

Socio-economic Determinants of Early Childhood Education attendance in Uganda: Evidence from the 2016 Uganda Demographic and Health Survey (2016 UDHS)

Adrian Ssessanga

Centre for Population and Applied Statistics (CPAS), Makerere University, Kampala, Uganda

Abstract

The study sought to establish the socio-economic determinants of early childhood education attendance. It uses evidence from the analysis of the 2016 Uganda Demographic and Health Survey (2016 UDHS) and a review of government policies and scholarly publications on related literature. The exploratory analysis included a logistic regression of a child's chances of attending early childhood education against the socio-economic characteristics of mothers and fathers to living children aged 3 to 5 years. The characteristics included occupation, education level, marital status, total children ever born, residence and region. These characteristics were established to be significantly associated with a child's chances of attending early childhood education. Results show 63% of children aged 3 to 5 years are not attending early childhood education. They further reveal that children whose parents have secondary level education and above, have an occupation and the mothers have not more 3 total children ever born and reside in urban areas are more likely to attend early childhood education. The selectivity in attendance of early childhood education is attributed to the liberal early childhood education policy whose operationalization is largely by the private sector. Recommendations are directed towards the Ministry of Education and Sports, the Ministry of Gender, Labor and Social Development and the Ministry of Local government to ensure that early childhood education is an integral component of their operational and sensitization programs through policy and practice.

Key words: Socio-economic determinants, Early childhood education, Attendance.

Definition of key concepts

Human Capital Development	NPA (2015) describes human capital development as the process of acquiring knowledge, skills, and health that people accumulate throughout their lives, enabling them to realize their potential as productive members of society.
Early childhood education	According to the MOES (2018) early childhood care and education policy; early childhood education is defined as education given to children aged 3 through 5 years in preparing their entry into primary school.

1.0 Introduction

Early childhood development forms the springboard for the quality of a country's population. Most notably, the acquisition of life skills, that include a lifetime's mental and physical health, education, labour market productivity, and wellbeing is founded in one's early childhood (Britto, Lye et al. 2017). Strategic investment in the child's infant years of 3-5 years produces livelier, healthier and more productive adults which in turn benefits the families, communities and countries they live in. As such, early childhood development, the process of nurturing a child's life skills, is strongly underscored in the Sustainable Development Goals and World development frameworks as a key pillar for the formation of an elite and productive society (Richter, Cappa et al. 2020). Global economies have thus invested more deliberately in support systems for early childhood development and indeed, the success stories have transformed most countries into leading economies with a strong and resilient human capital.

That notwithstanding, early childhood development is implemented differently across the world. Whereas the fraternity of the developed world has universally embraced it, the low and middle income countries, fronting affordability challenges, have largely left the work of early childhood development to the informal sector (Lu, Cuartas et al. 2020). The informal nature of early childhood development in the low and middle income countries has borne inequalities in the attainment of a more elaborate package of child nurturing that essentially entails the aforementioned acquisition of life skills, that include a lifetime's mental and physical health, education, labour market productivity, and wellbeing. It has thus meant that children whose parents are of particular socio-economic characteristics may have their children attain the requisite early childhood development while others are raised in a more speculative rather than predictive life-cycle. French, Outhwaite et al. (2020) postulate that this notion of unequal early childhood development prospects is even more prominent within the Sub-Saharan Africa. They argue that this is due to the region's rather infant human capital development initiatives plus a plethora of the erstwhile predominant issues of poverty, hunger and social conflict. Being part of Sub-Saharan Africa, Uganda is no exception to these shortcomings.

In Uganda, as is with other African countries, early childhood development is entrenched in the country's traditional ethos with the brunt of nurturing one's child largely vested in the

child's societal upbringing and parental guidance (Ezati, McBrien et al. 2016). To ensure that the mix of tradition and parental guidance is not foregone, the country's Early Childhood Care and Education (ECCE) policy further underscores the need to interweave the indigenous and formal early childhood development practises that then tantamount to early childhood education (Strachan, Kabwijamu et al. 2020). This therefore overstates the importance of a child's demographic environment towards their early childhood development prospects underpinning the centrality of their immediate caregivers who are in most cases the child's parents. It also unearths the uneven predictability of a child's chances of attaining early childhood education, which is the compounded formation of a child with a blend of the informal and formal life skills. Suffice it to state that the country's vision of attaining middle income status (Vision 2040) emphasises the importance of early childhood development as core towards the country's human capital development.

