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To cite this article: Jude E. Kyoore & Iddisah Sulemana (2019): Do Educational Attainments Influence Attitudes Toward Gender Equality in Sub-Saharan Africa?, Forum for Social Economics, DOI: [10.1080/07360932.2018.1509797](https://doi.org/10.1080/07360932.2018.1509797)

To link to this article: <https://doi.org/10.1080/07360932.2018.1509797>



Published online: 14 Jan 2019.



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Do Educational Attainments Influence Attitudes Toward Gender Equality in Sub-Saharan Africa?

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Abstract Although there is a plethora of literature on gender equality and women empowerment, studies on whether (and to what extent) educational attainments affect people's attitudes toward gender equality are lacking. This is particularly true for Africa, a mostly male-dominated continent. In this article, we use data from the Wave 6 of the World Values Survey to empirically examine the relationship between educational attainments and attitudes toward gender equality among people in 5 countries in Africa—Ghana, Nigeria, Rwanda, South Africa, and Zimbabwe. Our results, based on different measures of gender equality and econometric specifications, consistently reveal that the higher the level of education acquired, the more liberal and favorable the individual's attitudes are toward gender equality.

Keywords: Africa, attitudes, educational attainment, gender equality, gender roles, schooling

1. INTRODUCTION

The wave of gender inequality has witnessed impressive improvement across the globe particularly following successive United Nations conferences that attempt to raise consciousness about equity and the role women play in the development process (e.g., Fonjong, 2001). There is evidence that women's enrollment at all levels of education, participation in labor force, governance and circular society has improved (e.g., Arku, Filson, & Shute, 2008; Buvinic, Valenzuela, Molina, & Gonzalez, 1992; Hannum, 2005; Lee, 2014). While this

suggests progressive attitudes toward gender-neutral preference education, it fails to address the direct relationship between attitudes and education.

Earlier studies on attitudes toward gender equality focused on parental values and cultural beliefs that shape preferences for the allocation of children to school or work (Buchmann & Hannum, 2001; Buvinic et al., 1992; Csapo, 1981). For instance, Greenhalgh (1985) theorized that the family system and traditional beliefs produce and reproduce gender inequalities, which are then exacerbated by economic factors. Similarly, Csapo (1981) observed that traditional patriarchal values in Nigeria embedded in Islamic regions affect attitudes toward women education and women involvement in modern society values.

In recent times, however, the emphasis has gone beyond overconcentration on cultural values to micro and macro factors broadly categorized into exposure and interest-based explanations (see e.g., Bolzendahl & Myers, 2004). The current research on attitudes toward gender equality is disproportionately single-country level analysis or cross-country studies in the developed country contexts. Our study contributes to this literature by empirically examining the role educational attainment plays in influencing attitudes toward gender equality in Sub-Saharan Africa—a male-dominated continent.

Our study is motivated by the fact that gender equality and women empowerment are important policy goals for leaders across the globe. For instance, one of the Millennium Development Goals aims to close the gender gap in educational attainments, increase women employment in the non-agricultural sector, and increase women representation in national politics by increasing the number of seats women hold in national Parliaments (Kabeer, 2005). Furthermore, gender inequality substantially hinders human development in Sub-Saharan Africa (e.g., Davis, 2015). Because higher educational attainments are important for improving attitudes toward gender equality, we believe that focusing on the association between educational attainment and attitudes toward gender equality in Sub-Saharan Africa is seemly.

2. LITERATURE REVIEW

Education, which serves as empowerment, expands the choices of women and increases their ability to exercise those choices (Mehra, 1997). In developing countries, “differences in the availability of education to women and to men, and the different choices they make with respect to educational opportunities are directly linked to the gender role differences and stereotypes that exist in those societies” (Sudarkasa, 1982, p. 279). These may include differences in occupational roles and expectations (Sudarkasa, 1982).

Bolzendahl and Myers (2004) examined opinions on gender roles in the US society in a 25-year period and found that favorable attitudes toward gender

equality continue to emerge. Consistent across the different time periods is the role the employment outside the home on the individuals particularly women on gender views. Similarly, Scott, Alwin, and Braun (1996) studied Britain's progress in gender attitudes and overwhelmingly found a marked improvement in liberal views on women's roles. Both studies found support for women's participation in the labor force and increased preference for equal financial contribution to the family by husbands and wives. Similar results have been found in Italy, German and the Netherlands (Scott et al., 1996).

Seguino (2007) studied global trends in gender attitudes and the extent to which women's share in the economy affects those attitudes using data from the World Value Survey. The results indicate a narrowing gap between men and women's attitudes toward gender equality except for sub-Saharan Africa, which the author suggested may be due to slow growth of African economies. Yet, Colclough, Rose, and Tembon (2000) revealed that gender stereotype is not necessarily narrowed by increase in income but that change in cultural practice is of greater relevance in the African context. Simply controlling for regional dummies as Seguino (2007) did does not take into consideration the variation within continents especially in Africa. Unlike previous studies that use traditional predictors of gender equality views, Yu and Lee (2013) recognized and included the macroeconomic variable to explain the differences across country and similarly found regular predictors such education.

