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The Protection Paradox: An Ecological Analysis of Functional Agency and Social Protection among Adolescent Girls with Mobility Impairments in Zambia

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Abstract

Background: This study redefines the "Protection Paradox" in Zambia as a systemic friction between Western rights-based autonomy and the African moral framework of Ubuntu, where the absence of communal structural security necessitates defensive domestic confinement. Beyond the idealization of kinship, the research analyzes how the "Marriageability Trap" and Lobola norms intersect with heightened fears of sexual violence and HIV infection, forcing caregivers into restrictive supervision to safeguard a girl's social virtue.

Methods: This study employed a qualitative scoping review design guided by the PRISMA-ScR framework; the review prioritizes the Washington Group Short Set to ensure functional measurements reflect individual capacity rather than medicalized impairment. The methodology specifically filters for evidence that mitigates proxy-reporting bias, correcting the common distortion where caregiver perceptions systematically underestimate the latent agency of adolescent girls.

Results: Findings reveal a stark geographic divide where 61.7% of urban households utilize Social Cash Transfers for disability costs compared to only 38.3% in rural areas,

highlighting a pervasive 60% urban bias in existing research. Additionally, the review identifies an "impact fade-out" where material consumption gains vanish after three years, yet persistent benefits in health and food security continue to act as vital ecological stabilizers.

Conclusion: The study concludes that agency must be re-envisioned as a "collective kinship accomplishment" that requires the permanent integration of technical infrastructure, such as UNICEF's WinS-compliant WASH geometries, into the school-home mesosystem. Transitioning from defensive care to active justice necessitates an obligation-based support model where the community ensures the structural security required for an adolescent girl's public participation.

Limitations: A primary limitation is the geographic skew of the evidence base, which leaves the unique environmental frictions of rural provinces under-theorized due to the concentration of research in urban centers. Furthermore, the continued reliance on proxy-respondent data in broader Zambian scholarship risks perpetuating an underestimate of functional capacity driven by parental protective anxieties.

Keywords: Adolescent Girls with Mobility Impairment, Ecological Systems Theory, Functional Independence, Protection Paradox, Zambia

Introduction

The transition from adolescence to adulthood for girls with mobility impairments in Zambia is frequently obstructed by the "Protection Paradox," a systemic phenomenon where restrictive caregiving is deployed as a rational survival strategy in response to structural failures. Within the framework of Ecological Systems Theory, this paradox represents a profound macrosystemic "duty gap" emerging from the tension between Western rights-based autonomy and the African moral philosophy of Ubuntu (Masitera, 2020; Msipa, 2021) [8, 10]. While Ubuntu defines personhood through "relational living" and shared humanity, this review argues that when the community fails to provide the structural security necessary for public participation, the family microsystem adopts defensive confinement to safeguard the girl's physical and social wellbeing

(Msipa, 2021; Onazi, 2024) ^[10, 15]. For example, a family may choose to keep a daughter indoors not out of a desire to limit her, but because the lack of paved pathways or communal support makes the external environment physically threatening. However, to avoid romanticizing kinship, it is critical to acknowledge that traditional structures can also be used to justify the denial of rights; for instance, "Negative Indigenous Knowledge" scripts often frame a girl's impairment as a "spiritual test" or a private family burden, ecologically reinforcing domestic retreat as a means of avoiding communal friction or social stigma (Masitera, 2020; Mukushi *et al.*, 2019; Ndlovu, 2023) ^[8, 11, 13].

Beyond ideological tensions, the immediate microsystem is governed by the "Marriageability Trap," where cultural norms such as Lobola (bride price) dictate the physical boundaries of an adolescent girl's movement. Crucially, this study expands the analysis of marital norms to include the intersection of HIV and Sexual and Reproductive Health.

This confinement is further reinforced by practical environmental barriers within the home-school mesosystem, specifically the biological reality of menstruation (Sommer *et al.*, 2016, 2021). Scholarship identifies the absence of school-based Menstrual Health Management infrastructure as a primary driver of periodic domestic retreat (Chinyama *et al.*, 2019) ^[4]. To provide technical specificity, this review argues that infrastructure must move beyond general hygiene to incorporate UNICEF's WinS guidelines, which mandate accessible WASH geometries (Chinyama *et al.*, 2019; Masitera, 2020) ^[4, 8]. For a girl with a mobility impairment, "access" is not merely a toilet, but the presence of grab bars, sufficient transfer space for wheelchair users, and accessible water points for self-care (Abuzerr, 2026). Without these specific technical adaptations, the school environment becomes a source of physical and social risk, forcing a return to the domestic sphere and further severing the girl's link to public life (Sommer *et al.*, 2021).

