Gender Differences in the Effect of Family Structure on Educational Outcomes Among Nigerian Youth

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Abstract
Due to globalization, sub-Saharan Africa (SSA) is experiencing some changes in her traditional family patterns. A large body of research has examined the relationship between family structure and youth developmental outcomes and few studies have reported the gender differentials in the effect of changing family structure on these outcomes. In an increasingly knowledge-based globalized world, educational achievement is critical for the development of youth. This exploratory study examines the gender differences in the effect of family structure on educational outcomes of youth in Nigeria. We used the 2010 Nigeria General Household Survey which is available through Integrated Public Use Microdata Series (IPUMS)–International, consisting of 14,178 males and 13,858 females. Family structure was a significant predictor of youth educational outcomes, and there were significant gender differentials. There was a negative relationship between living with neither parent and ever enrolling among males and females, but the effect was much stronger for females. Interventions should focus on improving existing resources and place youth who are living with neither parents and are unmarried in stable and friendly environments through mentorship programs and community caregiver support. Programs should also engage community leaders continuously about the consequences of early marriages among female youth.

Keywords
family structure, educational attainment youth, Nigeria

Introduction
Although developing countries are making remarkable strides in achieving universal primary education (United Nations, 2014), expanding access to secondary education remains critical. While it is important to focus on primary education, increased access to postprimary education would provide young people with strengths and competencies that will make them competitive in the emerging global markets. Postprimary education has also been linked with the realization of the post-2015 development agenda and the sustainable development goals (McCowan, 2016). However, the increase in primary education enrollment rates has not routinely been followed by an equivalent increase in secondary and tertiary education rates, especially for young women and girls (UNESCO Institute for Statistics, 2015).

Despite the extensive documentation of the economic and social benefits of formal education, about 89 million youth, aged 12 to 24 years, are out of school in sub-Saharan Africa (SSA; Inoue, Di Gropello, Taylor, & Gresham, 2015). This has serious implications for the economic inequality already evident in the region (Thorbecke, 2013). A number of sociodemographic variables have been linked with educational outcomes.

For instance, using Demographic and Health Survey data from 35 countries in SSA and South Asia, Ilie and Rose (2016) demonstrated that wealth and gender inequalities are associated with access to higher education for more than half of the countries studied.

Nigeria, the focus of this research, has been reported to have the largest number of out-of-school children in the world; youth are about 2 times more likely to be out of school compared with primary school-age children (UNESCO Institute for Statistics, 2015). Also, it has been noted that 19% of youth have no formal education and 5% have attained at most incomplete primary education, which...
means that about 25% of youth aged 15 to 24 years have not completed primary education in Nigeria, 41% have incomplete secondary education, and about 9% have postsecondary education (World Bank, 2014). Staying out of school not only affects the current generation but also the next generation, as they may not have the capacity to provide favorable educational opportunities for their own children (Chevalier, Harmon, O’Sullivan, & Walker, 2013). In addition, achieving postsecondary and tertiary education remains a strong positive predictor of employment and income level (Rogan & Reynolds, 2016).

Several factors have been raised to explain the low educational attainment of youth globally and in SSA. At the individual level, gender (Musa, 2013; Ssewamala, Karimli, Han, & Ismailova, 2010), place of residence (Kazeem, Jensen, & Stokes, 2010), and individual motivation (Goodman et al., 2011) have been identified as factors associated with educational outcomes among youth. At the household level, wealth status has been consistently documented as one of the factors that can influence youth educational outcomes although results have been inconclusive. For instance, using nationally representative data from five countries in SSA, Roby, Erickson, and Nagaishi (2016) concluded that household wealth status positively influenced school attendance but sometimes worked through some other variables like culture to influence educational outcomes. Wealth status can also influence educational outcomes through parental support whereby parents from higher socioeconomic status can afford to provide resources (time or finance) that can improve educational outcomes of young adults (M.-T. Wang, Sheikh, & Khalil, 2014). It could also be a risky factor in educational attainment of youth as parents may be too busy to offer guidance and support to the youth adults (Ishiugo-Abanihe & Kola, 2004).

Parental support is strongly linked to family structure and researchers in the social sciences have documented the relationship between family structure and a variety of youth developmental outcomes. The family has received attention due to its importance for youth development and the changing family patterns SSA is experiencing (Odimegwu & Somefun, 2017). Growing rates of migration (Lu & Treiman, 2011), nonmarital fertility (Goldberg, 2013), and divorce (Clark & Hamplová, 2013) have resulted in a breakdown of the traditional family structure in the region. While some researchers have applauded these changing family dynamics as a sign of women’s autonomy (Takyi & Broughton, 2006), others have suggested that it could have social and economic consequences for youth and the society (Ntoimo & Odimegwu, 2014).

