

Who is “Vulnerable”?
School Enrollment among
Foster-Children & Orphans in West & Southern Africa

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ABSTRACT

School enrollment remains low in sub-Saharan Africa. The current literature concludes that foster-children and orphans living with non-parental caregivers are particularly vulnerable to low enrollment. Does the context of the AIDS epidemic influence how vulnerable foster-children and orphans are? Given that the AIDS epidemic disproportionately affects Southern Africa, the greater burden on caregivers to care for orphans while maintaining fostering obligations may increase children's vulnerability in this region. Conversely, in West Africa where AIDS is less severe, caregivers may be able to better care for foster-children and orphans. In the current study, we evaluate if the severity of the AIDS epidemic conditions the likelihood of foster-children's and orphans' school enrollment. Results from our 23 country assessment show that foster-children's and orphans' school enrollment is *not* universally low, but varies by region. The results suggest the severity of the AIDS epidemic is challenging the traditional family system in some African contexts.

INTRODUCTION

In sub-Saharan Africa, the traditional practice of fostering³ and the increasing number of double orphans⁴ due to AIDS means that many school-aged children live with non-parental caregivers. The need for adult's financial support to cover the costs of school, which potentially include fees, uniforms, transport, and the child's forgone labor, intrinsically ties caregivers to children's likelihood of being -and staying- enrolled in school. Children living with non-parental caregivers are often labeled as 'vulnerable' because evidence suggest that foster-children (Townsend, Madhavan, Tollman, Garenne, and Kahn 2002; Urassa, Boerma, Ng'weshemi, Isingo, Schapink, and Kumogola 1997) and double orphans (Bicego, Rutstein, and Johnson 2003; Case, Paxson, and Ableidinger 2004) have poorer educational outcomes compared to their non-fostered, non-orphaned peers.

Why are children living with non-parental caregivers more vulnerable to low school enrollment? A prominent explanation implies that poor outcomes are, at least in part, because non-parental caregivers are universally less willing to invest in foster-children's and orphans' schooling compared to their biological children. But, we argue that foster-children's and orphans' poorer outcomes may not reflect non-parental caregivers lower willingness to invest in them, but may signal their inability to do so in context of a severe AIDS epidemic. Emerging research suggests that in African contexts where HIV is more

³ In the current study, we define foster-children as those who live separately from both of their living parents. Some studies refer to orphans as "fostered" children. Here, we only consider "foster-children" as those who are living separately with their living parents, a more exclusive definition. This definitional operation mirrors the one used by Urassa et al (1997), and allows us to draw comparisons between foster-children and orphans to gain a better understanding of the influence in a household with non-parental caregivers versus parental death.

⁴ Double orphans are children whose mother and father are deceased.

prevalent, the greater number of orphans is placing tremendous pressure on the extended families' ability to also fulfill traditional fostering obligations (Grant & Yeatman *forthcoming*). We raise the question: does the greater severity of the AIDS epidemic in Southern Africa result in foster-children and orphans greater vulnerability to poor school outcomes compared to foster-children and orphans in West Africa where HIV prevalence is significantly lower? Much of the research showing that foster-children and orphans have poor school outcomes is based in Southern Africa where HIV prevalence is highest⁵ (Beegle, De Weerd, and Dercon 2006; Townsend et al. 2002; Urassa et al. 1997). Extrapolating that children living with non-parental caregivers will experience universally poor school outcomes ignores cross-regional heterogeneity (Ainsworth and Filmer 2006). Building on evidence from Ainsworth and Filmer's (2006) study that demonstrates considerable cross-national variation in the influence of orphanhood on children's schooling, we hypothesize that foster-children and double orphans may not be equally vulnerable in West Africa, where country-level HIV prevalence does not exceed 5 percent, compared to Southern Africa, where country-level HIV prevalence is consistently higher than 11 percent (Macro International, Inc.).

