanding primary enrolment (Baird et al., 2021).

Orphanhood is a natural life event of losing a parent or primary caregiver in the life of an orphan child (Ntshuntshe & Taukeni, 2020). In this article, orphanhood refers to losing one or both parents and thus the children of widows will be treated as orphans. Death and loss are inevitable, and life changes profoundly for those left behind (Govender & Horn, 2019). Most researchers agree that living with none or just one parent, whether due to divorce, death, or widowhood, adversely impacts children's well-being (Burrell et al., 2020). In addition, Blevins and Kawata (2021) stated that the death of one or both parents in childhood represents a tremendous loss to a child's well-being and opportunities, both short and long-term. In the tapestry of African societies, where communal bonds often define existence, the loss of a spouse or a parent profoundly impacts the trajectory of families. Parental involvement in education helps improve children's educational outcomes, whether measured by test scores, school attendance, or school completion (Lara & Saracostti, 2019). For the children left behind, especially those of widows, the journey to educational access and success is marred by a unique set of obstacles. Adeyemo (2014) highlights the negative effects of widowhood on children's education, including neglect and lack of support.

This article explores the complex network of educational obstacles that widowed children in Sub-Saharan Africa must overcome. It sheds light on the various obstacles that these children should have access to, such as societal stigma and financial limitations, to a high-quality education. By examining the subtleties associated with gender, socioeconomic status, and cultural norms, this study aims to clarify the underlying factors that contribute to the educational inequalities experienced by this disadvantaged group. It aims to shed light on the underlying problems that impede these children's educational growth by comprehending their experiences in the context of their families and society. Furthermore, this study highlights the importance of addressing these issues as essential parts of larger societal structures rather than just as isolated episodes.

This article is significant because it can potentially influence regional social welfare and education policies and practices. Stakeholders can create focused initiatives to enhance educational results and end the cycle of poverty that frequently follows widowhood in many African countries by knowing the unique obstacles these children face.

## Main research question

1. What are the primary challenges to educational access faced by children of widows in Sub-Saharan Africa?

#### **Sub-questions**

- 1. To what extent do economic factors contribute to limited educational access for the children of widows?
- 2. What disparities exist in the quality of education received by children of widows compared to their peers in sub-Saharan Africa?
- 3. How do community-based initiatives, NGOs, and governmental policies address the educational needs of children from widowed households, and what gaps exist in these programmes?

#### **REVIEW OF LITERATURE**

Over 52 million children in sub-Saharan Africa are living with the death of one or both parents (Blevins & Kawata, 2021). In South Africa, for every 100 women, 50% report the loss of a spouse daily, which sometimes means the loss of financial support (Tshaka et al., 2023). The loss of a spouse affects the livelihood of the widows. According to Munnell et al. (2020), widows experience an income deterioration after the death of their spouses.

#### **Impact of Parental Loss on Education**

The loss of a parent has significant effects on the children of widows. Parental death is one of the most traumatic events that can occur in childhood and may influence an affected individual's life course in many ways (Rosenbaum-Feldbrügge, 2019). A child's emotional wellbeing and academic achievement are negatively impacted by the emotional toll that parental bereavement takes on all facets of their life. The children's ability to focus on their work is impacted by these emotional pressures, which results in poor grades. One of the psychological effects may be triggered by adverse childhood experiences (ACE). The ACE impacts a child's education and overall academic performance. According to Stempel et al. (2017), children with two or more adverse childhood experiences (ACEs) were much more likely to repeat a grade compared to children with no ACEs. Children are at risk for developing psychological difficulties that can manifest into psychiatric disorders when lacking coping skills (Ferrow, 2019). In line with the above sentiments, a study by Alem (2020) revealed that orphan children were exposed to diverse psychological problems. These economic and social-related problems are exhibited in problematic behaviours that tremendously affect their education and life. These children experience depression, loneliness, and stress (Losioki, 2020), and this compounds their poor educational success. The difficulties widow-headed households face can affect the family's health and well-being. In addition, due to financial difficulties, children's attendance and academic performance are impacted by health-related issues and limited access to healthcare. Orphans and vulnerable children (OVC) often experience educational challenges such as lack of concentration and poor academic performance. These challenges often result in school failure,

school dropouts, increased school absenteeism, and behavioural and discipline problems among OVC (Bireda & Pillay, 2019; Garutsa & Owolabi, 2024). A parent's death might aggravate health issues in the family, which can result in absenteeism and poor academic results.

Due to the death, children endure trauma and sadness and may find it difficult to cope. There are major obstacles to learning caused by trauma, grief, and a lack of emotional support. According to Ferrow (2019), they may also lack the appropriate support networks to work through their grief as their remaining parent or family members may be too grieved to be of assistance. Lack of stability in the family environment and emotional support might make it difficult for a child to focus on their education. How children cope with this has effects on their ability to concentrate, participate in school, and engage with the learning process.

One parent's absence could leave a child without the mentoring and direction essential to their success in school. Kartel et al. (2022) assert that parental guidance is essential to children's academic achievement. Due to their difficulties, children may have low expectations, which lowers their drive to do well academically.

#### **Economic Challenges and Educational Barriers**

In the traditional African family, men were the breadwinners, so losing breadwinners poses serious economic challenges to the family. The unemployed widows are particularly vulnerable and are deprived of moral and financial support when they need it most (Adeyemo, 2014). This may impact the child's ability to pay for textbooks, uniforms, and other necessities of a high-quality education. When the students are admitted, the schools ask for parental information, such as household income. These children might not be admitted to certain schools because of financial reasons and, therefore, are unable to attend the schools of their choice.