A growing body of literature has established that youth developmental outcomes are usually as a result of his or her familial characteristics. The negative effects of family structure (parental education and single parenthood) on youth educational outcomes have been well documented in developed countries and these outcomes range from a higher risk of dropping out and lower grades while enrolled in school (Freeman & Viareng, 2014; Hampden-Thompson, 2013; M. Wang & Ngai, 2011). These influences have partially been associated with the economic stress usually associated with lone parenthood (McLanahan, 1988; Singh, Gaurav, & Das, 2013), and also to the reduction of human or social capital in the household (Vogel & Korinek, 2012).

On the contrary, in some African settings, female household headship has been associated with more positive educational opportunities for children. For instance, in a study of adolescent girls in South Africa, Lloyd and Blanc (1996) reported that young girls whose fathers were absent had lower chances of dropping out of school. They explain that the extended family system in SSA enables youth who are doing well at school to move to households of family members who are better off socioeconomically and are able to support them financially which enables them remain in school.

Family structure has also been conceptualized differently by a number of studies. For instance, using living arrangement as a measure of family structure, Fentahun and Mamo (2014) found that compared with youth living in two-parent households, youth living with no parents were more likely to engage in risky sexual behavior in Southwest Ethiopia. Sherr et al. (2017) have explained that this may be as a result of the reduced parenting quality youth living with nonbiological caregivers are exposed to. This has also been confirmed by Fomby’s (2013) study on family instability and college enrollment where it was argued that young adults residing with divorced parents or living with stepfamilies may have less access to resources in the household which may negatively influence their educational outcomes.

Alternatively, living with divorced parents may not always yield negative results on youth educational outcomes (Roman, 2011). Wealth status of the lone parent has been described as the mechanism that could account for this relationship. Davids and Roman (2013) argued that there may be no differences in the educational outcomes of youth in two-parent household compared with their counterparts in single-parent households in settings where many people live in low socioeconomic environment.

In recent years, there have been considerable studies showing that youth developmental outcomes are influenced not only solely by economic resources but also by noneconomic parental characteristics, such as quality of parental involvement, support, and connectedness.

Spending more time with the family may result in a close parent–child relationship. Parent–child connectedness, another component of family structure has been associated with a wide range of youth development indicators (Ayehu, Kassaw, & Hailu, 2016; Bastien, Kajula, & Muhwezi, 2011; Markham et al., 2010; Ngom, Magadi, & Owuor, 2003). Positive relationships in the family allow parents engage with youth which may be crucial for their self-esteem, aspirations, and development. For instance, a cross-sectional study investigating the effects of connectedness in multiple
domains on risky and protective behaviors among youth found family connectedness to be a protective factor against substance use but peer connectedness to be a risk factor (Yang, Tan, & Cheng, 2014). Their findings are similar to research by Lippold, Davis, Lawson, and McHale (2016) which used daily diary data to examine the associations between parent–child interactions and youth well-being.

These associations significantly differ by gender (Mturi & Gaeawwe, 2014; Odimegwu & Somefun, 2017). It has been suggested that males and females have different emotional and behavioral tendencies which evolve depending on age and context (Bank, Delamont, & Marshall, 2007). Research in family structure has consistently ignored the significance of gender differentials, but recent research has justified the need to explore family structure and gender jointly so as to understand how family environment shapes adolescent development for males and females (Fagan, Van Horn, Antaramian, & Hawkins, 2011). Gender plays an important role in educational outcomes of young people, and recent studies are documenting a female advantage; however, the process by which gender roles influence the educational outcomes of youth has rarely been studied, especially in Nigeria where preference is still given to males compared with females when it comes to educational opportunities (Kazeem et al., 2010).

Theoretical Underpinning

We use the gender socialization theory which is often used by social scientists to examine gender differences in youth behavior. This theory has frequently been used by social scientists to explore underlying reasons why males and females act differently (Carter, 2014; Ram, Strohschein, & Gaur, 2014; Rampino & Taylor, 2013; Straiton, Roen, & Hjelmeland, 2012). They explain that socialization usually begins at birth; as families compared with other networks have a specific way of influencing gender differences biologically and socially (Crespi, 2004).

This is in line with Bandura’s seminal social learning theory (Bandura & Walters, 1977). He maintains that young adults learn in social environments by observing and then emulating the behavior of people in their immediate environment. At the heart of this theory is the belief that the presence of others in the social environment is as important as their support. In summary, the gender socialization theory posits that males and females develop different wants, skills, and desires as they are treated differently from birth and usually subjected to different learning environments.