Our multinational comparison of school enrollment among foster-children and orphans in West and Southern Africa provides a first glimpse at how the context of the AIDS epidemic is influencing traditional family systems, and as a result, foster-children's and orphans' vulnerability. Our assessment of school enrollment is based on Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) collected in 23

⁵ A notable exception is Bicego, Rutstein, and Johnson's (2003) study that look at school outcomes of orphans in West and East Africa. They report that paternal orphans and double orphans (6-10 years old) in West Africa are less likely to be in the age appropriate grade. Our current analyses of West Africa is distinct in that it looks at student's enrollment in school.

countries: 16 in West Africa and 7 in Southern Africa. In preliminary analyses, we estimate country-level fixed effects logistic regression models to compare the likelihood of school enrollment for foster-children and orphans in West versus Southern Africa. Preliminary results illustrate that in West Africa foster-children and orphans have better, or similar, school enrollment than their co-resident peers⁶. Conversely, in Southern Africa, where HIV and orphans are more prevalent, and arguably placing greater strain on non-parental caregivers, foster-children and orphans have significantly lower school enrollment than co-resident children. Though subsequent analyses will more closely investigate how HIV prevalence is helping to shape foster-children's and orphans' outcomes, these results suggest that the severity of the AIDS epidemic is challenging the traditional family system in some African contexts and in turn, leading to children's greater vulnerability.

Before moving to discuss the current study, we first provide background on child fostering and orphanhood in sub-Saharan Africa. We then discuss competing explanations for the poor outcomes among children with non-parental caregivers and raise the possibility that foster-children's and orphans' lower school enrollment may not be universal, but instead vary depending on the context of the AIDS epidemic. Finally, we will turn to discuss our preliminary analyses and future directions for our work.

BACKGROUND

Child Fostering in sub-Saharan Africa

Fostering is widely practiced in sub-Saharan Africa and serves many purposes, including expanding the opportunities available to children. Though fostering has historically been practiced in many regions of the world, including other parts of sub-

⁶ "Co-resident" children refer to those residing with both living parents.

Saharan Africa, Isiugo-Abanihe (1985) argues that historically the practice was the most institutionalized by ethnic groups in West Africa. While fostering is traditionally rooted in West African culture, contemporary social forces, including the expansion of formal school, encourage African families across the sub-continent to foster-out children. The confluence of factors motivating families to foster results in African children spending as much as 40 percent of their childhood apart from one or both parents (McDaniel and Zulu 1996).

Fostering is typically classified as voluntary or crises fostering. Beginning with the former, voluntary fostering is often used as a strategy to balance family size postnatally (Madhavan 2004). Parents may foster children who were the result of unintended pregnancies or may send older children to live elsewhere as a response to additional unplanned births. The dispersion of children throughout the larger kin network also spreads the costs and benefits of children to relatives and balances socioeconomic inequalities within the extended kinship system (Goody 1976). Additionally, children are often fostered with the specific intention of enhancing their educational opportunities (McDaniel and Zulu 1996). Access to schools, particularly at the secondary level, is not evenly distributed across rural and urban areas, motivating parents to send children to households with greater access than their natal community.

The risk that is endemic in resource-poor contexts like sub-Saharan Africa also encourages “crisis” fostering. Crisis fostering can be described as a preemptive response to any number of sudden events including job loss, a death of a parent, natural disaster, ethnic violence, or a food shortage. Social ties with extended family members allow households to handle these unanticipated crises by dispersing children throughout the kin network. While there are a number of unforeseen events that result in crisis fostering, in each

instance the underlying motive is to benefit children by sending them to live in a household with greater stability and resources (Isiugo-Abanihe 1985).

In spite of the central motive to increase children's opportunities, it is not apparent that this goal is always realized through fostering. Townsend et al's (2002) work in South Africa finds that children who live with only one or neither parents have poorer educational outcomes than children with two-resident parents. Similarly, Urassa et al's (1997) research in Tanzania and Case et al's (2004) findings from select African countries conclude that foster-children experience significantly lower school enrollment compared to children living with their parents.

