

GIRL'S EDUCATION IN AFRICA: THE IMPORTANCE OF CULTURE AND STATE
CAPACITY

by

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ABSTRACT

Why is girls' education participation notably below average in countries throughout both North and Sub-Saharan Africa? Previous research has concluded that the low rates of girls' education in Africa are attributed to economics and more specifically wealth. While wealth needs to be addressed as a part of the discussion of issues surrounding girl's education, it does not seem to be the primary cause of low participation outcomes. I argue that culture and governance are the primary factors effecting girls' education in Africa. Moreover, government effectiveness and female genital mutilation are primary causes of the outcomes of girl's education and appear to diminish the effects of wealth.

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LIST OF ABBREVIATIONS

FGM Female Genital Mutilation

INTRODUCTION

For many girls, going to school is far beyond reach. In developing countries, girls often face substantial barriers to just getting into a classroom. Currently, in Sub Saharan Africa alone, there are 52.2 million girls out of school (CAMFED, 2019). Girls' education is essential to a number of economic and human development outcomes especially in under-developed or developing countries and yet, many girls are not given the opportunity to attend primary or secondary school (Mehrota and Jolly, 1997). Girls are being outperformed in literacy skills and attendance by their male counterparts across the board.

Why are African countries struggling to get girls into the classroom? In this thesis, I argue that cultural values and state capacity are the causes of low outcomes in girls' education. Heightened state capacity results in an increased provision of public goods and services that may not normally reach or impact young females. In developing countries, with transitioning governments and instable economies, the ability of the state to implement proper education funding, training for teachers, roads, water resources, and policies that may impact education is often limited. These resources, policies and goods are essential to providing girls with improved educational opportunities, safe roads to travel to and from school and access to goods and services that would positively affect their ability to attend school. Cultural values in Africa are influenced by a number of tribes, religions, values and traditional practices. These cultural values in turn affect societal beliefs and the ways in which people interact with each other and their

communities. If these values promote the disenfranchisement of women and girls, or promote patriarchal viewpoints, opportunities for girls are limited and stand in the way of their participation in education.

However, the existing body of research demonstrates that the primary reason that Africa experiences a high number of girls out of school is due to economics. Low-income countries with low GDP per capita and lack of wealth throughout the population produce poor outcomes for girls' school participation. The argument behind wealth being the driving force in poor education outcomes for girls' outcomes is two-fold. The first part of the wealth argument is family-level poverty. Poor families are unable to afford school tuition and are either unwilling or unable to allow their girls to go to school because they need additional workers in the home for a girl to go to school. The second level of the wealth argument is country-level poverty. Poor governments are unable to implement services and provide the proper resources to promote education because they lack the tax revenues and have limited professional expertise. If a government cannot afford to provide basic services, it is unlikely to be able to implement education policy or increase access to schools across the country. However, a number of these studies focus only on country-level wealth and fail to include other variables that could potentially decrease the impact that wealth has on girls' education. Two essential aspects of girls' education, cultural values and state capacity, are often left out of the equation. The mono-causal expectation associated with economic development is insufficient.

In addition to the economic development, another common line of argumentation focuses on regime type. The research demonstrates that democracy is good for girls' education while other regime types produce negative results (Monkman & Hoffman 2013,

P.65). However, I determine that democracy in itself is not impactful for girls' education outcomes. There is no causal connection between girls' education and democracy in Africa because democracies in Africa are instable and ineffective, there are weak party systems and a large amount of clientelism present during election cycles. The transition to democracy has not led to positive effects reaching the poorest or most marginalized groups, which often includes girls. The theoretical assertion of a positive relationship between democracy and female education comes from the idea that democracy produces a competitive and fair electoral process which leads to more accountability from citizens to hold their government to the promises as well as producing a regime that allows for the voices of its citizens to be heard. When these two outcomes occur, previous research has theorized that women are able to fight for their rights and promote education for young girls.

Instead, state capacity proves to be much more effective for the participation outcomes of girls' education. A state's ability to implement resources and policies into its most vulnerable, under-represented and disenfranchised populations is key in providing equal access to education. However, in many African countries, these services and goods are not reaching schools uniformly. Some aspects of the lack of state capacity might also impact girls at a higher rate than their male counterparts. State capacity is impactful for girls' education in Africa because of the goods, resources and policy implementation that girls need in order to make it to the classroom. If the state does not provide infrastructure such as roads, girls are unable to get to school safely. If teachers are not being paid properly, there may not be enough teachers to support girls' classes. If education programming and policies are not created and implemented by the state, there may not be

the resources to incentivize girls to attend school when they are needed for work in their homes. Increased state capacity leads to resource expansion which provides smoother pathways to the classroom for girls. Figure 1 shows the percentage of girls out of school in Africa with the darkest countries representing the highest rates of girls out of school. It is apparent that land locked countries across the central strip of Africa see the highest percentages of girls out of school while countries in north and south Africa see significantly lower rates.

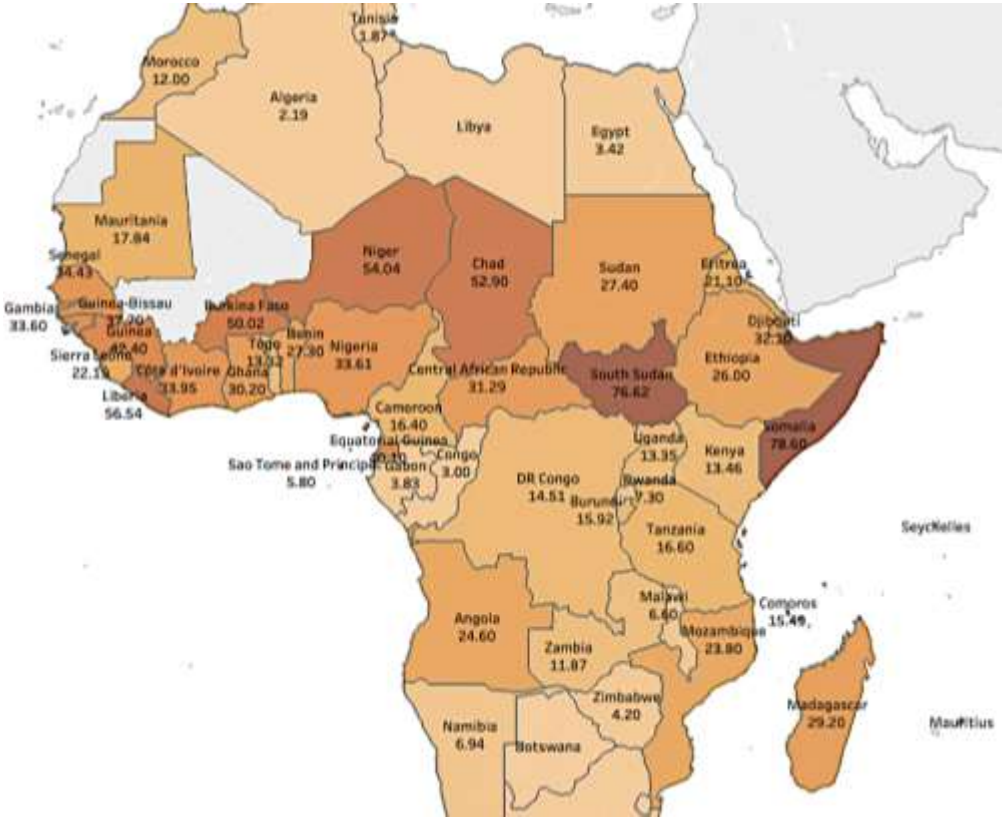


Figure 1 Percentage of girls out of school- High percentages of girls out of school coded dark

