The Rights of Children with Disabilities and the Influence of Disability on Household Vulnerability: A Case of Vulnerability in Rural Uganda

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Abstract

Children with disabilities experience marginalization and exclusion, leading to widespread violations of their right to education. In this study, we examine how vulnerable households with a child or parent/guardian with a disability transition out of critical vulnerability in comparison to others. Secondly, we examine disability as a determinant of school enrollment and absenteeism in these households. The assessment was made using panel data sourced from 17,848 moderately and critically vulnerable households in Uganda. We discovered that households with a child or children living with a disability were less likely to register any improvement from vulnerability, and the children were less likely to be enrolled in school and more likely to be absent from school. We conclude that disability compounds vulnerability in already vulnerable households, derails the realization of a child's right to education, and affects household efforts to come out of vulnerability.

Keywords: Child rights, child disability, child vulnerability, parent and guardian disability

Introduction

Disability is both a cause and a consequence of poverty (Lubaale & Rutaremwa, 2009). In developed countries, a large body of empirical research shows that persons with disabilities experience, *inter alia*, comparatively lower educational attainment, lower employment and higher unemployment rates, worse living conditions, and higher poverty rates (Mitra et al., 2017). Similarly, in developing countries like Uganda, individuals with disabilities have on average worse socioeconomic outcomes than those without disabilities (Male & Wodon, 2017). Children with disabilities are especially at a disadvantage in terms of school enrollment, educational attainment, and learning (Male & Wodon, 2017). Numerous studies in several countries have shown a relationship between child vulnerability and disability (Edmonds & Shrestha, 2014; Keogh, 2008; Lubaale & Rutaremwa, 2009; McNally & Mannan, 2013). Yet, according to the Convention of the Rights of the Child (CRC), education is supposed to be a right for every child. In this study, we analyze data from 17,868 vulnerable households in rural Uganda in order to examine the relationship between household vulnerability and disability through a children's rights lens. We adopt two related approaches. First, we compare how vulnerable households with children or parents/guardians living with a disability transitioned out of vulnerability relative to those without these two categories of household composition. The transition was studied after four years of programmatic intervention. Secondly, to further explore how vulnerability affects the right to education in these households, we analyzed disability as a determinant of school enrollment and absenteeism in this vulnerable population.

Defining child vulnerability in the context of human rights

As noted earlier, studies such as Lubaale and Rutaremwa (2009) and Edmonds and Shrestha (2014) show a relationship between child vulnerability and disability. Similarly, various authors have defined vulnerability and specifically child vulnerability in relation to disability or inaccessibility to education. However, in the context of human rights, vulnerability has been defined as living in an environment that is a breeding ground for denial of privileges and basic rights for a decent life (Alwang et al., 2001). In fact, the Uganda Bureau of Statistics (2016) categorized child vulnerability in two forms: any child who was orphaned or had a disability. Additionally, the Ministry of Gender Labour and Social Development (2011) defines vulnerable children as including orphaned children below the age of 18 who have lost one or both parents, and other children who are likely to be in a risky situation and /or likely to suffer significant

physical, emotional, or mental harm that may result in a violation of their human rights. By these definitions, children living with disability are classified as vulnerable. Other scholars have been more unambiguous in their definition of vulnerability. Lubaale and Rutaremwa (2009), for example, define vulnerable children as those living with disabilities. In this study, however, we define vulnerability through the lens of Bronfenbrenner's bioecological theory (Rosa & Tudge, 2013). This theory emphasizes the importance of understanding influences between individual's development and their surrounding environmental contexts. In this study, we therefore approached the measurement and definition of vulnerability by focusing on the household instead of the individual as the unit of analysis. A household and its members were considered vulnerable if the household scored above a vulnerability threshold. This score was based on an assessment of selected demographic, social, and economic wellbeing indicators, such as: parenthood status, child or parent/guardian having a chronic disease, child or parent having a disability, enrollment in school and absenteeism, and child protection[i]. Therefore, amongst the vulnerable members studied were children living with disabilities.

The definitional challenges aside, the characteristics mentioned in the above definitions of vulnerability fit the profile of many of the adults and children living with disabilities. The term 'vulnerable children with disabilities' in this document is used to refer to children up to the age of 18 who have 'long-term physical, mental, intellectual, or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.' The discussion in this paper uses the description provided in the Convention on the Rights of Persons with Disabilities, Article 1.[ii] UNICEF, in its 2009 report on children with disabilities, and, later, Loeb et al. (2017), observe that over the past decades, disability has increasingly been conceptualized and addressed as a human rights issue. This has been reinforced by other studies, such as (Groce & Mont, 2017). According to Article 1 of the CRC, children with disabilities are entitled to all rights guaranteed to all children. Article 2 asserts that children should never be discriminated against on the grounds of disability. Article 23 emphasizes the rights and freedoms of children with disabilities and the importance of promoting their full enjoyment of life experiences and of exercising their independence to the greatest extent possible. Children with disabilities are also specifically cited in the Convention on the Rights of Persons with Disabilities (CRPD). Article 7 ensures their full enjoyment of all human rights and fundamental freedoms on an equal basis with all other children. The CRPD

also demands measures to protect the equal rights of children with disabilities with respect to inclusive education, family life, freedom from violence, opportunities for play, access to justice, birth registration, and protection from forced sterilization.