This paper therefore, seeks to explore the socio-economic determinants of early childhood education attendance in Uganda using evidence from the 2016 Uganda Demographic and Health Survey (2016 UDHS).

1.1 Problem Statement

Whereas early childhood education has been highlighted in Uganda's development frameworks as a critical ingredient of the quality of the country's human capital, the provision of the service is largely managed by the private sector with no deliberate investment by government beyond its policy and regulatory function. As such, interventions that seek to ensure that early childhood education is provided to all befitting children (3-5 years) have only been operationalized by a certain category of parents with peculiar socio-economic characteristics. Despite the existence of this selectivity, no deliberate measures have been put in place to understand the socio-economic characteristics of these parents yet this could be used as an enabler for the rest of the parents to ensure that their children also acquire the highly critical early childhood education.

Therefore, this paper makes an exploration of data from the 2016 Uganda Demographic and Health Survey to understand the socio-economic determinants of early childhood education attendance in the country.

1.2 Objectives

The main objective of this paper is to understand the socio-economic determinants of early childhood education attendance in Uganda.

Specifically, the paper seeks to;

- I. Understand the socio-economic characteristics of mothers and fathers to children aged 3 to 5 years.
- II. Examine socio-economic factors that influence a child's chances to attend early childhood education

2.0 Methodology

2.1 Study design

The 2016 UDHS is a nationally representative household-based survey, with interviewer administered questionnaires used to obtain a range of detailed health related and demographic information (UBOS 2016).

2.2 Outcome and explanatory variables

Attendance of early childhood education is the outcome variable. It is categorized as binary i.e attendance and no attendance of early childhood education.

From the questionnaire data available, we sought to analyze six explanatory variables which, based on a review of literature, have potential to influence a child's ability to attend early childhood education which leads to human capital development: These included; the education level of the mother and father, occupation of mother and father, marital status, children ever born, residence and region

2.3 Description of variables

All variables had binary outcomes. Attendance of early childhood education was categorized into a child attending early childhood education and a child not attending early childhood education.

Education level had a category of mothers and fathers whose highest level of education was secondary level and above and a category of those whose level was below secondary.

Occupation was categorized into children whose mother and father were not working, having a professional/technical job and unskilled manual work.

Marital status was categorized into children whose parents were never married, married, no longer living together and widowed. Children ever born had categories of children whose mothers had 3 children and below and those with more than 3 children.

Residence was categorized as rural and urban while region had districts categorized as Kampala, Central, Eastern, Western and Northern Uganda.

2.4 Statistical methods

The bivariate associations between each socioeconomic factor were explored, and those significant at $p < 0.05$ were entered together into a logistic regression model. Non-significant explanatory variables were removed from the model.

To better understand the strongest effects, we explored associations and the factors that independently predicted a child's chances of attending early childhood education using cross-tabulation and chi-square tests. All analyses were conducted in Stata version 15

2.5 Ethical procedures

The UDHS data collection procedures were approved by the ICF Macro (Calverton, Maryland), Uganda Bureau of Statistics and informed consent was obtained from respondents at the start of the individual interviews. Permission to use these data was obtained from 'MeasureDHS'. No further ethical approval was necessary since the study was based on anonymous public use data with no identifiable information on survey respondents.

3.0 Results

This section presents analytical results generated from an explorative analysis of the socio-economic determinants of early childhood education attendance in Uganda. Descriptive results on the socio-economic characteristics of mothers to children aged 3 to 5 years as well as multivariate analysis results using the adjusted odds ratios for a child to attend early childhood education are presented.