In this thesis, I argue that while wealth and democracy needs to be accounted for when examining girls’ education in Africa, culture practices and state capacity are the primary explanatory factors for girls’ education outcomes. The overall story of girls’

education needs to be looked at to include all factors that might impact girls. This suggests that factors such as wealth and regime still need to be included in the holistic view of girls' education even though they were not the predominant variables in this study. Previous research has failed to account for the unique tribal and religious values in Africa that created a culture of patriarchy and cemented traditional gender roles. For the purpose of this thesis, culture is defined as the values and attitudes that have emerged out of tribal, traditional and religious beliefs. These attitudes significantly impacted social interactions and have created values that view girls as less than their male counterparts. When looking at Africa in particular, there are a number of religious, tribal, and traditional beliefs that influence social interactions that limit the prospects of girls. These specific values promote traditional gender roles which encourage women to take on roles of mother, homemaker or caregiver while also endorsing the value of women through virginity. The seclusion of females from positions of power and divisions of labor further cements their presence as inferior to males. The sects of religion, tradition, and tribes that view women as inferior create significant barriers for females to get into a classroom and stay there until graduation. State capacity and cultural values are both essential areas of focus in understanding why there are over 50 million girls out of school in Africa. Unfortunately, culture and wealth are often not analyzed adjacent to one another or in combination with wealth factors or regime type. Because these two key factors are often not included in comprehensive models of girls' education, we see previous research that is weighting the importance of other factors inadequately.

Improving access for girls to basic education is essential to improving a number of socioeconomic outcomes. Women who are educated are more likely to reinvest in the

education of their children (Schultz, 2002, P. 220). Women who remain in school longer have smaller family sizes when compared with women who attended school for a few years (Tayne, 2008, P.169). In low-income countries, women trail their male counterparts in literacy rates by nearly 16% (GEM, 2009, P.16). The education of a girl is impactful to not just her, but to her children, community and to the generations of people who come after her.

Figure 2 helps to explain why girls' education is impactful to the generational health outcomes of girls and their families. An educated female will marry later than her non-educated peers (Mehrota & Jolly, 1997). Girls who marry later are likely to have fewer children than girls who marry young. Girls who marry later are also more likely to seek medical attention and provide better nutrition for her and her children. Fewer children combined with more medical care and better nutrition lead to a higher probability of survival both for the woman and her children compared with mothers who have more children and do not seek medical care and proper nutrition (Mehrota & Jolly, 1997). A woman having fewer children also leads to lower overall populations which creates less strain on resources while a woman seeking medical care for herself and her children leads to a healthier overall population. Countries that are able to educate females are able to bring themselves out of poverty faster than those countries who lack the ability to get their girls in school (Schultz, 2002, P. 221). These outcomes lead to better educations for her children who then benefit from the same positive health outcomes, as do their children. And before long, entire generations are impacted. The benefits of educating females are clear: healthier, smaller and more educated families and countries who are able to rise out of poverty much faster.

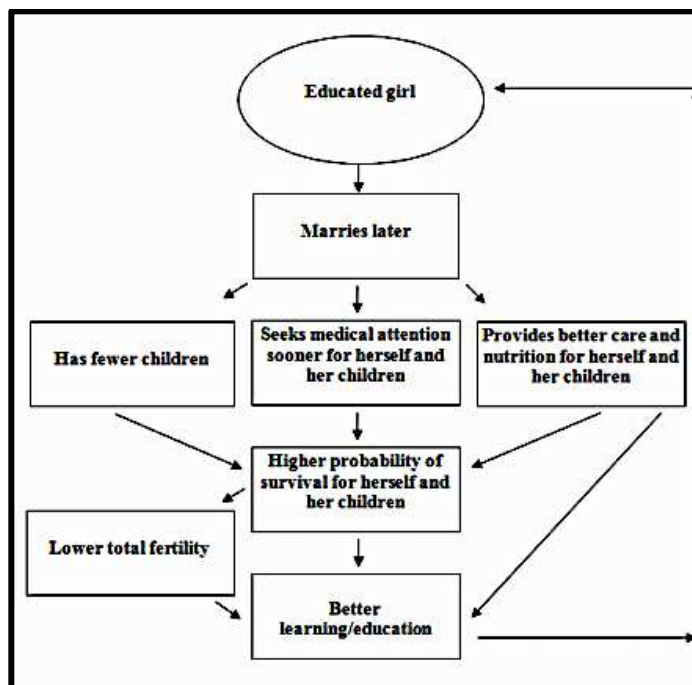


Figure 2 Health Outcomes from education

Source: Santosh Mehrota and Richar Jolly. *Development with a Human Face*. Oxford. 1997

This is a three-part study on the causes of poor educational outcomes for girls in Africa. In this thesis, I focus on the significance of state capacity and cultural values and use existing research to inform and develop my hypothesis to explain why these indicators are more helpful and influential than the wealth argument. I begin with a thorough exploration of the current literature and the arguments and counter arguments of the relationship between wealth and culture as well as state capacity and regime. I then integrate those theories into my independent variables and the explanations of their relevance to girls' education. I then develop two separate quantitative models that consider all possible hindrances of girls' education. Finally, based on the results of these quantitative models, I find that cultural values are far more impactful than wealth and state capacity and captures the results of girls' education outcomes more precisely than regime.

EXISTING RESEARCH

Previous research on girls' education demonstrates that the primary causes of lack of attendance in schools for girls across Africa are due to a lack of democratic regimes and poverty (Mokman & Hoffman, 2013, P.70). I find that a number of the studies that reach these two conclusions are lacking variables to analyze the entire story of what may be impacting these poor results for girls (Ampian and Adu Yeboah. 2009, P.227). The analysis below gives insight into these studies along with counterexamples that provide reason to believe there were key variables that were not represented in their models. The key to investigating girls' education is to look at the holistic picture of hindrances that girls in Africa may experience. However, studies that only examine the relationship between culture and education without implementing any other factors that may affect girls' education into a model may also be missing out on the effect of state capacity.

Across Africa, one can see a wide variance of girls' education outcomes from country to country. Many girls never begin school and even more drop out before receiving their secondary school diploma (GEM, 2019). Of the many causes that have been attributed to low participation in girl's education, poverty is cited the most often (see Kellet 2009; Fuller et al., 1995, P.658, and Porteus et al., 2000, P.14). When examining the relationship between female school non-attendance, poverty and community violence in South Africa, poverty and family financial stability had the greatest effect on school retention rates (Porteus et al., 2000, P.14). Dropping out mid-year due to the inability to pay fees also proved to be an influential factor as most

families had unstable financial means. This illustrates that poverty, with its inter-related social issues affecting school attendance, needs to be addressed as a priority if education rates are going to rise.

Girls are often kept home to help with household chores and are more likely than their male counterparts to be kept home due to the cultural stigmas on girls' education. The inclusion of household values as a factor of girls' education, makes poverty become less impactful. While a mothers' economic resources are a part of the story, they are significant only in conjunction with household roles and beliefs which both fall under the wider definition of culture used in this study "Social commitments such as isolating parental beliefs that are specific to schooling and literacy, focus on how mothers' economic resources, gender-specific labor demands, and social beliefs help to explain their daughter's attainment" (Fuller et al. 1995, P.661). This explains that girls' education outcomes are influenced by a number of variables including social commitments that are impacted by social beliefs and isolating parental beliefs. Fuller, Singer, and Keiley (1995) find that gender-specific, culturally motivated, household roles and beliefs are more likely to be the cause of girls' absences in school than family economy. This shows that while poverty is a factor in the overall analysis of girls' education, the relationship becomes less distinct when cultural values are accounted for.