Males and females have different externalizing behaviors. Recent studies by Hopf (2010) and Conti-Ramsden, Mok, Pickles, and Durkin (2013) have suggested that boys tend to display delinquency and aggression compared with girls who are more likely to be withdrawn or lonely which may influence their educational outcomes. These behaviors have been attributed to nature and nurture in early childhood of young people. For instance, females are more likely to be subjected to stricter parental control compared with their male counterparts, which may have an effect on their likelihood of engaging in antisocial behavior such as dropping out of school or not enrolling in school at all.

In his doctoral dissertation that has been widely adapted, Horner (1969) concluded that females may have a higher fear of success than their male counterparts which may lead them to purposefully get lower grades than males in school because being intelligent is not considered culturally feminine. This has been confirmed by a number of other studies (Fried-Buchalter, 1997; Ishiyama & Chabassol, 1985). On the contrary, recent evidence reveals a transformation in the educational outcomes of youth by gender. Females have become an increasing majority of students in developed countries. The gender inequality is even more pronounced at graduation, as males not only enroll in lower numbers than females but are more likely to drop out (Quenzel & Hurrelmann, 2013).

However, due to the patriarchal structure in Nigeria which subjects women to domestic chores (Makama, 2013), boys are usually more likely to go to school especially in families with low socioeconomic status, so it is important to explore these associations in the Nigerian context. Therefore, we hypothesize as follows:

**Hypothesis 1:** There will be gender differences in the educational outcomes of males and females living with no parent.

**Hypothesis 2:** Males living with lone parents (either mother or father) would be more likely to enroll compared with their female counterparts.

Data and Method

This study utilizes cross-sectional data from the Integrated Public Use Microdata Series–International, 2010 (IPUMS). The IPUMS is a compilation of harmonized censuses from countries throughout the world and access was granted by the Minnesota Population Center. These data are a 10% randomly chosen sample of the census data, and individual weights have been applied. More details regarding the data set have been documented by Jeffers, King, Cleveland, and Hall (2017). The weighted sample comprised 14,178 males and 13,858 females aged 15 to 24 years.

Outcome Variables

With the IPUMS data, a question was asked on educational achievement. Respondents were asked if they were currently in school, if they have never attended, and if they were not in school but attended in the past. This variable was coded as follows: 1 = never enrolled, 2 = still in school, and 3 = attended in the past. The reference category was “still in school.”
**Independent Variables**

The key independent variable in this study is family structure. We have operationalized this variable as living with both parents, living with mother alone, living with father alone, and living with neither parent.

Based on existing literature, we have identified some significant demographic and socioeconomic predictors of educational outcomes, and we controlled for some of the demographic and socioeconomic predictors of educational outcomes. These variables include age, mother’s education, father’s education, union (marriage) status, religion, family size, and wealth status, which is a proxy for household socioeconomic status (SES) captured through a wealth index based on household possessions and amenities.

IPUMS data do not provide direct information on household income but principal components analysis (PCA; Fry, Firestone, & Chakraborty, 2014) was used to derive a proxy indicator for household SES (i.e., total assets score) using information on housing characteristics (i.e., roof condition, wall condition, floor condition, land area), access to utilities and infrastructure (i.e., water supply, electricity, type of toilet), and durable asset ownerships (i.e., television, radio, telephone, computer, washing machine, refrigerator, air condition, motorcycle).

**Analysis**

Separate analyses were performed for females and males. This is because results on gender differentials in the educational attainment of youth have been mixed where more researchers have reported a female advantage (Varner & Mandara, 2014; Voyer & Voyer, 2014) compared with studies that have documented a male advantage (Gajio, 2016). The descriptive statistics show the distribution of youth by the key variables. Values were expressed as absolute numbers (percentages) and median (± standard error) for categorical and continuous variables, respectively. Multinomial logistic regression was used based on the nature of the outcome variable.

Sampling weights were applied to adjust for differences in probability of selection and to adjust for nonresponse to produce the proper representation. Individual weights were used for descriptive statistics in this study, using Stata 14 for Windows. Results on measures of association were presented as relative risk (RRR) for never enrolling and dropping out, with alpha level set at .05.

**Ethical Consideration**

The IPUMS-International data can be downloaded from the website and is free to use by researchers for further analysis. To access the IPUMS data, permission was obtained from the Minnesota Population Center.

