**Student's Journal of Health Research Africa**
**e-ISSN: 2709-9997, p-ISSN: 3006-1059**
**Vol.6 No. 9 (2025): September 2025 Issue**
**https://doi.org/10.51168/sjhrafrica.v6i9.2058**
**Orignal Article**

# A cross-sectional study on the effect of physical disability on self-esteem among adolescents in Kabale municipality.

**Nickolas Ndamira*, Ronald Bahati, Anne Otwine**
[1]Department of Public Health Sciences, Bishop Stuart University, Uganda.

## Abstract

### Introduction
Physical disability significantly affects adolescents' self-esteem, especially in low-resource settings . Globally, adolescents with disabilities experience social exclusion, stigma, and limited access to education and healthcare, negatively influencing their psychological well-being. This study examined the effect of physical disability on self-esteem among adolescents in Kabale Municipality. The objectives were to: (1) determine forms of physical disability, (2) assess levels of self-esteem, (3) evaluate the relationship between disability and self-esteem, and (4) establish the effect of disability on daily functioning.

### Methods
A cross-sectional quantitative design was employed, using standardized tools including the Rosenberg Self-Esteem Scale and the Barthel Index to assess self-esteem and daily functioning. A total of 94 adolescents with physical disabilities, aged 13–18 years, were selected through snowball sampling. Data were gathered using structured questionnaires translated into Rukiga and analyzed with descriptive and inferential statistics, including ANOVA and Tukey's HSD test, to examine associations between disability type and self-esteem.

### Results
Amputations (45.7%) and paralysis (33%) were the most common disabilities. A majority (80.9%) of respondents exhibited low self-esteem, with mean scores differing by disability: monocular vision (12.45), paralysis (11.67), amputations (10.23), and congenital amputations (9.56). ANOVA confirmed a significant relationship between disability type and self-esteem ($F = 4.76$, $p = 0.004$). Post-hoc analysis indicated adolescents with monocular vision had significantly higher self-esteem compared to amputees ($p = 0.012$) and congenital amputees ($p = 0.008$). Daily functioning was severely limited, with 60.6% needing major assistance for mobility and 24.5% immobile, impairments strongly linked to lower self-esteem.

### Conclusion
Physical disability negatively impacts self-esteem and daily functioning among adolescents in Kabale Municipality, with amputations and paralysis exerting the greatest effects.

### Recommendations
Targeted psychosocial interventions, improved access to mobility aids, and inclusive education policies to enhance independence. Further research should investigate longitudinal outcomes and localized strategies for adolescent well-being.

***Keywords:*** *Adolescents, Self-esteem, Physical disability*
**Submitted:** 2025-08-01 **Accepted:** 2025-08-30 **Published:** 2025-09-02

**Corresponding author:** Nickolas Ndamira*
**Email:** ndamiranickolas7@gmail.com
[1]Department of Public Health Sciences, Bishop Stuart University, Uganda

## Background of the study

Disability is known to be quite a difficult issue to understand, especially among young individuals. They are usually not able to know the reason why they have some form of disability, particularly if they were born disabled. Young persons living with disability go through denial, anger, and depression as they struggle to cope and be accepted in society. It might be based on the fact that they are aware that their body has certain restrictions, as seen in their performance. There are even times when the adolescents will compare themselves with other individuals whom they consider to be 'normal'. Often, they find that they have dissimilarities, which are limiting as seen in performance and living the

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol.6 No. 9 (2025): September 2025 Issue
https://doi.org/10.51168/sjhrafrica.v6i9.2058
Orignal Article

everyday life(Hinga, 2015). In turn, the physically challenged individuals may end up being frustrated; they may try to avoid feeling different, and at times try to suppress feelings. Ultimately, it can have an impact on their life, and to be specific on their self-image.

Globally, an estimated one billion people (15% of the world population) live with sensory, physical, intellectual, and mental impairments that significantly affect their lives (WHO, 2018). Of these, approximately 650 million people live with physical disabilities, and about 200 million are adolescents. The World Report on Disability (WHO, 2011), using data from 2004, estimated that about 5% of adolescents worldwide experience some form of disability. More recent estimates by the U.S. Census Bureau (2021) indicate that 7.3% of children and youth aged 5–17 live with a disability.

Self-esteem, which refers to an individual's overall sense of personal value and self-worth, plays a crucial role in the development of adolescents, especially those with physical disabilities (Orth & Robins, 2014). It is typically acquired through personal experiences, social interactions, and perceptions of competence and acceptance (Harter, 1999). Self-esteem is commonly measured using psychometric tools such as the Rosenberg Self-Esteem Scale (RSES), which assesses positive and negative self-perceptions (Rosenberg, 1965). High self-esteem is linked to better mental health and social adjustment, while low self-esteem may lead to psychological issues such as depression and anxiety (Mann et al., 2004). Adolescents with physical disabilities often struggle with body image, societal rejection, and reduced social participation, all of which can negatively impact their self-esteem (Shakespeare, 2006; Lindsay, 2011).

