

# **SOCIO-DEMOGRAPHIC DETERMINANTS OF BIRTH CERTIFICATE REGISTRATION IN ZIMBABWE: AN ANALYSIS BASED ON THE 2012 POPULATION CENSUS**

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## **ABSTRACT**

Possession of a birth registration certificate is a universal problem in most countries, but especially among those in the low to middle income group. Zimbabwe has a Births and Deaths Registration Act first enacted in 1986 and revised later. Section 10 of this Act provides for the compulsory registration of all births, still births and deaths. Yet, birth registration in Zimbabwe still remains incomplete. The paper seeks to identify predictors of birth registration among children aged 0-17 years. This paper is based on analysis of the 2012 Zimbabwe Population Census using binary Logistic regression analysis. The predictors were: age and sex of the child, head of households' marital status, head of households' level of education and employment status, as well orphan hood status of the child. Policy makers should take these factors into cognizance when driving for better birth registration certificate ownership among children aged 0-17 years in Zimbabwe.

**Keywords:** Birth registration, population census, marital status, employment status, orphanhood status

## **INTRODUCTION**

A birth certificate is a confirmation of a child's existence, nationality, place of birth, parentage and age. Lack of a birth certificate hinders a child to sit for school examinations, receive vaccination or access to public healthcare as well as claiming rights to inheritance, or legal protection in courts of law (Cody, 2009; United Nation Children's Fund [UNICEF], 2013). Globally, an estimated 650 million children aged between 0-16 years have unregistered birth Gelb and Diofasi 2018 cited in World Bank, 2016. The proportion of registered births has increased by 20 percent over past decade yet 166 million of the world's children less than 5 years old remain unregistered and unaccounted for through formal systems (UNICEF, 2019). Currently, no African country has achieved a complete system of civil registration and vital statistics (CRVS) with a few exceptions such as island nations (Mauritius, Madagascar, Cape Verde, etc) (UNICEF, 2017). Despite birth registration or ownership having since been recognized as a fundamental human right as enshrined in Article 7 of the Convention on Rights of the Child which specifies that all children have the right to be registered at birth without discrimination

(UNICEF, 2013) many governments still have to meet this requirement. Efficient CVRS is important in the monitoring of the Sustainable Development Goals (SDGs) target 16.9, which encourages legal identity for all by 2030, including free birth registration (Mills, et al., 2017).

According to several scholars, possession of a birth certificate is a universal problem in most nations, but especially in those in the low to middle income countries (Chereni, 2016; Dake & Fuseini, 2018; Kavuma, 2015). Most countries including Zimbabwe have a Births and Deaths Registration Act. Zimbabwe first enacted in 1986 and revised in 1994, 2000 and 2001 [Chapter 5:02]. Section 10 of this Act provides for the compulsory registration of all births, still births and deaths. This should be done within six weeks of a child being born. Yet, as (Chereni, 2016) points out, birth registration in Zimbabwe is still problematic. For instance, only 32.2% of the children under the age five were reported as registered (Zimbabwe National Statistics Agency [ZIMSTAT], 2015). In sub-Saharan Africa, low birth registration coverage has been attributed to the following factors: household wealth, age of the child, sex of the child, maternal education, place of residence and age of the head of household (Amo-Adjei & Annim, 2015; Candia, 2019; Makinde et al., 2016). While multiple studies have examined the predictors of birth ownership (Amo-Adjei & Annim, 2015; Candia, 2019; Chereni, 2016; Dake & Fuseini, 2018; Makinde et al., 2016; Phillips, Adair, & Lopez, 2018) to the best of our knowledge no study have utilized census data to explore this problem. The study examined factors influencing birth registration among children aged 0-17 years in Zimbabwe using census data.

## **METHODS AND MATERIALS**

### **Source of data**

This study draws on data from the 2012 Zimbabwe National Population Census. The decennial national censuses are used to inform policy decisions and planning in Zimbabwe. The 2012 National Population Census collected data on various demographic and health indicators including maternal and child health, as well as fertility data, employment, occupation, migration and mortality. In the National Population Census birth certificate ownership was restricted to children aged 0-17 years.

### **Variables in the study**

The dependent variable in this study is birth registration status. The dependent variable was generated from the question that asked if children aged 0–17 years in the household schedule had a birth certificate: “Does (*name*) have a birth certificate?” Responses to this question were either “Yes”, or “No” or “Not known”. For the purpose of this study, the “Not known” category was collapsed with the No category. The assumption made was that they did not have a birth certificate at the time of the census. The dependent variable; birth certificate ownership, therefore was dichotomized into: (1) Yes = owned a birth certificate, and a value of Zero (0) was assigned to those children who did not own a birth certificate.