Disability, vulnerability, and access to education

Even though children with disabilities are entitled to all rights guaranteed to children under the CRC, their disadvantaged situation has not changed over time (UNICEF, 2016). There is evidence of a relationship between child social-economic vulnerability, disability, and education. Children with disabilities are some of the most marginalized and excluded groups of children, experiencing widespread violations of their rights (Keogh, 2008). Reducing world poverty and inequality will not be achieved unless the rights and needs of people with disabilities are taken into account (Lubaale & Rutaremwa, 2009). According to Abraham (2018), there are between 93 million and 150 million children living with disabilities in the world. The World Health Organization (2008) estimates that about 5 percent of these children aged zero to 14, or 95 million children, have a moderate or severe disability. UNICEF (2017) estimates that 90 percent of children with disabilities in developing countries are out of school, denied the right to education. In Uganda, available data show significant disadvantages for children living with disabilities. For instance, one in three (35%) children with disability are illiterate (cannot read and write) while it is slightly less than one in four (22.7%) among children without disability (Lubaale & Rutaremwa, 2009). In one study, about 18% of children aged 13 to 17 said their disability was the main reason they had never attended school (Elder, 2015). Globally, many children with disabilities are never enrolled in school (World Bank, 2017). In a census of children aged 11, the likelihood of enrollment in school was 13 percentage points lower for children with disabilities versus children without disabilities (World Bank, 2017, p. 20). Yet even so, it is reported that relatively little data exists on children with disabilities and what evidence does exist is based on a smaller set of studies than available for most other groups of children (UNICEF, 2017).

The Sustainable COmprehensive REsponses (SCORE) for Vulnerable Children and their Families Project

The Sustainable COmprehensive REsponses (SCORE) for Vulnerable Children and their Families project was a five-year (2011-2016), USAID-funded project that worked with over 25,000 vulnerable households in Uganda, of which 1,231 (7%) were vulnerable households with a child or children living with a disability (Molly et al., 2017). (The project was later given a two-year extension to 2018.) The measurement of child vulnerability under SCORE was based on four wellbeing parameters: child protection and access to legal services, food security and nutrition, economic wellbeing, and access to critical services. A household and its members were considered vulnerable if their vulnerability score was 40 or more on the Vulnerability Assessment Tool, based on questions within the above parameters (Moret, 2014, 2017). The level of household vulnerability was assessed using three outcomes: critical, moderate, and slight or no vulnerability. To achieve its goal, the project had four objectives: 1) to improve the socio-economic status of vulnerable children households; 2) to improve the food security and nutrition status of vulnerable children and their household members; 3) to increase the availability of protection and legal services for vulnerable children and their household members; and 4) to increase the capacity of vulnerable women and children and their households to access, acquire, or provide critical services.

SCORE addressed socio-economic empowerment through an integrated approach centered on increasing household financial resources, increasing the socio- economic skill base, and facilitating market inclusion for vulnerable households. For food security and nutrition, the 'activity package' included activities aimed at enhancing the capacities of vulnerable children households to produce and use foodstuff, as well as improving household knowledge and behavior about nutritional practices and services. The aims of the activities were: (a) increased food production, (b) improved food utilization, and (c) referral and linkage to existing agricultural, nutritional, and health services. For child protection, the interventions aimed to strengthen social safety nets protecting vulnerable children from abuse and exploitation. The aims of the activities were: a) mobilization and awareness of communities around child protection concerns, b) empowerment of families to access protection and legal redress services, and c) enhanced referral mechanisms for relevant protection and legal services. For the fourth

objective, activities were designed to bridge existing gaps and offer a safety net that can catch and redirect vulnerable households who fall short of or require further support. The main strategies used for this objective were: (a) stimulate household awareness and ownership in the request for and provision of critical services such as education, (b) reinforce civil society/community-based organizations to support and care for vulnerable children and their households, and (c) develop referral systems.

SCORE worked in five regions and 35 districts of Uganda, and as of June 2013 had enrolled 22,864 vulnerable households, encompassing more than 130,000 vulnerable adults and children. The level of vulnerability was assessed based on each household's score against a standardized measurement called the Vulnerability Assessment Tool (VAT). The SCORE VAT, developed in line with national standards, assigned "vulnerability points" to each household according to its situation under the four objectives. All objectives were entered linearly in the overall "score," and households with an overall VAT score of 40 or more were enrolled in the project.

Purpose and Objectives

In this paper, we use data from the SCORE project to compare how vulnerable households with a child or parent/guardian with disability emerged from vulnerability as compared to those without this membership composition. We use three major criteria to make this comparison: a lessening of vulnerability based on a vulnerability score; enrollment in school and absenteeism; and parent or guardian disability. We present evidence from a longitudinal assessment to identify trends and the effects of interventions over a four-year period on the same population. We make a case for more inclusive program approaches to ensure that children with disabilities realize their full rights to education and development opportunities.

Data and Methods

Data source

The assessment was made using panel data sourced from moderately and critically vulnerable children in the 35 districts in which the SCORE project's activities were implemented in rural Uganda. Over four years, the data was compiled from vulnerable children and their households at four different stages of the evaluation. The number of participants assessed in

Stage 1, Stage 2, Stage 3, and Stage 4 of the evaluation were 18,532, 13,209, 18,615, and 14,882, respectively. The variation in number indicates that not all participants were assessed at every stage of the evaluation; thus, the panels were not balanced. For this analysis, we used a total of 17,848 records, focusing on those that had all the necessary data over the four years.