Despite the gravity of these ecological factors, disability research in Zambia faces a significant 60% geographic bias toward urban centers like Lusaka, leaving the unique environmental frictions of the rural hinterlands under-theorized (Gasior *et al.*, 2021; Scherer *et al.*, 2024) ^[5, 16]. Methodologically, this study addresses the resulting distortion caused by proxy-reporting bias, where proxy respondents may classify individuals differently compared to self-reports, potentially affecting disability estimates (Beuoy & Goddard, 2025) ^[2]. To ensure that measurements reflect the girl's actual potential rather than parental perception, this review prioritizes direct-respondent data from the Washington Group Short Set (Beuoy & Goddard, 2025) ^[2].

Ultimately, this scoping review synthesizes the impact of inconsistent ecological stabilizers such as the Social Cash Transfer program. While empirical evidence shows a three-year "impact fade-out" in material consumption gains, extending also to health and food security outcomes (Handa *et al.*, 2025) ^[6]. However, the ecological divide is stark: while 61.7% of urban households utilize SCT for disability-specific costs, only 38.3% of rural households do the same, suggesting that the "Protection Paradox" is most acute where state aid is least effective (Gasior *et al.*, 2021; Mulenga *et al.*, 2026) ^[5, 12]. By analyzing these dynamics, this research seeks to re-envision agency not as a solitary achievement, but as a "collective kinship accomplishment" realized

through a transition toward a permanent, obligation-based support model (Masitera, 2020; Msipa, 2021; Onazi, 2024) ^[8, 10, 15].

Theoretical Literature Review

The theoretical underpinning of this review is centered on the "Protection Paradox," which is redefined here not merely as a caregiving style, but as a systemic outcome of the macrosystemic tension between Western rights-based autonomy and the African moral framework of Ubuntu. Within the Ubuntu philosophy, personhood is defined through "relational living" and the principle of "shared humanity," where individual wellbeing is inextricably linked to communal harmony (Abebe & Biswas, 2021). However, a critical analysis reveals a significant "duty gap" in the Zambian context: when the broader community fails in its inherent obligation to provide the structural security necessary for public participation, the family microsystem adopts defensive domestic confinement as a rational survival strategy. This transition from communal interdependence to domestic isolation occurs because the community-level infrastructure such as accessible pathways or social support networks, is often absent, leaving the household as the only viable site of protection.

To avoid romanticizing kinship, it is essential to acknowledge that traditional structures within the Ubuntu framework can also be used to justify the denial of rights, abuse, or even abandonment (Ngubane, 2018 ^[14]; "The Tensions between Culture and Human Rights," 2021). This review critically incorporates "Negative Indigenous Knowledge" perspectives, analyzing how some traditional scripts view disability as a "spiritual test" or a form of communal punishment (Mukushi *et al.*, 2019; Ndlovu, 2023) ^[11, 13]. For example, in many rural settings, a girl's mobility impairment may be framed as a private family burden rather than a collective social responsibility, which ecologically reinforces her retreat into the home to avoid social stigma or communal friction (Adugna *et al.*, 2020; Ndlovu, 2023 ^[13]). Consequently, a "shared humanity" within Ubuntu requires explicit safeguards, such as community-led monitoring and disability-inclusive advocacy, to ensure that the ideal of collective interdependence does not inadvertently suppress the individual agency of adolescent girls (Berghs, 2017 ^[1]; Tesemma & Coetzee, 2021).

Building upon these cultural tensions, the study expands the concept of the "Marriageability Trap" to include the critical intersection of HIV and Sexual and Reproductive Health. In the Zambian microsystem, marital norms like Lobola (bride price) frame a girl's movement as a direct threat to her "social virtue" and family economic value (Manyonganise, 2023; Moono *et al.*, 2020 ^[9]). This "exclusionary friction" is intensified by the pervasive fear of sexual violence and HIV infection, which is often a rational response to the lack of safe, accessible SRH services in the community (Austrian *et al.*, 2020; Kimathi *et al.*, 2020). A practical manifestation of this occurs when caregivers utilize hyper-supervision and confinement to safeguard the girl's health and future marriageability; in this scenario, her physical safety and social value within the Lobola system are prioritized over her functional independence and educational agency (Koris *et al.*, 2022; Porter, 2011).

Beyond these cultural and health-related scripts, the environment of the home-school mesosystem acts as a

physical driver of the Protection Paradox, specifically through the biological reality of menstruation. Scholarship identifies the absence of school-based Menstrual Health Management infrastructure as a primary catalyst for periodic domestic retreat (Chinyama *et al.*, 2019) ^[4]. To move beyond general hygiene rhetoric, this review applies the technical specificity of UNICEF's WinS guidelines, arguing that agency is physically dictated by accessible WASH geometries (Chinyama *et al.*, 2019; Masitera, 2020) ^[4, 8]. For a girl with a mobility impairment, meaningful access requires more than a simple facility; it necessitates the installation of grab bars, sufficient transfer space for wheelchair users, and accessible water points for private self-care (Chinyama *et al.*, 2019) ^[4]. Without these specific technical adaptations, the biological necessity of menstruation becomes a microsystemic barrier that forces girls into periodic domestic confinement, further severing the mesosystemic link between the home and the school (Chinyama *et al.*, 2019; Sharper *et al.*, 2025) ^[4, 17].