Orphans in sub-Saharan Africa

In addition to the common practice of fostering, many children in sub-Saharan Africa reside with extended kin because they are double-orphans or are sent away in the stance of one parent's death⁷. The majority of AIDS orphans are concentrated in Southern Africa where the epidemic is most severe (Bicego, Rutstein, and Johnson 2003). Even while the incidence of new HIV infections has plateaued or declined the region, because of the lagged nature of the disease, the prevalence of orphans continues to climb as previously infected adults are just now developing and dying from AIDS (Monasch and Boerma 2004).

Because of existing fostering practices and children's access to an extended family of potential caregivers in addition to mothers and fathers, many researchers concluded that orphans would not be vulnerable compared to non-orphans (Foster 2000; Lloyd and Blanc 1996). But since these early predictions, several studies have shown that double-orphans

⁷ In the current study, we refer to single orphans who live apart from their living parent as "virtual double orphans" (see also Case et al 2004). We also interchangeably use the term 'single orphan foster-children'.

have significantly lower school enrollment than non-orphans (Bicego, Rutstein, and Johnson 2003; Case, Paxson, and Ableidinger 2004; Evans and Miguel 2007; Gertler, Martinez, Levine, and Bertozzi 2003).

There are two general explanations for double-orphans' lower school enrollment. The first is that the experience of parental death lowers orphans educational returns. Orphans may be more likely than non-orphans to be HIV-positive, which may compromise their health and in turn, their academic performance. It is also possible that children are emotionally scarred from their parents' death, or are harmed by the stigma associated with being an "AIDS orphan", which may also decrease their performance in school. As a result of their less favorable academic outcomes, caregivers may be less eager to financially invest in orphans' school, and instead support the education of non-orphans who may show more scholarly promise (Case, Paxson, and Ableidinger 2004).

A second explanation provides that orphans' are less likely to be enrolled because their non-parental caregivers are simply less willing to invest in their education, regardless of academic performance. From an evolutionary perspective, Hamilton's rule states that altruistic behavior is associated with degrees of relatedness between persons (Hamilton 1964). In other words, non-parental caregivers are universally more willing to invest in their biological children over the foster-children and orphans for whom they provide care. Case, Paxson, and Ableidinger (2004) show support for this hypothesis by illustrating that there are within-household differences in school outcomes between orphans and non-orphans.

These distinct explanations share the assumption that non-parental caregivers actively choose to invest less in foster-children and orphans compared to their own

biological children. While there are evidentiary bases for these explanations, they run counter to the shared understanding that in Africa, children are the responsibility of not only biological parents, but instead the broader kin network (Bledsoe, Ewbank, and Isiugo-Abanihe 1988). From this perspective, it seems possible that the negative outcomes among foster-children and double orphans does not signal non-parental caregivers' disinterest in investing in these children, but rather their inability to fully do so because of the increasing demand to take in foster-children and care for orphans in the wake of the AIDS epidemic.

The Context of the AIDS Epidemic

In areas of Africa where HIV prevalence is high, namely Southern and East Africa, there are considerably higher percentages of orphaned children compared to areas with lower prevalence (Bicego, Rutstein, & Johnson 2003). But even with the steep incline in orphans in these regions, western-style orphanages remain rare in Africa, and instead, extended family members assume responsibility to care for orphans. Emerging evidence suggests that in areas of Africa where HIV prevalence is high (and increasing percentages of children are orphaned), the extended kin system is struggling to both absorb orphans as well as to accommodate traditional foster-children (Grant & Yeatman *forthcoming*). This evidence suggests that considering the context of the AIDS epidemic is essential for fully understanding the implications of non-parental caregivers for foster-children's and orphan's education.