3.1 Socio-economic characteristics of parents to children aged 3 to 5 years

The socio-economic characteristics of mothers and fathers to children aged 3 to 5 years associated with early childhood education included occupation, education level, marital status, children ever born, residence and region.

Results in **Table 1** show that most (63%) children aged 3 to 5 years are not attending early childhood education.

It is also indicated that majority of the children's mothers (81%) and fathers (93%) had an occupation where they were serving as professionals and technical persons. Hardly 5% of the mothers (4%) and fathers (3%) were engaged in occupations of unskilled manual work. A notable percentage of mothers (15%) reported not to be working compared to the fathers (4%).

Regarding the parents' education level, most mothers (79%) and fathers (67%) had their highest level of education in levels below secondary education. As for marital status, majority of the parents (87%) were married and living together. A notable proportion of 9% were no longer living together. Two percent of the mothers reported they had never married while another 2% were widowed. When mothers were asked about the total number of children ever born to them, most mothers (62%) reported that they had more than 3 children ever born to them.

Regarding the residence, most children (83%) were living in rural areas. The region with most children, in the ages of 3 to 5 years, was Eastern (29%) closely followed by Northern (27%), Western (25%) then Central (15%) and Kampala (4%).

Table 1: Socio-economic characteristics of parents to children aged 3 to 5 years

Socio-economic characteristics	Description	Freq.	Percent
Attendance of early childhood education (ECE)	Child attending ECE	1,865	37.25
	Child not attending ECE	3,142	62.75
Occupation of mother	not working	768	15.13
	unskilled manual	186	3.66
	professional/technical	4,123	81.21
Occupation of father	not working	189	4.28
	unskilled manual	127	2.88
	professional/technical	4,101	92.85
Education level of mother	below secondary	3,991	78.55
	secondary and above	1,090	21.45
Education level of father	below secondary	2,981	67.31
	secondary and above	1,448	32.69
Marital status of mother	never married	105	2.07
	Married & living together	4,429	87.17
	no longer living together	444	8.74
	widowed	103	2.03
Total children ever born	More than 3 children	3,143	61.86
	3 children and below	1,938	38.14
Residence	Urban	866	17.04
	Rural	4,215	82.96
Region	Kampala	189	3.72
	Central	775	15.25
	Eastern	1,463	28.79
	Western	1,262	24.84
	Northern	1,392	27.4

3.2 Multivariate analysis of socioeconomic factors associated with children's attendance of early childhood education

The significant variables at the multivariate level were included in a logistic regression model (**Table 2**). The model shows the association between a child's chances of attending early childhood education and the explanatory factors of parents' occupation, education level, total children ever born, residence and region.

Results indicate that a child whose mother [OR= 2.15; CI:1.79 – 2.57] and father [OR=1.62: CI: 1.39 – 1.88] have secondary level education and above is twice more likely to attend early childhood education as compared to the child with parents whose levels of education are below secondary. It is postulated that highly elite parents will wish that their children follow a related educational path by enrolling them for early childhood education rather promptly to sharpen their intellectual abilities so that they are able to adapt to formal learning

environments at an early age (Ghosh and Dey 2020). The importance of the mother's education level is especially underscored as highly influential in prompting that the child attends early childhood education because the mother has more bonding time with the child (Rao, Cohrsen et al. 2021, Cuartas 2022). It is no wonder that regression results have also revealed that children whose mothers have secondary level education and above have higher odds of attending early childhood education compared to the odds of children whose fathers have the same level of education.

With regard to the occupation of a child's parents, a child whose mother [OR=1.20; CI: 0.99 – 1.46] is a professional or technical person is more likely to attend early childhood education compared to the child whose mother is not working. The occupation of the mother was found to be more significant to a child's chances of attending early childhood education than that of the child's father. Related studies suggest that a mother's occupation is especially vital because the mother has firmer control and superior consciousness to the needs of the child (Nomaguchi and Milkie 2020, Azizah, Saleh et al. 2022). It is thus argued that given a boost in her purchasing power, the mother will most definitely ensure that their child attends early childhood education out of the maternal sense of duty to nurture them.