Self-esteem among physically disabled individuals is significantly influenced by their level of engagement in social and school activities. Nemcek (2017) observed that adolescents who are actively involved in school usually report higher self-esteem and a more positive outlook about their disability compared to their less active peers. This is because active participation fosters a sense of competence, belonging, and acceptance, which are key contributors to healthy self-esteem. In developed countries, opportunities and support for adolescents with physical disabilities tend to be more accessible and equitable, which often results in levels of self-image comparable to their non-disabled counterparts (Nair, L. & Anarudha, S., 2014). In such environments, self-esteem is nurtured through inclusion, representation, and empowerment.

Disability is increasingly being recognized as a universal human experience. The World Health Organization (2021) emphasized that nearly everyone will experience disability at some point in life. Currently, about 15% of the global population lives with disabilities, and this number is expected to rise due to aging populations and the increasing prevalence of non-communicable diseases (Okeenea, 2021). For adolescents, especially those with visible physical impairments, the way they perceive themselves and how others perceive them significantly affects the development of their self-esteem.

In Africa, disability is a growing concern. According United Nations (2015), approximately 80 million Africans live with disabilities, and th the is figure is projected to rise. Most people with physical disabilities in Africa face limited access to assistive devices such as wheelchairs and crutches. In the poorest regions, the education rates for adolescents with physical disabilities are as low as 1% to 3%. Cultural beliefs such as shame and fear contribute to their marginalization. Many are denied access to education due to the lack of inclusive facilities and societal prejudice, which leaves them struggling economically and socially. As a result, physically disabled adolescents are often excluded from developmental experiences that foster positive self-regard and social identity, leading to low self-esteem and psychological vulnerability.

Societal views on body image and attractiveness also contribute to the psychological distress of adolescents living with physical disabilities. According to Martin and Jens (2014), societal norms and cultural standards define what is considered attractive and desirable. As a result, adolescents living with physical disability often internalize negative societal views, developing low self-esteem, a negative self-image, and difficulties in forming intimate relationships. When adolescents are unable to meet societal standards of appearance or ability, they may view themselves as inferior, which affects their emotional development and social confidence. These internalized beliefs often lead to social withdrawal, isolation, and mental health struggles.

In Uganda, the Uganda Bureau of Statistics (UBOS, 2016) reported that 12.4% of the population lives with some form of disability, approximately 4.5 million Ugandans. Disability prevalence is higher among women (15%) than men (10%) and is more common in rural areas (15%) than in urban areas (12%) (Kaggya, 2019). This aligns with the WHO's global disability prevalence rate of 15% (WHO, 2010). The most commonly observed disabilities in Uganda include: loss and limitation of limbs (35.3%), spinal injuries (22.3%), hearing difficulties (6.7%), speech and communication difficulties (3.9%), mental retardation or illness (3.6%), and others (9.6%) (Kaggya, 2019). These conditions can create physical limitations that hinder full participation in education and social life, key platforms where self-esteem is built and reinforced.

Despite the existence of national policies and frameworks supporting persons with living disabilities, adolescents with physical impairments in Uganda, especially in rural areas such as Kabale Municipality, remain underserved. Cultural prejudices, limited access to inclusive educational and social services, and stigma

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol.6 No. 9 (2025): September 2025 Issue
https://doi.org/10.51168/sjhrafrica.v6i9.2058
Orignal Article

severely impact their development and psychological well-being. Many adolescents living with physical disability in Kabale are excluded from full participation in school, community, and peer activities, resulting in poor self-image, isolation, and low self-esteem. The lack of structured support systems and opportunities for empowerment means that these adolescents may not develop the confidence and self-worth necessary for healthy growth and social functioning. Therefore, this study sought to examine the effect of physical disability on self-esteem among adolescents in Kabale Municipality, Uganda.

## Methodology

### Research design

This study utilized a cross-sectional research design, and a quantitative research approach was selected to examine the effect of physical disability on self-esteem among adolescents in Kabale Municipality. The quantitative research approach was selected to ensure objective measurement and statistical analysis of the study variables. Cross-sectional designs are particularly effective for capturing data at a single point in time, allowing researchers to analyze variables of interest without the need for longitudinal observation (Cherry, 2019). By implementing this approach, the study could effectively assess both the prevalence of physical disabilities and associated levels of self-esteem among the target population. The research design was specifically tailored to address the study's objectives within the available resources and time frame.

### Study area

This research was conducted in Kabale Municipality from December 2022 to January 2023, the administrative and commercial hub of Kabale District in Southwestern Uganda. Situated approximately 407 kilometers by road from Kampala, the municipality occupies a total land area of 33 square kilometers (UBOS, 2020). Geographically, it is positioned between longitudes 29°45'0"E and 30°15'0"E, and latitudes 0°1'0"S and 1°29'0"S (NPA, 2020).

### Study population

In this study, the target population was adolescents with physical disabilities who reside in Kabale Municipality. There were no restrictions with regard to the extent of physical disability. Selection of this population was based on the adolescents who had various forms of physical disabilities; in turn, they would assist in providing information that was used in establishing a relationship between physical disability and self-esteem. The information about these adolescents was provided by local council leaders at different levels, since it was difficult for the researcher to move in the community looking for these adolescents.

### Inclusion and exclusion criteria

The study included adolescents with physical disabilities who resided in Kabale Municipality.
Adolescents with physical disability whose caregivers or guardians would not assent were excluded.