While it is clear that research has always emphasized GDP per Capita as an explanatory factor in determining why there are poor educational outcomes for girls throughout Africa, a potential shortfall is that a number of African countries experience wealth differently, both internally and vis-à-vis other countries. In Nigeria for example, poverty has risen significantly even though oil rents increased drastically from 1992-2010

(Mallaye et al., 2015, P.5). More than 50% of Nigerians live on less than \$2 dollars per day even though the oil rent went from \$15 billion to \$58 billion (Mallaye et al., 2015, P.5). This is an example of how a country that appears to be wealthy due to a natural resource rent may have very high levels of inequality. The populations in these countries lack access to basic social services, decent sanitation, clean drinking water, elementary schools, and healthcare while the elite experience huge growth in income (Mallaye et al., 2015, P.5). In these cases, GDP per capita may not be an accurate depiction of the economic situation of a country because it does not account for vast inequalities in income. In the long run, resource wealth such as oil rent creates an increase in inequality and corruption that negatively impacts a population and would skew the relationship between GDP per capita and the percentage of girls out of school in African countries.

Prior studies highlighted how regime type may play a role in educational attainment for females. Democracy is supposed to promote girls' education because women can better express their views and values which forces elected governments working in a competitive electoral environment to act on the wishes of females. This often results in wider access to education along with less repressive regulations against females that may prevent them from attending school. When comparing democracy and religion and culture however, Cooray and Potrafke (2011) have found that there is seemingly no relationship between democracy and gender equality in education. Instead, there was significant evidence to suggest that culture and religion rather than democracy aid in advancing gender equality (Cooray & Potrafke, 2011, P.271). One explanation is that a change in gender equity within education is not just a result of democratization but

of wider cultural and regime changes that promote the expansion of women's role in society.

Research that emphasizes the relationship between poverty and girls' education often does not include values or cultural effects on girls' education that may be critical to keeping girls in school. Education is not only impacted by governmental policies and the income of families and governments but also by the values and viewpoints of communities. The impact of religion on traditions and beliefs also creates communal and family values surrounding male and female worth as well as gender roles.

Sub-Saharan Africa is also afflicted by a high number of tribal groups. Many of these tribal groups have historical roots in values and beliefs that suppress women and remain impactful toward the access girls have to education. "Looking backwards to the historical past is also a necessity. Practices such as female seclusion and sex segregation, the relative rigidity of the division of labour and of the notions of the 'naturalness' of males' and females' work, and many subtle aspects of gender relations all contribute to the shaping of and are themselves shaped by the ideology underlying these practices and behavior patterns" (Chanana, 2001, P.38). Thus, even when educational policies are made gender-inclusive, they still are altered by the values of parents and communities that stand to negatively impact the advancement of girls' education policies.

One part of the inclusion of values and household roles is examining the impact that early marriage has on girls' school retention. Psaki (2015) demonstrates, there is evidence addressing early marriage and adolescent pregnancy as a barrier to gender parity and equality in education. Marriage and childbirth are often looked at as outcomes after a girl drops out of school. Child marriage exceeds 30 percent around the world with the

greatest risk being girls living in parts of West Africa (Psaki, 2015, P.5). Countries such as Malawi, Burkina Faso, Chad, and Niger have no restrictions on child marriage as well as many other countries in Sub-Saharan Africa (Psaki, 2015, P.5). Although many countries around the world, including many in the African continent, have laws restricting marriage to 18, that law is not enforced if there is parental consent, or oftentimes, not enforced at all. Marriage and pregnancy together accounted for up to 20 percent of school dropouts. Psaki's argument is that increased rates of child marriage and child pregnancy lead to an increasing number of girls being pulled from their education earlier and more often than their male counterparts.

Child marriage affects up to 40% of girls under the age of 18 in sub-Saharan Africa (Nguyen & Wodon, 2014, P2). Early marriage significantly decreases the likelihood of literacy and the completion of secondary school. Nguyen and Wodon concur with Psaki, finding that an additional year of early child marriage reduces the likelihood of attending secondary school by 5.6 percentage points (Nguyen & Wodon, 2014, P.10). Child marriage is often promoted by certain sets of cultural values that promote early marriage. Sub-Saharan African is highly impacted by the effects of child marriage on education because of the high rates of young girls that are married before the age of 18. While early marriage stands to account for some cultural and religious beliefs, there are some values that may not be completely encompassed by analyzing child marriage.

For developing countries and Africa in particular, the dowry system is a prevalent practice in the marriage of females. A case study conducted in Ghana shows that a dowry will often times lose value as the length of time a girl remains in school increase (Tayne,

2008, P.170). If education hurts the price a bride can get for a dowry, parents are more unwilling to keep their daughters in school. Other traditional and religious practices in Ghana also stand to hurt girls' education. Tradition practices in Ghana empower men and do not allow women to be a part of socioeconomic ventures outside of the home. Over time, these factors have seemingly become worse as girls' education outcomes have become more unequal since the early 1900's. "In 1918, one-third of students were female and in 2000, only one in six students are female" (Tayne, 2008, P.179). Cultural and traditional practices stand to uphold long-standing stigmas of male power and female disenfranchisement that prevent girls from staying in school.

Another possible aspect of the cultural and religious values that are tied to increasing the percentage of girls out of school may be the prevalence of female genital mutilation. FGM is defined as "all procedures involving partial or total removal of the external genitalia or other injury to the female genital organs for non-medical reasons" (Llamas, 2017, P.1). It is unclear where FGM originated although many scholars believe that it may have begun in Egypt (Llama, 2017, P.1). However, other scholars theorize that "the practice spread across the routes of the slave trade, extending from the western shore of the Red Sea to the southern, western African regions, or spread from the Middle East to Africa via Arab traders (Llamas, 2017, P.2). Regardless of where it originated, it is clear that there is a distinction in where FGM is occurring in North Africa versus Sub-Saharan Africa. In North Africa, FGM is predominately a part of Muslim culture which is the predominant religion in the region and is practiced widely regardless of government bans of the practice. In sub-Saharan Africa, where many countries are predominately Christian, the practice of FGM is more commonly seen in tribal groups and minority

religions. In Tanzania, for example, members of the Maasai tribe informed me, during my time with them, that female genital mutilation is done in a coming of age ceremony to promote virginity and faithfulness. During my time spent with the Maasai tribes, they promoted FGM as an honorary ceremony. Notably, most Maasai females do not attend school following the procedure.

There has been a large amount of research dedicated to female health in relation to girls' education. A sub-focus of that research has been on access to sanitary supplies during menstruation. Kirk and Sommer (2006) offer deeper insight into this research. Focusing on how physical, socio-cultural and economic challenges create a setting in which girls are less likely to participate in school. "If girls attend schools which- as many do – lack adequate latrines and water supplies for girls to comfortably change sanitary pads and wash themselves in privacy, they may be unable to remain comfortably in class during their menstrual cycle" (Kirk & Sommer, 2006, P.6). This results in a regular absence of school every month which can have a negative impact on learning and therefore academic performance. A study from UNICEF (A, 2018) determines that about 1 in 10 school-aged, African girls do not attend school during menstruation. This lack of attendance leads to low performance meaning girls often drop out. When girls lack access to these things, it is often easier to just stay at home during menstruation or drop out altogether at the onset of puberty. State Capacity or the government's ability to implement access to resources such as clean water and latrines in schools would then be essential to girls' participation outcomes in schools.