Research conducted in Africa has demonstrated that, although having comparable intellectual and academic capacities, children from single-parent households are more likely to struggle academically than children from other kinds of households (Bago, 2022). Moreover, financial difficulties will probably be a bigger reason for them to drop out of school (Bago, 2022). Lack of access to resources like computers, books, and educational materials—all necessary for efficient learning—may affect widows and their children. The absence of these resources can impede their academic progress. The financial constraints resulting from losing a breadwinner affect a child's access to education, including school fees, uniforms, and educational materials. The economic hardships force children to engage in labour, limiting their time and energy for schooling. Since most of the children may be minors, it can be defined as child labour. Child labour is the exploitation of children under the age of 18 years through any form of work that deprives children of normal childhood development, resulting in affecting them negatively; physically, psychologically, mentally, emotionally, morally, spiritually, and socially (Ntshuntshe & Taukeni, 2020). This can harm their performance and affect their success. Children who work to support themselves may find it difficult to attend school regularly, which could have an impact on their grades at the end of the year or when they are required to graduate from high school.

#### **Gender Disparities in Educational Access**

The economic challenges faced after the loss, which may lead to child labour can increase gender disparities. Sustainable Development Goal Target 8.7 aims to eradicate child labour in all its forms by 2025 (Thévenon & Edmonds, 2019). However, this becomes difficult if the children of widows must fend for themselves when they face financial difficulties and have to drop out of school. In most low-income countries, girls' secondary education tends to receive less investment and attention from families than their male peers. The poorest adolescent girls are least likely to attend school regularly and continuously or progress to secondary education (UNESCO, 2020). Gender inequality still exists in the educational system, especially for girls raised by widows. Strong cultural traditions frequently place a higher priority on boys' education than on girls', which results in early marriages and few options for further study. When these children drop out of school, the girl child usually is the one who goes to look for employment. This reduces the educational opportunities of the girls. The orphans may have already missed their education as they may be taken out of school to care for their sick parents (Kibachio & Muthie, 2020). In some instances, when the mother has to go and work away from home, the girl child practically becomes the head of the home, taking care of the other siblings. By the time this child gets to school, she will be tired and thus may experience difficulty concentrating.

In addition to changing policies, addressing these gender biases calls for community-wide awareness efforts that question damaging gender stereotypes and support the education of all children, regardless of gender.

#### **Social Stigma and Discrimination**

The societal attitudes and prejudices faced by children of widows, especially daughters, may affect their schooling. Surkan et al. (2017) found that widows in Nepal reported experiencing discrimination due to their marital status, which also affected their children's mental health and access to basic needs like education. In some societies, children of widows might face social stigma and discrimination, making it difficult for them to attend school regularly. Widows and their children, particularly daughters, might face gender-based discrimination, limiting their educational opportunities. Isolation of the widow from accessing socioeconomic resources, property, and accrued wealth drastically reduces the economic base and means of sustenance needed for the widows and their children's well-being and welfare (Dube, 2022). A discriminatory school environment hurts the children of widows.

#### **Support Systems and Interventions**

Extended family and community support can help in mitigating the challenges faced by children of widows. According to Kibachio and Mutie (2020), the vast majority of children orphaned in Sub-Saharan Africa are cared for by the extended family system, a coping mechanism that has cared for orphans and vulnerable children, aged people, and disadvantaged family members for generations. The ability of the family to buffer against poverty may vary by the resources available and the economic needs of individuals (Reyes, 2020). However, this family system is changing due to modernisation, migration, and the growing idea of the nuclear family (Kibachio

& Mutie, 2020). These changes are not a result of modernisation only but the economic challenges the extended family faces. A study conducted by Kibachio and Mutie (2020) in Kenya showed that family members taking care of over 90% of OVC are under extreme pressure, and unless governments and international development partners redouble their current efforts to increase the capacity of the families to cope, the quality of lives of foster OVC and all children in vulnerable households remain in danger. A study conducted by Al-Baddareen et al. (2020) in Jordan revealed that the level of perceived social support among widowed women was moderate, the support from significant others was the highest as perceived by widows, followed by social support from family, perceived social support from friends was the least. Support of widows can be done by focusing on successful community-driven initiatives. NGO and Government Interventions aimed at providing educational support to children in widow-headed households can help improve the children's educational access. However, this needs proper planning and implementation as children who may be in real need may not get the opportunity to get help. This is supported by Eghosa et al. (2021) assertion that sustainable development programmes for vulnerable families should adopt a need-based intervention rather than a service count. Given that education is a privileged and central position in achieving sustainable development (Nkambule & Ngubane, 2023; Zorba, 2023), such issues are critical for the dissemination of quality education to all segments of society (Chidakwa, 2024; Prabowo, 2022).

Communities are essential in easing the difficulties widowed children encounter. These children can flourish if local leaders are given more authority and community support systems are strengthened. Programs that engage the community in educational activities, mentorship, and career training for bereaved mothers improve support networks as a whole. Incorporating counselling services into communities and schools may offer vital psychosocial support that helps children manage their emotions and focus more intently on their academics.

#### **Theoretical framework**

The intersectionality theory developed by Kimberle Crenshaw in 1982 served as the basis for this paper. The study of overlapping discriminations is known as intersectionality (Losleben & Musubika, 2023). According to Collins and Bilge (2020), intersectionality provides a crucial framework for comprehending and resolving the intricate and interrelated problems encountered by people navigating numerous facets of social identity and disadvantage. These children's social standing (orphanhood) and financial circumstances may present related difficulties. Collins and Bilge (2020) define intersectionality as the study of how intersecting power relations affect social connections in a variety of societies as well as personal experiences in day-to-day living. According to Nash (2019), intersectionality belongs to a "cohort of terms" that explain the connections between oppressive systems. According to Crenshaw (1982), oppressive experiences must be comprehended in the context of their relationships, where they typically reinforce one another, rather than being understood on an isolated basis (Losleben & Musubika, 2023). Race, class, gender, sexual orientation, nationality, ability, ethnicity, and age are interconnected and influence each other differently (Collins & Bilge, 2020). Consequently,

the justifications above demonstrate how the intersecting power relations impact every facet of the social environment.

Using an intersectional perspective enables a more detailed study of the specific challenges that children of widows in Sub-Saharan Africa may face regarding educational access and success. Through the application of an intersectional lens, the difficulties experienced by widowed children in Sub-Saharan Africa can be better understood, and targeted interventions to support educational achievement and access can be developed.