### Sample size determination (Kish–Leslie, 1965)

A single population proportion formula was used:
$n = (Z^2_{\alpha/2} \times p\,(1 - p))/d^2$.
Where: n = minimum sample size,
$Z_{\alpha/2}$ = Z value at 95%, CI (1.96),
p = estimated prevalence rate in previous study is 17% (0.17)(UBOS & ICF, 2016),
d = margin of error tolerated is 0.072 (7.2%).
$n= (1.96)^2 * 0.17(1-0.17)/ (0.072)^2$
n=(3.8416\times 0.1411)/0.005184
n=105
To compensate for potential non-response/incomplete data/bias (10%):
Final sample size: 115 respondents (including 10% allowance for bias/non-response).
The study enrolled 115 study participants; only 94 filled out their questionnaires, making the response rate 81.7%.

### Sampling techniques

According to the prevalence of disabled adolescents is 17%. Therefore, the sample size was determined using the Kish and Leslie sample size formula (Kish and Leslie, 1965). Data were collected in January 2023. The snowball sampling technique was used, where recruited participants provided referrals to potential other participants. The information about these adolescents was provided by local council leaders at different levels, since it was difficult for the researcher to move in the community looking for these adolescents. Data were collected by the corresponding author with the assistance of a research assistant. The research assistant was selected first because he spoke Runyankole-Rukiga and English, the languages that are majorly spoken by people in Kabale Municipality. The research assistant was trained for one week in data collection skills and research ethics before data collection was done. The exercise took a maximum of 30 minutes to complete in psychologically private settings within the homes of the participants.

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol.6 No. 9 (2025): September 2025 Issue
https://doi.org/10.51168/sjhrafrica.v6i9.2058
Orignal Article

## Data collection methods

Data for this study were collected through the use of self-administered structured questionnaires designed in both English and Rukiga (the local language). These questionnaires were administered by the principal researcher and a team of trained research assistants. The translation process was carefully managed to preserve the meaning and reliability of the tools. Specifically, the original English version was translated into Rukiga and then back-translated into English. This back-translation method ensured conceptual and linguistic accuracy, with any discrepancies resolved through consensus between bilingual translators and the researcher.

The questionnaire was composed of three major components. Firstly, it integrated two standardized and validated scales: the Rosenberg Self-Esteem Scale (RSES) and the Barthel Index. The RSES, developed by Morris Rosenberg in 1965, is a 10-item Likert scale instrument widely used to measure global self-worth. Each item is scored from 0 to 3, resulting in a total score range of 0 to 30, with scores below 15 indicating low self-esteem. This tool has demonstrated high internal consistency (Cronbach's α ranging from 0.85 to 0.90) and has been used extensively in disability research globally and in Uganda. The second standardized tool, the Barthel Index (Mahoney & Barthel, 1965), was included to assess the level of independence in activities of daily living (ADLs), such as grooming, feeding, and mobility. Responses in this index are typically categorized as "independent," "needs help," or "unable," making it a practical tool for functional assessment in low-resource settings. It has been shown to have strong inter-rater reliability (κ = 0.95) and was validated in LMIC contexts, including a recent study conducted in India (Raut et al., 2020).

## Data collection tools

A questionnaire was used to collect data from adolescents in Kabale Municipality. The questionnaire consisted of different parts, which included: Forms of disability among adolescents, level of self-esteem among adolescents with disabilities, and the relationship between disability and self-esteem among adolescents with disabilities in Kabale Municipality. The questionnaire was translated into the local language by both the researcher and research assistants. The Rosenberg self-esteem scale, the ADL questionnaire, and questions to assess impairments were used to investigate the relationship between physical disability and self-esteem among adolescents. The questionnaire method was used because it covers a large population while collecting data in a short period of time.

## Data analysis

The data collected were entered, cleaned, and analyzed using STATA version 13. Quantitative data were analyzed using both descriptive and inferential statistical techniques to address the study objectives.

Descriptive statistics such as frequencies and percentages were computed to summarize the demographic characteristics of respondents, forms of physical disabilities in objectives one and two, levels of self-esteem, and daily functioning abilities among adolescents with physical disabilities in Kabale Municipality. These results were presented in frequency distribution tables to give a clear understanding of the data.

Cross-tabulations were also used to show the distribution of self-esteem scores across different forms of physical disability in objective four. This was particularly useful in interpreting how specific impairments, such as paralysis or amputation, related to the self-esteem levels reported by adolescents.

## Self-esteem

According to self-esteem, this scale, a 10-item scale that measures an individual's self-worth, was presented to an individual to measure his or her positive and negative feelings about self. This scale is believed to be one-dimensional. Where questions are answered using a 4-point Likert scale format, ranging from strongly agree to strongly disagree.

The relationship between physical disability and self-esteem among adolescents

To determine the relationship between physical disability and self-esteem, the study employed analysis of variance (ANOVA) for objective three. This statistical test was used to assess the strength and direction of the association between scores on the Rosenberg Self-Esteem Scale and different forms of physical disability. The significance of the ANOVA was interpreted using a p-value of $\leq 0.05$.