Variables and measurements

Vulnerability was measured with the Vulnerability Assessment Tool (VAT). The criteria of the VAT were developed in line with national standards, with "vulnerability points" assigned to each household according to its situation under SCORE's four objectives; that is, economic wellbeing, access to food security and nutrition, child protection, and access to critical services. The VAT was tailored to the expected outcomes of the project, with validation including a comparative field test alongside other similar tools, such as the Poverty Assessment Tool and the Child Status Index. Each of the criteria of the VAT yields a maximum of 30 vulnerability points, while the assessor's impression yields a maximum of 10 points. The highest possible vulnerability score is 130. All measurements were entered linearly in the overall score; households with a VAT score of between 40 and 53 were considered moderately vulnerable, while those with a VAT score of 54 and above were considered critically vulnerable. (SCORE, 2011). The definition of vulnerability in the SCORE project therefore referred only to those who were either moderately or critically vulnerable. Vulnerability status was considered as an ordinal variable under the assumption that the levels of vulnerability have a natural ordering – slight to critical vulnerability.

The dependent variable, "vulnerability improvement," was the decrease in vulnerability status between the baseline year (2011) and the end-line year (2014). A vulnerability improvement was defined as any decrease in vulnerability status from a higher category to a lower one . Note that, in the context of the SCORE project, 'slight vulnerability' was equated with 'no vulnerability.' A transition in vulnerability status between the pre- and post-evaluations was looked at in two ways: first, a decrease in vulnerability was denoted by a shift from any higher level of vulnerability to a lower level; second, critical change in vulnerability was represented by a shift from critical vulnerability to any lower level. On the other hand, schooling status was evaluated using a binary outcome; that is, whether a child was enrolled at school at the time of the evaluation. A similar approach was adopted in measuring absenteeism; that is,

whether a pupil was absent from school for at least a month in a term. The independent variables were: (i) characteristics of children (sex, involved in child labor, child abuse and alcohol or substance use, chronic disease status, frequency of meals in a day, whether child goes without food, parenthood status); (ii) characteristics of parents/guardians (age, disability status, chronic disease status, and main contributor to household income). Table 1 presents a detailed description of these variables.

Data Analysis

First, a descriptive summary of all the project participants was undertaken using frequency distributions. A similar approach was adopted in describing demographic and socio-economic characteristics of the index child, child and caretaker health factors, and behavioral factors as well as intervening factors. Second, differentials in schooling by demographic and socio-economic characteristics of the index child, child and caretaker health factors, and behavioral factors as well as intervening factors were assessed using the Pearson Chi-square test. The purpose of the analysis was to select variables for further analysis at a later stage. All variables with a probability value of 0.5 and below were considered for further analysis at the third stage. The Chi-square test is based on the formulae:

$$\chi^2 = \sum_{i=1}^{r}\sum_{j=1}^{c}\frac{\left(O_{ij} - E_{ij}\right)^2}{E_{ij}} \qquad (3.2)$$

Where O_{ij}, E_{ij}, X^2 denotes observed, expected frequencies and the chi-square test, respectively.

Third, the determinants of either schooling status or absenteeism were investigated using Random Effects (RE) Binary Logistic regression. The choice of approach to the investigations of each of the outcomes variables was based on the fact that schooling status and absenteeism were modeled using binary outcomes. The logistic regression is based on the formulae:

$$\log\left(\frac{P_i}{1-p_i}\right) = \beta_o + \beta_l x_{il} + ... + \beta_k x_{ik} \qquad (3.5)$$

Where p_i is the probability of child vulnerability transition; $1-p_i$ denotes the probability of school enrolment or absenteeism. x_{ik} and β_k are independent variables. The appropriateness of using the fitted model in the analysis was assessed using the Pearson Chi-square goodness of fit test (Hosmer & Lemeshow, 1980). In the analysis at the multivariable stage, no interaction effects of the independent variables on either schooling status or absenteeism were investigated.

Table 1: Description of variables adopted in the assessment

Child vulnerability	Denotes a child's level of vulnerability based on the VAT. For measurement purposes, questions specific to children were asked in reference to one child who was considered most vulnerable by the household; that is, 'index child'. However, the project worked with all the children in the household.	1-Slight [Below 40] 2-Moderate [40-54] 3-Critical [Above 54]	Ordinal
Vulnerability improvement	This denotes a shift (decrease) from any higher level of vulnerability to a lower one	1-Improved 2-Not Improved	Nominal
Schooling status	Whether child attends school at the time of the evaluation	1-Yes 0-No	Nominal
Sex	Sex of child	1-Female 2-Male	Nominal
Child has disability	Whether child has any form of disability	1-Yes 0-No	Nominal
Parent/Guardian has disability	Whether parent or guardian has any form of disability	1-Yes 0-No	Nominal

Data analysis

The analysis was done using Stata software, in two stages: first, a descriptive summary of the characteristics of participants and guardians was done using frequency distributions; Ssecond, the determinants of either schooling status or absenteeism were investigated using RE Binary Logistic regression. The choice of approach to the investigations of each of the outcomes variables was based on the fact that schooling status and absenteeism were modeled using binary outcomes. The appropriateness of using the fitted model in the analysis was assessed using the Pearson Chi-square goodness of fit test (Hosmer & Lemesbow, 1980). In the analysis at the multivariable stage, no interaction effects of the independent variables on either schooling status or absenteeism were investigated. Nevertheless, the results give an understanding of the effects of each of the variables in the investigation when all other variables are accounted for.