Few studies have attempted to study the factors that affect gender equality in the African context. These studies have generally included African countries in the pool of other developed countries (Filmer, 2005; Seguino, 2011) or studied only a single African country context (Arku et al., 2008; Csapo, 1981). Using socioeconomic survey in Guinea, Glick and Sahn (2000) found that stereotypes for girl education are remarkably reduced through mother's education. Similar results were replicated in Egypt (Dancer & Rammohan, 2007). Yet these Studies are limited in their scope and time period and, therefore, do not provide a complete state of gender stereotypes in Africa. Another strand of the literature have relied on interviews, case studies and use of ethnographies to infer the gender attitudes about equality on the African continent (Commeyras & Montsi, 2000; De Lange, Mitchell, & Bhana, 2012; Morojele, 2011). While these studies may give us an indication of the gender attitudes, they are by no means adequate in presenting a vigorous and objective outcome on gender equality in Africa. Thus this study bridges this gap in the literature.

Not all studies show a significant relationship between education and gender equality. For instance, in their study of the impact of educational reforms on fertility among women as well as women empowerment in Turkey, Dinçer, Kaushal, and Grossman (2014) find no evidence to the effect that schooling influences attitudes toward gender inequality.

Table 1: Distribution of Responses to Gender-Related Statements by Country

| Statement | Responses (%) | | | | |
|--|----------------|-------|---------|----------|-------------------|
| | Strongly agree | Agree | Neither | Disagree | Strongly disagree |
| When jobs are scarce, men should have more right to a job than women | Ghana | 49.3 | 6.7 | | 44.0 |
| | Nigeria | 65.9 | 14.4 | | 19.6 |
| | Rwanda | 42.3 | 22.7 | | 35.0 |
| | South Africa | 30.0 | 21.9 | | 47.2 |
| | Zimbabwe | 32.9 | 11.2 | | 56.0 |
| A university education is more important for a boy than for a girl | Ghana | 12.8 | 17.3 | 38.7 | 31.3 |
| | Nigeria | 26.2 | 20.0 | 34.4 | 19.4 |
| | Rwanda | 12.2 | 24.0 | 43.0 | 20.9 |
| | South Africa | 13.9 | 24.9 | 29.0 | 30.4 |
| | Zimbabwe | 7.1 | 9.1 | 53.2 | 30.6 |
| On the whole, men make better political leaders than women do | Ghana | 44.3 | 37.0 | 14.6 | 4.1 |
| | Nigeria | 46.6 | 30.2 | 18.9 | 4.3 |
| | Rwanda | 15.9 | 29.8 | 42.8 | 11.5 |
| | South Africa | 19.6 | 32.0 | 28.1 | 16.9 |
| | Zimbabwe | 25.6 | 32.7 | 28.3 | 13.4 |
| On the whole, men make better business executives than women do | Ghana | 31.8 | 37.0 | 21.3 | 9.9 |
| | Nigeria | 38.5 | 31.9 | 21.6 | 8.1 |
| | Rwanda | 17.0 | 26.7 | 43.0 | 13.2 |
| | South Africa | 16.4 | 32.1 | 28.5 | 19.5 |
| | Zimbabwe | 22.3 | 23.9 | 36.5 | 17.4 |

Note: The responses do not necessarily add up to 100% because we excluded respondents in the “No answer” and “Don’t know” categories.

Source: World Values Survey (2010–2014): Crossings by country. Study # 906-WVS2010 v.2015.04.18.

3. CONCEPTUAL FRAMEWORK

Previous studies have shown that education is a good predictor of gender attitudes (e.g., Brinkerhoff & MacKie, 1984; Shu, 2004). The human capital theory embedded within the socialization model provides the theoretical linkage between educational attainment and gender equality (e.g., Schultz, 1961; Shu, 2004). The process of schooling requires face to face interactions with teachers and fellow students, series of testing, and countless attendances which would consciously and unconsciously “enhance people’s intellectual abilities and knowledge and shape their social values and personal dispositions” (Kingston, Hubbard, Lapp, Schroeder, & Wilson, 2003, p. 54). These traits become lasting effects on its recipients. As Becker (1964) and Mincer (1974) observed, schooling increases the productive skills and thus the more educated one is, the higher their marginal productivity.

The socialization process is further evident in the ability of the educated to tolerate different viewpoints and assess situations much more objectively than their counterparts (Kingston et al., 2003). Furthermore, education is a vehicle for structural changes that can positively impact an individual’s cognitive ability to question and reflect on their conditions of life, and may help them adopt new strategies based on new ideas to improve their circumstances (Dodoo, 1993; Jejeebhoy & Kulkarni, 1989). Bolzendahl and Myers (2004) articulate the role of education, experience, and socialization in changing people’s attitudes about gender equality using two interconnected theories, exposure and interest-based explanations underscores the experiences that make individual susceptible to different viewpoints.