Some research on girls' education shows that state capacity is used to explain why there are high percentages of girls out of school. Capacity refers to the ability of a

government to implement services and policies to its constituents (Urdal & Rudolfsen, 2016). Urdal & Rodolfsen argue that “gender equality is more likely to be achieved if the state takes on a leading role to close the gender gap” (Urdal & Roldolfsen, 2016, P.3). However, in developing countries, it can be very hard to find the resources needed to implement government goods and policies. This research also suggests that boys need less state capacity to make it to the classroom than females. “As families in many poor contexts depend on their offspring for economic security, and men are still the primary breadwinners, our assumption is that, at lower levels of capacity, boys will be prioritized” (Urdal & Rodolfsen, 2016, P.3). If girls need more state capacity in order to attend school than their male counterparts, girls education outcomes stand to suffer in countries that are unable or choose not to implement the goods and services that are commonly used to reduce gender inequality in the classroom.

An example of how state capacity works is to observe countries throughout East Africa. While traveling throughout the region, I observed significant differences in the level of state capacity. These differences in state capacity appeared to be correlated with the percentages of girls out of school found in the data used for this thesis. In Rwanda, the strength of the state in implementing policies and goods is remarkable. In comparison to the neighboring countries of Tanzania and Uganda, the roads are paved throughout the country not just in city centers, the infrastructure is much more developed and school houses typically had much better facilities. In addition to infrastructure and roads, they also appeared to be much more successful at implementing policies. Rwanda had a mandatory monthly volunteer day where all businesses shut down and citizens engaged in community service projects. In addition, Rwanda’s testing standards to get into college

were more developed. By contrast, students in Uganda were walking long distances to school on unpaved roads, there was no running water in schools and the government had very little influence into what teachers were teaching their students. Based on the data collected from UNICEF (2018) Rwanda has a much lower percentages of girls out of school compared to Uganda. Tanzania had similar infrastructure and education policies to Uganda and also experienced a significantly higher level of girls out of school in comparison to Rwanda.

Although most researchers have indicated that poverty is the root cause of the high percentages of girls out of school in Africa, others have concluded that child marriage is the sole cause of the problems with girls' education. The primary issue I find with the previous research conducted in this field is the lack of a comprehensive model. Some researchers have used GDP per capita or child marriage. Others have used democracy but not a cultural indicator. The model used in this study employs a broader range of variables to account for all possible hindrances.

METHODS

The objective of this study was to create a comprehensive model that used a range of variables from previous studies and encompassed them into one model. The primary models used for the purpose of this research design identified the correlative relationships of wealth, culture, democracy, state capacity and demographics on girls' education in Africa. A multivariate quantitative study was designed to accomplish the study objective. The study population consisted of a total of 49 African countries.¹ Other African countries were excluded because these countries had missing data points for nearly all variables. Africa was chosen as a region of interest because of its widespread lack of girls' education. The decision to include countries in North Africa was due to the trends of low girls' education outcomes being pervasive throughout the continent, and not limited to Sub Saharan Africa. North Africa also experiences similar low participation from girls in primary and lower secondary education. North Africa also sees comparable levels of lack of state capacity, cultural values, political rights, demographics and wealth that make it an important inclusion to this research.

Due to limited available data, the most recently available data for each independent variable were used. A data set was built using data from World Development

¹ Algeria, Angola, Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Djibouti, Dr Congo, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mauritius, Mauritania, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia, Zimbabwe

Indicators, Freedom House, the United Nations data, UNICEF, the World Bank and the Worldwide Governance Indicators. The dependent variable is defined as the percentage of 15-year-olds out of school. This data is from UNICEF (UNICEF A, 2018) and the most recent data available which was collected from 2010 to 2018.

There are six independent variables; GDP which was taken from the World Bank data set (2018) , child marriage (UNICEF B, 2017) , political rights from the Freedom House Dataset (Freedom House, 2018) , government effectiveness from the World Governance Indicators data set provided by the World Bank (WGI, 2018), female genital mutilation from UNICEF Data (2004-2017) with the majority of data points being collected between 2010 and 2017) published in 2018 (UNICEF C, 2018), and average population age from another UNICEF Date set (2018). Two separate models were used in this study. Table 1 provides information on the mean sums and ranges for each variable.

Table 1 Mean Values and Ranges of Values

Variable	Mean	Standard Deviation	Minimum Value	Maximum Value
Females out of school	24.32	19.22	1	79
GDP per capita	2080.74	2468.99	275	11239
Female Genital Mutilation Rate	45.92	35.26	0	78
Government Effectiveness	1.62	.65	.02	3.40
Child Marriage Rate	9.85	8.65	0	32.4
Median Age of Population	19.79	4.13	14.94	35.56
Political Rights	16.32	11.36	-2	37

Model 1 analyzes the relationship between five of the independent variables, excluding female genital mutilation. There is a significant lack of data due to non-reporting for FGM across the African continent with data only available for 26 countries.² Due to the lack of data, it was pertinent to examine the relationships of wealth, culture, democracy, state capacity and demographics with the variables that represented as much data as possible. Model 1 excludes FGM due to the lack of data in order to fully capture the relationships between the 5 categories without the impact of lack of data. Model 2 includes FGM as well as the other five independent variables in order to analyze the effect that FGM has on the results. While FGM and child marriage are both being used as cultural variables, child marriage represents almost all of the 49 countries while FGM only represents 26 countries (see footnote 2).

² List of Countries with FGM data: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Cote d'Ivoire, Djibouti, Egypt, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Somalia, Sudan, Tanzania, Togo, Uganda

INDEPENDENT VARIABLES

Wealth

GDP per Capita

The first independent variable I examine is GDP per Capita. Generally, the higher the GDP per capita, the wealthier or more economically developed a country is. Prior research within girls' education has focused on the effects of wealth on education outcomes. The argument behind wealth is that countries who have low GDP per Capita have fewer resources to put into education, they are unable to provide safe transport to and from school, families are unable to put food on the table and struggle to obtain other basic resources such as clean water and shelter which all hurt a girl's chances of going to school. Countries that have higher GDP per Capita should have lower percentages of girls out of school. They are also less likely to keep girls home due to other economic constraints such as needing a girl to stay at home to help with household work. Poverty is often cited as a hindrance to girls' education and will be used as a control variable. Higher GDP per Capita should have a negative impact on the percentage of girls out of school. GDP may not always fully capture inequalities within a country but is a baseline to capture economic factors and seems to be the most used economics variable that affect girls' education.

Hypothesis 1: As GDP per capita rates increase, the percent of girls out of school will decrease.

Culture

Child Marriage

The second independent variable I will be examining is Child Marriage; the percentage of girls married by age 15. The higher the rate of child marriage, the more girls are being married at an age that could pose to interrupt schooling. Child marriage is another variable that is commonly analyzed in previous girls' education studies but is typically not done in conjunction with a variable that captures wealth. When girls are married young, they are often not allowed to continue with school and are instead expected to stay at home and work. The expected relationship between these two variables is a positive one in which an increase in child marriage rates would result in an increase in the percentage of girls who are out of school. As mentioned above, child marriage often occurs during the time in which a girl should still be in school. Because this specific measure of child marriage represents girls 15 years old or younger, it would impact the entirety of primary school-aged girls while impacting only the younger half of secondary school-aged girls. I expect that the inclusion of child marriage and GDP into one model will result in the lowered significance of GDP per capita.

Hypothesis 2: As child marriage rates increase, the percentage of girls out of school in each country will increase.