Results and Discussion

The following sections present results on characteristics of the vulnerable children discussed in this document and other members of the households. It also presents the results on the general improvement in vulnerability over the four years of the SCORE project's implementation. We then compare the improvement in vulnerability of vulnerable households that had children with disabilities compared to those that didn't. We then present data on the general effect of disability, with specific reference to parental and guardian disability and its effect on child education; specifically, enrollment in school and absenteeism. The results are based on panel data collected over four years on this population of vulnerable children.

Characteristics of the vulnerable population

In this sub-section, we discuss the general characteristics of the vulnerable children and their households under study. The characteristics of these population are key determinants of vulnerability. The results are based on data from a total of 17,484 vulnerable households, each representing one vulnerable child that is herein referred to as the index child. We describe the individual and household demographic characteristics and the social-economic features of this population. We also explore some of the intervening factors, such as health and behavioral characteristics. We later investigate the influence of these factors on vulnerability transition.

Table 1 and Table 2 present a distribution of the vulnerable children and households by these characteristics.

Table 1: Distribution by characteristics of the participants

Characteristics	Households (n = 17,484)	Percentage (%)
Region		
Central	4916	28.1
East	2033	11.6
East Central	2433	13.9
North	4028	23.0
South West	4074	23.3
Parenthood Status		
Double orphaned	1791	10.2
Paternal orphaned	4257	24.3
Maternal orphaned	1002	5.7
Father absent	1817	10.4
Mother absent	648	3.7
Both parents absent	1035	4.9
Both parents present	6934	32.0
Child has Chronic Disease[1]		
Yes	1657	9.5
No	15827	90.5
Child has Disability		
Yes	1231	7.0
No	16253	93.0
Parent/guardian Age		

[1] Chronic means an illness that cannot be cured, but one can live with it. A child may have several chronic illnesses. Chronic illness is different from child disability in this study.

Characteristics	Households (n = 17,484)	Percentage (%)
Below 18	58	0.3
18-65	15571	89.1
Above 65	1855	10.6
Parent has Disability		
Yes	1765	10.1
No	15719	89.9
Parent has Chronic Disease		
Yes	4148	23.7
No	13335	76.3
Household Headship		
Female	6283	35.9
Male	11200	64.1
HIV-Affected		
Yes	2975	17.0
No	14509	83.0

Note. Assessment figures are from the pre-test stage

Other characteristics of the vulnerable population under study

The participants were drawn from five regions of the country, as indicated in the table above. The findings show that only slightly more than a quarter (32%) of the children had both parents present. The vast majority were either orphans (40.2%) or their parents were absent (19%). Notably, there were nearly four times more orphaned children in these vulnerable households than the national average of 11.5% (UNICEF, 2015). More than a quarter of the households (32%) had both of their parents absent. Nearly seven in every ten children in these households (68%) were either orphaned or had at least one parent absent.

The average household size was seven members, which is above the national average of five members (UBOS, 2016). This resulted in a high dependence on the meagre resources available for this population. Household size varied greatly, ranging from 1 to 27 members.

Whereas the mean number of dependents was three, several households had up to 20 dependents, including children and elderly above 65 years, further significantly straining available resources. Slightly over a quarter (17%) of the households had at least one person living with HIV/AIDS, and at least one in every 10 households (10.1%) had a guardian and a child (7.1%) living with a disability. Nearly one in every ten households was headed by either a child below 18 years (0.3%) or an elderly person above 65 years (10.1%).

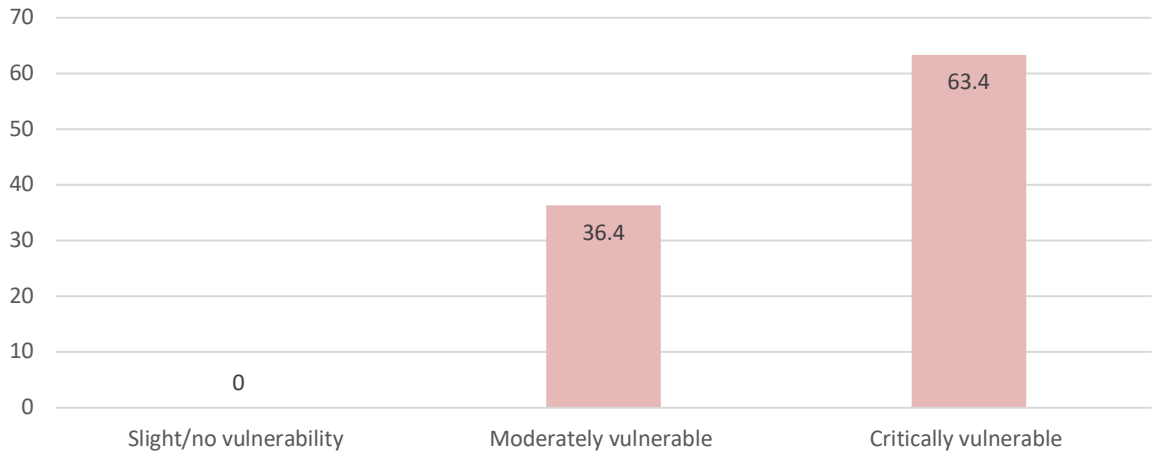
The average monthly household income of this population was UGX 44,301 ($12.3). This is approximately UGX 1,500 (less than $1) a day available for an average of 7 household members. In comparison, the average national household income in Uganda is UGX 303,000 ($84) in rural areas and UGX 703,000 ($195) in urban areas. This means that the average household income of this population is significantly below the two national averages.