#### METHODOLOGY

This conceptual article is based on an extensive literature review that was gathered from internet articles and e-books. The main sources of information were peer-reviewed journal papers, electronic books, and reliable internet databases like PubMed, Google Scholar, and JSTOR. These platforms' dedication to academic rigour and vast volumes of scholarly materials led to their selection. By emphasizing peer-reviewed literature, the included studies are guaranteed to be reliable and to have completed a thorough evaluation process by subjectmatter experts.

Particular inclusion and exclusion criteria were developed to keep the analysis narrowly focused. The papers had to be published in peer-reviewed publications to be included. Particularly in Sub-Saharan African countries, widowed children should be the subject of the investigation. Additionally, articles that addressed concerns of access, educational performance, or associated educational outcomes were chosen. Since most of the examined literature was released between 2019 and 2024, recent studies were certain to be included. Nonetheless, a small number of research that were published before 2019 were also deemed pertinent and incorporated into the study.

Opinion pieces, grey literature (such as reports from non-academic organizations), and non-peer-reviewed works were not included. Research that does not include empirical data or theoretical frameworks pertinent to educational access or performance, studies that concentrate on nations outside of Sub-Saharan Africa, or studies that do not explicitly address the educational setting of widowed children were also disqualified.

A narrative method was used in the analysis, which enabled a thematic synthesis of the results. The first step in this process was reviewing each paper for relevance using the inclusion criteria. A coding procedure was used to identify key themes about educational performance and access, which allowed the results from several research to be aggregated. A cohesive story that emphasizes the difficulties and possibilities widowed children encounter in their academic pursuits was created by combining the elements that were found.

To enhance the trustworthiness of the study, a comprehensive literature search was done. A thorough search strategy was employed to capture a wide range of relevant literature, minimizing the risk of bias in the selection process. Where possible, findings from different

cultureandvalues.org

studies were compared and contrasted to corroborate results, ensuring a more reliable understanding of the educational issues at hand.

#### **RESULTS AND DISCUSSION**

Through the lens of intersectionality, this section discusses the study findings on the educational success and access of widowed children in Sub-Saharan Africa. The analysis tackles the research concerns of economic determinants, educational quality discrepancies, and the function of governmental policies, non-governmental organizations, and community-based initiatives.

According to this study, children of widows in Sub-Saharan Africa deal with a wide range of intricately related issues that have a significant influence on their ability to get an education and succeed in it. Their communities' socioeconomic and cultural backgrounds are frequently the source of these difficulties. The study's conclusions demonstrated the limitations that the widows' children must overcome, including financial difficulties, psychological and emotional distress, discrimination and social stigma, insufficient support networks, and obstacles in their educational paths. Children of widows face a variety of difficulties depending on the intersections of several layers of identity, including gender, age, financial class, and geography. All of the issues mentioned above influence children of widows' access to and school achievement.

## To what extent do economic factors contribute to limited educational access for the children of widows?

The loss of a husband frequently leaves widows more vulnerable financially, which can result in higher rates of poverty (Hossain & James, 2024). According to a study done in Vietnam by Vo, Ho, and Vo (2023), widowed households have a higher likelihood of becoming impoverished. In Sub-Saharan Africa, becoming a widow is usually linked to an abrupt and significant drop in household income, which forces many families into poverty (Roelen & Karki, 2020). Children of widows in Sub-Saharan Africa have restricted access to education due in large part to economic concerns (Dube, 2023). This financial hardship directly impacts children's education since it limits their capacity to pay for school supplies, buy essentials, and even take care of fundamental requirements like proper nourishment, which is essential for learning (Pinchoff et al., 2021). Because education requires funding, this has an impact on the children's access to education. Tshaka et al. (2023) claim that widowhood is a more severe form of deprivation, oppression, and humiliation. Tshaka et al.'s study from 2023 also revealed that although social workers deliver essential services to all South Africans, widows are not the target audience for any of their programs. This suggests that while widows' children may receive services from the wider public, these services might not specifically address their needs.

The financial difficulties of widowhood may cause widows' children to experience financial hardship, which may limit their access to high-quality education. This could involve issues like insufficient money for books, uniforms, or school fees. Children's access to education is greatly impacted by the financial difficulties widowed mothers experience. Children are also

forced into labour due to financial hardships, which makes it difficult for them to attend school regularly. The results highlight the critical need for community-based projects, scholarships, and focused financial support programs to lessen these financial burdens.

### What disparities exist in the quality of education received by children of widows compared to their peers in sub-Saharan Africa?

Children of widows frequently obtain lower-quality education than their peers. Nguyen and Vu (2023) state that children from two-parent households are likelier to enrol in school at all levels than those from single-parent households. It has been shown that children from low-income families, including bereaved families, often attend underfunded schools with subpar infrastructure and unqualified teachers (Musisi, 2024). Many widows live in rural areas, where schools frequently lack basic facilities like secure classrooms and educational resources, which results in subpar academic performance (Mncube, 2023). The difficulties OVCs face draw attention to the associated social inequities, such as exposure to subpar educational chances (Pillay, 2019). Additionally, children who lose one or both of their parents are less likely than children who have both parents to complete the same amount of schooling (UNICEF, 2014). Inequalities in access to educational resources, such as tutoring services or software, can exacerbate the scholastic divide between children from wealthy households and those from lower socioeconomic backgrounds. Huang (2019) posits that an individual from an affluent household may have an easier time securing a chance to study overseas and acquire relevant qualifications and experience. Orphaned children can be compelled to relocate, which means they will lose their familiar neighbourhood and social networks (UNICEF, 2008). Family discord can impact the family structure and cause the children to be uprooted, which would interfere with their schooling. The widows' children may occasionally be taken by force by their in-laws to eject them from their communities (Bauta, 2020). Children who move may also find it challenging to get into schools and receive the support they were accustomed to. Children from widowed households in Sub-Saharan Africa are less literate than their classmates (Pierce & Foster, 2020). In addition to having long-term effects on social mobility and economic prospects, this disparity in educational quality also has an immediate impact on learning results (Blaskó et al., 2022).