Finally, the study addresses the methodological distortion created by proxy-reporting bias, which often complicates the theoretical measurement of agency. Current disability literature in Zambia frequently relies on caregiver testimony, which tends to systematically underestimate the functional capacity and latent agency of adolescent girls (Beuoy & Goddard, 2025) ^[2]. By prioritizing direct-respondent data through the Washington Group Short Set, this review ensures that measurements of functional independence reflect the girl's actual capacity rather than parental perceptions of limitation (Beuoy & Goddard, 2025; Madans *et al.*, 2011) ^[2, 7]. This methodological shift allows for a re-envisioning of agency not as a solitary, rights-based accomplishment, but as a "collective kinship accomplishment" realized when structural, cultural, and technical barriers are systematically dismantled (Masitera, 2020; Msipa, 2021; Onazi, 2024) ^[8, 10, 15].

Empirical Evidence

Turning first to the global landscape, the shift toward a rights-based model of disability has been facilitated by the adoption of the Washington Group Short Set, which provides a standardized framework for measuring functional independence with international transparency (Madans *et al.*, 2011) ^[7]. However, a critical empirical tension exists regarding the reliability of this data; research by Beuoy and Goddard identifies a significant proxy-reporting bias, where caregiver responses frequently inflate the perceived severity of impairment while systematically underestimating the latent functional agency of adolescent girls (Beuoy & Goddard, 2025) ^[2]. This methodological distortion suggests that global disability estimates may inadvertently reflect parental protective anxieties rather than the actual capacity of the individual, thereby complicating the transition from defensive supervision to autonomy (Beuoy & Goddard, 2025; Madans *et al.*, 2011) ^[2, 7].

Building upon this regional synthesis in Sub-Saharan Africa, the empirical literature highlights a profound conflict between Western autonomy and the African moral philosophy of Ubuntu. While Ubuntu posits that personhood is achieved through relational interdependence, evidence from Zimbabwe and South Africa warns against the romanticization of kinship, noting that "Negative Indigenous Knowledge" scripts often frame mobility impairments as a "spiritual test" or communal burden (Botha & Ohajunwa,

2024; Mji *et al.*, 2011; Ndlovu, 2023 ^[13]). These scripts ecologically justify the denial of rights or domestic abandonment, forcing a retreat into the home to avoid communal friction (Brocco, 2024; Chazan, 2019; Ineese-Nash, 2020). Consequently, scholars argue that for Ubuntu to foster justice, it must be reinforced by explicit safeguards—such as community-led monitoring—that prevent collective interdependence from suppressing individual agency (Akurugu *et al.*, 2022; Metz, 2007; Oyaro, 2021).

Progressing to the intersection of cultural norms and health, the regional "Marriageability Trap" is empirically linked to the institution of Lobola (bride price). In the Zambian and Zimbabwean contexts, this cultural script is not merely a traditional artifact but a rational response to the critical failure of Sexual and Reproductive Health services (Blystad *et al.*, 2020 ^[3]; Como *et al.*, 2020; Horne *et al.*, 2013). Because communities often fail to provide safe, accessible SRH environments, caregivers utilize protective confinement as a shield against the heightened risks of sexual violence and HIV infection (Gillespie *et al.*, 2022; Lawrence *et al.*, 2021; McCarraher *et al.*, 2018). In this scenario, the household prioritizes the girl's social virtue and marriageability over her present functional independence, viewing domestic retreat as the only viable defense against a hostile external environment.

When narrowing the focus to the specific Zambian context, longitudinal evidence on the Social Cash Transfer program reveals a complex "impact fade-out" phenomenon. While material consumption gains tend to diminish after a three-year window, the program provides persistent ecological stabilizers in the form of improved health and food security for households affected by disability (Handa *et al.*, 2025; Silverstein *et al.*, 2024) ^[6, 18]. However, a stark geographic divide persists in the utilization of these transfers; empirical data indicates that while 61.7% of urban households in Lusaka utilize SCT for direct disability costs, only 38.3% of rural households in districts like Chongwe do the same (Mulenga *et al.*, 2026) ^[12]. This disparity is compounded by an urban bias in Zambian research, which leaves the unique environmental frictions and "knowledge deserts" of rural provinces under-investigated (Malama *et al.*, 2021).

Finally, the transition from domestic confinement to public participation is frequently severed by the lack of technical infrastructure within the school-home mesosystem, particularly regarding Menstrual Health Management. Studies in rural Zambia demonstrate that general hygiene advocacy is insufficient for girls with mobility impairments; rather, agency is dictated by specific WASH geometries (Chinyama *et al.*, 2019; Masitera, 2020) ^[4, 8]. Guided by UNICEF's WinS guidelines, empirical recommendations now specify the need for grab bars, sufficient transfer space for wheelchair users, and accessible water points to prevent the biological reality of menstruation from becoming a barrier to education (Chinyama *et al.*, 2019) ^[4]. Only by integrating these technical standards with a permanent, obligation-based support model can the adolescent girl achieve an independence that is both functionally robust and culturally integrated (Milimo *et al.*, 2021).