In terms of education, the findings show that in this population, 17% of school-age children were currently out of school. Furthermore, of those children in school, nearly half (44.3%) experienced absenteeism on a regular and frequent basis.

Vulnerability status of the population

First, we summarize below the initial vulnerability status of the population under study. This is the baseline data collected in 2011 for all the vulnerable children enrolled in the project. As mentioned earlier, vulnerability was measured using the VAT, which categorized the target population into three vulnerability levels: slight/no vulnerability, moderately vulnerable, and critically vulnerable. The population that was not either moderately vulnerable or critically vulnerable were not targeted for intervention and were not followed up on. The assessment results of the pre-test show that out of 17,484 households, close to two-thirds were critically vulnerable, while a third were moderately vulnerable (see Figure 1).

Figure 1: Vulnerability status of the population as measured by the Vulnerability Assessment Tool



Improvement from vulnerability after four years

The graph below shows that over the four years, following interventions that ranged from economic strengthening, food security and nutrition, child protection and legal services, and access to critical services such as education, there was notable improvement in household vulnerability. The findings show that critical vulnerability was reduced from 63.6% to 4.3% in four years. Moderate vulnerability decreased from 36.4% to 26.8%.Figure 2 shows the transition in vulnerability at the pre-test and post-test stages.

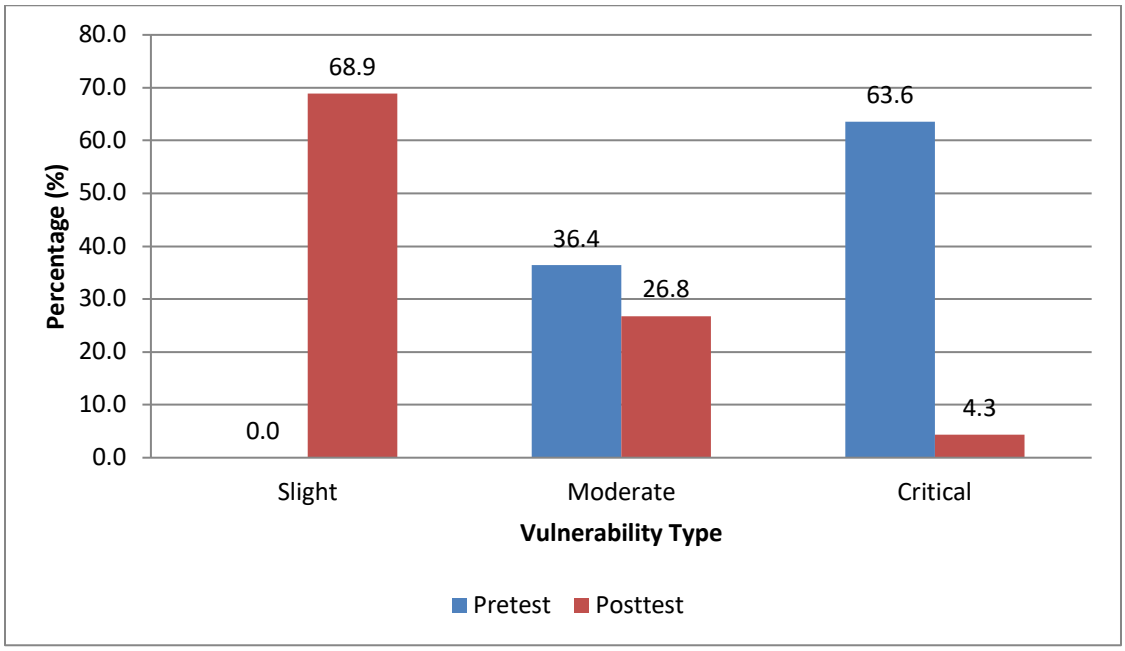


Figure 2: Distribution by vulnerability status at the pre-test and post-test stages

Regression Diagnostics

The determinants of vulnerability improvement were investigated through characteristics of the children and/or households, as well as intervening factors. As earlier shown, Model I and Model II denote overall improvement in vulnerability and improvement from critical vulnerability, respectively. The models used regression analysis of the social and demographic characteristics that affect transition: (i) overall general improvement in vulnerability (any reduction of the vulnerability score), and (ii) a reduction from critical vulnerability to a lower level. Note that improvement in this case is also referred to as transition.

On the other hand, the appropriateness of using the selected approaches in investigating schooling and absenteeism was assessed using a Likelihood Ratio (LR) test. Table 5 presents results of the diagnostic assessment of the two models used in the investigation.