The independent variables considered in this study were: sex of the child, categorized as 1= Male and 2 = Female; Child’s age was asked in completed years at last birthday, and these were categorized into four age groups: 0-4 years, 5-9 years, 10-14 years and 15 years+. Education was categorized as: no education, primary, secondary and tertiary. Place of residence

of the child was according to provinces which were: 1 = Bulawayo, 2 = Manicaland, 3 = Mashonaland Central, 4 = Mashonaland East, 5 = Mashonaland West, 6 = Matabeleland North, 7 = Matabeleland South, 8 = Midlands, 9 = Masvingo and, 10 = Harare. Orphanhood status of the children was ascertained by asking, "Is (*name*) father by birth alive?" The responses were "No", "Yes" and "Unknown". For analysis purposes in this study, Unknown and No were collapsed into one variable Yes (father alive) and No (Father dead). The same procedure was done for mothers and where the chief respondent also reported that both parents were dead. The responses were assigned 1 = father dead, 2 = mother dead and 3 = both parents dead. Marital status was categorized as (1 = never married, 2 = married, 3 = divorced/separated and 4 = widowed).

Employment status was ascertained by the question: "What was (*name*) main activity during the last 12 months?" The following were the responses: Paid employee, Employer, Own account worker, Unpaid family worker, Looking for work, Student, Homemaker, Retired/sick/too old and Other. For analysis purpose the following: paid employee, employer, own account worker were collapsed into 1 = employed and the rest were collapsed into 2 = unemployed except for student who were coded 3. The assumption was that the unemployed category was made up of persons not generating any income.

### **Data analysis**

Descriptive statistical tools including frequencies and cross tabulations were used to examine the characteristics of children and the socio-demographic background of the chief respondent and specific household members who were linked to the child. The dependent variable for this study was dichotomized; hence, a binary regression model was used to analyze the factors associated with having a birth certificate.

## **RESULTS**

### **Characteristics of the children and their chief respondents**

Descriptive results in Table 1 show that 58.9% of the children possessed a birth certificate and 41.1% did not. The majority of the children (39.7%) were aged 10-14 years and least (10.2%) were aged 0-4 years. Majority of head of household were married (78.6%) and more than three quarters (77.6%) were employed. Regarding the level of education of the head of the household, 45.8% had secondary education, and 7.8% had tertiary education. With regards to orphanhood status, more than half of the children (53.8%) had their father dead and 30% had both parents dead.

**Table 1: Socio-demographic characteristics of study the sample**

Variable	Number	Percent
Birth Certificate Possession		
Yes	3636293	58.9
No	2537346	41.1
Sex of child		
Male	3055129	50.0
Female	3059838	50.0
Age of child		
0-4	117456	10.2
5-9	253215	21.9
10-14	457887	39.7
15-17	325795	28.2
Place of residence		
Bulawayo	265585	4.3
Manicaland	892521	28.8
Mashonaland Central	568465	9.1
Mashonaland East	651883	10.5
Mashonaland West	682422	11.0
Matabeleland North	381890	6.1
Matabeleland South	348216	5.6
Midlands	799658	12.8
Masvingo	774542	12.4
Harare	856430	13.8
Parental Survivorship		
Mother dead	186213	16.1
Father dead	621433	53.8
Both parents dead	346707	30.0
Head of households' marital status		
Never married	191869	3.1
Married	4803452	78.6
Formerly married	1119646	18.3
Head of households' employment status		
Employed	4759868	77.6
Unemployed	1371364	22.4
Head of households' level of education		
No education	566697	9.2
Primary	2283710	37.2
Secondary	2815885	45.8
Tertiary	476227	7.8
Total	6224052	100

Source: 2012 Zimbabwe National Population Census (Zimbabwe National Statistics Agency, 2012)

### **Association between socio-demographic characteristics by birth certificate possession**

Table 2 provides a summary of the results of associations between birth certificate possession status of children aged 0-17 years and the independent variables. The results show a marginal difference in the proportion of birth possession among female and male children. As regard age, the highest proportion of children (84.2%) who possessed a birth certificate were aged 15-17 years, followed by those age 10-14 years (74.8%) while those aged 5-9 years (60.3%) had the least.