**Results**

**Characteristic of Respondents**

Descriptive results in Table 1 showed that there were marginally more males in the sample than females (51% vs. 49%). For educational attainment, 36% of the females were not in school compared with 32% of males. Similarly, 20% of the females had never enrolled compared with 12% of males and there were more males in school compared with females (55% vs. 44%).

Three quarters of the males were living with both parents, compared with about half of the females. Less than two fifths of females were living with neither parents compared with about one tenth of males. For union status, only 3% of the males were in union compared with 32% of the females. About three quarters of males (74%) and two thirds of females (65%) were from households with more than five members.

**Bivariate Association**

Results in Table 2 show the unadjusted association between family structure and educational attainment among youth in Nigeria. Family structure was associated with educational attainment for male and female youth in Nigeria and the association was statistically significant. The relative probability of never enrolling rather than being in school was higher among males (RRR = 1.40, confidence interval [CI] = [1.11, 1.77]) and the effect was strong for females (RRR = 23.08, CI = [19.28, 27.64]) living with neither parents. Relative to being enrolled, males (RRR = 0.21, CI = [0.13, 0.34]) and females (RRR = 0.28, CI = [0.16, 0.51]) living with mothers alone were less likely to have never enrolled.

Control variables like age, place of residence, union status, family size, religion and region, household wealth status, and mother’s and father’s educational attainments were also significantly associated with educational attainment at the bivariate level. For instance, males (RRR = 0.53, CI = [0.39, 0.72]) and females (RRR = 0.19, CI = [0.15, 0.25]) who were from large families had a significantly lower risk of never enrolling. Similarly, males (RRR = 0.19, CI = [0.14, 0.26]) and females (RRR = 0.56, CI = [0.52, 0.61]) who resided in urban areas also had significantly lower risk of never enrolling.

**Multivariate Analysis**

In Table 3, the adjusted model, mother’s and father’s educational attainments were dropped from this model as they were highly correlated with family structure. Family structure was still significantly associated with educational attainment, although results differed for males and females. Also, age, place of residence, union status, family size, religion, region, and household wealth status remained significantly associated with educational attainment of youth but varied by gender.
The RRR of never enrolling was higher among males (RRR = 1.51, CI = [1.08, 2.12]) living with father alone compared with males living with both parents. Similar results were evident for females (RRR = 1.29, CI = [0.87, 1.93]) albeit the association was insignificant. Also, there was a significant association between females who living with their mothers alone (RRR = 1.30, CI = [1.05, 1.61]) and risk of never enrolling compared with their counterparts living with no parents.

Male (RRR = 2.02, CI = [1.64, 2.47]) and female (RRR = 2.62, CI = [2.05, 3.35]) older youth aged 20 to 24 years had higher RRR of never enrolling. Staying in an urban area was also protective for never enrolling for males (RRR = 0.31, CI = [0.22, 0.44]) and females (RRR = 0.37, CI = [0.27, 0.52]). There was no significant association between family size and educational attainment for females, but males (RRR = 0.44, CI = [0.27, 0.72]) from a large family had lower odds of never enrolling. Region was also significant determinants of educational attainment among youth. For instance, males and females in the northern regions had higher risk of never enrolling compared with their counterparts in the Southwest. Household wealth status also appeared to be a significant protective factor for never enrolling among males (RRR = 0.30, CI = [0.22, 0.41]) and females (RRR = 0.40, CI = [0.29, 0.54]).

**Discussion**

Education is a key youth development indicator that has been consistently shown to affect the other indicators like health and occupation. How youth fare in formal education is a direct predictor of literacy acquisition, their health, and the future shape of the communities in which they reside. The aim of this study was to examine the gender differences in the effect of family structure on educational attainment among youth aged 15 to 24 years in Nigeria. This is important in the Nigerian context because of the changing family dynamics in Nigeria and the current debate on the effects of family structure on various developmental outcomes. Gender has been seen as a strong factor in youth developmental outcomes, where educational outcomes are no exception.

Given the importance of youth educational achievement for the health and socioeconomic well-being, understanding the factors that influence attainment is critical. There are a few studies that have explored the determinants of educational outcomes among youth in Nigeria (Aremu, 2004; Sunday, Elphina, & Olawale, 2016; Tella, 2007), and a consideration of the role of family structure on educational outcomes of youth is noticeably absent. Prior research, mostly in developed countries, have concluded that children who grow up without one or both parents in the household are at risk of a host of negative educational outcomes (Magnuson & Berger, 2009). Our study adds to scientific knowledge by looking at gender differentials.