Table 2: Regression diagnostic results for the various models

Regression	**Likelihood Ratio test**		**ICC/ Rho [a]**
	Chi-square	**p-value**	
Model I	4206.87	0.0000	0.47
Model II	1227.15	0.0000	0.28

Note: Assessment followed panel data analysis; [a] denotes the Inter-class Correlation

Results of the LR tests in Model I and Model II show that the RE Logistic regression adopted in the assessment of schooling and absenteeism status were correctly specified ($p < 0.05$). This implies that the student effects are significantly different from zero. Particularly, about 47% and 28% of the variations in schooling status and absenteeism status, respectively, are attributed to variations across children.

Child and parent disability as determinants of vulnerability transition

The determinants of vulnerability transition were investigated by characteristics of the children and/or households, as well as intervening factors. As earlier indicated, vulnerability

transition is measured with Model I and Model II denoting overall improvement in vulnerability and improvement from critical vulnerability, respectively. Note that improvement in this case is also referred to as transition.

Table 3: Regression analysis of vulnerability transition between pre-test and post-test stages

Independent Variables	**Vulnerability Transition (OR, 95% CI)**	
	Model I [a]	**Model II [b]**
Region		
Central †	1.00	1.00
East	1.43 (1.26 - 1.63)	2.49 (2.23 - 2.79)
East Central	0.86 (0.76 - 0.96)	1.26 (1.14 - 1.40)
North	0.50 (0.44 - 0.57)	0.86 (0.76 – 0.97)
South West	0.82 (0.75 - 0.91)	1.10 (1.01 - 1.20)
Parenthood Status		
Double orphaned †	1.00	1.00
Paternal orphaned	1.05 (0.91 - 1.20)	0.87 (0.77 – 0.99)
Maternal orphaned	1.06 (0.89 - 1.26)	0.92 (0.78 - 1.08)
Father absent	0.83 (0.71 -0.97)	0.66 (0.57 - 0.77)
Mother absent	0.79 (0.65 - 0.96)	0.63 (0.52 - 0.76)
Both parents absent	1.06 (0.89 - 1.26)	0.88 (0.75 - 1.03)
Both parents present	0.92 (0.82 - 1.04)	0.56 (0.50 - 0.63)
Child has Chronic Disease		
No †	1.00	1.00
Yes	0.89 (0.80 - 1.00)	1.16 (1.04 - 1.29)
Child has Disability		
No †	1.00	1.00

Independent Variables	Vulnerability Transition (OR, 95% CI)	
	Model I [a]	**Model II [b]**
Yes	0.71 (0.63 - 0.81)	1.19 (1.06 -1.36)
Guardian Age		
Below 18 †	1.00	1.00
18-65	2.12 (1.25 - 3.58)	0.92 (0.54 - 1.56)
Above 65	2.10 (1.23 - 3.58)	1.19 (0.69 - 2.04)
Guardian has Disability		
No †	1.00	1.00
Yes	1.07 (0.96 - 1.19)	1.31 (1.18 - 1.45)
Guardian has Chronic Disease		
No †	1.00	1.00
Yes	1.10 (1.01 - 1.20)	1.24 (1.14 – 1.34)
Household Headship		
Male †	1.00	1.00
Female	1.01 (0.93 - 1.10)	1.06 (0.97 - 1.14)
HIV-Affected		
No †	1.00	1.00
Yes	0.93 (0.84 - 1.03)	1.02 (0.93 - 1.12)
Household Size	1.03 (1.01 - 1.05)	1.01 (0.99 - 1.02)
Dependents	0.98 (0.95 - 1.00)	0.99 (0.98 - 1.02)
Economic strengthening	1.07 (1.04 - 1.11)	0.81 (0.74 - 0.89)
Food security and nutrition	1.00 (0.97 - 1.04)	0.99 (0.96 - 1.06)
Child protection and legal	1.09 (1.03 - 1.15)	1.00 (0.96 - 1.06)
Family strengthening	1.06 (1.01 - 1.11)	1.09 (1.04 - 1.13)

Note: Table presents Odds Ratios (OR) and 95% Confidence Intervals (95% CI); † denotes reference category

[c] Analysis of overall improvement in vulnerability, where N = 17,482, LR Chi2 = 491.06, $p < 0.05$

[d] Analysis of improvement in vulnerability from critical, where N = 17,482, LR Chi2 = 775.49, $p < 0.05$

Children living with disability were less likely to register improvement in vulnerability

Results show that households with a child living with a disability were less likely to register any improvement in vulnerability scores. This means they were less likely to show any improvement in vulnerability. We use reduction in vulnerability scores as the basic measurement of improvement. The findings show that the odds of improved vulnerability were 29% lower among households with a child living with a disability when compared to those without (OR = 0.71). This implies that households with children living with disabilities were less likely to have registered reduced vulnerability and this will be discussed further in the Discussion section.

We went further to specifically examine improvement from critical vulnerability, which is the worst form of vulnerability, according to the VAT we used. This further assessment, however, shows that while, overall, children living with disabilities were less likely to move out of vulnerability, they were more likely to move out of critical vulnerability compared to others. The results further show that households in which there is a child living with a disability are more likely to transition from critical vulnerability compared to others. The odds of improved vulnerability from critical were about 19% higher among participants with a disability when compared to those without (OR = 1.19). While this sounds positive, it points to the possibility that critically vulnerable populations are likely to be more elastic or responsive to any intervention. In other words, this is an indicator of how vulnerable a given sub-population is.