Whereas foster-children and double orphans may be 'vulnerable' to poor outcomes in areas where the extended family is struggling to absorb the higher prevalence of children seeking non-parental care, they may not be 'vulnerable' in regions where HIV prevalence is lower and in turn, the extended kin network is less strained. For instance, in

West Africa, country-level HIV prevalence does not exceed 5 percent, and as a result, there are considerably low percentages of double-orphans. Because there are considerably fewer orphans burdening the extended kin system, non-parental caregivers may be in a better position to provide the adequate resources for both their non-biological and biological children to remain in school. Conversely, in Southern Africa, the majority of countries' HIV prevalence exceeds 10 percent (see Appendix A), and in turn, the region has the highest prevalence of orphans in all of Africa. As a result, the severity of AIDS is challenging the extended kin system to both meet traditional fostering obligations and care for orphans (Grant & Yeatman *forthcoming*). The strain placed on non-parental caregivers may be reflected in poorer schooling outcomes for foster-children and orphans.

In the current study, we evaluate if foster-children and orphans have different school experiences based on whether they live in a low-prevalent West African country versus a high prevalent Southern African country. Given the variation in the prevalence of orphans and, in turn, the demand placed on non-parental caregivers across the subcontinent, we argue that the associations between fostering, orphanhood, and school enrollment will significantly vary between West and Southern Africa. More specifically, we anticipate that

H1: Foster-children and orphans will experience better school enrollment in West Africa, where the sociocultural institution of fostering is more deeply rooted and the AIDS epidemic is less of a burden for the extended family structure.

Additionally, we anticipate that, due to the relatively higher HIV prevalence and greater strain on the extended kin network,

H2: Foster-children and orphans will experience lower school enrollment in Southern Africa where the sociocultural institution of fostering is relatively newer and the HIV prevalence is burdening the extended family structure.

Before evaluating these hypotheses, we now turn to describe the multinational data that we use for preliminary analyses on the regional differences in school enrollment for foster-children and orphans in sub-Saharan Africa.

DATA & ANALYTIC SAMPLE

We leverage recently collected Demographic and Health Survey (DHS) and Multiple Indicator Cluster Survey (MICS) in 23 sub-Saharan African countries between 2003 and 2009. The DHS and the MICS use a nearly identical stratified random sample design to select households for cross-sectional surveys. Potential primary sampling units are identified based on sampling frames generated from national level statistics offices, and the PSUs are randomly selected with a probability proportional to their population size. Within each primary sampling unit, households are randomly selected for interviews. Appendix A includes additional information on the selected countries and data sources.

Historically, multinational analyses of child fostering have focused on maternal residential separation (e.g.(Lloyd and Desai 1992) using reports from reproductive age women. Because of the DHS sampling strategy, the sample of children included in the estimates of fostering is selected based on their mothers' age and, in some instances, marital status. More recent multinational studies make use of the household rosters to estimate fostering and orphanhood (McDaniel and Zulu 1996; Monasch and Boerma 2004). In the current study, we follow suit and use the household rosters to identify foster-children and orphans.

Analytic Sample

We make three sample restrictions. First, to make the *de facto* DHS sample comparable to the *de jure* MICS sample, we limit the DHS sample to those children who are reported to be household members. Second, because we are interested in assessing school enrollment, we restrict the sample to school-aged children defined here as those age 6 to 14 years old. Third, we exclude children from the sample who have incomplete information on whether their mother and/or father are alive and whether their mother and/or father co-reside in the household. This excludes seven percent of the sample, resulting in a final analytic sample of 163,722 children age 6-14 in West Africa and a total of 81,049 children age 6-14 in Southern Africa.

MEASURES

Dependent Variable

We use current school enrollment as our dependent variable. We analyze school enrollment, rather than educational attainment, because the former more closely reflects the current investments in children's human capital. Conversely, attainment is dependent on children's entire school histories and because our data are cross-sectional, it is more appropriate to evaluate investment in school at the time of the survey.

The primary household respondent is asked whether each child is enrolled in school during the current academic year. We use this information to create a binary measure of school enrollment (=1) to indicate if the child is currently enrolled.