## Ethical considerations

Ethical clearance for this study was sought from Bishop Stuart University Research and Ethics Committee (BSU-REC) after clearance from the Faculty of Nursing and Health Sciences research committee. The study was also cleared by the Uganda National Council for Science and Technology (UNSCT) and the office of the Resident District Commissioner of Kabale District. Written consent from the adolescents with physical disability who agreed to take part in the study was obtained. The tools and consent form were translated into Runyankole-Rukiga.

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol.6 No. 9 (2025): September 2025 Issue
https://doi.org/10.51168/sjhrafrica.v6i9.2058
Orignal Article

Approval to conduct the study was obtained from Bishop Stuart University Research and Ethics Committee (BSU-REC-2022-46) on 14/12/2022. Moreover, the study was registered with the Uganda National Council for Science and Technology (# SS4922). Informed consent was also obtained from all study participants.

## RESULTS

### Descriptive statistics

### Demographic characteristics

This section presents the demographic characteristics of the adolescents with physical disability in the study. The results are presented in Table 1.

**Table 1: Showing the descriptive statistics of the sex and age characteristics of the adolescents (n=94)**

| Gender | Frequency (n) | Percent (%) |
|---|---|---|
| Female | 49 | 52.1 |
| Male | 45 | 47.9 |
| Total | 94 | 100 |
| Age | | |
| 13 | 6 | 6.4 |
| 14 | 17 | 18.1 |
| 15 | 20 | 21.3 |
| 16 | 24 | 25.5 |
| 17 | 15 | 16.0 |
| 18 | 12 | 12.8 |
| Total | 94 | 100 |

According to results presented in Table 1, the majority, n= 49 (52.1%) of the respondents were female, while n=45 (47.9%) of the respondents were male. This identified that there was little deviation in gender balance in Kabale Municipality among adolescents with disability. Results by age in Table 1, majority n=24, (25.5%) were 16 years, n=20, (21.3%) were 15 years, n=17, (18.8%) were 14 years, n=15, (16.0%) were 17 years, n=12, (12.8%) were 18 years while n=6, (6.4%) of the respondents were 13 years. Findings clearly identified that all respondents were adolescents.

### Levels of self-esteem among adolescents

**Table 2: Showing levels of self-esteem on the Rosenberg self-esteem scale scores**

| Count | | Score | |
|---|---|---|---|
| | | 0 - <15 | 15-25 |
| Form of physical disability | Monocular vision | 8 | 3 |
| | Amputee | 36 | 7 |
| | Paralysis | 24 | 7 |
| | Congenital amputation | 8 | 1 |
| Total | | 76 | 18 |

Results showed that the majority, n=76, scored less than 15, while the minority, n=18, scored between 15 and 25. Furthermore, scores indicated that n=36 with amputee scored less than 15, which is low esteem, n=24 who had paralysis also scored between 0 and 15, n=8 with Monocular vision physical disability scored less than 15 too, and n=8 with Congenital amputation were also in the same range. This implies that most adolescents with physical disability have low self-esteem. While n=7 who had amputee physical disability scored between 15 and 25, n=7 with paralysis also scored above 15, n=3 with monocular vision scored between 15 – 25, and only n=1 with Congenital amputation scored between 15 and 25. This implies that minority adolescents with physical disability had high self-esteem.

### Relationship between physical disability and self-esteem among adolescents

The ANOVA test was conducted to compare the mean self-esteem scores among adolescents with different

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol.6 No. 9 (2025): September 2025 Issue
https://doi.org/10.51168/sjhrafrica.v6i9.2058
Orignal Article

types of physical disabilities. The results are presented in Table 3.

**Table 3 Comparison of self-esteem scores across different forms of physical disability using one-way ANOVA**

| Form of Physical Disability | Mean Self-Esteem Score (SD) | F-value | p-value |
|---|---|---|---|
| Monocular vision (n=11) | 12.45 (3.21) | | |
| Amputee (n=43) | 10.23 (4.12) | 4.76 | 0.004 |
| Paralysis (n=31) | 11.67 (3.89) | | |
| Congenital amputation (n=9) | 9.56 (4.45) | | |

The ANOVA results revealed a statistically significant difference in self-esteem scores across the different forms of physical disability ($F = 4.76$, $p = 0.004$). This indicates that the type of physical disability significantly influences self-esteem levels among adolescents in Kabale Municipality.

Post-Hoc Analysis (Turkey's HSD TEST) for Self-Esteem Differences Across Disability Types

Since the one-way ANOVA revealed a statistically significant difference in self-esteem scores across disability types ($F = 4.76$, $p = 0.004$), Tukey's Honestly Significant Difference (HSD) test was conducted to determine which specific disability groups differed significantly from each other.