Methodology

This study adopted a qualitative scoping review design guided by the PRISMA Extension for Scoping Reviews - PRISMA-ScR (Tricco *et al.*, 2018) ^[19]. The methodological

design transitions from a standard literature summary toward a rigorous empirical synthesis, prioritizing peer-reviewed evidence that utilizes the Washington Group Short Set (Madans *et al.*, 2011) [7]. By focusing on this standardized set, the review ensures that functional disability measurements reflect international transparency and individual capacity rather than medicalized or subjective interpretations of impairment (Madans *et al.*, 2011) [7]. Crucially, the search strategy was calibrated to identify the "Protection Paradox" as a systemic outcome of the macrosystemic tension between Western rights-based autonomy and the African moral framework of Ubuntu (Masitera, 2020; Msipa, 2021) [8, 10].

To move beyond the romanticization of kinship, the data extraction process specifically sought evidence of "Negative Indigenous Knowledge" scripts. This analytical filter allows the review to critically examine how traditional structures—while often viewed as supportive—can also be utilized to justify the denial of rights, abuse, or even abandonment (Mukushi *et al.*, 2019) [11]. For example, by searching for studies that frame disability as a "spiritual test," the methodology captures how these cultural perceptions ecologically reinforce domestic retreat as a strategy to avoid communal friction or perceived spiritual burden (Mugeere *et al.*, 2019; Mukushi *et al.*, 2019) [11]. Simultaneously, the review incorporates a critical analysis of the Marriageability Trap, expanding the scope to include the intersection of HIV and Sexual and Reproductive Health. This involves filtering for evidence where the community-level failure to provide safe SRH services creates an "exclusionary friction," forcing caregivers into defensive supervision and confinement to safeguard the girl's social virtue and health (Cowden *et al.*, 2020; Melesse *et al.*, 2020).

A central technical component of this methodology involves the mitigation of proxy-reporting bias, which has historically distorted Zambian disability data. Recognizing that caregiver respondents often overestimate the severity of functional limitations due to protective anxieties, the review applies a critical filter to prioritize studies featuring direct-respondent testimony (Beuoy & Goddard, 2025 [2]; G *et al.*, 2025). This is essential for distinguishing between a girl's actual capacity for functional independence and the restricted agency projected onto her by the family microsystem (Beuoy & Goddard, 2025 [2]; Lin & Chen, 2020). Furthermore, to address the systemic 60% urban bias prevalent in Zambian research, the search strategy was expanded beyond centralized databases to capture the unique environmental frictions of rural provinces (Alonso-Álvarez & Eck, 2024; Subaveerapandiyani *et al.*, 2024). This allows for a granular comparison of social protection utilization, specifically analyzing the gap between urban (61.7%) and rural (38.3%) households in their use of state aid for direct disability costs (Gasior *et al.*, 2021; Mulenga *et al.*, 2026) [5, 12].

Building upon these geographic and bias-mitigation strategies, the synthesis phase utilizes a longitudinal lens to evaluate the "impact fade-out" of the Social Cash Transfer program. By assessing evidence of the three-year window where material consumption gains often vanish, the methodology distinguishes between transient aid and persistent ecological stabilizers like health and food security (Handa *et al.*, 2025; Silverstein *et al.*, 2024) [6, 18]. This analytical depth facilitates a transition toward

recommending a permanent, obligation-based support model (Msipa, 2021; Onazi, 2024) [10, 15]. Finally, the extraction criteria were refined to capture technical infrastructure specifics for school-based Menstrual Health Management. Guided by UNICEF's WinS guidelines, the methodology prioritizes evidence regarding accessible WASH geometries—such as grab bars, sufficient transfer space for wheelchair users, and accessible water points—ensuring that recommendations address the physical barriers that sever the girl's connection to education (Chinyama *et al.*, 2019; Masitera, 2020; Sharper *et al.*, 2025) [4, 8, 17].

Results

The synthesis of empirical evidence demonstrates that the Social Cash Transfer program serves as an inconsistent but vital ecological stabilizer for households affected by mobility impairments. Longitudinal data reveals a significant "impact fade-out" effect; while material consumption gains often diminish after a three-year window, the program provides persistent dividends in the form of improved health and food security (Handa *et al.*, 2025; Silverstein *et al.*, 2024) [6, 18]. However, a critical analysis of program utilization highlights a stark geographic divide that complicates the delivery of these stabilizers. Specifically, while 61.7% of urban households in Lusaka utilize SCT funds to cover direct disability costs—such as medical fees and assistive devices—utilization drops significantly to 38.3% in rural districts like Chongwe (Gasior *et al.*, 2021; Mulenga *et al.*, 2026) [5, 12]. This disparity is exacerbated by a pervasive 60% urban bias in Zambian research, which leaves the unique environmental frictions of the rural hinterlands under-theorized and underserved by state interventions (Mulenga *et al.*, 2026; Scherer *et al.*, 2024) [12, 16].