Disability as a determinant of schooling and absenteeism amongst vulnerable households

The above findings suggest that in a population of vulnerable children, enrollment and absenteeism improve for some children but not for others. The analysis goes further to identify the determinants of schooling and absenteeism among the vulnerable population. The determinants of schooling and absenteeism were investigated by considering the characteristics of the index children and their households using RE logistic regression models. Table 4 presents the results of the regression analyses; a summary of the findings is made in the discussion section.

Regression diagnostics

The appropriateness of using the selected approaches in investigating schooling and absenteeism was assessed using a likelihood ratio (LR) test. Table 4 presents results of the diagnostic assessment of the various models in the investigations.

Table 4: Regression diagnostic results for the various models

Regression	**Likelihood Ratio Test**		**ICC/Rho [a]**
	Chi-squared	**p-value**	
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Note: Assessment is following panel data analysis; [a] denotes the Inter-class correlation

The results of the LR tests in Model I and Model II show that the RE Logistic regression adopted in assessment of schooling and absenteeism statuses were correctly specified ($p < 0.05$). This implies that the student effects are significantly different from zero. In particular, variations across children attributed to approximately 47 percent and 28 percent of the variations in schooling status and absenteeism status, respectively.

Parent/guardian disability and its effect on child education: determinants of schooling and absenteeism

We investigated the factors that determine the children's enrollment in schools and their absenteeism. The determinants of schooling and absenteeism were investigated through the characteristics of the index children and their household using RE logistic regression models. Table 5 presents the results of the regression analysis that highlight the effects of guardian and parent disability:

Table 5: Determinants of Schooling and Absenteeism

Independent Variables	Odds Ratio (95% CI)	
	Model I [a]	Model II [b]
Sex of child		
Female †	1.00	1.00
Male	0.88 (0.82 - 0.94)	0.94 (0.89 - 1.00)
Child labour status		
No †	1.00	1.00
Yes	0.85 (0.78 - 0.92)	2.76 (2.57 - 2.96)
Child in abuse status		
No †	1.00	1.00
Yes	0.88 (0.69 - 1.12)	1.01 (0.79 - 1.29)
Child substance use		
No †	1.00	1.00
Yes	0.56 (0.49 - 0.64)	1.64 (1.45 - 1.87)
Child has chronic disease		
No †	1.00	1.00
Yes	0.49 (0.44 - 0.54)	1.64 (1.49 - 1.81)
Frequency of meals		
Thrice a day †	1.00	1.00
Twice a day	1.48 (1.37 - 1.60)	0.61 (0.57 - 0.66)
Once a day	2.31 (2.08 - 2.56)	0.30 (0.27 - 0.33)
Not every day	0.71 (0.50 - 1.01)	1.40 (0.98 - 1.99)
Child goes without food		
No †	1.00	1.00
Yes	0.77 (0.73 - 0.82)	3.48 (3.29 - 3.69)

Main contributor to income		
Children †	1.00	1.00
Father	1.24 (1.04 - 1.48)	0.92 (0.78 - 1.10)
Grandparents	1.40 (1.18 - 1.67)	0.86 (0.72 - 1.02)
Mother	1.27 (1.07 - 1.50)	0.96 (0.81 - 1.14)
Relatives	1.29 (1.07 - 1.55)	1.06 (0.89 - 1.27)
Others	1.53 (1.00 - 2.32)	0.89 (0.60 - 1.33)
Parenthood status		
Double orphan †	1.00	1.00
Paternal orphan	1.02 (0.88 - 1.19)	1.08 (0.96 - 1.22)
Maternal orphan	0.80 (0.66 - 0.98)	1.02 (0.87 - 1.19)
Father absent	0.76 (0.64 - 0.91)	1.27 (1.10 - 1.46)
Mother absent	0.58 (0.46 - 0.73)	1.24 (1.02 - 1.49)
Both absent	0.78 (0.64 - 0.95)	1.08 (0.92 - 1.26)
Both present	0.61 (0.52 - 0.70)	1.23 (1.09 - 1.39)
Guardian's age		
Below 18 yrs. †	1.00	1.00
Above 65 yrs.	1.59 (1.18 – 2.16)	0.38 (0.28 - 0.51)
Between 18 and 65 yrs.	1.42 (1.04 – 1.94)	0.38 (0.27 - 0.51)
Guardian has disability		
No †	1.00	1.00
Yes	0.82 (0.75 – 0.89)	1.31 (1.21 - 1.42)
Guardian has chronic disease		
No †	1.00	1.00
Yes	1.03 (0.97 – 1.11)	1.25 (1.17 - 1.33)

Note. Table presents odds ratios (OR) and 95% confidence intervals (95% CI); † denotes reference category

[a] Analysis of schooling status, where n = 65,036, Wald Chi2 = 1047.34, $p < 0.01$

[b] Analysis of absenteeism status, where n = 53,412, Wald Chi2 = 4330.41, $p < 0.01$

Table 5 shows that children with a parent or guardian with a disability had an 18% reduced chance of being in school compared to those whose parents or guardians did not have a disability (OR = 0.82). Children with a parent or guardian with a disability had increased odds of school absenteeism compared to those where parents did not have a disability (OR = 1.32).