Key Independent Variable

*Fostering & Orphan Status*⁸. We use demographic rather than sociocultural criteria to define foster-children. We use the primary household respondent's report of whether the child's biological mother and father reside in the household to estimate the extent of fostering. Because foster-children and orphans are likely to have unique experiences apart from their shared experience of living with non-parental caregivers, we distinguish between children living apart from living parents (foster-children) and children living separately from parents due to death (orphans). More specifically, we create a eight category variable as follows: (1) foster-child: resides apart from living mother & father; (2) double-orphan: both parents deceased; (3) "virtual double orphans": maternal or paternal orphan, resides apart from living parent (also referred to as single orphan foster-child) (4) paternal orphan, resides with living mother; (5) maternal orphan, resides with living father; (6) father absent: resides with mother; (7) mother absent: resides with father; (8) co-resident child: resides with living mother and living father (reference group).

It is worth noting again that an important aspect of our conceptualization of foster-children is that we exclude orphans from our category in order to compare the two groups (see also Urassa et al 1997). It is also important to note that because our categories of maternal- and paternal-orphans are restricted to those co-residing with their living parent, and because some maternal- and paternal- orphans are considered "virtual double orphans", our estimates of maternal- and paternal- orphans will appear lower than studies

⁸ Because the DHS & MICS do not include information on children who live in orphanages or on the street, the prevalence of orphans will be underestimated. It is also possible that foster-children and orphans are misreported as the children of their adoptive or foster parents. Unfortunately, there are no estimates of the number of children who live in institutions or are homeless, and no way to ensure the accuracy of reports of biological children.

assuming the conventional approach of only measuring parent's vital status without consideration of their living arrangement.

Controls

We account for child and household characteristics that may confound the associations between fostering, orphanhood, and school enrollment. In terms of households, we control for socioeconomic status using the DHS- and MICS-constructed wealth indices⁹, child residence in a rural (=1) versus urban area, and the number of household members. Child characteristics include gender and a continuous indicator for the child's age (6-14 years old). We also include an indicator for relationship to household head (parent (ref. group), grandparent, relative, sibling, spouse, child-headed, non-relative).

ANALYTIC STRATEGY

In the analyses shown here, we provide pooled results for the 16 countries in West Africa and pooled results for the 7 countries in Southern Africa. We estimate country-level fixed effects models for these pooled samples in order to compare the likelihood of school enrollment in West Africa versus Southern Africa. We calculate robust-standard errors that account for the possibility of clustering of multiple observations at the household-level.

RESULTS

We begin by describing the sample characteristics of school-age children shown in Table 1. There is sizeable variation in the percentage of children enrolled in school across

⁹ The DHS constructed wealth index is an ideal measure for comparing socioeconomic status across countries. For more information, see Bollen, Glanville, & Stecklov (2007) and Houweling, Kunst, & Mackenbach (2003).

West Africa and Southern Africa. As shown, there is also considerable regional variation in the prevalence of foster-children and orphans. The percentage of foster-children is higher in Southern Africa, with as many as 15 percent of children fostered compared to 10 percent in West Africa. In terms of orphans, whereas the prevalence of double orphans in West Africa is less than one percent, there are *five times* as many double-orphans in Southern Africa (2.50 percent). In terms of virtual double orphans (single orphan foster-children), 1.89 percent of children are virtual double orphans in West Africa compared to 4.24 percent of children in Southern Africa. The sum of the percent of foster-children, double orphans, and virtual double orphans by region indicates considerable regional variation in the total percentage of school-age children living with non-parental caregivers. In West Africa less than 13 percent of children rely on non-parental caregivers, whereas in Southern Africa the figure stands at 21 percent.

Table 1 also provides descriptive statistics for the control variables. The results show that half of the sample is female who are on average just over 9 years old. Children live in poor households with an average of 5 members in Southern Africa and as many as 9 members on average in West Africa. Children's relationship to their household head also varies by region, with grandparent co-residence more common in Southern Africa.