Moving beyond fiscal transfers, the synthesis identifies a profound methodological gap in the measurement of functional independence, primarily driven by proxy-reporting bias. When analyzing datasets utilizing the Washington Group Short Set, there is a recurring discrepancy between caregiver perceptions and adolescent capacity (Beuoy & Goddard, 2025; Madans *et al.*, 2011) [2, 7]. Caregiver respondents, often motivated by protective anxieties, systematically overestimate the severity of a girl's functional limitations while underestimating her latent agency (Beuoy & Goddard, 2025) [2]. This distortion suggests that current metrics of "confinement" may not always reflect a girl's physical inability to navigate her environment, but rather a restricted social status projected onto her by the family microsystem (Beuoy & Goddard, 2025; Madans *et al.*, 2011; Masitera, 2020) [2, 7, 8].

Concurrent with these measurement biases, the review identifies specific mesosystemic barriers that sever the connection between the home and the school, particularly regarding the biological reality of menstruation. Empirical evidence from rural schools indicates that general hygiene advocacy is insufficient; rather, the girl's participation is physically dictated by accessible WASH geometries (McMahon *et al.*, 2011; Sommer *et al.*, 2014). To move toward technical specificity, results highlight that school-based facilities often lack the grab bars, sufficient transfer space for wheelchair users, and accessible water points required by UNICEF's WinS guidelines (Erhard *et al.*, 2013; Zaunda *et al.*, 2018). The absence of these technical

standards can contribute to educational disengagement and heightened domestic isolation for girls (Drane *et al.*, 2020; Mbah *et al.*, 2026).

Furthermore, the results clarify that this domestic retreat is not merely a logistical failure but is deeply embedded in the "Marriageability Trap." Cultural norms such as Lobola (bride price) intersect with critical fears regarding Sexual and Reproductive Health, specifically the heightened risk of sexual violence and HIV infection (Hlatywayo, 2023; Ramjee & Daniels, 2013). In the absence of safe, community-level SRH services, caregivers may employ protective confinement to safeguard a girl's health and future marriageability (Omstedt, 2017; Retznik *et al.*, 2022). This "exclusionary friction" reinforces the Protection Paradox, where the household prioritizes the girl's social virtue and physical safety over her individual right to public participation (Bankar *et al.*, 2018; Cooke *et al.*, 2022).

Finally, the synthesis highlights that for the African moral philosophy of Ubuntu to transition from a framework of "defensive care" to one of "active justice," it must be reinforced by explicit communal safeguards. While Ubuntu promotes relational interdependence, the data warns that "Negative Indigenous Knowledge" scripts—which frame disability as a "spiritual test", can be used to justify the denial of agency or even domestic abandonment (Ndlovu, 2023) ^[13]. Consequently, the results suggest that agency must be re-envisioned as a "collective kinship accomplishment," achieved only when the community fulfills its inherent obligation to integrate technical infrastructure, such as accessible transport and inclusive hygiene facilities, into the broader social fabric (Onazi, 2024) ^[15]. This shift allows the adolescent girl to achieve a form of independence that is both functionally robust and culturally integrated, moving from a state of transient aid to permanent structural belonging (Onazi, 2024) ^[15].

Discussion

The central finding of this review is that the Protection Paradox is not about individual failure, but about systemic gaps in structural support. The "Protection Paradox" identified in this review transcends simple caregiving choices, emerging instead as a systemic manifestation of the macrosystemic friction between Western rights-based paradigms and the African moral framework of Ubuntu. While Ubuntu defines personhood through "relational living" and shared humanity, current findings suggest that when the broader community fails to fulfill its inherent obligation to provide structural security, the family microsystem is forced into a state of "defensive care" (Msipa, 2021) ^[10]. This is particularly evident when analyzing how "Negative Indigenous Knowledge" scripts frame disability as a spiritual test or communal punishment, which ecologically reinforces domestic retreat to avoid social stigma or communal friction (Ndlovu, 2023) ^[13]. To move beyond the romanticization of kinship, it is essential to establish explicit safeguards, such as community-led monitoring, to ensure that collective interdependence does not inadvertently suppress the individual agency and rights of adolescent girls (Msipa, 2021) ^[10].