Discussion

This study examined children's rights in vulnerable households. In studying how vulnerable households transitioned out of vulnerability after programmatic intervention, we examined how households with children or parents/guardians living with disabilities performed compared to those households without such membership. Our aim was to see if "one size fits all" intervention approaches derail the realization of the rights of children living with disabilities. Secondly, we focused on the right to education through two indicators (school enrolment and absenteeism) and explored disability as a determinant of school enrolment and absenteeism amongst these vulnerable households. This was used as an explanatory variable to understand why households may transition differently out of vulnerability after receiving the same programmatic package. In summary, we found that households with a child living with a disability were less likely to register any improvement in vulnerability scores over four years compared to those without such membership. We also found that children with parents or guardians with a disability were less likely to be enrolled in school and more likely to be absent from school.

Households with children living with disabilities respond more slowly to interventions

The findings in this study concur with existing literature that argues that children living with disabilities are amongst the most marginalized and excluded groups of children. While it is true, as argued by some scholars, that all individuals are interdependent and therefore relational, these findings demonstrate that, amongst a vulnerable population, there are those who are more vulnerable than others. Fineman (2010) argues rightly that the experience of vulnerability must be understood at the individual level. Our findings agree with Fineman's thesis in the sense that they expose the effect of disability on the overall vulnerability of individuals, especially through their limited access to education. The findings agree with literature that shows, for example, that persons with disabilities experience worse living conditions, and higher poverty rates (Mitra et

al., 2017). In Uganda, they further demonstrate why the situation of people living with disability remains poor. For instance, individuals with disabilities have on average worse socioeconomic outcomes than those without disabilities (Male & Wodon, 2017). The SCORE project implemented activities including economic strengthening, food security and nutrition, child protection and legal services, family strengthening, and increased access to services including education. Even so, the findings show that households in which children had a disability were less likely to transition out of vulnerability, or to do so more slowly. Therefore, programs targeting vulnerable children need to specifically give more attention to children with disabilities if their rights to education and other services are to be realized.

Parental/guardian disability compounds child rights

In this study, we learned that parental/guardian disability compounds child vulnerability through its effect on education indicators such as enrollment and absenteeism. As seen above, in households where a parent or guardian was living with a disability, the children were less likely to be enrolled in school and more likely to be absent from school. There has been limited evidence that shows an association between parental or guardian disability and the right to education of children in such households. There has been some related research that has shown the negative effect of parental/guardian economic unproductivity on child well-being. For example, orphans are often reported to be less likely to receive adequate care from caregivers, who are less likely to work and provide the necessary support (Kidman & Heymann, 2009). The findings in this study demonstrate that a parent or guardian with a disability affects children's right to education, as fewer children in their households are enrolled in school and more are absent from school, compared to other households.

Child vulnerability and child rights

It appears from this study that not even the availability of bridging guidelines such as the convention on the rights of the child (CRC) is sufficient in our efforts to protect the rights of children particularly in critically vulnerable situations. Scholars such as Alderson (2000) indicate that rights as seen through the CRC are about provision of basic needs, protection against abuse and neglect and children's participation in their families and communities. This view assumes that the contexts of children are homogenous across cultures, nations and communities. The findings in this study indicate that the CRC is more assumptive than realistic to the African

context and to critically vulnerable children on the other hand. Without corresponding actions, the assertions of the CRC and other guidelines on rights of children remain irrelevant to show children in critically vulnerable situations such as those listed in this study. Children and communities that are socially and economically incapacitated will not be able to enjoy their full rights based on umbrella guidelines that do not speak to their unique situations. Indeed, Wells (2009) makes the argument against generalization of the concept of "childhood." She argues that childhood is shaped by different experiences. This study, similarly, further proves that childhood vulnerability itself is context specific. This calls for the need to have unique interventions that address the unique experiences of vulnerable children. In this way, the rights of all children will be realized.

Conclusion

In order for children living with disabilities to realize their rights, we conclude that more work remains to be done. According to the Convention on the Rights of the Child, Article 1, children with disabilities are entitled to all rights guaranteed to all children. The Convention on the Rights of People with Disabilities demands measures to protect the equal rights of children with disabilities with respect to inclusive education, family life, freedom from violence, opportunities for play, access to justice, birth registration, and protection from forced sterilization. Yet the study shows us that many interventions assume that all children and homogenous. This has made it hard to address the unique challenges faced by those living with disability leaving the realization of their rights in limbo.

Disability, of either a child or a parent, compounds vulnerability in already vulnerable households, and further suppresses the realization of children's rights in such households. It derails household efforts to come out of vulnerability and affects critical individual development indicators such as access to education. In order to realize the rights of children in vulnerable households, there is a need to explore vulnerability through the lens of the individual under study. A "one size fits all" approach to programming for vulnerable households may not benefit children living with disability. We recommend that for programs to support the realization of the right to education, for example, there should be more focus on vulnerable households in which individuals are living with any form of disability. There may not be one but rather a linked set of barriers that explain why disability compounds vulnerability and why, even with targeted

interventions, the lives of children and adults in disability-affected households improve less over time. It is also important to pay more attention to vulnerable households or communities where children have parents or guardians who are living with disabilities. Our findings prove that this is also a threat to the realization of the right of children to education, and even more so to children living with disabilities. Findings from this study show the need for more attention to be paid to disability in interventions intended to reach vulnerable individuals and households. More research is needed on disability as a factor that compounds vulnerability.

Notes

[i] A full description of all variables considered is provided in the methodology section.
[ii] Persons with disabilities include those who have long-term physical, mental, intellectual, or sensory impairments, which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others. Source: https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/article-1-purpose.html

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