The already tricky position became much more problematic with the start of the COVID-19 pandemic in 2020. More than causing new issues, the epidemic highlighted and intensified pre-existing disparities. For example, the move to remote learning brought attention to the digital divide many Sub-Saharan African nations experience. Children from widow-headed households, who are already poor, were less likely to have access to the technology required for online learning, according to Mbogo's (2020) study conducted in Kenya. Furthermore, those more susceptible have been particularly badly struck by the pandemic's economic collapse. According to Dube's (2020) research conducted in South Africa, children from poor backgrounds—including those from households headed by widows—had higher dropout rates because of their families' financial struggles during lockdowns. Health issues have also gained

cultureandvalues.org

prominence because of the pandemic. Mothers who are widowed and frequently the only carers have higher health risks. Amzat et al. (2020) reported examples in Nigeria where a widowed mother's hospitalization for COVID-19 caused her children to miss many schools because no other adult was available to look after them or make sure they attended online classes. Children of widows face more psychological difficulties as a result of increased economic hardship and social isolation during lockdowns, which may have an impact on their academic performance and return to school (Orgilés et al., 2020).

Addressing conditional inequality as well as educational opportunity inequality, is essential to reducing poverty (Brown & James, 2020). It would be challenging to alleviate poverty, nevertheless, if widows' children were not afforded equal access to school. According to Losioki (2020), the lack of consistent and limited funding sources for necessities and school requirements, such as food, books, uniforms, and fees, hampered the access of orphans and vulnerable children to education. According to Ringson (2019), parental death, illness in the home, family breakdown, and inadvertent neglect have all made children more vulnerable to social and financial difficulties. Children who feel empowered are more likely to escape the cycle of poverty and make significant contributions to their communities. Giving widows' children priority in school is an investment in their future as well as the future of their families, communities, and the country.

Geographical differences may impact the educational prospects for children in Sub-Saharan Africa. Strong social protection programs like child support grants are mainly found in South Africa. These programs have been demonstrated to improve the scholastic outcomes of vulnerable children, particularly widows' children (Case et al., 2005). While the difficulties faced by widows' children in Sub-Saharan Africa are somewhat like those in other developing nations, there are also some significant distinctions. Similar to Sub-Saharan Africa, South Asia suffers from poverty and gender inequality, which has an impact on widows and their offspring. UNESCO (2020) reports that Sub-Saharan Africa typically has higher dropout rates and lower school attendance rates. Both Latin America and Sub-Saharan Africa face issues with inequality; nevertheless, Latin American nations often have more developed social safety programs that assist disadvantaged populations, such as widows and their children (Stampini et al., 2016). Widowhood in Sub-Saharan Africa frequently causes a sharp decrease in economic status, which directly impacts children's schooling, in contrast to many affluent nations where widowhood does not always result in considerable economic hardship due to social security systems (Oladokun et al., 2020). These comparisons provide potential for cross-regional learning and successful strategy adaptation while also highlighting the necessity of context-specific interventions. When it comes to community support, school accessibility, and infrastructure, urban and rural settings may offer different difficulties.

How do community-based initiatives, NGOs, and governmental policies address the educational needs of children from widowed households, and what gaps exist in these programmes?

The stigma and cultural restrictions associated with widowhood can also make it more difficult for these families to acquire support services and educational materials, which makes their problems even worse.

The educational requirements of children from widowed households are mostly met by community-based efforts, non-governmental organizations, and governmental policies (Nda et al., 2024), although there are still large gaps. Governments, non-governmental organizations, and community-based organizations implement community support programs to help and support communities at risk (Jimmidi & Bhukya, 2023). These organizations may not always focus on supporting education, but they are present in most sub-Saharan nations. Systemic problems still exist, nonetheless, despite these initiatives. It is possible that non-governmental organizations may not contact every family that needs assistance, leaving some without it. Although other non-governmental organizations provide for the fundamental needs of OVC, their services are limited to brilliant children (Ringson, 2020). This places the other pupils at a lower level who might not demonstrate their ability. Children of widows may have better or worse educational prospects depending on the current legal and policy frameworks around widowhood and education in particular Sub-Saharan African nations. A Basic Education Assistance Module (BEAM) was implemented in Zimbabwe to provide OVCs in rural communities with material and psychosocial help (Ringson, 2020). While BEAM does assist OVCs, its effectiveness was hampered by its inability to meet all OVCs fairly and comprehensively in rural communities that attend school (Ringson, 2020). This demonstrates that providing for the OVCs' basic needs—which support their academic success—might be insufficient in and of itself.

The special difficulties that vulnerable children—in this case, widows, and their children—face are frequently not sufficiently addressed by government measures (Wilke et al., 2020). For example, although free primary education programs have been implemented in many Sub-Saharan African nations, these frequently do not cover ancillary expenditures like uniforms and transportation, which disproportionately affect widowed households (Asante, 2024). Asset-based interventions should be considered when developing educational policies, particularly in low-income nations (Proscovia et al., 2020). In the end, they might not succeed; therefore, not meeting these requirements could sabotage the entire process of gaining entry to and succeeding in school. Alem (2020) asserts that various stakeholders, including educators and caretakers, should set up a support structure at various levels and be heavily involved in meeting the psychosocial needs of orphans.

Even if several obstacles are preventing the children from attending school, these help make widows' children more resilient. Nguyen and Vu (2023) found no causal relationship between a child's educational outcome and the loss of their father; however, there is a substantial correlation between it and a lower home socioeconomic position. This suggests that mothers have a greater influence on their children's schooling (Dunusinghe, 2021). The

experiences of widows' children, along with elements like community support, mentorship, and self-will, help them overcome challenges and achieve academic success.

The OVC's well-being is influenced by the community support networks and how these interact with the difficulties these children encounter. Supportive communities can lessen certain barriers, but stigmatization might make them worse. Proscovia et al. (2020) suggest that financial insecurity-focused programs could potentially improve orphaned children's academic performance and career advancement. According to Brown and James (2020), policy discussions about poverty and education need to be reframed to include both the rich and the poor.

#### Factors affecting educational success.

Several factors influence the educational success of children from widowed households. These include psychosocial well-being, a lack of academic support, irregular attendance, and discrimination and stigma, which affect the performance of the children who receive education (Duncan et al., 2015).