This ecological tension is further complicated by the "Marriageability Trap," where cultural norms like Lobola (bride price) dictate the boundaries of physical movement. Building upon this, the analysis must critically acknowledge the intersection of HIV and Sexual and Reproductive

Health. In the Zambian context, the community-level failure to provide safe and accessible SRH services creates an "exclusionary friction," making protective confinement a direct, rational response to the heightened fear of sexual violence and HIV infection among girls with mobility impairments (Ganle *et al.*, 2020; Jacobs *et al.*, 2023; Moono *et al.*, 2020 ^[9]). For many caregivers, restrictive supervision is not an act of malice but a defensive strategy to safeguard the girl's health and future social standing within the Lobola system, effectively prioritizing her marital viability over her functional independence (Blystad *et al.*, 2020; Sharper *et al.*, 2025) ^[3, 17].

Addressing these structural barriers requires a methodological shift away from proxy-reporting bias, which has historically obscured the latent agency of disabled girls. Evidence from the Washington Group Short Set demonstrates that caregiver respondents frequently exhibit proxy response bias, with some studies showing they are more likely to classify individuals as having a disability than self-reporters, which can affect the accuracy of disability prevalence estimates (Beuoy & Goddard, 2025; Madans *et al.*, 2011) ^[2, 7]. By prioritizing direct voices over proxy accounts, research can move toward a more accurate assessment of capacity that is not clouded by parental perception (Beuoy & Goddard, 2025) ^[2]. Furthermore, a significant urban bias in Zambian disability research must be corrected to address the "knowledge deserts" of rural provinces, as the majority of research is conducted in urban areas (Scherer *et al.*, 2024) ^[16]. The stark divide in Social Cash Transfer utilization—where 61.7% of urban households utilize funds for disability costs compared to only 38.3% in rural areas—underscores the need for targeted ecological stabilizers in the hinterlands (Gasior *et al.*, 2021; Mulenga *et al.*, 2026) ^[5, 12].

Building upon this, the long-term effectiveness of fiscal transfers must be evaluated through the lens of "impact fade-out." While material consumption gains from SCT tend to diminish after a three-year window, the persistent benefits in health and food security act as vital, albeit inconsistent, stabilizers for the family microsystem (Handa *et al.*, 2025; Silverstein *et al.*, 2024) ^[6, 18]. However, as this synthesis argues, fiscal aid alone is insufficient to break the paradox of confinement (Handa *et al.*, 2025; Mulenga *et al.*, 2026) ^[6, 12]. Transitioning to meaningful public participation necessitates the permanent integration of technical infrastructure into the exosystem, particularly regarding Menstrual Health Management. Practical examples of this integration include the implementation of UNICEF's WinS guidelines, which mandate accessible WASH geometries such as grab bars, sufficient transfer space for wheelchair users, and accessible water points (Chinyama *et al.*, 2019; Masitera, 2020) ^[4, 8].

In conclusion, agency for adolescent girls with mobility impairments must be re-envisioned as a "collective kinship accomplishment" rather than a solitary rights-based achievement (Masitera, 2020; Msipa, 2021) ^[8, 10]. This requires a fundamental realignment of the social contract where the community fulfills its inherent duty to provide safe, accessible environments (Onazi, 2024) ^[15]. Only through the combination of technical WASH standards, the mitigation of reporting bias, and the institutionalization of long-term social protection can the transition from defensive confinement to active public life be realized. By addressing the "Protection Paradox" with both technical specificity and

cultural sensitivity, the Zambian social fabric can foster a form of independence that is both functionally robust and culturally integrated (Masitera, 2020; Msipa, 2021; Onazi, 2024) [8, 10, 15].

Conclusion

In synthesis, this review has redefined the "Protection Paradox" as a systemic manifestation of the macrosystemic tension between Western rights-based paradigms and the African moral framework of Ubuntu. While Ubuntu offers a path to disability justice through relational interdependence, the findings suggest that the idealization of kinship can inadvertently mask exclusionary practices (Masitera, 2020; Msipa, 2021) [8, 10]. As established throughout this analysis, traditional structures are sometimes utilized to justify the denial of rights or even domestic abandonment when disability is framed through "Negative Indigenous Knowledge" scripts as a "spiritual test" (Mukushi *et al.*, 2019; Ndlovu, 2023) [11, 13]. Consequently, achieving a "shared humanity" requires the implementation of explicit safeguards—such as community-led monitoring—to ensure that the collective interdependence of the family does not suppress the individual agency of adolescent girls (Masitera, 2020; Msipa, 2021) [8, 10].

Moving forward, the research highlights that the "Marriageability Trap" and the norms of Lobola (bride price) are inextricably linked to the landscape of HIV and Sexual and Reproductive Health (Ramjee & Daniels, 2013). In the Zambian context, the "exclusionary friction" created by the community's failure to provide safe, accessible SRH services forces caregivers into defensive supervision (Silumbwe *et al.*, 2018; Zulu *et al.*, 2019). Confinement thus emerges as a rational, protective response to the heightened fear of sexual violence and infection, effectively prioritizing the girl's future social standing over her current functional independence (Ramanaik *et al.*, 2018; Wilbur *et al.*, 2022). To break this cycle, it is imperative that the community-level environment is transformed from a site of risk into a site of structural security (Evans *et al.*, 2009).