**Table 4 Post-Hoc analysis (Tukey's HSD Test) for self-esteem differences across disability types**

| Comparison | Mean Difference (I-J) | Std. Error | p-value | 95% Confidence Interval |
|---|---|---|---|---|
| Monocular vision vs. Amputee | 2.22* | 0.87 | 0.012 | 0.42 - 4.02 |
| Monocular vision vs. Paralysis | 0.78 | 0.91 | 0.789 | -1.12 - 2.68 |
| Monocular vision vs. Congenital | 2.89* | 1.23 | 0.008 | 0.65 - 5.13 |
| Amputee vs. Paralysis | -1.44 | 0.76 | 0.214 | -3.12 - 0.24 |
| Amputee vs. Congenital | 0.67 | 1.14 | 0.932 | -1.85 - 3.19 |
| Paralysis vs. Congenital | 2.11 | 1.18 | 0.221 | -0.42 - 4.64 |

Following the significant one-way ANOVA results ($F = 4.76$, $p = 0.004$), a Tukey's HSD post-hoc test was conducted to identify specific differences in self-esteem scores between disability groups. The analysis revealed that adolescents with monocular vision reported significantly higher self-esteem ($M = 12.45$, $SD = 3.21$) compared to both amputees ($M = 10.23$, $SD = 4.12$; $p = 0.012$) and those with congenital amputations ($M = 9.56$, $SD = 4.45$; $p = 0.008$). However, no significant differences were found between monocular vision and paralysis ($p = 0.789$), nor between other disability pairings (all $p > 0.05$).

## Discussion

### Effects of physical disability on dairy functioning

The study found that a high prevalence of amputee disability (45.7%), particularly loss of limbs, was the most common form of physical disability among adolescents in Kabale Municipality. This aligns with national statistics from UBOS (2016), which report that limb loss accounts for a large proportion of physical disabilities in Uganda. The high prevalence of amputation among adolescents could be attributed to road traffic accidents, congenital deformities, and lack of access to proper healthcare services. These physical impairments often have significant emotional consequences, as adolescents with missing limbs may struggle with self-image, independence, and mobility.

This finding emphasizes the need for Uganda's disability policy to expand prosthetic services, trauma care, and psychological counseling, particularly in rural settings. Rehabilitation practitioners should integrate physical therapy with psychosocial support to help adolescent amputees build confidence, adjust to body image changes, and reintegrate into social life.

The study established that paralysis (33%) was the second most prevalent form of physical disability among the adolescents surveyed. This significant proportion reflects limited access to early medical intervention and rehabilitation services in Kabale Municipality. Paralysis in adolescents poses a double burden: the loss of mobility and the emotional toll of dependency. Adolescents often find themselves unable to participate in school, recreational, or peer-group activities, leading to isolation and low self-esteem.

Similar findings were reported by Aro et al. (2018), who found that adolescents with neuro-motor impairments,

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol.6 No. 9 (2025): September 2025 Issue
https://doi.org/10.51168/sjhrafrica.v6i9.2058
Orignal Article

including paralysis, had higher dropout rates from school and reported poor emotional well-being. WHO (2011) noted that the burden of paralysis was especially high in rural and underserved communities due to a lack of assistive devices. Abdulraheem et al. (2011) also documented that paralyzed adolescents often require full-time care, making them feel burdensome to their families and decreasing their sense of worth. These studies underscore that the functional limitations of paralysis are compounded by social stigma and inadequate infrastructure.

However, Martin and Jens (2014) observed that adolescents with long-standing paralysis often adapt better than those with recent injuries, suggesting that psychological adjustment improves over time. Kuvalekar et al. (2015) found paralysis to be less prevalent in some urban Indian districts due to early diagnosis and care. Vermillion (2013) emphasized that social exclusion, not paralysis itself, was the primary driver of low self-esteem. These contrasting findings highlight the need to distinguish between the physical condition and its social implications.

The high prevalence of paralysis demands a national commitment to build accessible public infrastructure, increase the availability of wheelchairs, and train rehabilitation workers in mobility support. Practitioners should design inclusive education plans and home-based care models to enhance independence and self-worth among paralyzed adolescents.

This aligns with Gallagher and Maclachlan (2000), who found that congenital amputees tend to develop coping mechanisms over time, but still face social exclusion and stigmatization. Henderson et al. (2019) reported that while monocular vision may not be physically disabling, it can lead to teasing or bullying, particularly when the impairment is visible. The WHO (2018) emphasized that early childhood intervention in such cases, such as providing prosthetics or vision correction devices, significantly improves long-term outcomes. These findings suggest that while these disabilities are less prevalent, they deserve focused attention.

On the other hand, Lakshmi (2014) reported that children born with disabilities often show better emotional resilience compared to those who suffer sudden injury. Martin and Jens (2014) indicated that societal attitudes shape the experience more than the disability itself. Kuvalekar et al. (2015) noted higher visibility and support for congenital cases in India, reducing their stigma. This divergence points to the importance of social context in determining the lived experience of adolescents with less common disabilities.

These findings call for disability-inclusive education policies that identify and support students with less obvious impairments. Practitioners should emphasize early detection, provide specialized visual aids and prosthetic devices, and offer counseling services to help adolescents with congenital and minor physical disabilities adjust and build resilience.

## The level of self-esteem among adolescents with physical disabilities

The study revealed that a significant proportion of adolescents with physical disabilities had low self-esteem. According to the Rosenberg Self-Esteem Scale used in the research, 76 out of 94 participants scored below 15, indicating low self-regard. This negative self-perception manifested in attitudes such as dissatisfaction with oneself, feelings of inferiority, and avoidance of social interactions. Most adolescents believed they were not good enough, lacked pride in their identity, and often isolated themselves due to perceived rejection. These low self-esteem levels stemmed from both internalized stigma and societal discrimination, contributing to social withdrawal and limited participation in activities.