Widowhood intersects with various issues, affecting the children's success and access to education. In Sub-Saharan Africa, widowhood and gender intersect. In addition to the social stigmas and financial hardships widows frequently experience, their children—particularly girls—may face extra obstacles to an education. Social norms like gender roles and early marriage for girls might seriously impede their ability to complete their education (UNICEF, 2015). Societal views on gender and education can restrict the opportunities for children of widows, especially girls (Brück et al., 2024). Both cultural and traditional standards impact these children's educational opportunities. Educational access and the health of bereaved mothers and their offspring are intertwined. A child's capacity to regularly attend school may be impacted by poor health, which is made worse by restricted access to healthcare. There is a relationship between the psychological effects of parent loss and academic results. Mental health issues and trauma can pose serious obstacles to academic success.

Traditional and cultural norms affect these children's education opportunities. The health of grieving mothers and their children correlates with their education access. Poor health, exacerbated by limited access to health care, may affect a child's ability to attend school regularly (World Health Organization, 2018). According to research, there is a connection between the psychological repercussions of parent loss and academic performance; trauma and mental health conditions can be significant barriers to academic success (Masten et al., 1998).

Widows' children face various challenges, some of which are tied to their geography and socioeconomic status. The financial instability experienced by widows significantly affects their children's educational prospects and results (Adjiwanou et al., 2021). It is essential to identify these overlapping identities and create specialized interventions. Strategies should be adapted to the unique circumstances of Sub-Saharan Africa and satisfy its diverse populations' distinctive needs to guarantee inclusion and effectiveness (Nussbaum, 2011).

Community support and engagement can improve educational outcomes, but many widows lack access to these networks (Freak-Poli et al., 2022). A comprehensive plan including

communities, non-governmental organizations, governments, and educational institutions is required to solve these concerns. Financial help, counselling, mentorship, and supportive communities can all significantly improve the success and accessibility of schooling for widowed children (Save the Children, 2016). Our analysis highlights the tremendous potential for growth and transformation while also providing insight into the challenges faced. Societies that confront these problems head-on might transform obstacles into possibilities. Lack of resources, made worse by the death of a parent, frequently makes it difficult to obtain the needs of a primary education. The presence of educational resources, such as skilled teachers and learning materials, is essential for academic success (Szumski et al., 2022). Gender prejudices and social

norms reinforce inequality by reducing educational chances, particularly for females. These children's academic performance is impacted by psychological hurdles brought forth by their grief and lack of emotional support. A child's educational trajectory may be hampered by the

delicate balance that is created between cultural expectations and academic goals.

While there are initiatives aimed at improving educational access for children of widows in Sub-Saharan Africa, significant barriers remain. Addressing these challenges requires a multifaceted approach that considers the intersectionality of economic, cultural, and social factors. Nevertheless, despite these difficulties, the research has also highlighted widows' children's extraordinary fortitude and promise. Their perseverance, resolve, and insatiable curiosity are astounding. They demonstrate incredible fortitude in the face of hardship, demonstrating the capacity of the human spirit to rise above setbacks and work for a brighter tomorrow.

This discussion emphasizes the vital need for comprehensive, culturally sensitive interventions that address psychosocial, gendered, and economic barriers as we wrap off our discussion. Social movements advocating for legislative changes, community involvement, and acknowledging the unique needs of widowed children can help societies create a more equitable educational environment and provide these resilient young people with the opportunities they deserve. Through collaborative efforts, increased consciousness, and targeted measures, we may surmount the challenges faced by widowed children in Sub-Saharan Africa and furnish them with the necessary resources to excel academically and lead more fulfilling lives. The results draw attention to the intricate interactions between social, cultural, and economic elements that seriously impede this vulnerable group's access to education.

#### Recommendations

#### **Implications for policy**

The study's conclusions lead to the recommendation that communities, educators, and legislators in Sub-Saharan Africa work together to change the obstacles widowed children face into opportunities so that all children, regardless of family structure, have equal access to education. This can be achieved by putting regulations in place that guarantee equal access to education into effect, with a particular focus on underprivileged populations like widows' children. In addition to addressing financial obstacles, these policies should support gender

equality in educational settings and offer scholarships, implementing inclusive policies and community-driven programs aimed at empowering the bereaved.

#### Implications for practice

Our results highlight the critical function that community support networks play. In addition to providing financial support, community leaders, extended families, and grassroots projects can act as strongholds by providing both emotional and material support. Invest in helping bereaved moms become more capable by providing them with the tools and resources they need to improve their economic prospects. Strong mothers foster an environment that is favourable to their children's education. Provide intersectional interventions and solutions to the various issues that widowed children encounter. Context-specific solutions should consider the intersections between the local sociocultural environment and identity. Provide psychosocial support programs and counselling services in schools. These services are essential for widowed mothers as well as children, providing a comprehensive support system that addresses emotional needs.

#### Implications for further research

To shape successful policies and interventions, more research can be done to better understand the changing issues experienced by widowed children. This will allow for informed decision-making based on correct data.

#### **CONCLUSION**

People can still be empowered very effectively through education. Along with imparting knowledge, it also develops critical thinking skills, resilience, and self-assurance. In Sub-Saharan Africa, communities are bound by shared histories and customs; hence, the challenges faced by widows' children in getting into and succeeding in school are numerous and varied. This article highlighted the problems that hamper these vulnerable children's educational path by examining the core of familial struggles, cultural expectations, and economic differences.

This study demonstrates the resilience of the human spirit and the transformative power of education. It illuminated a path forward by revealing the challenges faced by widowed children in Sub-Saharan Africa: a path to guarantee that every child, regardless of family circumstances, has access to a good education and realizes their full potential via collaboration, empathy, and unwavering commitment.