**Table 2: Association between socio-demographic characteristics by birth certificate possession**

Variable Chi-square test statistics (p-value)	own birth certificate	no birth certificate	N
Sex of child(110.103) ***			
Male	58.7	41.3	3088635
Female	59.1	40.9	6173639
Age of child(929186.1)***			
0-4	66.6	33.4	1689438
5-9	60.3	39.7	1672990
10-14	74.8	25.2	841370
15-17	84.2	15.8	6173639
Place of residence (175103.9)***			
Bulawayo	77.0	23	878800
Manicaland	55.6	44.4	559510
Mashonaland Central	54.4	45.6	640677
Mashonaland East	59.2	40.8	706310
Mashonaland West	52.6	47.4	373761
Matabeleland North	59.1	40.9	344042
Matabeleland South	58.8	41.1	791008
Midlands	53.8	46.2	763624
Masvingo	51.8	48.2	850320
Harare	75.5	24.5	6173639
Parental Survivorship (558.642)***			
Mother dead	66.1	33.9	621172
Father dead	63.2	36.8	346554
Both parents dead	65.3	34.7	1153853
Head of households' marital status (10276)***			
Never married	69.6	30.4	4801743
Married	58.3	41.7	1119184
Formerly married	59.8	40.2	6112708
Head of households' employment status (295.421)***			
Employed	58.7	41.3	1370775
Unemployed	59.6	40.4	6128949
Head of households' level of education (205579.693)***			
No education	49.0	51	566360
Primary	52.4	47.6	2815021
Secondary	61.8	38.2	476141
Tertiary	84.9	15.1	6140235

\*p < 0.05, \*\*\*p < 0.001

Source: 2012 National Population Census (Zimbabwe National Statistics Agency, 2012)

With regard to the place of residence of the child, Harare Province had the highest proportion (75.5%) of children who possessed a birth certificate compared to Masvingo with the least (51.8%). With respect to parental survivorship status, children with father dead had the

lowest proportion (63.2%) of birth ownership. Children from the head of households' who were married had the highest proportions of (69.6%) birth ownership. With respect to head of households' employment status, 58.7% of children with employed head possessed a birth certificate compared to 59.6% for the unemployed.

With regard to head of households' level of education, and birth ownership status of their children, the proportion of births registration increases with increasing level of education, from 49.0% among heads with no education to 84.9% among heads with tertiary education.

### Factors associated with birth registration

The results of the binary logistic regression analysis presented in Table 3 show that male children were more likely to have had a registered birth certificate than female children (OR = 1.04,  $p < 0.001$ ). Possession of a birth certificate increased with the age of the child. The provincial results showed that all children in the 8 mostly rural provinces were more likely to have had a birth certificate compared to children from Harare Metropolitan Province. However, exceptional results were revealed in Manicaland Province, where children from this province were less likely to have had a birth certificate compared to Harare (OR = 0.95,  $p < 0.001$ ).

**Table 3: Predictors of birth registration among children aged 0-17 years**

Variable	B	S.E	Exp <sup>(B)</sup>
Sex			
Female ( R)			
Male	0.044	0.004	1.045***
Age of child 15-17(R)			
0-4	2.364	0.008	10.638***
5-9	1.321	0.006	3.748***
10-14	0.594	0.006	1.811***
Province Harare (R)			
Manicaland	-0.052	0.015	0.95***
Mashonaland Central	0.822	0.01	2.274***
Mashonaland East	0.845	0.011	2.328***
Mashonaland West	0.721	0.011	2.057***
Matabeleland North	1.045	0.011	2.844***
Matabeleland South	0.653	0.012	1.921***
Midlands	0.633	0.011	1.884***
Masvingo	1.005	0.01	2.731***
Bulawayo	1.081	0.01	2.946***
Parental Survivorship	1.081	0.01	3.006***
Both parents dead ( R)			
Mother dead	-0.239	0.005	0.787***
Father dead	-0.053	0.007	0.948***
Head of households' marital status			
Formerly married ( R)			
Never married	0.133	0.011	1.142***
Married	0.267	0.005	1.307***
Head of households' employment status			
Unemployed ( R)			
Employed	0.083	0.005	1.087***

Head of households' level of education			
Tertiary ( R)			
No education	1.562	0.014	4.768***
Primary	1.208	0.013	3.346***
Secondary	0.786	0.013	2.194***
Constant	-3.4	0.016	
Nagelkerke R Square	0.202		
Significance levels: *p < 0.05, **p < 0.01, ***p < 0.001 Source of data: 2012 Zimbabwe National Population Census			

With respect to parent survivorship, children who have had their mother dead were less likely to have a birth certificate compared to those with both parents dead (OR = 0.78,  $p < 0.001$ ). Additionally, children who have had their father dead were less likely to have a birth certificate compared to those with both parents dead (OR = 0.94,  $p < 0.001$ ). Children from households' with a married head were 1.3 times more likely to have had a birth certificate compared to those with a formerly married head. In addition, children whose head of household were never married (OR = 1.14) were more likely to have had a birth certificate compared with those from households with formerly married head.