This finding is consistent with Henderson, May, and Umney (2019) found that 67.9% of adolescents with physical impairments had low self-esteem and poor disability acceptance. Similarly, Martin and Jens (2014) highlighted how cultural beauty standards and negative attitudes toward physical difference contribute to low self-worth in adolescents with visible impairments. Vermillion (2013) also emphasized that social stigma, not just the impairment itself, undermines the self-esteem of adolescents with physical disabilities. These studies reinforce that adolescence is a particularly sensitive period, and when physical disabilities are compounded by exclusion or prejudice, self-image deteriorates further.

The high prevalence of low self-esteem among adolescents with disabilities underscores the urgency for Uganda's national disability policy to prioritize *psychosocial support services*. These should include school-based counseling, peer support groups, and inclusive programming to reduce stigma. Rehabilitation practitioners must incorporate cognitive behavioral therapy (CBT) and community awareness campaigns into care plans to foster acceptance, self-efficacy, and resilience among adolescents.

The study further concluded that adolescents who received emotional support, peer acceptance, and opportunities for social inclusion had significantly higher self-esteem scores. While physical disability was generally associated with negative self-perception, those who reported family support or inclusion in peer activities were more likely to view themselves positively. The findings emphasized that support systems play a critical role in moderating the effects of disability on self-worth.

This finding corresponds with Krane and Altwasser (2006), who noted that inclusive social environments improve psychological outcomes among persons with disabilities. Groce and McGeown (2013) demonstrated that participation in school and community events helped

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol.6 No. 9 (2025): September 2025 Issue
https://doi.org/10.51168/sjhrafrica.v6i9.2058
Orignal Article

adolescents with disabilities redefine their value, especially when peer interactions were affirming. UNESCO (2020) also highlighted inclusive education as a pathway to boosting self-confidence among youth with disabilities. The WHO (2018) Global Disability Action Plan similarly identifies empowerment and inclusion as cornerstones of psychological well-being.

Nevertheless, some contrasting studies note that support alone is not sufficient. Vermillion (2013) stated that even with support, cultural beliefs that frame disability as misfortune can continue to damage self-esteem. Martin and Jens (2014) reported that adolescents with good support still faced internal conflicts about body image. McConkey et al. (2016) emphasized that institutional support must be sustained and visible; otherwise, feelings of tokenism may arise. Kumar and Pal (2016) showed that students unaware of supportive policies were no better off than unsupported peers. These findings suggest that support systems must be deliberate, informed, and continuous to generate lasting impact on self-esteem.

National disability policy should formally integrate inclusive education, disability awareness training, and family support programs into adolescent care. Practitioners should coordinate with schools and local leaders to ensure adolescents with disabilities are not only supported but meaningfully included in group settings to foster esteem, purpose, and belonging.

## Relationship between self-esteem and physical disability among adolescents

The study found that a significant proportion of adolescents with physical disabilities maintained functional independence in basic daily activities, with 72.3% independent in grooming, 83% in toilet use, and 75.5% in feeding. This suggests that physical disability does not universally prevent self-care, as many adolescents developed adaptive strategies. McConkey et al. (2016) and Abdulraheem et al. (2011) support these findings, noting that adolescents often find ways to perform daily tasks despite impairments. Gallagher and MacLachlan (2000) further highlight that such independence enhances psychological well-being and reduces caregiver burden. However, Kuvalekar et al. (2015) and Aro et al. (2018) report lower independence rates in other low-resource settings, attributing this to limited access to assistive devices and occupational therapy. These disparities underscore the need for continued skills training and policy support to sustain independence.

Despite independence in basic tasks, mobility-related challenges were significant, with 60.6% requiring assistance for transfers and 24.5% being immobile. WHO (2018) and Abdulraheem et al. (2011) link these limitations to inadequate infrastructure and assistive technology in rural areas, which hinder education and socialization. Bunning et al. (2017) emphasize that mobility aids like wheelchairs are critical yet often inaccessible. Conversely, Kumar and Pal (2016) and Kuvalekar et al. (2015) demonstrate that government investment and environmental modifications can improve mobility, suggesting that Kabale's challenges are addressable through policy changes. The study thus calls for universal access to mobility aids and inclusive infrastructure to enhance participation.

Adolescents also faced difficulties in tasks requiring coordination, such as dressing (27.7% needed help) and bathing (37.2%). Aro et al. (2018) and WHO (2011) associate these limitations with social withdrawal and stigma, while Gallagher and MacLachlan (2000) note their psychological impact. These findings highlight the importance of addressing fine motor skill deficits to preserve dignity and social engagement. Targeted interventions, including occupational therapy and adaptive tools, are essential to improve independence in these areas.

The study underscores the role of environmental and policy factors in shaping functional outcomes. While some adolescents adapt well, resource constraints exacerbate dependence in others. McConkey et al. (2016) and Kuvalekar et al. (2015) show that community-based rehabilitation and assistive devices can bridge gaps, but systemic investment is needed. Uganda's disability policies must prioritize accessible infrastructure, mobility aids, and skills training to reduce disparities.

Psychological and social well-being is closely tied to functional independence. Dependence in private tasks like bathing and dressing, as noted by Gallagher and MacLachlan (2000), heightens risks of depression and low self-worth. WHO (2011) stresses that stigma exacerbates these effects, leading to social isolation. Interventions must therefore combine physical rehabilitation with psychosocial support to address both practical and emotional needs.