Female Genital Mutilation

Percentage of 15 -49-year-old girls who have undergone female genital mutilation is the third independent variable that will be examined in this text. FGM is represented by the most recent year reported (2004-2017 with the majority of data points

being collected between 2010 and 2017). FGM appears to be unique to Africa and the Middle East. FGM data is limited to Africa, along with a few countries in the Middle East. Because female genital mutilation seems to be limited to African countries for the majority, it may be useful in determining if this explains the unusually high number of girls out of school in Africa. Female genital mutilation is a practice done in order to increase a girl's likelihood of being married because it ensures pre-marital virginity (WHO, 2018). It is believed that the process makes a girl more likely to remain a virgin until marriage and makes her less likely to have an affair outside of her marriage due to the fear of the pain of reopening her vaginal opening as well as the fear of being found out (WHO, 2018). As a practice, it is often done in more rural communities and those communities with higher religious and traditional ties. While FGM is not a direct causal factor to high percentages of girls out of school in Africa, it is being used in hopes to encompass the religious or cultural values that favor men over women and also those that view women as sexual objects. These norms are ones that have been flagged for the hindrance of female education. One can expect that as the rates of female genital mutilation go up, so will the rates of girls out of school.

In order to further understand values and cultural norms that may lead to high amounts of girls out of school within a particular country, Female Genital Mutilation percentages are used as a proxy for religion to encompass societal practices that inhibit girls' education. Religion is often hard to interpret within countries in Africa. While Catholicism is often the majority religion, the cultural norms that produce societies that do not value girls' education may be coming from minority religions that would not be captured properly in quantitative analysis. Female Genital Mutilation is perhaps a way to

dig deeper into tribal values or religious views that may hinder girls from going to school. Female Genital Mutilation has not been used to describe why girls have low or non-attendance in schools previously. Education is instead used as a way to end FGM as a practice, the relationship has not been flipped to analyze the reverse relationship.

Hypothesis 3: As the percentage of 15-49-year-olds who have undergone female genital mutilation increases, the percentage of girls out of school will also increase.

Democracy

Political Rights

Another potentially impactful factor in girls' education is regime type. Democracy is often cited as a prominent means of increasing education outcomes in developing countries. Political rights is the fourth indicator used in this study. The Political Rights score from Freedom House (2018) assesses the electoral process, political pluralism and participation, and functioning of government. Political rights is measured on a scale from 0-40 from data collected in 2018. Electoral process as well as political pluralism and participation are defining pieces of what makes a regime democratic or autocratic. "Democracy is expected to promote gender equality for several reasons. Women can better express their views and interests in democracies; democracies promote gender equality through an educated middle class; democratic governments spend on educating girls" (Cooray & Potrafke, 2011, P.270). Political competition creates a political atmosphere where constituents have a choice which is vital in managing corruption in some respects. All of these factors are influential in the laws that regulate a

society and influence women's rights and girls' ability to be participants in their own government. Freedom for women to participate in their governments increases the likelihood that they will be able to vote or lobby for their right to education. As Political Rights increases within countries in Africa, girls out of school should decrease.

Hypothesis 4: As political rights increase, the percentage of girls out of school will decrease.

State Capacity

Government Effectiveness

Public goods and a government's ability to implement public services are essential to stability and effective governance. This indicator dives deeper into ideas of political policies, the qualities of civil services and the credibility of the government to uphold those. Government Effectiveness from the World Governance Indicators is defined by "perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies" (Worldwide Governance Indicators, 2018). Government Effectiveness is measured on a scale from 0-5 collected in 2018.

The governments' ability to uphold laws and implement policies directly affects if laws surrounding girls' education will be upheld, if the environment is stable enough for girls to leave their houses and go to school. Building infrastructure, training and paying teachers adequately and maintaining roads and transportation services are all essential services that the governments provide that create an easier road for girls to get to school.

These types of goods mean that there will be schools to sit in, trained teachers to teach classes, safe roads for girls to travel on and basic needs such as water and latrines to keep a population healthy.

Government effectiveness also addresses a government's degree of freedom from political pressures which may target aspects of corruption which would negatively affect policy implementation and resource allocation to marginalized communities (females). If governments are corrupt, goods and resources provided by the government are much less likely to reach girls. As government effectiveness increases, more girls should be able to attend and stay in school.

Hypothesis 5: As the government effectiveness increases within a country, the percentage of girls out of school will also decrease.

Demographics

Average Population Age

A particular hardship for many countries in Africa is their relatively young population age. The average life expectancy for countries in Sub Saharan Africa is 60.88 (World Bank, 2018). There are several potential problems when the population age is very low. The first being that unemployment is usually very high due to the lack of jobs to sustain a large workforce. The average population age in the countries used in this study is 19.7 years old. A young population creates a population where the majority of people are working age. If there is no older population, no one is aging out of the workforce. This results in a shortage of jobs which exacerbates the poverty cycle and the inability for families to afford school tuition. A low average population age also means

that there is a higher likelihood of there being overcrowding in the school. Low population age creates a strain on education resources which in turn limits a girl's opportunity to go to school. This results in a high population of people who have low incomes and are unable to reinvest in education for their children as they wait in line for jobs. A young average population age also results in more girls needing to go to a school where there might not be the infrastructure or classrooms to support the high amount of school-aged girls. Higher average population age would mean that there would be fewer people of working age and would reduce unemployment rates as jobs opened up when people aged out. Low population age not only puts a strain on resources for girls who are still in school but it creates high unemployment rates that reduce the ability of parents to send their children to school

Hypothesis 6: As the median population age increases within a country, the percentage of girls out of school will also decrease.

DATA ANALYSIS

An initial bivariate Pearson correlation analysis (see Table 2) reveals no danger of multicollinearity in the multivariate modeling that follows. All Pearson correlations of the independent variables are between the range of $-.60$ to $+.60$, which is a range well below multicollinearity worries (either greater than $.80$ or less than $-.80$). There are also intriguing relationships to explore between the dependent variable (Females Not in School) and the independent variables GDP per capita ($-.47$ and $-.33$ depending on whether or not female genital mutilation rate is included in the correlations), government effectiveness ($-.48$ and $-.59$), and child marriage ($.33$ and $.29$). Whether these relationships are borne out in the multivariate analysis remains to be seen, but the signs are encouraging that there are significant relationships to be explored.

Table 2.A. Correlation Matrices of Key Variables—Including Countries with Data for Female Genital Mutilation Rate (N = 26)

	Females Not in School	GDP Per Capita	Government Effectiveness	Child Marriage Rate	Political Rights	Female Genital Mutilation Rate
Females Not in School	1					
GDP Per Capita	-.47	1				
Government Effectiveness	-.48	.54	1			
Child Marriage Rate	.33	-.43	-.30	1		
Political Rights	-.09	.20	.52	-.29	1	
Female Genital Mutilation Rate	.24	-.03	-.38	-.15	-.38	1

Table 2.B. Correlation Matrices of Key Variables—Including Countries without Data for Female Genital Mutilation Rate (N = 49)

	Females Not in School	GDP Per Capita	Government Effectiveness	Child Marriage Rate	Political Rights
Females Not in School	1				
GDP Per Capita	-.33	1			
Government Effectiveness	-.59	.27	1		
Child Marriage Rate	.29	-.28	-.33	1	
Political Rights	-.24	-.03	.53	-.17	1

Model 1

The purpose of model 1 is to analyze the relationship between the percentage of girls out of school and GDP, child marriage, political rights, government effectiveness, and average population age. Contrary to much previous research, the results find no relationship between economic development and girls' education outcomes in Africa. Instead, model 1 showed that state capacity is critical in explaining why countries in Africa experience such a high rate of girls out of school. We also see the importance of democratic regime type and demographics. Although child marriage, which is a proxy for traditional cultural values, is not statistically significant, it was essential to the combined holistic story of girls' education. Without a cultural variable, the model loses its effectiveness in accounting for the greatest percentage of change in girls' education.