#### **REFERENCES**

Adeyemo, C.W. (2014). Assessing the effects of widowhood on children's education in Southwestern Nigeria. *Journal of Education Practice*, *5*(11)

Adjiwanou, V., Boco, A., & Yaya, S. (2021). Stepfather families and children's schooling in sub-Saharan Africa. *Demographic Research*, *44*, 627-670. https://doi.org/10.4054/DemRes.2021.44.27

AL-Baddareen, G. S., Al Ali, T. M., & Akour, M. M. (2020). Perceived social support among widowed women in Jordan: An exploratory study. *In Women's Studies International Forum*, 80, 102364. Pergamon. <a href="https://doi.org/10.1016/j.wsif.2020.102364">https://doi.org/10.1016/j.wsif.2020.102364</a>

- Alem, S. K. (2020). Investigating psychosocial problems of orphan children in primary schools. *Journal of Pedagogical Research*, 4(1), 46-56.

  http://dx.doi.org/10.33902/JPR.2020058810
- Amzat, J., Aminu, K., Kolo, V. I., Akinyele, A. A., Ogundairo, J. A., & Danjibo, M. C. (2020). Coronavirus outbreak in Nigeria: Burden and socio-medical response during the first 100 days. *International Journal of Infectious Diseases*, *98*, 218-224. https://doi.org/10.1016/j.ijid.2020.06.067
- Asante, G. (2024). Fee-Free Educational Policy for Social Development: Examining the Conditions and the Social Benefits of Cost Elimination at the Upper-Secondary Level in Sub-Saharan Africa (Doctoral dissertation, Budapesti Corvinus Egyetem).
- Bago, B. A. (2022). Effect of Single Parenthood in Students' Academic Performance; A Case of Selected Secondary Schools in Bitereko Sub County Mitooma District. *IAA Journal of Social Sciences*, 8(1), 216-226.
- Baird, S., Camfield, L., Ghimire, A., et al. (2021). Intersectionality as a Framework for Understanding Adolescent Vulnerabilities in Low- and Middle-Income Countries: Expanding Our Commitment to Leave No One Behind. *European Journal of Development Research*, 33, 1143–1162. https://doi.org/10.1057/s41287-021-00440-x
- Bauta, S. (2020). Transformational development: Empowering Christian widows in northern Nigeria. *Mission Studies*, *37*(2), 265-293. https://doi.org/10.1163/15733831-12341718
- Bireda, A.D., & Pillay, J. (2017a). Perceived parental involvement and well-being among Ethiopian adolescents. *Journal of Psychology in Africa, 27*(3), 256-259. https://doi.org/10.1080/14330237.2017.1321852
- Blaskó, Z., Costa, P. D., & Schnepf, S. V. (2022). Learning losses and educational inequalities in Europe: Mapping the potential consequences of the COVID-19 crisis. *Journal of European Social Policy*, 32(4), 361-375. https://doi.org/10.1177/09589287221091687
- Blevins, B.K., & Kawata, K. (2021). The orphan impact: HIV-AIDS and student test scores from Sub-Saharan Africa. *Educational Review, 73*(6). https://doi.org/10.1080/00131911.2019.1689100
- Brown, P., & James, D. (2020). Educational expansion, poverty reduction, and social mobility: Reframing the debate. *International Journal of Educational Research, 100*. https://doi.org/10.1016/j.ijer.2020.101537.
- Brück, T., Hanmer, L. C., Klugman, J., & Arango, D. J. (2024). Gender dimensions of forced displacement: a brief review and introduction to the special issue. *The Journal of Development Studies*, 1-13. https://doi.org/10.1080/00220388.2024.2376145
- Burrell, L., Mehlum, L., & Qin, P. (2020). Educational attainment in offspring bereaved by sudden parental death from external causes: a national cohort study from birth and

- throughout adulthood. *Social Psychiatry and Psychiatric Epidemiology, 55*, 779–788. https://doi.org/10.1007/s00127-020-01846-4
- Case, A., Hosegood, V., & Lund, F. (2005). The reach and impact of Child Support Grants: evidence from KwaZulu-Natal. *Development Southern Africa*, 22(4), 467-482. https://doi.org/10.1080/03768350500322925
- Chidakwa, N. (2024). The 4Rs Framework: Creating A Synergy to Support the Implementation of English Education for Sustainable Development in Rwanda. *Research in Social Sciences and Technology, 9*(2), 133-155. <a href="https://doi.org/10.46303/ressat.2024.29">https://doi.org/10.46303/ressat.2024.29</a>
- Collins, P.H., & Bilge, S. (2020). Intersectionality. John Wiley and Sons
- Dube, B. (2020). Rural online learning in the context of COVID-19 in South Africa: Evoking an inclusive education approach. *Multidisciplinary Journal of Educational Research*, *10*(2), 135-157. https://doi.org/ 10.4471/remie.2020.5607
- Dube, M. (2022). Isolation and its impact on widows: Insights from low-resourced communities in Binga district, Zimbabwe. *Social Science*, *11*(7), 298. https://doi.org/10.3390/socsci11070298
- Dube, M. (2023). The challenges facing widows in African contexts: A literature review.

  International Journal of Research in Business and Social Science (2147-4478), 12(7), 452-459. https://doi.org/10.20525/ijrbs.v12i7.2775
- Duncan, G. J., Magnuson, K., & Votruba-Drzal, E. (2015). Children and socioeconomic status. In M. H. Bornstein, T. Leventhal, & R. M. Lerner (Eds.), Handbook of child psychology and developmental science: Ecological settings and processes (7th ed., pp. 534–573). John Wiley & Sons, Inc. <a href="https://doi.org/10.1002/9781118963418.childpsy414">https://doi.org/10.1002/9781118963418.childpsy414</a>
- Dunusinghe, P. (2021). Impact of parental migration on children's educational performance: evidence from Sri Lanka. *Journal of Economics and Development Studies*, *9*(1), 35–49. http://dr.lib.sjp.ac.lk/handle/123456789/9418
- Eghosa, A. E., Anthony, A. N., Chinwe, U., & Uzoma, O. O. (2021). Family strengthening program: A sustainable social protection intervention for vulnerable children and families in Nigeria. *Journal of Social Work in Developing Societies, 3*(2). https://journals.aphriapub.com/index.php/JSWDS/article/view/1387
- Ferow, A. (2019). Childhood Grief and Loss. *European Journal of Educational Sciences*. http://dx.doi.org/10.19044/ejes.s.v6001
- Freak-Poli, R., Kung, C. S., Ryan, J., & Shields, M. A. (2022). Social isolation, social support, and loneliness profiles before and after spousal death and the buffering role of financial resources. *The Journals of Gerontology: Series B, 77*(5), 956-971. https://doi.org/10.1093/geronb/gbac039
- Govender, S., & Horn, J. (2019). Evaluating a grief program offered in primary schools: An Appreciative Inquiry. *South African Journal of Childhood Education*, *9*(1), 1-11. https://hdl.handle.net/10520/EJC-1f8f78e0e3