We now turn to the multivariate findings to determine if the likelihood of school enrollment for foster-children and orphans compared to children living with their parents varies in West and Southern Africa¹⁰. Table 2 shows the coefficients (expressed as odd ratios) from the country-level fixed-effects logistic regression models that control for clustering at the household-level. *The results show that foster-children and orphans have*

¹⁰ We ran each model separately for boys and girls (results available upon request). Because no distinct patterns emerge, we only show the results for the full model.

divergent school enrollment compared to co-resident children depending on the context in which they live. In West Africa, foster-children experience 24 percent higher odds of school enrollment compared to their co-resident peers. Similarly, in West Africa virtual double orphans (single orphan foster-children) experience 41.7 percent higher odds of school enrollment compared to their co-resident peers. Conversely, double orphans experience lower odds of school enrollment, but the finding is only marginally significant. Taken together, these findings suggest that in West Africa, where the burden AIDS is less severe and fostering is an established sociocultural institution, living with non-parental caregivers benefit foster-children's and virtual double orphans' school enrollment. Though double orphans are less likely to be enrolled in school compared to their co-resident peers, the difference is only marginally significant¹¹.

The results for Southern Africa tell a different story. *Contrary to West Africa, in Southern Africa, foster-children, double orphans, and virtual double orphans experience significantly lower odds of school enrollment compared to co-resident children.* For instance, in Southern Africa foster-children experience 24 percent lower odds of enrollment compared to their co-resident peers. These findings stand in stark contrast to foster-children who have significantly *higher* odds of school enrollment in West Africa. Furthermore, in Southern Africa double orphans and virtual double orphans are considerably more vulnerable to poor school outcomes. Double orphans are 23 percent less likely to be enrolled in school compared to their co-resident peers, and virtual double

¹¹ Ainsworth & Filtmer (2002) point to the possibility that the lack of statistical differences in school outcomes between orphans and non-orphans in countries with low prevalent HIV may be due to the small sample of orphans. However, because we analyze pooled data, resulting in a larger sample of orphans, and find the similar results for foster-children in West Africa, we are confident that the results are not due to a small sample size of orphans.

orphans are 25 percent less likely to be enrolled in school compared to their co-resident peers.

To further illustrate the findings, Figure 1 shows the differences in the predicted probability of school enrollment for foster-children, virtual double orphans, and double orphans compared to co-resident children while holding all covariates constant at the mean-level. The figure depicts the stark divergence in school experiences of foster-children and orphans in West and Southern Africa. As shown, in West Africa foster-children and virtual orphans having significantly *higher* probabilities of school enrollment compared to co-resident children ($p < .05$). Conversely, in Southern Africa, foster-children, virtual orphans, and double orphans have significantly *lower* probabilities of school enrollment compared to co-resident children ($p < .05$).

Taken together, these findings suggest that in West Africa there is minimal evidence to support the conclusion that all foster-children and orphans are 'vulnerable' to poor outcomes. Instead, with the exception of lower enrollment among double orphans ($p < .1$), foster-children and virtual double orphans have considerably higher school enrollment than their co-resident peers. Conversely, in Southern Africa, where HIV prevalence is the highest and there are considerably more orphans in need of care from non-parental adults, foster-children and orphans are indeed vulnerable to lower school enrollment than their co-resident peers.

DISCUSSION & FUTURE DIRECTIONS

The results of the current study show that foster-children and orphans experience divergent school experiences depending on the region of sub-Saharan Africa in which they live. In West Africa, children who are often labeled as 'vulnerable' actually experience

significantly higher likelihoods of school enrollment than co-resident children. In Southern Africa these children are in fact vulnerable to lower school enrollment than their co-resident peers. These initial findings suggest that while the foster system is “working” as intended in West Africa, in the context of the severe AIDS epidemic in Southern Africa, families are being overburdened by the AIDS epidemic and are struggling to fully invest in foster-children’s and orphans’ schooling.