Table 3 Explaining variation in females out of school for 26 and 49 African countries in approximately 2010

	Model 1 Dependent Variable: Females Out of School	Model 2 Dependent Variable: Females Out of School
GDP per capita	.000 (.813)	.007 (.419)
Child Marriage Rate	-.121 (.726)	.003 (.995)
Female Genital Mutilation Rate	---	.203* (.075)
Political Rights	.165 (.557)	.581 (.118)
Government Effectiveness	-17.828*** (.002)	-17.352** (.050)
Median Population Age	-1.390 (.167)	-5.056*** (.050)
Constant	76.627*** (.001)	111.936*** (.026)
R-squared	.41	.49
N	49	26

(Figures in parentheses are p-values)

*** = significant at .05 level, ** = .10, * = .15 level, one-tailed test

In table 3 the results from model 2 show that when considering factors of wealth, culture, democracy, state capacity and demographics, state capacity is the most relevant factor in explaining the percentage of girls out of school in Africa. For every 1+ point change in government effectiveness, there is a corresponding -17.828 percent change in

the percentage of 15-year-old girls out of school. Government effectiveness is determined on a 5-point scale, meaning that a 1 point difference is a substantial change. The increase of government effectiveness encompasses perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. This relationship is as expected in hypothesis 5. Figure 3 depicts a strong negative relationship between government effectiveness and the percentage of girls out of school. Figure 3 shows the relationship between the percentage of girls out school and government effectiveness in a visual representation that may be easier to interpret. As the government effectiveness measure moves from 1.0 to 3.0, the overall percentage of girls out of school significantly decreases in Figure 3.

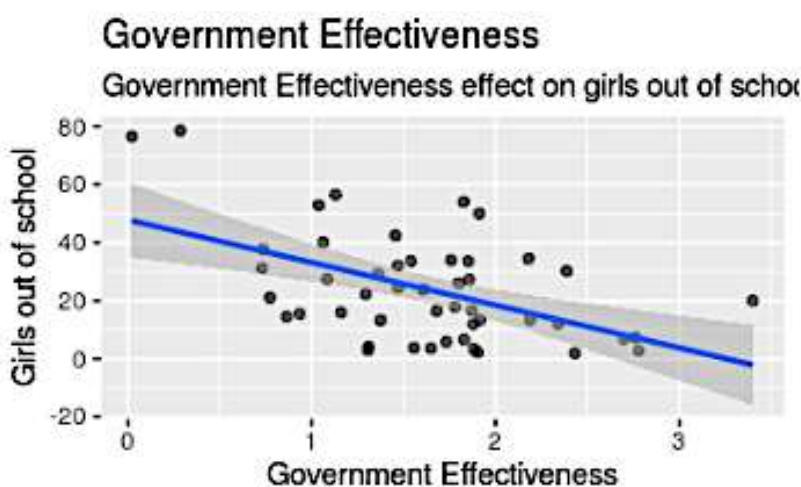


Figure 3 Government Effectiveness effect on Ed

An even more interesting relationship may lie in the differences that GDP per capita had on the r-squared value compared to child marriage. GDP per capita and child marriage were similarly insignificant in model 1. But, while child marriage changed the r-squared value by 8.1 percent, the inclusion of GDP only creates a 1.5 percent change in

the overall change in the percentage of girls out of school. This leads to the conclusion that economics is not as impactful in girls' education in Africa as previous studies may suggest. Poverty is not the most important factor in girls' education in developing countries, and while it can be useful in determining preliminary relationships between education outcomes and wealth, it is not useful as an explanatory variable and instead needed to tell the entire picture of a country and girls' education.

Of course, there may be better variables to define wealth that would better capture the impact on education, but I chose to use GDP per capita in this study as it is the most common variable used to study girls' education in Africa (see Kellet, 2009; Fuller et al., 1995, and Porteus et al., 2000, P.14). However, GDP per capita may not always be representative of the overall wealth of the population. Increasing wealth gaps in developing countries are not accounted for in GDP per capita. In countries with resource wealth such as oil or other natural mineral resources, overall revenue from those outlets could make a small subset of the population very wealthy while leaving the average citizen very poor. GDP inequality is misrepresented in the overall GDP per Capita. If only a small percentage of the population is gaining wealth, that is not going to distribute down to positively impact poor and disenfranchised groups such as girls.

When comparing the results of government effectiveness to the results of political rights, government effectiveness has much more impact on the percentage of girls out of school. In the model presented in Table 1, political rights had a very weak and statistically insignificant positive impact on the percentage of girls out of school. Again, political rights were being used to measure positive electoral process and participation in government that is often associated with the positive outcomes of democracy. As

research has suggested, democracy may not be good for disadvantaged populations which may be why political rights were not significant (Ross, 2006, P.867). Democracy only helps the poor and other disadvantaged groups are the government specifically targets those households (Ross, 2006, P.868). Otherwise, democratic benefits are much more likely to go to upper-income households who already have access to several beneficial public goods and services.

A simple transition to democracy does not guarantee that benefits will reach females in order to positively impact girls' education. While democracies may spend more on social services, those services must be implemented throughout the population in order to increase girls' attendance in school. Democracies in Africa may be newer, unstable or corrupt which would negate their ability to produce the benefits that democracies in the global north produce. The more unstable, unequal or corrupt a democracy is, the less likely it is to actively give its citizens goods and services. Political rights may signify a better political process but, it does not mean that a government is implementing the policies or public goods that have been voted on. In weak or unstable democracies, the government may be unable to implement widespread access to public services. They also may be unable or unwilling to listen to the voices of females, especially in countries where there is a strong history of female oppression. There may be a better correlation between political rights and girls' education in strong democracies but within the continent of Africa, examples of strong democracies are few and far between. Overall, it is clear that government effectiveness is a far superior explanatory factor than political rights. This may mean that democracy is not as definite as a variable in girls' education as previous studies have suggested. Instead, future studies should look at the

flow of goods and services from the government and how well they are penetrating into marginalized communities of females.

In table 3 we see that child marriage has a weak negative, but not statistically significant relationship with the percentage of girls out of school. When girls are married young, not only do they suffer health and safety risks, but they suffer significant risks to their education. Girls who marry young are far less likely to continue their education and approximately 3 million girls marry before their 18th birthday in Sub-Saharan Africa (Worldbank, 2018). Child marriage may not have statistical significance as expected due to differences in the cultural values that promote child marriage versus those that promote girls staying at home rather than going to school. It is possible that child marriage does impact educational outcomes but not as drastically as studies suggest.

While child marriage is not statistically significant, its overall impact may be best observed in its impact on the r-squared value. In model 1, if child marriage is accounted for, the model accounts for 41.4 percent in the overall change in the percentage of girls out of school. If child marriage is not accounted for, the model only accounts for 33.3 percent of the change. There is an 8.1 percent difference in the r-squared value depending on the inclusion or exclusion of child marriage meaning that including a cultural variable is key in determining the overall combination of things that impact girls' education in Africa.

Hypothesis 6 predicted that the low average age of a population would be detrimental to getting girls to a classroom. This was predicted due to the strain on resources that a low population age would create. However, while there was a negative relationship between the dependent variable and population age, the relationship was not

strong enough to be considered significant. The average population age does not seem to play a large role in the percentage of girls out of school in Africa.

Model 2

Model 2 supported many of the results of model 1. Wealth remains unimpactful in this model. Aiding in the conclusion that wealth does not have a causal relationship with girls' education in Africa and instead serves a better purpose as an informative variable to help depict the overall economics of a country but not to cause changes in the percentage of girls out of school. Instead, we see the continued strong relationship of state capacity and girls' education. It is clear that regardless of the inclusion of cultural variables, the ability of a state to implement goods and services and conduct productive policy changes remains an indispensable aspect of girls' participation outcomes. I also find the emerging significance of a proxy cultural values variable through the inclusion of FGM.