**Table 1. Selected Characteristics of Youth by Gender (IPUMS).**

| Characteristics                        | Male (n = 14,178) | Female (n = 13,858) |
|----------------------------------------|-------------------|---------------------|
| Educational attainment                 |                   |                     |
| Never enrolled                         | 12.32             | 19.78               |
| Still in school                        | 55.70             | 43.95               |
| Dropped out                            | 31.98             | 36.27               |
| Family structure                       |                   |                     |
| Living with both parents               | 74.52             | 49.98               |
| Living with mother alone               | 11.40             | 9.86                |
| Living with father alone               | 3.02              | 2.15                |
| Living with neither parents            | 11.06             | 38.02               |
| Age                                    |                   |                     |
| 15-17                                  | 36.21             | 31.13               |
| 18-19                                  | 23.04             | 22.02               |
| 20-24                                  | 40.75             | 46.85               |
| Place of residence                     |                   |                     |
| Rural                                  | 77.57             | 76.91               |
| Urban                                  | 22.43             | 23.09               |
| Family size                            |                   |                     |
| Small (1-2 members)                    | 6.35              | 8.41                |
| Moderate (3-4 members)                 | 19.59             | 27.47               |
| Large (5+)                             | 74.06             | 64.12               |
| Religion                               |                   |                     |
| Christian                              | 57.23             | 57.08               |
| Islam                                  | 41.96             | 42.11               |
| Other                                  | 0.80              | 0.81                |
| Region                                 |                   |                     |
| Southwest                              | 19.35             | 18.15               |
| Northeast                              | 12.23             | 14.97               |
| Northwest                              | 22.08             | 21.58               |
| Southeast                              | 11.86             | 12.50               |
| South-south                            | 18.00             | 16.73               |
| North-central                          | 16.48             | 16.06               |
| Marital status                         |                   |                     |
| Union                                  | 2.72              | 32.30               |
| Not in union                           | 97.28             | 67.70               |
| Household wealth status                |                   |                     |
| Poor                                   | 32.78             | 34.81               |
| Middle                                 | 36.84             | 36.00               |
| Rich                                   | 30.37             | 29.19               |
| Mother’s educational attainment        |                   |                     |
| Less than primary completed            | 55.16             | 44.06               |
| Primary completed                      | 25.60             | 29.29               |
| Secondary completed                    | 17.79             | 23.99               |
| University completed                   | 1.44              | 2.67                |
| Father’s educational attainment        |                   |                     |
| Less than primary completed            | 50.16             | 37.92               |
| Primary completed                      | 23.76             | 26.78               |
| Secondary completed                    | 22.14             | 28.25               |
| University completed                   | 3.95              | 7.05                |

*Note. IPUMS = Integrated Public Use Microdata Series.*
Descriptive results showed that more females were living with neither parent compared with males. This may be as a result of early marriage among female youth in Nigeria. Also, there was an evident gender differential in the educational outcomes of youth, as more females were seen to have formerly attended schools or never enroll compared with males. This does not tally with results from the developed world (the United States) that concluded that males drop out of school at slightly higher rates, and consequently, females are more likely to have completed high school (Kaufman, Table 2.

Table 2. Unadjusted Relative Risks of Association Between Family Structure, Selected Characteristics, and Educational Outcomes Among Youth.