With respect to educational attainment, a statistically significant association with birth certificate ownership was shown. For instance, children whose head of household had no education were 4.7 times more likely to have had a birth certificate than those with tertiary education. Also, children with the head of household who had attained a primary level education were more likely to have a birth certificate compared to those with tertiary education (OR = 3.34,  $p < 0.001$ ). The results showed that the odds of the head of household with secondary education compared to those with tertiary education were higher (OR = 2.19,  $p < 0.0001$ ). The odds of the head of households' who were employed that had children with birth certificates were higher than those with heads who reported to be unemployed (OR = 1.08,  $p < 0.001$ ).

## DISCUSSION OF THE RESULTS

This study examined the factors influencing birth registration among children aged 0-17 years in Zimbabwe. From the results, it is evident that several demographic and socio-economic factors play a role in the probability of a child having a birth certificate. Possession of a birth certificate decreases with the age of the child. The significance of the child's age was contrary to findings from a study in Ghana that also reported an increased probability of birth certificate ownership among older children (Amo-Adjei & Anim, 2015). Thus, birth ownership in Zimbabwe appears to be early among children aged 0-4 years which is the ideal situation recommended. Sex plays an important role in determining birth certificate ownership among children. The findings were consistent with the UNICEF report which reported an increased likelihood of birth ownership among male children (UNICEF, 2013). This can be attributed to most parents preferring to send the male child to school compared to the girl child. Orphanhood status plays a role too. A child who has lost a mother or father is less likely to possess a birth certificate compared to both parents. This shows the level of deprivation imposed by the loss of either parent.

Additionally, the level of education of the head of households influences the likelihood of a child possessing a birth certificate. The current study findings are dissimilar with previous studies that found education creating an awareness of the importance of birth registration or ownership. Perhaps most studies focused on maternal education or parental education and its influence on child birth certificate ownership (Isara & Atimati, 2015; UNICEF, 2013). The findings of this study demonstrate that the employment status of the head of household influence birth ownership. Employed head of households' were more likely to have had reported a child with a birth certificate. This could be as a result of income that they earn which afford them to pay for transport costs to acquire a birth certificate from the Registrar General's Office.

The results show higher levels of birth ownership in all 8 provinces except Manicaland Province as compared to Harare. Lower levels of birth certificate ownership in Manicaland Province could be explained by the high concentration of the Apostolic Sect religion. These usually give birth outside hospital settings thus, formalization of birth registration might be a hindrance, as well as a few of them taking their children to school. It is a school requirement for a child to have a birth certificate before being enrolled.

With regard to Harare Metropolitan Province, the results were not as expected as children from this province were less likely to have had a birth certificate. Yet, Harare is the capital city of Zimbabwe and is supposed to record a high probability of birth certificate ownership among children. Perhaps further research is needed to explore the possible reasons for this apparent contradiction between what is expected and what was found.

The findings of the present study demonstrate that, the socio-demographic characteristics of the head of the household play an important role in the probability of the birth certificate ownership status among children. For instance, the chances of birth possession were higher among both married and never married head of households compared to formerly married ones. The formerly married might be widowed or divorced or separated. This means that they might face greater obstacles to obtaining a birth certificate as the spouse might not be present to give their consent to the process. Further, the widowed might be old and some might not have children in the required age range. Unfortunately, the current study did not attempt to match age of the household head with their marital status to explain why the observed differences could be explained.

The implications for policy makers are that, when birth registration efforts are underway, these factors should be taken into consideration. Especially attention should be paid to children who have lost a mother or father, to the girl child, to those in the older age groups, to those whose head of households' had a tertiary education to ensure that they possess a birth certificate as their birth right.

## **CONCLUSION**

Data collected from decennial censuses can be used to predict the likelihood of a child aged between 0-17 years being in possession of a birth certificate. Knowledge of such predictors can be used to guide policy when it comes to encouraging birth registration among the general population. The target of such exercises should be the girl child, those who have lost at least one parent, those who were formerly married and have children under the age of 18 years, those

who are unemployed and so on. However, the study clearly shows that Zimbabwe needs to redouble its efforts on birth registration if the requirements of Article 7 of the Convention on the Rights of the Child are to be met.

### Limitations of the study

The study had its limitations. The census enumerators were not shown the birth certificate of the child. The self-reporting by the respondents might under or overestimate the prevalence of birth certificate ownership among children aged 0-17 years. No physical examination of the birth certificate was done. Further, the study did not attempt to link the age of the respondent to the child in question. This becomes a glaring omission when one considers marital status of the household head with the child possessing a birth certificate.

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