Model 2 included all five of the previous independent variables in addition to the inclusion of female genital mutilation. The insignificance of several variables in model 2 remained similar to the results of model 1. The impact of child marriage is nonexistent in model 2, similar to its impact in the previous model. The impact of regime through a political rights measurement also remains insignificant in model 2. One interesting change was the increased importance of demographics through model 2. The inclusion of FGM as a proxy variable for religious and tribal values proved to be an impactful addition to the overall model.

The percentage of girls and women aged 15-49 who have undergone female genital mutilation was used as a proxy variable in this study. There are underlining

religious and cultural values that increase the likelihood of female genital mutilation and this study hypothesized that those values are the same that hinder girls from attending school. Many of the religions that believe in FGM are minority religions making them harder to track, while the values that promote FGM and girls staying at home rather than attending school are even harder to follow. FGM is a concrete indicator that can be used to match these relationships. FGM was examined in regression analysis 2, results can be found below in table 2. Due to a limited amount of data available for this variable, I find that a significance level of 0.075 shows low levels of statistical significance within this model. With FGM data only present for 24 of the 49 countries used in this study, more data would need to be collected to determine the true relationship between FGM and the percentage of girls out of school. Figure 4 clearly shows that as the percentage of females who have experienced FGM goes up, the percentage of girls out of school goes up. Using FGM as a proxy variable for religion and tribal traditions allows the minority religions and tribal values that might otherwise be hard to code for to be seen.

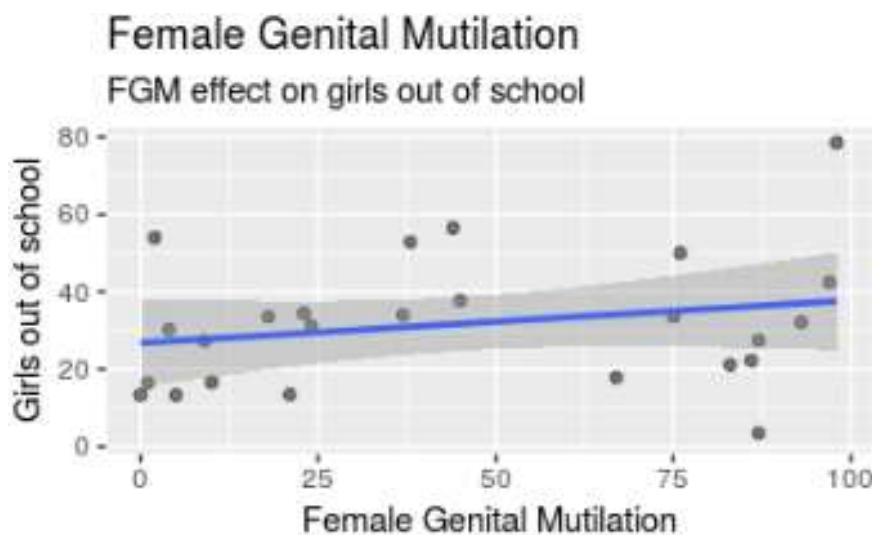


Figure 4 Female Genital Mutilation Effect on Ed

A major change observed from model 1 to model 2 was the increased significance and impact of average population age. Average population age is a problem that is unique to developing areas, and in particular, countries in Africa. This is because the average population age in the countries used in this study is 19.7 years old. A young population creates a population where the majority of people are working age. If there is no older population, no one is aging out of the workforce. This results in a shortage of jobs which exacerbates the poverty cycle and the inability for families to afford to school tuition. Low average population age also means that there is a higher likelihood of there being overcrowding in the school. Low population age creates a strain on education resources which in turn limits a girl's opportunity to go to school. Population age is impactful for girls' education outcomes.

In model 2 we see that as the average population age goes down by one year, the resulting effect on the percentage of girls out of school is -5.065%. Figure 5 below shows clearly the negative linear relationship between the percentage of girls out of school and the average population age. Figure 4 shows us that a majority of African countries are clustered between 17 and 20 years old with a correspondingly high rate of girls out of school. As countries begin to see longer life spans, the effect on the percentage of girls out of school is significant. We also see that if the average population age was increased to 35 years-old in countries across Africa, we would see a significant decrease toward zero for the percentage of girls out of school.

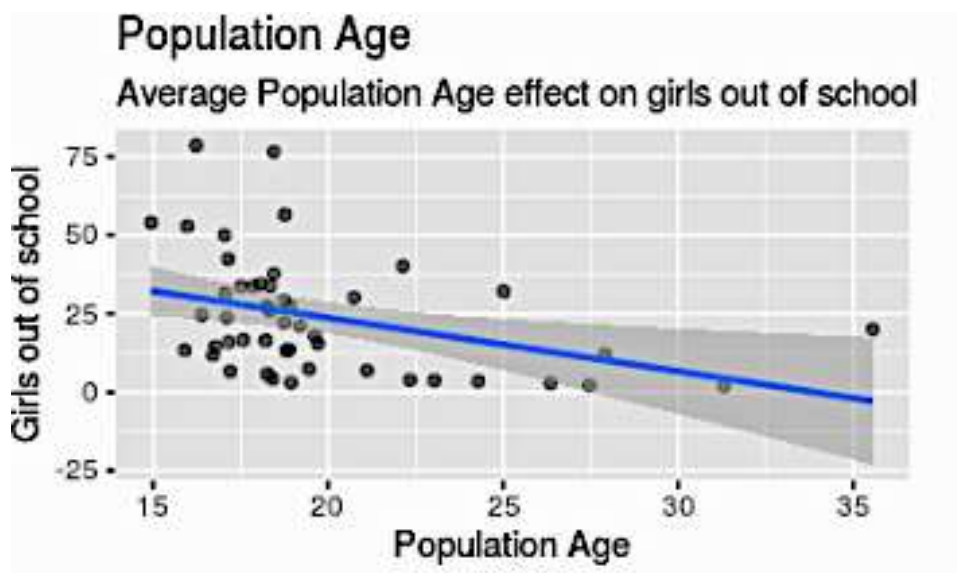


Figure 5 Avg Pop Age Effect on Ed.

Model 2 accounted for 48.7 percent of the change in the percentage of girls out of school throughout Africa. This model was significantly more effective than model 1 which excluded FGM. The difference in the accounted percentage of change between model 1 and model 2 is 7.3 percent. While child marriage did not prove to be relevant in either model, it did pose an interesting relationship to the percent change. In model 1, when child marriage was included, the overall r-squared value was 41.4 percent. However, if child marriage is removed, the model only accounts for 33.3 percent of the change in the percentage of girls out of school. In model 2, this relationship does not exist, due to the inclusion of FGM. The increase in r squared value provides a significant explanation to support the inclusion of FGM in the collection of explanatory variables that affect girls' education in Africa. While the significance of FGM in model 2 is not definite, the increase in R squared value upholds that culture in conjunction with religious and traditional tribal values is a key aspect of why Africa sees such high percentages of girls out of school. The inclusion of child marriage in model 1 and the inclusion of FGM

in model 2 had significant impacts on the overall change in the percentage of girls out of school. Meaning that cultural variables are impactful as an explanatory factor of girls' education outcomes.