While these preliminary results hint to the notion that the implications for foster-children’s and orphans’ school enrollment is dependent on the severity of the AIDS epidemic, more nuanced analyses will better determine how the context of AIDS conditions the associations between school enrollment, fostering, and orphanhood. More specifically, subsequent analyses will include country-level random effects models for individual countries. This modeling strategy will allow us to: (1) include a country-level indicator of HIV prevalence in order to illustrate a more nuanced account of how the country HIV context is influencing children’s experiences (results, not shown here, confirm that country-level HIV prevalence conditions foster-children, virtual double orphans, and double orphans school experiences – in countries where HIV prevalence is higher, these children are less likely to be enrolled in school); (2) include country-level control variables (e.g. GDP, % of children in school) to ensure that the observed associations between HIV prevalence and children’s school enrollment are not spurious. Along the same lines, future analyses will more deeply explore whether foster-children and orphans in West Africa are demographically different than those in Southern Africa, and if their residing in financially better-off households explains their higher school enrollment (Beegle, De Weerd, & Dercon 2008).

In addition to adopting a multilevel modeling strategy that allows for random-effects, we will also explore the role of context at a more micro-level than the country-level. While national characteristics are meaningful in many instances, they are arguably less informative in sub-Saharan Africa. Estimating the percentage of children relying on non-parental caregivers at the subnational region-level will hint to the severity of AIDS in the area (as well as the prevalence of traditional fostering), as well as better reflect the bounded space in which most African households function. These analyses will allow us to determine if contextual characteristics at this more micro-level also condition the associations between living with non-parental caregivers and school enrollment.

While future analyses will strengthen the study, a notable limitation of the study that will remain even with subsequent analyses is the use of cross-sectional data. Clearly, such data limit us to examine correlates of fostering and orphanhood after the event occurred, without controlling for children's conditions prior to being fostered or experiencing parental death. With this limitation in mind, it is important to cautiously interpret the results shown here.

With this said, the current results provide a first glimpse at the potential role that the context of AIDS is shaping the associations between school enrollment, fostering, and orphanhood. Further analyses will allow us to confirm that the context of AIDS epidemic is, at least in part, responsible for the observed divergence in the likelihood of school enrollment of foster-children and orphans in West and Southern Africa. This line of inquiry will extend the current literature by illustrating how the severity of the AIDS epidemic is challenging the traditional family system in some African contexts and in turn, leading to children's greater vulnerability.

Table 1. Descriptive Statistics for sample of school-aged children in West & Southern Africa

	West	Southern
% Enrolled in School	58.36	86.49
Foster-child	10.17	14.28
Double Orphan	0.57	2.50
Virtual Double Orphan	1.89	4.24
Paternal Orphan	2.63	5.17
Maternal Orphan	1.10	1.21
Mother only, father elsewhere	11.04	14.93
Father only, mother elsewhere	6.66	4.65
Co-resides w/both parents	63.40	53.02
<i>Controls</i>		
Household Wealth	2.88 (1.39)	2.92 (1.41)
Household Size	8.63 (5.36)	5.01 (3.52)
Female	49.50	50.30
Age	9.70 (2.61)	9.91 (2.58)
<i>Relation to household head</i>		
Parent	75.75	68.67
Grandparent	10.81	19.92
Relative	6.20	4.41
Sibling	2.28	2.17
Spouse	0.20	0.88
Child head	0.00	0.06
Non-relative	4.76	3.89