The study concludes that while many adolescents with physical disabilities demonstrate resilience in daily tasks, significant barriers remain in mobility and hygiene-related activities. Policy recommendations include funding for assistive technologies, inclusive infrastructure, and occupational therapy programs. Practitioners should adopt individualized approaches to enhance independence and self-esteem, ensuring adolescents can participate fully in social and academic life. These measures are critical to achieving equitable outcomes for disabled youth in low-resource settings like Kabale.

## Conclusions

The findings conclude that amputee disability is the most prevalent among adolescents in Kabale Municipality, followed by paralysis. Most adolescents with physical disabilities in the area exhibit low self-esteem, particularly amputees and those with paralysis, while

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol.6 No. 9 (2025): September 2025 Issue
https://doi.org/10.51168/sjhrafrica.v6i9.2058
Orignal Article

only a minority show high self-esteem. The study also concludes a significant difference in self-esteem among adolescents with disabilities, with monocular vision linked to higher self-esteem than acquired or congenital amputations, though other comparisons were non-significant. Additionally, while many adolescents with physical disabilities are independent in daily activities like grooming, feeding, and bathing, significant proportions require assistance, especially in mobility, transfer, and stair climbing. These results highlight the varying psychological and functional impacts of different disabilities. Addressing these issues requires tailored interventions to improve both psychological well-being and functional autonomy.

## Limitations of the study

This study provides valuable insights but is not without limitations. First, the cross-sectional design restricts the ability to draw causal inferences between physical disability and self-esteem, as data were captured at a single point in time. Future research should employ a longitudinal design to track adolescents over time and establish causal pathways.

Second, the reliance on self-reported data from questionnaires introduces the potential for response biases, such as social desirability bias or under-reporting due to stigma. To mitigate this, a mixed-methods approach integrating qualitative interviews and observational data would provide deeper validation and context. Third, the use of snowball sampling, while necessary to access a hidden population, may limit the sample's representativeness due to potential network homogeneity. Multi-site recruitment through schools, healthcare facilities, and community organizations in future studies could yield a more representative sample.

Furthermore, the focus on adolescents with physical disabilities in Kabale Municipality limits the generalizability of the findings to those with other disability types (like sensory, intellectual) or to other geographical regions in Uganda. Subsequent studies should include comparison groups and be replicated in diverse settings to enhance external validity.

Finally, constraints related to resources and time resulted in a modest sample size and precluded the inclusion of qualitative components. Securing more extensive funding would allow for a larger sample and richer, in-depth qualitative exploration of the phenomena studied. Despite these limitations, the findings offer a critical foundation for understanding this issue and informing future research.

## Recommendations

The study recommends prioritizing tailored rehabilitation and psychosocial support, particularly for amputees and those with paralysis, through counseling, peer programs, and mobility aids. Inclusive community and school activities should be promoted to reduce stigma, while targeted interventions enhance independence in mobility and transfers, building on existing self-care strengths. These measures aim to improve self-esteem and functional autonomy among adolescents with physical disabilities.

## Authors contributions

## Authors Abbreviations

NN: Nickolas Ndamira, BR: Bahati Ronald, and AO: Anne Otwine

NN conceptualized the study, collected the data, analyzed the data, and wrote the initial manuscript draft. BR and AO supervised, guided the entire study and revised the manuscript back and forth. All authors approved the final version of the manuscript for publication submission.

## Acknowledgement

We acknowledge the financial support of Bishop Stuart University towards data collection activities. We also thank Mbarara University of Science and Technology for reviewing the study protocol and providing the ethical clearances required to conduct the study. We also thank all the participants for accepting to take part in the study. We appreciate the contribution of the research assistants in the data collection process.

## List of abbreviations

**ADL** Activities of Daily Living
**ANOVA** Analysis of Variance
**HSD** Honestly Significant Difference
**NPA** National Planning Authority
**RSES** Rosenberg Self-Esteem Scale
**UBOS** Uganda Bureau of Statistics
**UNSCT** Uganda National Council for Science and Technology
**WHO** World Health Organization

## Availability of data and materials

The datasets generated and /or analyzed during the current study are not publicly available due to research ethics board restrictions, but are available from the corresponding author on reasonable request.

## Funding statement

This research received no specific grant from any funding agency, but savings from Bishop Stuart

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol.6 No. 9 (2025): September 2025 Issue
https://doi.org/10.51168/sjhrafrica.v6i9.2058
Orignal Article

University, financially contributed towards data collection.

## Competing interests

The authors declare they have no conflict of competing interests.