Garutsa, T., & Owolabi, T. (2024). Correlating Educational Attainment and Single Parenting in Nigeria. *Journal of Culture and Values in Education*, 7(2), 188-214. https://doi.org/10.46303/jcve.2024.19

- Hossain, B., & James, K. S. (2024). Economics of widowhood mortality in adult women in India. Social Science & Medicine, 340, 116450. https://doi.org/10.1016/j.socscimed.2023.116450
- Huang, X. (2019). Understanding Bourdieu-Cultural capital and habitus. *Review of European Studies*, 11, 45. https://doi.org/10.5539/res.v11n3p45
- Jimmidi, B., & Bhukya, V.(2023). Community support schemes in Telangana State: A review of current initiatives and their impact. *International Journal of Humanities Social Science and Management*, *3*(3), 452-459
- Kartel, A., Charles, M., Xiao, H., & Sundi, D. (2022). Strategies for Parent Involvement During Distance Learning in Arabic Lessons in Elementary Schools. *Journal International of Lingua and Technology*, 1(2), 99–113. https://doi.org/10.55849/jiltech.v1i2.82
- Kibachio, D.N., & Muthie, P.M. (2020). Challenges affecting orphans and vulnerable children (OVC) in EMBU county. *International Journal of Sociology, 2*(1), 18-26. https://www.iprjb.org/journals/index.php/IJS/article/view/680
- Lara, L., & Saracostti, M. (2019). Effect of parental involvement on children's academic achievement in Chile. *Frontiers in Psychology, 10,* 1464. https://doi.org/10.3389/fpsyg.2019.01464
- Losioki, B.E. (2020). Education opportunities and support for orphans and vulnerable children in Bagamoyo District, Tanzania. *East African Journal of Education Studies*, *2*(1), 187-197. https://doi.org/10.37284/eajes.2.1.250
- Losleben, K., & Musubika, S. (2023). *Understanding intersectionality*. In Gender Diversity, Equity, and Inclusion in Academia: A conceptual framework for sustainable transformation, Melina Duarte, Katrin Losleben and Kjersti K Fjørtoft(Ed). Taylor and Francis
- Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favourable and unfavourable environments: Lessons from research on successful children. *American Psychologist*, *53*(2), 205-220.
- Mbogo, R. W. (2020). Leadership roles in managing education in crises: The case of Kenya during the Covid-19 pandemic. *European Journal of Education Studies*, 7(9), 207-227. http://dx.doi.org/10.46827/ejes.v7i9.3250
- Mncube, D. (2023). *Analysis of the impact of poor infrastructure provision on the quality of education in rural schools*. Axiom Academic Publishers, 1, 71-98.
- Munnell, A.H., Sanzenbacher, G.T., & Zulkarnain, A. (2018). What factors explain the decline in widows' poverty? https://doi.org/10.2139/ssrn.3240728

- Musisi, B. (2024). Avenue for Poverty Alleviation in Uganda's Muslim Community. Bridging Social Inequality Gaps-Concepts, Theories, Methods, and Tools: Concepts, Theories, Methods, and Tools, 211. https://doi.org/10.5772/intechopen.1004706
- Nash, J. (2019). *Black feminism reimagined: After intersectionality*. Duke University Press. https://doi.org/10.2307/j.ctv111jhd0
- Nda, H., Agbo, D., Hussaini, M. L., Tukura, T. P., Omada, M. O., & Adejoh, E. (2024). Challenges and experiences of caregivers/volunteers and orphans in the community-based approach to the rehabilitation of orphans in Dekina local government area, Kogi State, Nigeria. *International Journal of Global Affairs, Research and Development, 2*(1), 293-330. https://ijgard.com/index.php/ijgard/article/view/56
- Nguyen, C.V., & Vu, L.H. (2023). Does Parental Absence Harm Children's Education? Evidence from Vietnam. *Journal of Asian and African Studies*. https://doi.org/10.1177/00219096231176739
- Nkambule, B., & Ngubane, S. A. (2023). Eradicating a Culture of Public Mistrust in TVET College Education in South Africa: A Manifesto for the Sector's Sustainability Ahead of 4IR. Research in Social Sciences and Technology, 8(4), 301-329. https://doi.org/10.46303/ressat.2023.44
- Ntshuntshe, Z., & Taukeni, S.G. (2020). Psychological and social issues affecting orphans and vulnerable children. In addressing multicultural needs in school guidance and counselling (pp 20-31). *IGI Global*. <a href="https://doi.org/10.4018/978-1-7998-0319-5.ch002">https://doi.org/10.4018/978-1-7998-0319-5.ch002</a>.
- Nussbaum, M. (2011). *Creating capabilities: The human development approach*. Harvard University Press.
- Oladokun, V. O., Adebiyi, B. O., & Charles-Owaba, O. E. (2020). Social protection mechanisms for mitigating socio-economic deprivations for widows: A case study of South-Western Nigeria. *Heliyon*, *6*(6), e04242.
- Orgilés, M., Morales, A., Delvecchio, E., Mazzeschi, C., & Espada, J. P. (2020). Immediate psychological effects of the COVID-19 quarantine in youth from Italy and Spain. *Frontiers in Psychology, 11*, 579038.
- Pierce, H., & Foster, K. (2020). Health and well-being outcomes of women and children in Sub-Saharan Africa: Examining the role of formal schooling, literacy, and health knowledge. *International Journal of Educational Development, 79*, 102273.
- Pillay, J. (2019). Social Justice implications for educational psychologists working with orphans and vulnerable children in South Africa. *School Psychology International*, *41*(1). https://doi.org/10.1177/0143034319893005
- Pinchoff, J., Austrian, K., Rajshekhar, N., Abuya, T., Kangwana, B., Ochako, R., ... & Ngo, T. D. (2021). Gendered economic, social and health effects of the COVID-19 pandemic and mitigation policies in Kenya: evidence from a prospective cohort survey in Nairobi informal settlements. *BMJ Open, 11*(3). https://doi.org/10.1136/bmjopen-2020-042749