| Characteristics               | Male (Never enrolled vs. still in school) | Female (Never enrolled vs. still in school) | Male (Attended in the past vs. still in school) | Female (Attended in the past vs. still in school) |
|-------------------------------|------------------------------------------|-------------------------------------------|-----------------------------------------------|--------------------------------------------------|
| Family structure              |                                           |                                           |                                               |                                                  |
| Living with both parents      | 0.21 [0.13, 0.34]**                      | 0.28 [0.16, 0.51]**                      | 1.46 [1.23, 1.73]**                            | 1.87 [1.56, 2.25]**                              |
| Living with mother alone      | 1.18 [0.63, 2.21]**                      | 1.76 [1.31, 2.38]**                      | 1.83 [1.54, 2.17]**                            | 9.28 [7.98, 10.79]**                             |
| Living with father alone      | 1.40 [1.11, 1.77]**                      | 23.08 [19.28, 27.64]**                   | 1.83 [1.54, 2.17]**                            | 9.28 [7.98, 10.79]**                             |
| Living with neither parents   | 1.40 [1.11, 1.77]**                      | 23.08 [19.28, 27.64]**                   | 1.83 [1.54, 2.17]**                            | 9.28 [7.98, 10.79]**                             |
| Age                           |                                           |                                           |                                               |                                                  |
| 15-17                         | 1.12 [0.92, 1.37]                        | 1.56 [1.28, 1.90]                        | 2.81 [2.36, 3.34]**                            | 4.03 [3.37, 4.83]**                              |
| 20-24                         | 1.74 [1.46, 2.07]**                      | 5.42 [4.60, 6.39]**                      | 8.78 [7.55, 10.21]**                            | 13.62 [11.55, 16.06]**                           |
| Place of residence            |                                           |                                           |                                               |                                                  |
| Rural                         | 0.19 [0.14, 0.26]**                      | 0.56 [0.52, 0.61]**                      | 0.94 [0.82, 1.07]                              | 0.83 [0.73, 0.95]                                |
| Urban                         | 0.06 [0.03, 0.10]**                      | 0.00 [0.00, 0.01]**                      | 0.13 [0.08, 0.20]                              | 0.03 [0.02, 0.04]**                              |
| Marital status                |                                           |                                           |                                               |                                                  |
| Union                         | 0.06 [0.03, 0.10]**                      | 0.00 [0.00, 0.01]**                      | 0.13 [0.08, 0.20]                              | 0.03 [0.02, 0.04]**                              |
| Not in union                  | 0.06 [0.03, 0.10]**                      | 0.00 [0.00, 0.01]**                      | 0.13 [0.08, 0.20]                              | 0.03 [0.02, 0.04]**                              |
| Family size                   |                                           |                                           |                                               |                                                  |
| Small (1-2 members)           | 0.53 [0.37, 0.76]**                      | 0.60 [0.46, 0.79]**                      | 0.51 [0.40, 0.65]**                            | 0.78 [0.60, 1.01]                                |
| Moderate (3-4 members)        | 0.53 [0.39, 0.72]**                      | 0.19 [0.15, 0.25]**                      | 0.38 [0.30, 0.47]**                            | 0.26 [0.20, 0.33]**                              |
| Large (5+)                    |                                           |                                           |                                               |                                                  |
| Religion                      |                                           |                                           |                                               |                                                  |
| Christian                     | 7.45 [6.14, 9.04]**                      | 12.08 [10.21, 14.29]**                   | 0.82 [0.73, 0.92]**                            | 1.67 [1.48, 1.89]**                              |
| Other                         | 28.63 [14.56, 56.28]**                    | 22.49 [11.35, 44.56]**                   | 1.60 [0.75, 3.42]                              | 1.97 [0.93, 4.19]                                |
| Region                        |                                           |                                           |                                               |                                                  |
| Northeast                     | 1.20 [0.95, 1.51]                        | 35.45 [22.27, 56.44]**                   | 1.20 [0.95, 1.51]                              | 2.06 [1.61, 2.62]**                              |
| Northwest                     | 0.92 [0.75, 1.12]                        | 40.82 [25.99, 64.12]**                   | 0.92 [0.75, 1.12]                              | 2.48 [2.01, 3.06]**                              |
| Southwest                     | 1.06 [0.87, 1.31]                        | 0.42 [0.20, 0.86]**                      | 0.78 [0.60, 1.01]                              | 0.92 [0.75, 1.13]                                |
| South-south                   | 1.16 [0.96, 1.40]                        | 0.75 [0.40, 1.38]                        | 0.82 [0.73, 0.92]**                            | 1.67 [1.48, 1.89]**                              |
| North-central                 | 0.74 [0.61, 0.89]**                      | 6.88 [4.39, 10.80]**                     | 0.74 [0.61, 0.89]**                            | 0.85 [0.70, 1.03]                                |
| Household wealth status       |                                           |                                           |                                               |                                                  |
| Poor                          | 0.37 [0.31, 0.44]**                      | 0.28 [0.24, 0.33]**                      | 0.84 [0.73, 0.95]**                            | 0.67 [0.59, 0.77]**                              |
| Rich                          | 0.12 [0.09, 0.16]**                      | 0.09 [0.07, 0.11]**                      | 0.92 [0.79, 1.04]                              | 0.60 [0.51, 0.69]**                              |
| Mother’s educational attainment|                                           |                                           |                                               |                                                  |
| Less than primary completed   | 0.05 [0.03, 0.09]**                      | 0.02 [0.01, 0.06]**                      | 1.11 [0.97, 1.28]                              | 1.19 [1.10, 1.41]                                |
| Primary completed             | 0.00 [0.00, 0.03]**                      | 0.02 [0.01, 0.07]**                      | 1.07 [0.90, 1.26]                              | 0.91 [0.75, 1.11]                                |
| University completed          | —                                        | —                                        | 1.64 [1.02, 2.62]**                            | 0.96 [0.58, 1.59]                                |
| Father’s educational attainment|                                           |                                           |                                               |                                                  |
| Less than primary completed   | 0.06 [0.04, 0.10]**                      | 0.03 [0.01, 0.07]**                      | 1.07 [0.92, 1.25]                              | 1.24 [1.02, 1.51]**                              |
| Primary completed             | 0.04 [0.02, 0.07]**                      | 0.01 [0.00, 0.04]**                      | 1.12 [0.95, 1.31]                              | 0.95 [0.78, 1.16]                                |
| University completed          | 0.01 [0.00, 0.11]**                      | 0.04 [0.01, 0.17]**                      | 1.21 [0.89, 1.64]                              | 1.15 [0.82, 1.61]                                |