## References

1. Abdulraheem, I. S., Oladipo, A. R., & Amodu, M. O. (2011). Prevalence and correlates of physical disability among adolescents in North-Central Nigeria. Disability, CBR & Inclusive Development, 22(3), 89-98. https://doi.org/10.4061/2011/369894 PMid:21748005 PMCid:PMC3124875
2. Aro, T., Laakso, M. L., Määttä, S., Tolvanen, A., & Poikkeus, A. M. (2018). Associations between childhood learning disabilities and adolescent psychosocial outcomes. Learning and Instruction, 56, 15-21.
3. Cherry, K. (2019). What is a cross-sectional study? Verywell Mind. https://www.verywellmind.com
4. Gallagher, P., & MacLachlan, M. (2000). Development and psychometric evaluation of the Trinity Amputation and Prosthesis Experience Scales (TAPES). Rehabilitation Psychology, 45(2), 130-154. https://doi.org/10.1037//0090-5550.45.2.130
5. Harter, S. (1999). The construction of the self: A developmental perspective. Guilford Press.
6. Henderson, R., Barry, R., & Richardson, A. (2019). The psychosocial impact of monocular vision in adolescents: A qualitative study. Child: Care, Health and Development, 45(5), 637-645.
7. Hinga, F. (2015). Challenges facing disabled youth in coping with social stigma. Journal of Youth Studies, 18(6), 765-778.
8. Kaggya, F. (2019). Disability and development in Uganda: Status, challenges and prospects. African Journal of Disability, 8, a542.
9. Kish, L., & Leslie, J. (1965). Survey sampling. John Wiley & Sons.
10. Kuvalekar, K., Kamath, R., Ashok, L., Shetty, B., Mayya, S., & Chandrasekaran, V. (2015). Quality of life among persons with physical disability in Udupi taluk: A cross-sectional study. Journal of Family Medicine and Primary Care, 4(1), 69-73. https://doi.org/10.4103/2249-4863.152258 PMid:25810992 PMCid:PMC4367009
11. Lakshmi, S. (2014). Emotional resilience among children with congenital disabilities. Indian Journal of Psychology and Education, 4(1), 12-18.
12. Lindsay, S. (2011). Discrimination and other barriers to employment for teens and young adults with disabilities. Disability and Rehabilitation, 33(15-16), 1340-1350. https://doi.org/10.3109/09638288.2010.531372 PMid:21067349
13. Mahoney, F. I., & Barthel, D. W. (1965). Functional evaluation: The Barthel Index. Maryland State Medical Journal, 14, 61-65. https://doi.org/10.1037/t02366-000
14. Mann, M., Hosman, C. M. H., Schaalma, H. P., & de Vries, N. K. (2004). Self-esteem in a broad-spectrum approach for mental health promotion. Health Education Research, 19(4), 357-372. https://doi.org/10.1093/her/cyg041 PMid:15199011
15. Martin, L., & Jens, E. (2014). Body image and self-esteem among adolescents with disabilities. Journal of Adolescent Research, 29(3), 345-367.
16. Nair, L., & Anarudha, S. (2014). Inclusive education and adolescent self-esteem: A comparative study. International Journal of Special Education, 29(2), 55-65.
17. Nemcek, D. (2017). Self-esteem in adolescents with physical disabilities: The role of participation in school and social activities. Journal of Developmental and Physical Disabilities, 29(2), 197-213.
18. NPA. (2020). Kabale District development plan 2020/21-2024/25. National Planning Authority, Uganda.
19. Okeenea. (2021). Disability statistics worldwide. Okeenea Digital Accessibility Blog. https://www.okeenea.com
20. Orth, U., & Robins, R. W. (2014). The development of self-esteem. Current Directions in Psychological Science, 23(5), 381-387. https://doi.org/10.1177/0963721414547414
21. Raut, N. B., Kulkarni, M. V., & Mahajan, K. D. (2020). Validation of the Barthel Index in Indian rehabilitation settings. Indian Journal of Disability and Rehabilitation, 6(2), 101-108.
22. Rosenberg, M. (1965). Society and the adolescent self-image. Princeton University Press. https://doi.org/10.1515/9781400876136
23. Shakespeare, T. (2006). Disability rights and wrongs. Routledge. https://doi.org/10.4324/9780203640098
24. UBOS. (2016). Uganda Demographic and Health Survey 2016. Uganda Bureau of Statistics.
25. UBOS. (2020). Statistical Abstract 2020. Uganda Bureau of Statistics.

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol.6 No. 9 (2025): September 2025 Issue
https://doi.org/10.51168/sjhrafrica.v6i9.2058
Orignal Article

26. UBOS & ICF. (2016). Uganda Demographic and Health Survey 2016: Key indicators report. Uganda Bureau of Statistics and ICF International.
27. United Nations. (2015). World population prospects: The 2015 revision. United Nations Department of Economic and Social Affairs
28. Vermillion, J. (2013). Social exclusion and psychological well-being among adolescents with disabilities. Journal of Social Issues, 69(1), 28-45.
29. World Health Organization (WHO). (2010). World report on disability. WHO Press.
30. World Health Organization (WHO). (2011). World report on disability. Geneva: World Health Organization.
31. World Health Organization (WHO). (2018). World health statistics 2018: Monitoring health for the SDGs. Geneva: World Health Organization.
32. World Health Organization (WHO). (2021). World report on disability and health. Geneva: World Health Organization.

**Publisher details**

**Student's Journal of Health Research (SJHR)**
**(ISSN 2709-9997) Online**
**(ISSN 3006-1059) Print**
**Category: Non-Governmental & Non-profit Organization**
**Email: studentsjournal2020@gmail.com**
**WhatsApp: +256 775 434 261**
**Location: Scholar's Summit Nakigalala, P. O. Box 701432, Entebbe Uganda, East Africa**