Total number of children ever born to the mother also presented a significant relationship to a child's chances of attending early childhood education. A child whose mother has total children ever born of three children and below is more likely [OR=1.16; CI: 1.01 – 1.34] to attend early childhood education compared to the child whose mother has had more than 3 children. It is argued that families with fewer children are more manageable and present better opportunities for improved progressive outcomes such as the quality and sustainability of schooling for all the children (Alidou and Verpoorten 2019). This is especially postulated for families in countries such as Uganda that are characteristic low and middle income economies.

Regression results on the residence of the child showed that a child living in urban areas is more likely [OR=1.77; CI: 1.45 – 2.17] to attend early childhood education than that child in the rural areas. Given that the early childhood education program is largely operationalized by the private sector in Uganda, it is noteworthy that urban centres where the private sector finds higher demand for the service is where they concentrate the early childhood education centres. Scholars on this subject matter add that families based in rural areas lead a

subsistence lifestyle that cannot afford the luxury of enrolling their pre-school children for early childhood education (Skylstad, Nalugya et al. 2022)

The region in which the child lives also showed a significant relationship with attendance of early childhood education. It revealed that children who live in the Central [OR=1.80; CI: 1.17 – 2.78], Eastern [OR=0.53; CI: 0.35 – 0.81] and Northern [OR=0.40; CI: 0.26 – 0.61] regions are more likely to attend early childhood education compared to their counterparts living in Kampala. The varying regional odds in attending early childhood education are majorly premised on the varying access levels by children in the different regions which is precipitated by the uneven availability of early childhood education centres across the different regions of the country (UWEZO 2021). As such, the Central region which is presented with the highest odds also has the highest concentration of early childhood education centres while the Northern region has the fewest centres.

Table 2: Adjusted odds ratios for the regression of children’s attendance of early childhood education with the parents' selected socio-economic characteristics

Attendance of ECE	Odds Ratio	P> z 	[95% Conf. Interval]	
Occupation of mother (rc=not working)				
unskilled manual	0.8523523	0.470	0.552424	1.315121
professional/technical	1.203923	0.059	0.9933	1.459207
Occupation of father (rc=not working)				
unskilled manual	1.435239	0.207	0.819196	2.514553
professional/technical	1.435158	0.075	0.964511	2.135462
Education level of mother (rc=below secondary)				
secondary and above	2.146129	0.000	1.793991	2.567388
Education level of father (rc=below secondary)				
secondary and above	1.616825	0.000	1.388685	1.882444
Total children ever born (rc= above 3)				
3 children and below	1.160848	0.039	1.007397	1.337672
Residence (rc= rural)				
urban	1.774961	0.000	1.454267	2.166373
Region (rc= Kampala)				
Central	1.803992	0.008	1.16938	2.783002
Eastern	0.5312889	0.003	0.347702	0.811811
Northern	0.3974698	0.000	0.257699	0.613049
Western	1.123234	0.588	0.737665	1.710337
_cons	0.2941008	0.000	0.166996	0.51795

4.0 Conclusion

Early childhood education is a critical pillar for the development of the country's human capital. However, the early childhood education program is not publicly available to children in Uganda. The program is operationalized by the private sector and harbors access and affordability inequalities. As a result, children in rural areas and those living in the Northern region of Uganda have less odds of attending early childhood education for reasons bordering affordability and limited access.

The socio-economic characteristics of a child's parents are vital determinants of his/her chances of attending early childhood education. As such, the parents' education levels and occupation are critical enablers for a child to attend early childhood education. The characteristics of a child's mother are more essential to the child's ability to attend early childhood education than its father. This is because the mother has firmer control and superior consciousness to the needs of the child, among which is the attainment of early childhood education.

5.0 Recommendations

Early childhood education service delivery should be an integral part of the strategic plan for the Ministry of Education and Sports to ensure that the performance of the program is assessed as part of the Ministry's key performance indicators. The performance assessment should look out for, among other things, a costed contribution of the early childhood education program to the country's goal of human capital development to further demonstrate its critical importance and the need to promote it across the country.