Concurrently, this review identifies critical methodological distortions that have historically obscured the reality of functional agency in Zambia. The pervasive proxy-reporting bias found in many datasets leads caregivers to systematically underestimate a girl's actual capacity compared to direct-respondent data from the Washington Group Short Set (Beuoy & Goddard, 2025 [2]; Ullmann *et al.*, 2021). Furthermore, the identified 60% urban bias in existing research highlights a geographic "knowledge desert" that complicates the delivery of ecological stabilizers in the hinterlands (Liu & Li, 2017; Suchá *et al.*, 2024). This is evidenced by the stark disparity in Social Cash Transfer utilization, where 61.7% of urban households utilize funds for direct disability costs compared to only 38.3% in rural areas (Gasior *et al.*, 2021; Mulenga *et al.*, 2026) [5, 12].

Ultimately, while the "impact fade-out" of cash transfers—where material consumption gains often diminish after three years—is a reality, the persistent benefits in health and food security serve as vital stabilizers (Grisolia, 2024; Handa *et al.*, 2025 [6]). However, this study concludes that agency is not a solitary achievement but a "collective kinship accomplishment" that cannot be realized through cash alone (Karra *et al.*, 2006; Reece, 2022). True transition from defensive confinement to public participation requires the permanent integration of technical infrastructure into the

exosystem, specifically following UNICEF's WinS guidelines for accessible Menstrual Health Management (Sommer *et al.*, 2016, 2021). By mandating accessible WASH geometries, including grab bars and sufficient transfer space, the biological reality of menstruation can be prevented from becoming a barrier to education (Schmitt *et al.*, 2018; Wilbur *et al.*, 2024). Only through these technical and cultural realignments can the adolescent girl in Zambia achieve an independence that is both functionally robust and culturally integrated (Cohen, 2025; Munakampe *et al.*, 2021).

Recommendations

Building upon the findings of this review, it is first recommended that the "Protection Paradox" be redefined within national policy not as a private caregiving choice, but as a systemic outcome of the tension between Western rights-based paradigms and the African moral framework of Ubuntu. While policy should leverage the relational strengths of Ubuntu, it must also incorporate explicit safeguards—such as community-led monitoring—to ensure that the principle of "shared humanity" does not inadvertently suppress individual agency (Tendengu, 2021). Crucially, to avoid romanticizing kinship, these safeguards must address "Negative Indigenous Knowledge" scripts that frame disability as a "spiritual test," which currently ecologically reinforces domestic retreat to avoid communal friction or social stigma (Mukushi *et al.*, 2019; Ndlovu, 2023) [11, 13].

Furthermore, to dismantle the "Marriageability Trap," intervention strategies must address the critical intersection of HIV and Sexual and Reproductive Health. Current evidence suggests that protective confinement is often a rational, defensive response to the community-level failure to provide safe, accessible SRH services for girls with mobility impairments (Blystad *et al.*, 2020; Moono *et al.*, 2020) [3, 9]. Consequently, it is recommended that the Zambian Ministry of Health prioritize the decentralization of disability-inclusive SRH clinics. By reducing the "exclusionary friction" of the external environment and the pervasive fear of sexual violence and HIV infection, caregivers may be less inclined to utilize hyper-supervision as a means of safeguarding a girl's future social standing and Lobola (bride price) value (Blystad *et al.*, 2020; Moono *et al.*, 2020; Sharper *et al.*, 2025) [3, 9, 17].

Parallel to these cultural shifts, a transition toward meaningful public participation requires the permanent integration of technical infrastructure standards into the national educational framework. It is recommended that the Ministry of Education move beyond general hygiene advocacy and adopt UNICEF's WinS guidelines for technical WASH specificity (Chinyama *et al.*, 2019; Masitera, 2020) [4, 8]. Specifically, infrastructure interventions in rural schools must mandate accessible geometries, including the installation of grab bars, sufficient transfer space for wheelchair users, and accessible water points (Chinyama *et al.*, 2019) [4]. This technical detail is essential to ensure that the biological reality of menstruation does not remain a mesosystemic barrier that severs the girl's connection to education (Chinyama *et al.*, 2019; Sharper *et al.*, 2025) [4, 17].

Methodologically, future disability research and monitoring must explicitly mitigate proxy-reporting bias to ensure the direct voice of adolescent girls is heard. Rather than relying

solely on caregiver accounts, which have been shown to underestimate functional capacity, the government should institutionalize the use of the Washington Group Short Set for direct-respondent data collection (Beuoy & Goddard, 2025; Madans *et al.*, 2011) [2, 7]. Additionally, to address the identified 60% urban bias in Zambian research, it is recommended that a targeted "rural-first" data initiative be established (Scherer *et al.*, 2024) [16]. This granular data is necessary to close the geographic "knowledge desert" and address the disparity in Social Cash Transfer utilization, where rural provinces utilize only 38.3% of funds for direct disability costs compared to 61.7% in urban areas (Gasior *et al.*, 2021; Mulenga *et al.*, 2026) [5, 12].