*p < .1 (significant at 10%). **p < .05 (significant at 5%). ***p < .01 (significant at 1%).
Our results support conclusions from developing countries, where girls have been consistently found to be out of school more compared with boys as a result of parents preferring to invest more in boys and because schooling costs have been assumed to be higher for girls compared with boys. Our findings are in line with the first hypothesis; we find gender differentials in the educational outcomes of males and females living with no parent. Males and females living with no parents had higher odds of not enrolling, but this effect was seen to be stronger among females. These results highlight the significance of parents as source of support that may be financial, emotional, or family social capital in Nigeria, like many other countries (Murnane & Ganimian, 2014). Being orphaned has been documented has a significant determinant of school enrollment for males and females (Coneus, Mühlenweg, & Stichnoth, 2014; Sinha et al., 2016). On the strength of relationship, our results lend support to the fact that caregivers may invest more in males and subject females to domestic labor. It may also be assumed that females living with no parent may be already in union at an early age which decreases their chances of being ever enrolling in school. This can be supported by studies documenting prevalence of child marriage in Nigeria (Adedokun, Adeyemi, & Dauda, 2016; Delprato, Akyeampong, & Dunne, 2017).

**Table 3. Adjusted Relative Risks of Association Between Family Structure, Selected Characteristics, and Educational Outcomes Among Youth.**

| Characteristics                        | Male Still in school vs. never enrolled | Female Still in school vs. never enrolled | Male Still in school vs. attended in the past | Female Still in school vs. attended in the past |
|----------------------------------------|----------------------------------------|------------------------------------------|---------------------------------------------|-------------------------------------------------|
| Family structure                       |                                        |                                          |                                             |                                                 |
| Living with both parents               | 0.84 [0.50, 1.41]                      | 0.64 [0.35, 1.18]                       | 1.17 [0.96, 1.43]                          | 1.30 [1.05, 1.61]**                              |
| Living with mother alone               | 1.31 [0.73, 2.35]                      | 1.21 [0.59, 2.47]                       | 1.51 [1.08, 2.12]*                          | 1.29 [0.87, 1.93]                                |
| Living with father alone               | 1.08 [0.73, 1.58]                      | 1.45 [0.99, 2.13]                       | 0.87 [0.68, 1.12]                          | 1.20 [0.93, 1.55]                                |
| Living with neither parents            |                                        |                                          |                                             |                                                 |
| Age                                    |                                        |                                          |                                             |                                                 |
| 15-17                                  |                                        |                                          |                                             |                                                 |
| 18-19                                  | 1.40 [1.12, 1.75]***                   | 0.98 [0.75, 1.28]                       | 2.82 [2.37, 3.36]***                        | 3.18 [2.62, 3.86]***                             |
| 20-24                                  | 2.02 [1.64, 2.47]***                   | 2.62 [2.05, 3.35]***                   | 8.36 [7.17, 9.75]***                        | 8.02 [6.70, 9.61]***                             |
| Place of residence                     |                                        |                                          |                                             |                                                 |
| Rural                                  | 0.31 [0.22, 0.44]***                   | 0.37 [0.27, 0.52]***                   | 1.00 [0.84, 1.18]                          | 1.07 [0.88, 1.30]                                |
| Urban                                  |                                        |                                          |                                             |                                                 |
| Marital status                         |                                        |                                          |                                             |                                                 |
| Union                                  | 0.22 [0.12, 0.38]***                   | 0.04 [0.03, 0.07]***                   | 0.27 [0.16, 0.45]***                        | 0.07 [0.05, 0.10]***                             |
| Not in union                           |                                        |                                          |                                             |                                                 |
| Family size                            |                                        |                                          |                                             |                                                 |
| Small (1-2 members)                    | 0.50 [0.31, 0.83]***                   | 1.13 [0.76, 1.68]                       | 0.70 [0.51, 0.95]                          | 1.24 [0.89, 1.73]                                |
| Moderate (3-4 members)                 | 0.44 [0.27, 0.72]***                   | 0.93 [0.63, 1.38]                       | 0.60 [0.44, 0.82]***                        | 0.92 [0.66, 1.27]                                |
| Large (5+)                             |                                        |                                          |                                             |                                                 |
| Religion                               |                                        |                                          |                                             |                                                 |
| Christian                              | 2.46 [1.92, 3.16]***                   | 2.33 [1.82, 2.99]                       | 0.88 [0.74, 1.05]                          | 1.00 [0.82, 1.23]                                |
| Islam                                  | 16.49 [8.02, 33.90]***                  | 0.93 [0.63, 1.38]                       | 1.73 [0.76, 3.92]                          | 3.19 [1.39, 7.35]***                             |
| Other                                  |                                        |                                          |                                             |                                                 |
| Region                                 |                                        |                                          |                                             |                                                 |
| Southwest                              | 10.70 [5.69, 20.13]***                  | 5.35 [3.13, 9.11]***                   | 1.29 [0.97, 1.71]                          | 1.16 [0.83, 1.62]                                |
| Northeast                              | 10.05 [5.40, 18.71]***                  | 6.62 [3.94, 11.13]***                   | 1.15 [0.89, 1.49]                          | 1.61 [1.18, 2.20]***                             |
| North-west                             | 0.63 [0.25, 1.55]                      | 0.48 [0.22, 1.02]                       | 1.03 [0.80, 1.32]                          | 1.17 [0.89, 1.52]                                |
| South-south                            | 1.43 [0.69, 2.94]                      | 0.78 [0.40, 1.50]                       | 1.10 [0.87, 1.39]                          | 1.43 [1.09, 1.86]**                              |
| North-central                          | 3.50 [1.88, 6.49]***                   | 3.07 [1.87, 5.03]***                   | 0.77 [0.62, 0.96]*                         | 0.77 [0.60, 0.98]*                               |
| Household wealth status                |                                        |                                          |                                             |                                                 |
| Poor                                   | 0.69 [0.57, 0.84]***                   | 0.58 [0.47, 0.71]***                   | 0.80 [0.69, 0.93]**                         | 0.82 [0.69, 0.97]                                |
| Rich                                   | 0.30 [0.22, 0.41]***                   | 0.40 [0.29, 0.54]***                   | 0.80 [0.68, 0.94]**                         | 0.78 [0.64, 0.95]*                               |