Government through the Ministry of Education and Sports, should seek to provide subsidies such as the school facilities grant through public private partnership arrangements, to private sector players providing the early childhood education services so that they are encouraged to extend the early childhood education services to rural communities and the underserved regions.

Government, through the Ministry of Education and Sports, should invest more deliberately in the operationalisation of the policy strategy to develop early childhood education centre infrastructure, learning materials and other early learning implements within all public primary institutions since these are accessible by Ugandans of all calibre in all parts of the country.

There should be collaborative efforts amongst units of the Ministry of Education and Sports, Ministry of Gender, Labour and Social Development and the Ministry of Local Government from national to community level to sensitize the population on the need to enrol children for early childhood education. The sensitization campaigns should carry illustrations of the gains that children make when they access the program with messages tailored for both the female and male population.

Government, through its poverty alleviation programs such as the Parish Development Model, Emyooga, the Youth Livelihood Program and Operation Wealth Creation should seek to target the empowerment of women as these have been found to be best placed to facilitate a child's attendance of early childhood education when they earn an income.

References

- Alidou, S. and M. Verpoorten (2019). "Family size and schooling in sub-Saharan Africa: testing the quantity-quality trade-off." Journal of Population Economics **32**(4): 1353-1399.
- Azizah, S. N., et al. (2022). "The Effect of Working Mother Status on Children's Education Attainment: Evidence from Longitudinal Data." Economies **10**(2): 54.
- Britto, P. R., et al. (2017). "Nurturing care: promoting early childhood development." The Lancet **389**(10064): 91-102.
- Cuartas, J. (2022). "The effect of maternal education on parenting and early childhood development: An instrumental variables approach." Journal of Family Psychology **36**(2): 280.
- Ezati, B. A., et al. (2016). "Parents, pay attention! Factors related to parental involvement with education in Northern Uganda." Australasian Review of African Studies, The **37**(2): 9-32.
- French, B., et al. (2020). "Nutrition, growth, and other factors associated with early cognitive and motor development in Sub-Saharan Africa: a scoping review." Journal of Human Nutrition and Dietetics **33**(5): 644-669.
- Ghosh, S. and S. Dey (2020). "Public or private? Determinants of parents' preschool choice in India." International Journal of Child Care and Education Policy **14**(1): 1-16.
- Lu, C., et al. (2020). "Inequalities in early childhood care and development in low/middle-income countries: 2010–2018." BMJ Global Health **5**(2): e002314.
- MOES (2018). THE EARLY CHILDHOOD CARE AND EDUCATION POLICY. M. o. E. a. Sports. Kampala, Ministry of Education and Sports.
- Nomaguchi, K. and M. A. Milkie (2020). "Parenthood and well-being: A decade in review." Journal of Marriage and Family **82**(1): 198-223.
- NPA (2015). Uganda Vision 2040. N. P. Authority. Kampala, Ministry of Finance, Planning and Economic Development.
- Rao, N., et al. (2021). Early child development in low-and middle-income countries: Is it what mothers have or what they do that makes a difference to child outcomes? Advances in child development and behavior, Elsevier. **61**: 255-277.
- Richter, L. M., et al. (2020). "Data for action on early childhood development." The Lancet **396**(10265): 1784-1786.
- Skylstad, V., et al. (2022). "'As soon as they can hold a glass, they begin taking alcohol': a qualitative study on early childhood substance use in Mbale District, Uganda." BMC public health **22**(1): 1-12.
- Strachan, D., et al. (2020). "Shifting the discourse from survive to thrive: a qualitative exploration of beliefs, actions and priorities for early childhood development in Uganda." Journal of the British Academy **8**(s2): 41-70.
- UBOS (2016). The 2016 Uganda Demographic and Health Survey. Kampala: 1-9.
- UWEZO (2021). 'DEVELOPING SUSTAINABLE MODELS FOR COMMUNITY-BASED PRESCHOOLS IN UGANDA'. Kampala, UWEZO Uganda.