Individuals with higher educational attainment may be more embracing of gender equality and egalitarian ideas while rejecting traditional gender roles, myths, or stereotypes (Bolzendahl & Myers, 2004; Cassidy & Warren, 1996; Davis & Robinson, 1991; Rhodebeck, 1996). Conversely, women who work in non-traditional workplaces are more likely to fight for and benefit from improvements in women’s rights and working conditions than their counterparts in traditional, stay-at-home roles (Plutzer, 1991). By working in such workplaces, women can influence men’s perception about gender roles and equality. Because education is a determinant of non-traditional labor market outcomes (e.g., Holzer & Dunlop, 2013; Ionescu, 2012; Rouse, 2005), those with more education may tend to be gender-liberal or egalitarian (e.g., Brinkerhoff & MacKie, 1984; Shu, 2004). Also, women who have experienced wage discrimination, sexual harassment, unequal opportunities, and gender restrictions, all of which directly affect them negatively, are more likely to favor equality (Bunivic et al., 1992).

Finally, education has been shown to influence many social, economic, and political phenomena (e.g., Bobo & Licari, 1989; Borgonovi, 2012; d’Hombres & Nunziata, 2016; Ekehammar, Nilsson, & Sidanius, 1987; Golebiowska, 1995; Kane & Kyyrö, 2001). For instance, higher educational attainment affects people’s attitudes toward racial segregation and inequality (e.g., Kane & Kyyrö, 2001), political ideology (Ekehammar et al., 1987), attitude toward immigrants (e.g., Borgonovi, 2012; d’Hombres & Nunziata, 2016), their political tolerance (e.g., Bobo & Licari, 1989; Golebiowska, 1995), trust for others (e.g., Borgonovi, 2012), and so forth Kane & Kyyrö (2001) note that individuals with higher education tend to reject racial segregation in the US while Ekehammar et al. (1987) argue that education affects one’s sociopolitical ideology. If it the case that higher education makes people more tolerant of diverse or dissenting views or beliefs (e.g., Kingston et al., 2003) and that higher education changes people’s gender attitudes (e.g., Bolzendahl & Myers, 2004), then it has to be the case that higher educational attainment would positively influence people’s attitudes toward gender equality (see e.g., Brinkerhoff & MacKie, 1984; Shu, 2004).

4. DATA AND EMPIRICAL METHODS

The primary goal of this study is to determine whether (and the extent to which) one’s level of schooling influences their attitudes toward gender equality in Sub-Saharan Africa. Consequently, we draw on data from the Wave 6 of the World Values Survey (World Values Survey Association, 2016). This is a cross-national database on public attitudes on economic, social, political conditions, and many other issues across the world. The Wave 6 surveys were conducted between 2010 and 2014 in 57 countries with over 85,000 respondents. With a total of about 9,868 respondents in Sub-Saharan Africa, the interviews were conducted in Ghana ($N=1,552$), Nigeria ($N=1,759$), Rwanda ($N=1,527$), South Africa ($N=3,531$), and Zimbabwe ($N=1,499$).

4.1. Dependent Variables

We construct our dependent variables (i.e., attitudes toward gender equality) from four related items on the survey. First, respondents were presented with a statement that sought to tap into their attitudes regarding whether men should have priority to a job over women when jobs are scarce. They were asked to indicate whether they agree, neither agree nor disagree or disagree with the statement “When jobs are scarce, men should have more right to a job than women” (1 = Agree; 2 = Neither; 3 = Disagree). As a result, we created the dependent variable “Men have more right to a job than women.” As reported in

Table 1, more people agreed with this statement than those who disagreed in Ghana (49.3% vs. 44%), Nigeria (65.9% vs. 19.6%), and Rwanda (42.3% vs. 35%). The reverse is true for South African and Zimbabwe. About 30% agreed compared to 47.2% who disagreed in South Africa with the corresponding figures for Zimbabwe being 32.9% and 56%.

The second, third and fourth variables are based on respondent's agreement or otherwise with statements about whether a university education is more important for a boy than for a girl, and whether men make better political leaders or business executives than women do. These were presented as follows:

For each of the following statements I read out, can you tell me how strongly you agree or disagree with each. Do you strongly agree, agree, disagree, or strongly disagree?:

- "A university education is more important for a boy than for a girl"
 - "On the whole, men make better political leaders than women do"
 - "On the whole, men make better business executives than women do"
- (1 = Agree strongly; 2 = Agree; 3 = Disagree; 4 = Strongly disagree).

Again, we created the variables "University education more important for a boy," "Men make better political leaders" and "Men make better business executives" to correspond with these statements. The general pattern for the responses to the university education being more important for a boy than for a girl is that, majority of the respondents in each of the five countries tended to favor gender equality. That is, the combined proportion of respondents who indicated "disagree" and "strongly disagree" ranges from 53.8% in Nigeria to 83.8% in Zimbabwe (see **Table 1**). Conversely, more people believe that men make better political leaders than women do in Ghana, Nigeria, South Africa and Zimbabwe. Finally, while 68.8% and 70.4% of respondents in Ghana and Nigeria, respectively, believe that men make better political leaders than women do, 52.6% in Rwanda and 53.9% in Zimbabwe do not believe so. The distribution is relative more even in South Africa (48.5% vs. 48%).