Source: DHS & MICS

N= West Africa: 163,722 ; Southern Africa: 81,049

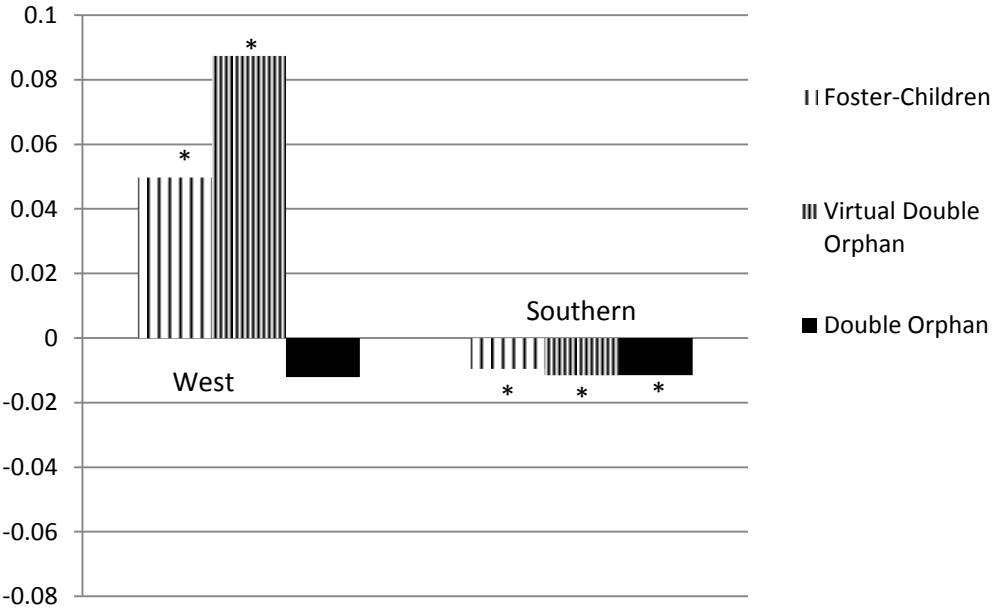
Table 2. Odds Ratios for Logistic Regression of School Enrollment among school-aged children in West & Southern Africa

	Model	
	(1) West	(2) Southern
Foster-child	1.240***	0.768***
Double Orphan	0.819†	0.873***
Virtual Double Orphan	1.417***	0.852*
Paternal Orphan	1.548***	1.105*
Maternal Orphan	1.006	0.828*
Mother only, father live elsewhere	1.465***	1.017
Father only, mother live elsewhere	0.964	0.777***
Co-resident w/living parents (ref.)	--	--
<i>Controls</i>		
Household Wealth	1.814***	1.513***
Household Size	0.979***	0.998
Rural	0.842***	0.869***
Female	0.769***	1.147***
Age	1.091***	1.137***
<i>Caregiver</i>		
Grandparent	0.931	1.104*
Relative	0.643***	0.699***
Sibling	0.580***	0.934
Spouse	0.251***	0.474***
Child head	--	0.635
Non-relative	0.570***	0.436***

Source: DHS & MICS

N= Model (1): 163,722 ; Model (2): 81,049

Figure 1. Difference in Predicted Probabilities of School Enrollment for Foster-Children, Virtual Double Orphans, and Double Orphans compared to co-resident children in West & Southern Africa



Note: (* significant at p<.05)

Appendix A. List of selected countries, HIV Prevalence, data source, year collected, & sample size, By Region

	HIV Prevalence *	Data Source & Year	N
West Africa			
Benin	2.3	DHS 2006	8,979
Burkina Faso	2.3	MICS 2006	4,286
Cote D'Ivoire	3.4	MICS 2006	8,947
Gambia	2	MICS 2006	8,408
Ghana	1.8	DHS 2008	10,589
Guinea	1.3	DHS 2005	5,821
Guinea Bissau	2.5	MICS 2006	6,762
Liberia	1.5	DHS 2007	8,100
Mali	1	DHS 2006	11,884
Mauritania	0.7	MICS 2007	9,416
Niger	0.8	DHS 2006	13,886
Nigeria	3.6	DHS 2008	37,942
Senegal	0.9	DHS 2005	7,818
Sierra Leone	1.6	DHS 2008	10,740
Sao Tome Principe	0.5	DHS 2008	3,109
Togo	3.2	MICS 2006	6,770
Southern Africa			
Lesotho	23.6	DHS 2009	9,441
Malawi	11	MICS 2006	32,261
Mozambique	11.5	DHS 2003	5,923
Namibia	13.1	DHS 2007	8,773
Swaziland	25.9	DHS 2006	5,289
Zambia	13.5	DHS 2007	9,026
Zimbabwe	14.3	DHS 2005	5,074

*Sources: UNAIDS, Report on the Global AIDS Epidemic, 2010: http://www.unaids.org/GlobalReport/Global_report.htm.

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