Both models used in this study emphasized the conclusion that poverty is not the root cause of poor outcomes in girls' participation in school throughout the African continent. Instead, we see a significant contribution toward the hypothesized that name state capacity and culture as primary forces in girls' education. In a country such as the United States that has relatively low rates of girls out of school, the government effectiveness score is somewhere near a 4 out of 5 overall. The average score for the countries measured in this study was a 1.62 out of 5. The difference is considerable. Each point of increase in the government effectiveness scoring leads to a 17.325% drop in the percentage of girls out of school in model 2. Results for government effectiveness were similar in model 1.

Based on these models, one can conclude the inclusion of a variable to encompass culture is an essential part of the story. But it is also important to distinguish which variables is used. While child marriage is a crucial aspect of the overall effectiveness of a model, FGM seems to be far better at representing exactly what values hinder girls from attending school. The impact of demographic is difficult to determine as the inclusion of FGM changes the significance of average population age. It is clear however that lack of state capacity and culture values that perceive girls as less than are primary in explaining why girls are not in classrooms in Africa.

LIMITATIONS

Future research should include development of the relationship between girls' education and female genital mutilation. FGM was used as a proxy variable for the religious and tribal values that create negative social consequences for girls in Africa. It is unclear as to what those exact religions or tribal groups are emphasizing in their societies that is inflicting this type of damage on girls' participation outcomes in school. It may be that these groups emphasize traditional gender roles, but it could also be the importance of patriarchal tradition, customs that specifically degrade women or traditions that promote other aspects of females over education. There a number of other possible value sets that are coming from religion, values and tribes that do not promote girls' education, but it is clear the FGM is capturing some of those. Future research would be deconstructing the overlap in value sets that do not prioritize girls' education and those that do promote FGM in young girls.

Another potential avenue for future research is building a larger data set for female genital mutilation in order to better depict the relationship between FGM and the percentage of girls out of school. The FGM variable was difficult to work with as data is limited, and non-reporting seems to be a widespread issue. This variable also represented girls aged 15- 49. I was unable to find a data set with an age range that was exclusive to girls of school age. A more recent, more accurate data set for FGM with more countries in Africa represented across only school-aged girls would be useful to determine how strong the relationship between FGM and the percentage of girls out of school is. A

possible solution besides better data would be to examine FGM rates alongside girls' education in other areas of the world.

There is room for several improvements in the data used in this research. FGM, child marriage and the percentage of girls out of school are all cases in which non-reporting, and lack of updated data are substantial issues. Child marriage faces issues of lack of data due to non-reporting within countries. There is also a lack of updated data similar to that of the percentage of girls out of school. Girl's attendance data is lacking and in several countries, data has not been updated since 2004. Updated data throughout this analysis is needed to confirm and further define the relationships developed in this thesis.

Another limitation that needs to be addressed in future research on girls' education is GDP per capita as an economic variable. As addressed above, GDP per capita often does not account for the vast inequalities in developing nations. Resource wealth and corruption can increase economic inequalities that are not accurately represented through GDP per capita. Future research on girls' education in Africa should find additional methods of accounting for poverty.

If there was more availability for updated data, the next step would be to do a multi-year analysis. Extending these models to cover a 10 year segment for each country would allow observation of changing values and that impact on girls education. State Capacity has also most likely greatly changed over the course of a 10 year period. Examining the changes over time in categories like state capacity, cultural values, demographics, democracy, and wealth would better account for the overall impacts to girls' participation in education.

CONCLUSION

Girls' education is essential for developing countries because of the impact it has on health outcomes, economic growth, and the education of future generations. The education of a girl is a step forward in the economic development of low-income countries. Educated women are less likely to marry young, and will have smaller, healthier families. Girls' education helps to end cycles of poverty in rural areas and is essential in creating an educated workforce. Creating an educated workforce that can keep up with a technologically advanced and globalized world will be essential to lifting developing countries in Africa up and out of poverty. Girls are an essential part of this process.

The two regression models in this study focused on five potential categories that are the most impactful in girls' education. Wealth, culture, democracy, state capacity, and demographics are all areas of interest in defining the indicators of girl's education outcomes. Poverty (wealth) is cited throughout previous research by articles such as *Out of school' children in South Africa* (Porteus, et al.,2000) the primary cause of the high percentages of girls out of school in Africa. However, in this study, GDP per capita did not have significant effects on the percentage of girls out of school. While the outcomes of wealth in this study did not support the research of previous studies, it still is a vital part of the story of girls' education in Africa. In developing countries, wealth helps to explain the resources that may be available to governments, the basic needs of a population and stands to impact things such as government capacity. Unfortunately,

wealth is hard to measure throughout Africa. Natural resources such as oil create vastly unequal economies that are not accurately represented through measures of wealth. Corruption in Africa also stands to impact how wealth is distributed throughout a country. The story of poverty and girls' education is more nuanced than previous research has stated.

Culture is an imperative aspect of this story of girls' education in Northern and sub-Saharan Africa. Child marriage is another factor than may be more nuanced than previous research has alluded to. Perhaps it is not just the act of getting married and becoming a housewife that prevents young girls from going to school and there are deeper value systems at play that cause child marriage to be insignificant but still a vital part of model 1. The second culturally motivated variable, FGM was included for the sole purpose of trying to encapsulate the social values that arise from minority religious and tribal groups in Africa. Female Genital Mutilation proved to be significant, but more data is needed to determine if there may be a stronger correlation. However, looking at FGM gives insight into the religious and cultural factors that are likely at play in limiting girl's education in certain areas. When used as a proxy variable for religion, FGM gives significant insight into how culture may affect the percentage of girls out of school.

This analysis also raised questions about the legitimacy of lack of democracy as a primary hindrance of girl's education. Political rights, used to represent the electoral process of democracy, had very limited and insignificant effects on girl's education. This leads to the conclusion that democracy is not sufficient enough to aid girls' participation outcomes in school. Instead, it is necessary to dig deeper into what a government can offer to its population.

It is clear across both models that state capacity is key in the story of girls' education in Africa. Government effectiveness was strongly correlated with the percentage of girls out of school. This indicates that public goods and services, as well as the absence of corruption, are essential to girls' education outcomes and the more emphasis that is put on infrastructure, quality teachers, and other goods and services, the better off girls will be in school. As governments are able to implement resources more effectively and successfully execute policies aimed at aiding disenfranchised population, girls' education will prosper.

Model 1 accounted for 41.4 percent of the change in the percentage of girls out of school. Model 2 accounts for 54.3 percent of the change in the percentage of girls out of school. The singular impact of FGM on girls' education does not seem conclusive but the change in model 2's impact based simply on the inclusion of female genital mutilation points to a cumulative view of the factors that are impactful to girls' education overall. Culture is clearly a significant aspect of girls' education in Africa but further research is needed to determine the deeper relationship of this correlation.

The lack of girls in school throughout Africa stands to limit economic growth, produce worsening health outcomes for children and build much larger family sizes, which contributes to dangerous population growth. Developing countries need an educated female population in order to lift themselves out of poverty. In Africa alone, 52.2 million girls (Camfed, 2019) are missing out on vital knowledge by not sitting in a classroom. The return on investment for getting all of those 52.2 million girls into school is vital for the economic success of African countries. Once women become educated, they are more likely to send their children to school and promote healthier life choices.

The story of girls' education in Africa has always been told with wealth as the leading protagonist. However, it appears that to truly understand the circumstances that keep young girls out of school, one must consider culture and lack of state capacity as primary hinderances. In order to solve the widespread issue of the lack of girls' participation in education, two solutions must be implemented. The first is to expand the reach of goods and services offered by the government drastically in countries with high percentages of girls out of school. The second is to alter societal values that are constructed from minority religions and tribal groups to better support the success of females outside of the home. To make education a reality for every girl in Africa, the story must shift from one of poverty to a story of a government's ability to meet the needs of its people and those people's values and beliefs.

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