The partial correlations between these four variables are all positive and significant at the 1% level and range from 0.29 to 0.56. Moreover, the Cronbach's alpha for the variables as a group is 0.71. As a result, we created a composite index "Gender equality" as a latent construct underlying the variables since they are all tapping into the individual's attitudes toward gender issues. The composite index is a continuous summed score variable created by adding the four dependent variables. Because the least response is equal 1 for each variable, and the first dependent variable has 3 as its highest value while the second, third and fourth dependent variables have 4 as their highest value, the composite index "Gender equality" ranges from 4 to 15.

Table 2: Variable Descriptions and Summary Statistics

| Variable | Description | Mean | S.D. | Range |
|---|---|-------|-------|-------|
| Men more right to a job than women | A 3-point scale variable based on responses to the statement: "When jobs are scarce, men should have more right to a job than women" (1 = Agree; 2 = Neither; 3 = Disagree) | 2.01 | 0.92 | 1-3 |
| University education more important for a boy | A 4-point scale variable based on responses to the statement: "A university education is more important for a boy than for a girl" (1 = Agree strongly; 2 = Agree; 3 = Disagree; 4 = Strongly disagree) | 2.81 | 1.02 | 1-4 |
| Men make better political leaders | A 4-point scale variable based on responses to the statement: "On the whole, men make better political leaders than women do" (1 = Agree strongly; 2 = Agree; 3 = Disagree; 4 = Strongly disagree) | 2.22 | 0.99 | 1-4 |
| Men make better business executives | A 4-point scale variable based on responses to the statement: "On the whole, men make better business executives than women do" (1 = Agree strongly; 2 = Agree; 3 = Disagree; 4 = Strongly disagree) | 2.39 | 1.01 | 1-4 |
| Gender equality | A composite index showing the extent to which the respondent agrees/disagrees with the four gender equality statements above | 9.43 | 2.88 | 4-15 |
| Primary education or less | Unity if the respondent's highest level of education attained is primary, or had no formal education; zero otherwise | 0.22 | 0.41 | 0-1 |
| Secondary education | Unity if the respondent's highest level of education attained is secondary education (i.e., complete or incomplete, technical or university preparatory); zero otherwise | 0.66 | 0.48 | 0-1 |
| University education without degree | Unity if the respondent attained some university education but did not obtain a degree (e.g., diploma); zero otherwise | 0.06 | 0.24 | 0-1 |
| University education with degree | Unity if the respondent attained a university degree (i.e., bachelors, masters, etc.); zero otherwise | 0.06 | 0.24 | 0-1 |
| Age | Age of respondent | 33.62 | 13.03 | 16-98 |
| Female | Unity if female; zero otherwise | 0.51 | 0.50 | 0-1 |

| | | | | |
|------------------------------|--|------|------|-----|
| Married | Unity if respondent is married or living together as married; zero otherwise | 0.51 | 0.50 | 0-1 |
| Divorced/separated | Unity if respondent is divorced or separated; zero otherwise | 0.03 | 0.18 | 0-1 |
| Other marital status | Unity if respondent's marital status is other (i.e., widowed or single); zero otherwise | 0.46 | 0.50 | 0-1 |
| Unemployed | Unity if respondent is unemployed; zero otherwise | 0.22 | 0.42 | 0-1 |
| Roman Catholic | Unity if respondent's religious denomination is Roman Catholic; zero otherwise | 0.24 | 0.43 | 0-1 |
| Protestant | Unity if respondent's religious denomination is Protestant; zero otherwise | 0.33 | 0.47 | 0-1 |
| Muslim | Unity if respondent's religious denomination is Muslim; zero otherwise | 0.11 | 0.31 | 0-1 |
| Other religious denomination | Unity if respondent's religious denomination is other denomination other than Roman Catholic, Protestant or Muslim; zero otherwise | 0.32 | 0.46 | 0-1 |
| Small town | Unity if size of town is 10,000 or less; zero otherwise | 0.52 | 0.50 | 0-1 |
| Mid-size town | Unity if size of town is between 10,000 and 100,000 | 0.33 | 0.47 | 0-1 |
| Large town | Unity if size of town is over 100,000 | 0.15 | 0.36 | 0-1 |

4.2. Explanatory Variable

Our explanatory variable is highest educational attainment measured in 4 discrete levels. Respondents were asked to indicate the highest level of education they had attained. These ranged from 1 (= No formal education) to 9 (= university level education with a degree). Specifically, there were two primary school categories (complete and incomplete), four secondary categories (incomplete secondary-vocational/technical type; complete secondary—vocational/technical; incomplete secondary—university preparatory type; and complete secondary—university preparatory type), and university education with, and without a degree. We collapsed these categories into “Primary or less,” “Secondary education,” “University education without degree,” and “University education with degree.” Table 2 reports the variable descriptions and summary statistics. For the five countries put together, 22% of respondents had primary school education or less, 66% had obtained secondary education while about 12% of respondents obtained some university education (with or without degree). Thus, the majority of respondents in Africa have some form of secondary education.