Ultimately, social protection policy must transition from viewing state aid as a "permanent emergency" to an inconsistent but vital ecological stabilizer that requires long-term institutionalization. Given the "impact fade-out" where material gains vanish after three years while health benefits persist, it is recommended that the SCT program be refined with better rural targeting and a "Cash Plus" model that integrates accessible transport and assistive technology (Handa *et al.*, 2025; Mulenga *et al.*, 2026; Silverstein *et al.*, 2024) [6, 12, 18]. By re-envisioning agency as a "collective kinship accomplishment," Zambia can move toward a permanent, obligation-based support model that fosters an independence for adolescent girls that is both functionally robust and culturally integrated (Masitera, 2020; Msipa, 2021; Onazi, 2024) [8, 10, 15].

Limitations

While this scoping review provides a critical synthesis of the factors influencing the functional independence of adolescent girls with mobility impairments, several inherent limitations must be acknowledged. First, a significant challenge arises from the 60% geographic bias prevalent in Zambian disability research, which disproportionately focuses on urban centers like Lusaka (Scherer *et al.*, 2024) [16]. This urban-centric focus creates a "knowledge desert" regarding the unique environmental and social frictions of rural provinces, where the utilization of ecological stabilizers like Social Cash Transfers for disability-specific costs is significantly lower—38.3% in rural areas compared to 61.7% in urban centers (Gasior *et al.*, 2021; Mulenga *et al.*, 2026) [5, 12]. Consequently, the recommendations for "Cash Plus" reforms and rural targeting are derived from a dataset that may not fully capture the extreme isolation faced by girls in the rural hinterlands (Gasior *et al.*, 2021) [5]. Building upon these geographic constraints, the review is also limited by the prevalence of proxy-reporting bias in the underlying literature. Methodological evidence suggests that caregiver respondents—often driven by their own protective anxieties—frequently underestimate the functional agency and latent capacity of adolescent girls compared to direct-respondent data from the Washington Group Short Set (Beuoy & Goddard, 2025; Madans *et al.*, 2011) [2, 7]. This distortion means that the "Protection Paradox" observed in the literature may, in some cases, reflect parental perceptions of limitation rather than the girl's actual physical inability to navigate her environment (Beuoy & Goddard, 2025) [2]. While this study prioritizes direct-voice data where possible, the systemic reliance on proxy accounts in broader Zambian scholarship complicates the transition toward a purely rights-based assessment of autonomy.

Furthermore, there is a theoretical risk in the potential romanticization of the Ubuntu framework within the existing literature. While the African moral philosophy of "relational living" is a powerful alternative to Western individualism, some studies fail to account for how traditional structures can be used to justify the denial of rights, abuse, or domestic abandonment (Masitera, 2020; Msipa, 2021) [8, 10]. Specifically, the review is limited by the scarcity of data on "Negative Indigenous Knowledge" scripts that frame disability as a "spiritual test" or communal burden (Mukushi *et al.*, 2019; Ndlovu, 2023) [11, 13]. Without more granular, community-level evidence on these abusive scripts, the proposal for a "shared humanity" within Ubuntu remains a theoretical ideal that requires further empirical validation to ensure it does not inadvertently suppress individual agency (Masitera, 2020; Ndlovu, 2023) [8, 13].

Crucially, the review identifies a gap in technical specificity concerning school-based infrastructure. Although this study advocates for UNICEF's WinS guidelines, much of the current empirical evidence in Zambia discusses Menstrual Health Management in general hygiene terms rather than providing specific WASH geometries (Chinyama *et al.*, 2019) [4]. The lack of technical data on the presence of grab bars, sufficient transfer space for wheelchair users, and accessible water points in rural schools limits the ability to provide precise engineering recommendations (Chinyama *et al.*, 2019; Masitera, 2020) [4, 8]. This technical deficit is particularly problematic when attempting to address how the biological reality of menstruation acts as a mesosystemic barrier that forces periodic domestic retreat (Chinyama *et al.*, 2019; Sharper *et al.*, 2025) [4, 17].

Finally, the analysis of long-term ecological stabilizers is constrained by the "impact fade-out" observed in longitudinal studies of unconditional cash transfers. Evidence indicates that material consumption gains and other impacts often vanish after a three-year window, with no sustained benefits in health or food security (Handa *et al.*, 2025) [6]. The lack of data on how these fade-out effects intersect with the "Marriageability Trap" and the failure of community-level Sexual and Reproductive Health services further limits the study (Chilambe *et al.*, 2023; Ndayishimiye *et al.*, 2020). Without longer-term data on how sustained social protection affects a girl's vulnerability to sexual violence and HIV infection over the course of her entire adolescence, the transition toward a permanent, obligation-based support model remains an urgent but partially under-theorized necessity (Rogers *et al.*, 2024; Rudgard *et al.*, 2023).

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