Prabowo S.L. (2022). The effect of ISO and leadership quality on the sustainable development of academic competence and student performance. *Journal of Social Studies Education Research*, *13* (3), pp. 31 – 55. <a href="https://jsser.org/index.php/jsser/article/view/4232/575">https://jsser.org/index.php/jsser/article/view/4232/575</a>

- Proscovia, N., Phionah, N., Christopher, D., Apollo, K., Byansi, W., Mirriam, M., Jennifer, N., & Fred, S. (2020). Assessing the impact of an asset-based intervention on educational outcomes of orphaned children and adolescents: Findings from a randomized experiment in Uganda. In Inclusive Child Development Accounts, Taylor and Francis. 60-70.
- Reyes, A. M. (2020). Mitigating poverty through the formation of extended family households: Race and ethnic differences. *Social Problems*, *67*(4), 782-799. https://doi.org/10.1093/socpro/spz046
- Ringson, J. (2019). The impact of child rights cultural contestation in orphans and vulnerable children (OVC) support in Zimbabwe. *Child Abuse Research in South Africa*, 20(1).https://hdl.handle.net/10520/EJC-1613ee3661
- Ringson, J. (2020). Basic Education Assistance Module as a material and psychosocial support intervention for orphans and vulnerable children in Gutu District, in Zimbabwe: An evaluation. *New Ideas in Psychology*, *59*. https://doi.org/10.1016/j.newideapsych.2020.100803
- Roelen, K., & Karki Chettri, H. (2020). Gendered impacts of COVID-19 in Asia and the Pacific: Early evidence on deepening socioeconomic inequalities in paid and unpaid work. Feminist Economics, 26(4), 1-8.
- Rosenbaum-Feldbrügge, M. (2019). The impact of parental death in childhood on sons' and daughters' status attainment in young adulthood in the Netherlands, 1850–1952.

  \*\*Demography, 56(5), 1827-1854. https://doi.org/10.1007/s13524-019-00808-z
- Save the Children. (2016). *Every Last Child: The state of the world's children 2016*. Save the Children.
- Stampini, M., Robles, M., Sáenz, M., Ibarrarán, P., & Medellín, N. (2016). Poverty, vulnerability, and the middle class in Latin America. *Latin American Economic Review*, *25*(1), 4.
- Stempel, H., Cox-Martin, M., Bronsert, M., Miriam-Dickinson, L., & Allison, M.A. (2017).

  Chronic school absenteeism and the role of adverse childhood experiences. *Academic Pediatrics*, 17, 837-843. https://doi.org/10.1016/j.acap.2017.09.013
- Surkan, P., Lydon, M., Shrestha, A., Kafle, H.M., & Thapa, L. (2017). Intergenerational impacts of discrimination against Nepali widows of reproductive age. *International Journal of Culture and Mental Health*, *10*(2). https://doi.org/10.1080/17542863.2016.1270980
- Szumski, G., Smogorzewska, J., & Grygiel, P. (2022). Academic achievement of students without special educational needs and disabilities in inclusive education—Does the type of inclusion matter? *Plos one, 17*(7), e0270124. <a href="https://doi.org/10.1371/journal.pone.0270124">https://doi.org/10.1371/journal.pone.0270124</a>

- Thévenon, O., & Edmonds, E. (2019). *Child labour: Causes, consequences, and policies to tackle it.* OECD Social, Employment and Migration Working Papers, No. 235, OECD Publishing, Paris, https://doi.org/10.1787/f6883e26-en.
- Tshaka, A., Tanga, P., & Ntshongwana, Z. (2023). Socio-economic challenges experienced by widows and support provided by social workers in Raymond Mhlaba local municipality in Eastern Cape, South Africa. Southern African Journal of Social Work and Social Development, 35(3). <a href="https://doi.org/10.325159/2708-9355/11179">https://doi.org/10.325159/2708-9355/11179</a>
- UNESCO. (2020). Global Education Monitoring Report 2020: Inclusion and education: All means all. Paris: UNESCO.
- UNESCO. (2020). *Inclusion and Education: All means all*. Global Education Monitoring Report. Paris: UNESCO
- UNICEF (2008). *The state of the world's children: Child survival*. UNICEF Publications, New York UNICEF (2014). *All children in school by 2015*. Global initiative on out-of-school children, West and Central Africa regional report. New York. Retrieved from: http://allinschool.org/wp-content/uploads/2014/08/140116-ESARO.pdf
- UNICEF. (2015). State of the World's Children 2015: Reimagine the future Innovation for every child. UNICEF.
- Vo, D.H., Ho, C.M., & Vo, A.T. (2023). The economic circumstances of widows in Vietnam. *PLoS ONE*, *18*(5): e0285595. <a href="https://doi.org/10.1371/journal.pone.0285595">https://doi.org/10.1371/journal.pone.0285595</a>
- Wilke, N. G., Howard, A. H., & Pop, D. (2020). Data-informed recommendations for service providers working with vulnerable children and families during the COVID-19 pandemic. *Child Abuse and Neglect, 110.* https://doi.org/10.1016/j.chiabu.2020.104642
- World Health Organization. (2018). The global burden of disease: 2018 update. WHO.
- Zorba, M. G. (2023). Exploring EAP students' conceptualization of sustainable development goals: Implications for higher education. *Novitas-ROYAL (Research on Youth* and Language), 17(2), 112–127. <a href="https://doi.org/10.5281/zenodo.10015841">https://doi.org/10.5281/zenodo.10015841</a>