4.3. Control Variables

We control for conventional individual level variables that the literature suggests affect attitudes various social, economic or political phenomena generally, and more specifically gender equality in society. These include socio-demographic characteristics such as age, gender, marital status, employment status, religious background as well as the size of the city in which the respondent resides. Research has consistently shown that women and younger generation tend to possess more egalitarian views than men and older generations do (e.g., Bolzendahl & Myers, 2004; Scott Alwin, & Braun, 1996). The ages of respondents ranged from 16 to 98, with an average of about 34 years. Women who are in the labor force may tend to promote more liberal views and less traditional family values about women’s role in the society. 51% of respondents were female (while 49 were male).

Marital status may influence an individual’s perception or beliefs about gender roles. For instance, divorced men are typically “less traditional in their views” (Bolzendahl & Myers, 2004, p. 764). Married women may be less exposed to feminist ideas if they are bogged down with household duties and childbearing (e.g., Bolzendahl & Myers, 2004; Warner, 1991). The majority of respondents indicated either being married or living together as married (both totaling 51%) while only 3% reported being divorced or separated. As noted above, women in non-traditional workplaces may fight for and benefit from improvement in women conditions (Plutzer, 1991). Conversely, those not in these workplaces may not have the opportunity to fight for improved women

rights and equality. Therefore, unemployed females may be less likely to vouch for gender equality. With regards to men, it could be argued that through their interaction with women at their workplaces, employed men may look at gender equality more favorably relative to their unemployed counterparts. About 22% of respondents were unemployed at the time of the survey.

Religious affiliation tends to influence people's beliefs about the role women should play in society (e.g., Fan & Marini, 2000; Inglehart & Norris, 2003; Seguino, 2011). Based on a cross-country study, Seguino (2011) posited that gender attitudes within a religious context are highly influenced by the top echelons of religious structure and that religiosity is associated with gender inequality. Fan and Marini (2000) found that people who associated with religion tend to hold views that more restrictive of women's participation in the labor force. Furthermore, female labor force participation in the Middle East and North Africa tend to be among the lowest in the world while driving is illegal for women in Saudi Arabia (Inglehart & Norris, 2003). Yet the results are not consistent across religions or religious denominations. For instance, Catholics hold more conservative views about women's participation in the work force than Protestants do (Baliamoune-Lutz, 2007; Miller & Hoffmann, 1995). 24% of respondents reported being Roman Catholic, 33% were Protestant, 11% were Muslim, and 32% belonged to other denominations.

Finally, the place of residence may influence gender equality views. Cities promote more liberal views through education, more exposure to worldviews and opportunities than their rural counterparts (e.g., Bolzendahl & Myers, 2004). The city size categories ranged from under 2,000 to over 500,000 people. We collapsed these into small (10,000 or less), midsize (between 10,000 and 100,000) and large (over 100,000). The proportion of respondents who indicated each category was 52%, 33%, and 15%, respectively.

4.4. Empirical Model

As shown above, the first four dependent variables are ordinal in nature ranging from 1 to 3 for the first, and 1 to 4 for the second, third, and fourth. Therefore, we ran ordered probit models for these variables. We also ran an ordered probit model for the fifth dependent variable (Gender equality).¹ If higher educational attainment makes people more gender-liberal, then, *a priori*, each coefficient on education should be positive and statistically significant because higher values on each dependent variable indicate higher disagreement with the statement.

¹ We also ran OLS models for all five dependent variables and find the results to be qualitatively identical.

5. RESULTS AND DISCUSSION

Table 3 reports the ordered probit regression results for the effect of educational attainment on attitudes toward gender equality (as measured by the four variables discussed in section 4.1). When asked whether men should have more right to a job than women when jobs are scarce, respondents with secondary education, university without degree and university with degree were 7%, 5%, and 12% significantly more likely to disagree with the statement, respectively relative to those with primary education or less. In other words, people in these educational categories viewed equal job opportunity for men and women more favorably than those with primary education or less. With respect to whether university education is more important for a boy than for a girl, we find that respondents with secondary education, university without degree and university degree are respectively 5%, 4%, and 14% more likely to disagree than those with primary education or less. We also find that respondents in higher educational categories than primary or less are significantly (at the 1% level) more likely to disagree with the statements about men making better political leaders or business executives than women. That is, those with secondary or university education do not believe that men make better political leaders or business executives than women in Africa. With regards to the control variables, we find that older people are more likely to disagree with each of the four statements. A unit increase in age increases the likelihood that the individual will disagree with the statements by about 5%–11%. Additionally, females are significantly more likely to disagree with each statement than males. Regarding marital status, the results are mixed and mostly insignificant. Relative to respondents in the “other” category, those who are married or living together as married were 2% more likely to agree with the statements that men should have more right to a job than women and that university education is more important for a boy than for a girl. However, the results are not statistically significant for these respondents with respect to men being better political leaders or business executives than women. Divorced or separated respondents were significantly more likely to disagree with men being better business executives than women. Aside from university education being more important for a boy than for a girl for which the result was not statistically significant, the unemployed were more likely to disagree with all the other statements. Consistent with prior findings that Catholics are more conservative about women’s participation in the workforce (e.g., Balamoune-Lutz, 2007; Hoffmann & Miller, 1997), we find that they are 2% more likely to agree with men having more right to a job than women when jobs are scarce. Additionally, Catholics believe that a university education is more important for a boy than for a girl. Protestants tended to disagree with university education being more important for a boy. Conversely, they are about 4% and 3% more likely to agree with men making better political leaders and business executives than women, respectively. Relative to

respondents in the “other religious denomination” category, Muslims were more likely to agree with each statement, by about 8% to 15%. The finding that Muslims are more likely to agree (or less likely to disagree) with the statements is consistent with prior findings that some Muslim countries tend to oppress women. For instance, Inglehart and Norris (2003) note that in Afghanistan women and girls were “denied education, barred from the workplace, and unable to venture out in public without a male companion” under Islamic law introduced by Tabilan (p. 3). Contrary to prior expectations that people in larger cities may view gender equality more favorably because cities promote liberal views and expose city dwellers to worldviews and opportunities, we find that people in midsize cities tend to agree more with each of the four statements relative to their small city counterparts. Additionally, those in large cities agreed more with men having more right to a job than women. However, large city dwellers were more likely to disagree with the statement that a university education is more important for a boy than for a girl. One explanation for the inconsistent results is that culture and tradition may take precedence over views on gender equality among Africans. For instance, in Africa, irrespective of a wife’s earnings, the husband is still expected to be the breadwinner of the family (e.g., Mathur-Helm, 2006). A reduction in a husband’s ability to fully play the role of a breadwinner (say, due to unemployment) significantly reduces his self-esteem and social status (e.g., Silberschmidt, 2001). Thus, people may generally feel that a man should have more right to a job than a woman (e.g., Fortin, 2005). Also, because there are relatively fewer women in political leadership or corporate leadership in Africa (see e.g., Adams, 2008; Schein, 2007), many more Africans may believe that men make better political leaders or business executives than women do. The ordered probit regression results for the effect of educational attainment on gender equality (as a composite index) are reported on Table 4. The results are largely consistent with those presented on Table 3. Relative to respondents with primary education or less, those with secondary education, university without degree and university with degree are 6%, 6%, and 11%, respectively more likely to disagree with the statements. Thus, the results consistently suggest that higher educational attainments make people look at gender equality more favorably in Africa.

6. ROBUSTNESS CHECKS

To check the robustness of our findings, we run OLS regressions for all the five gender equality measures while controlling for country fixed effects. We also test for multicollinearity by checking the variance inflation factors (VIFs) of the variables. The results are reported on Table 5. The results for the association between educational attainment and attitudes toward gender equality are

Table 3: Ordered Probit Regression Results for the Effect of Education on Attitudes Toward Gender Equality

| Variable | Men have more right to a job than women | | University education more important for a boy | | Men make better political leaders | | Men make better business executives | |
|--|---|--------------------|---|--------------------|-----------------------------------|--------------------|-------------------------------------|--------------------|
| | Estimate | Marginal effect SE | Estimate | Marginal effect SE | Estimate | Marginal effect SE | Estimate | Marginal effect SE |
| Highest education level attained (Ref = Primary education or less) | | | | | | | | |
| Secondary education | 0.18*** | 0.03 | 0.15*** | 0.03 | 0.21*** | 0.03 | 0.26*** | 0.03 |
| University education without degree | 0.13** | 0.06 | 0.14*** | 0.05 | 0.19*** | 0.05 | 0.28*** | 0.05 |
| University education with degree | 0.33*** | 0.06 | 0.45*** | 0.05 | 0.23*** | 0.05 | 0.38*** | 0.05 |
| Age | 0.20** | 0.11 | 0.16** | 0.10 | 0.36** | 0.10 | 0.19** | 0.10 |
| Gender (Ref = Male) | | | | | | | | |
| Female | 0.47*** | 0.03 | 0.22*** | 0.02 | 0.31*** | 0.02 | 0.34*** | 0.02 |
| Marital status (Ref = Other) | | | | | | | | |
| Married | -0.06** | 0.03 | -0.04* | 0.02 | 0.04 | 0.02 | 0.02 | 0.02 |
| Divorced/separated | -0.06 | 0.07 | 0.04 | 0.06 | 0.08 | 0.06 | 0.12*** | 0.06 |
| Unemployed | 0.07** | 0.03 | 0.01 | 0.03 | 0.11*** | 0.03 | 0.06** | 0.03 |
| Religious denomination (Ref = Other) | | | | | | | | |
| Roman Catholic | 0.06* | 0.04 | 0.09*** | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 |
| Protestant | 0.01 | 0.03 | 0.17*** | 0.03 | -0.14*** | 0.03 | -0.11*** | 0.03 |
| Muslim | -0.34*** | 0.05 | -0.26*** | 0.04 | -0.51*** | 0.04 | -0.43*** | 0.04 |
| Size of town (Ref = Small town) | | | | | | | | |
| Mid-size town | -0.30*** | 0.03 | -0.08*** | 0.03 | -0.06** | 0.03 | -0.10*** | 0.03 |
| Large town | -0.18*** | 0.04 | 0.08** | 0.03 | 0.03 | 0.03 | -0.02 | 0.03 |

| | | | | |
|---------------------------|-----------|-----------|-----------|-----------|
| Pseudo- R^2 | 0.08 | 0.04 | 0.06 | 0.06 |
| % Correctly predicted | 62.5 | 57.2 | 59.5 | 59.6 |
| Likelihood Ratio (df =13) | 662.11*** | 347.11*** | 508.92*** | 521.02*** |
| Average density | 0.37 | 0.31 | 0.30 | 0.30 |

Note: $N = 9238$.

***Significant at the 1% level.

**Significant at the 5% level.

*Significant at the 10% level. Marginal effects are calculated by multiplying the coefficient by the average density.

Table 4: Ordered probit regression results for the effect of education on attitudes toward gender equality (index).

| Variable | Gender equality | | |
|--|-----------------|------|-----------------|
| | Estimate | SE | Marginal effect |
| Highest education level attained (Ref = Primary education or less) | | | |
| Secondary education | 0.26*** | 0.03 | 0.06 |
| University education with- out degree | 0.23** | 0.05 | 0.06 |
| University education with Degree | 0.43*** | 0.05 | 0.11 |
| Age | 0.29** | 0.09 | 0.07 |
| Gender (Ref = Male) | | | |
| Female | 0.42*** | 0.02 | 0.11 |
| Marital status (Ref = Other) | | | |
| Married | -0.01 | 0.02 | -0.00 |
| Divorced/separated | -0.09 | 0.06 | -0.02 |
| Unemployed | 0.08*** | 0.03 | 0.02 |
| Religious denomination (Ref = Other) | | | |
| Roman Catholic | 0.07** | 0.03 | 0.02 |
| Protestant | -0.02 | 0.03 | -0.00 |
| Muslim | -0.50*** | 0.04 | -0.13 |
| Size of town (Ref = Small town) | | | |
| Mid-size town | -0.16*** | 0.03 | -0.04 |
| Large town | -0.03 | 0.03 | -0.01 |
| Pseudo-R ² | 0.09 | | |
| % Correctly predicted | 59.7 | | |
| Likelihood Ratio (df =13) | 864.11*** | | |
| Average density | 0.25 | | |

Note: $N = 9238$.

***Significant at the 1% level.

**Significant at the 5% level.

*Significant at the 10% level.

consistent with prior results reported on [Tables 3 and 4](#). That is, relative to respondents with primary education or less, those who obtained secondary and university education were significantly more likely to disagree with each gender equality statement and the statements together as a composite index. Therefore, we conclude that our results are robust. The VIFs were all below 3, suggesting that multicollinearity was not present in the data. Relative to South Africans, Ghanaians were more likely to agree with three of the statements, and more likely to disagree with a boy having priority over a girl with respect to university education. Nigerians were significantly more likely to agree with each of

Table 5: OLS regression results for the effect of education on attitudes toward gender equality.

| Variable | Men have more right to a job than women | | University education more important for a boy | | Men make better political leaders | | Men make better business executives | | Gender equality | |
|---|---|------|---|------|-----------------------------------|------|-------------------------------------|------|-----------------|------|
| | Estimate | VIF | Estimate | VIF | Estimate | VIF | Estimate | VIF | Estimate | VIF |
| Education (Ref = Primary education or less) | | | | | | | | | | |
| Secondary education | 0.08*** | 1.79 | 0.18*** | 1.79 | 0.09*** | 1.79 | 0.19*** | 1.79 | 0.54*** | 1.79 |
| University education without degree | 0.08* | 1.33 | 0.20*** | 1.33 | 0.11** | 1.33 | 0.24*** | 1.33 | 0.64*** | 1.33 |
| University education with degree | 0.22*** | 1.30 | 0.43*** | 1.30 | 0.15*** | 1.30 | 0.32*** | 1.30 | 1.11*** | 1.30 |
| Age | 0.03 | 1.31 | 0.25*** | 1.31 | 0.08 | 1.31 | 0.03 | 1.31 | 0.39 | 1.31 |
| Gender (Ref = Male) | | | | | | | | | | |
| Female | 0.35*** | 1.03 | 0.21*** | 1.03 | 0.27*** | 1.03 | 0.31*** | 1.03 | 1.14*** | 1.03 |
| Marital status (Ref = Other) | | | | | | | | | | |
| Married | -0.06*** | 1.25 | -0.04 | 1.25 | -0.00 | 1.25 | -0.01 | 1.25 | -0.10* | 1.25 |
| Divorced/separated | -0.11** | 1.08 | -0.04 | 1.08 | 0.02 | 1.08 | 0.10* | 1.08 | -0.03 | 1.08 |
| Unemployed | -0.03 | 1.13 | -0.02 | 1.13 | 0.02 | 1.13 | -0.01 | 1.13 | -0.03 | 1.13 |
| Religious denomination (Ref = Other) | | | | | | | | | | |
| Roman Catholic | 0.08*** | 1.63 | 0.06** | 1.63 | 0.02 | 1.63 | 0.01 | 1.63 | 0.18** | 1.63 |
| Protestant | 0.01 | 1.95 | 0.01 | 1.95 | 0.05 | 1.95 | -0.03 | 1.95 | 0.04 | 1.95 |
| Muslim | -0.02 | 1.62 | -0.21*** | 1.62 | -0.13*** | 1.62 | -0.15*** | 1.62 | -0.51*** | 1.62 |
| Size of town (Ref = Small town) | | | | | | | | | | |
| Mid-size town | -0.02 | 2.14 | 0.03 | 2.14 | -0.01 | 2.14 | -0.00 | 2.14 | 0.00 | 2.14 |
| Large town | 0.03 | 1.88 | 0.16*** | 1.88 | 0.03 | 1.88 | 0.04 | 1.88 | 0.26 | 1.88 |
| Country dummies (Ref = South Africa) | | | | | | | | | | |
| Ghana | -0.20*** | 1.94 | 0.27*** | 1.94 | -0.57*** | 1.94 | -0.32*** | 1.94 | -0.81*** | 1.94 |
| Nigeria | -0.58*** | 2.95 | -0.18*** | 2.95 | -0.52*** | 2.95 | -0.46*** | 2.95 | -1.74*** | 2.95 |

| | | | | | | | | | | |
|-------------------------|----------|------|----------|------|----------|------|----------|------|----------|------|
| Rwanda | -0.28*** | 2.64 | -0.07 | 2.64 | 0.08* | 2.64 | -0.00 | 2.64 | -0.27** | 2.64 |
| Zimbabwe | 0.03 | 2.21 | 0.30*** | 2.21 | -0.17*** | 2.21 | -0.02 | 2.21 | 0.14 | 2.21 |
| Adjusted-R ² | 0.10 | | 0.06 | | 0.10 | | 0.08 | | 0.12 | |
| F-statistic | 62.14*** | | 35.37*** | | 62.46*** | | 47.03*** | | 76.47*** | |

Note: $N = 9238$.

***Significant at the 1% level.

**Significant at the 5% level.

*Significant at the 10% level.

the fourth statements than their South African counterparts. While Rwandans seemed to favor men having priority over women for a job but less likely to agree that men make better political leaders than women do, Zimbabweans were more likely to disagree with university education being more important for a boy but more likely to agree that men make better political leaders than women do. Thus, it seems that, compared to South Africans, Ghanaians and Nigerians tend to view gender equality less favorably.

7. CONCLUSION

This article primarily examines whether (and to what extent) educational attainments influence people's attitudes toward gender equality in Sub-Saharan Africa. To analyze this empirically, we use data on 5 Sub-Saharan African countries (i.e., Ghana, Nigeria, Rwanda, South Africa, and Zimbabwe) from the Wave 6 of the World Values Survey. Results from ordered probit and OLS regressions are consistent and reveal that the higher the level of education one acquires (specifically, over and beyond primary education), the more gender liberal and egalitarian they become. In other words, those individuals with educational attainments beyond primary education are significantly more likely to view gender equality more favorably. However, these results should be interpreted with caution because we have only established correlations and not causations. Considering the fact that gender inequality is "a serious inhibitor of human development in Sub-Saharan Africa" (Davis, 2015, p. 68), understanding the predictors of attitudes toward gender equality is imperative. More specifically, our study demonstrates the importance of higher education for gender equality. Therefore, African governments and development partners need to pursue more social and educational policies that would improve educational attainments. This way, while achieving other goals of education (e.g., human capital accumulation, improved health outcomes, etc.), attitudes toward gender equality could be improved. Our study has limitations. First, our measures of attitudes toward gender equality are *subjective* in the sense that they are based on what the respondent says rather than what they actually feel. One argument often made is that, highly educated people tend to be abreast of issues and know what is socially acceptable and respond accordingly when presented with surveys (see e.g., Knudsen, 1995). These responses may not necessarily reflect their true feelings about, say, gender equality as measured by their actual behavior toward women and women empowerment policies. Second, we note that our study uses data for five countries in Sub-Saharan Africa. A more ideal dataset would have many more countries in the survey. Because Sub-Saharan African countries differ in many respects, particularly language, the results should be interpreted with caution.

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