*p < .1 (significant at 10%). **p < .05 (significant at 5%). ***p < .01 (significant at 1%).
Our results differ with the second hypothesis which argued that males living with lone parents (either mother or father) would be more likely to enroll compared with their female counterparts. There were no gender differences in the educational attainment of males and females from single-parent households. Living with father alone was not significantly associated with being enrolled for both males and females, but there was a significant association between living with father alone and having attended school in the past for both males and females. On the contrary, males and females living with mother alone were more likely to be enrolled. These results are unexpected as some studies have concluded that students in single-mother households may have low educational outcomes compared with those in two-parent homes (Hampden-Thompson, 2013; Martin, 2012). It is very likely that youth living with mother alone may benefit from social capital at the extended family level or community level through financial support or other available resources. It is also possible that the fathers of these youth are still actively involved in their affairs whereby mothers can benefit financially. Another explanation could be that the mothers are socioeconomically stable and understand the benefits of education, and therefore can afford to invest in decisions that sustain positive educational outcomes of youth. This could be in form of enrolling them for extracurricular activities at the school and even having more time to spend with youth.

After controlling for other covariates, family structure was associated with educational outcomes of youth but the strength of associations varied. For instance, females living with mothers alone had higher odds of not being currently enrolled while males living with fathers alone had higher odds of not being enrolled. These findings are in line with social learning theory which has proposed that young adults are more likely to follow the behaviors of their same-sex parent (Bussey & Bandura, 1984). Therefore, our results may be due to the fact that females were living with mothers with low educational attainment which influenced their behaviors. We also find support in the literature from developed countries that have documented the significance of gender of parents on youth outcomes (Wood, Kurtz-Costes, Rowley, & Okeke-Adeyanju, 2010). They explain that youth developmental outcomes could differ by gender based on different expectations parents usually have toward youth which also vary by parent gender. These expectations or stereotypes could also influence the way mothers and fathers treat youth in the family which may affect their developmental outcomes. For example, examining the relationship between parental problem drinking and adolescent development, Ohannessian (2012) found that females were more likely to drink if their mothers had alcohol problem and males were also more likely to drink if their fathers had alcohol problem.

### Strength and Limitations

All research involves benefits and limitations, and this research is no exception. The cross-sectional nature of the data is the most significant limitation to this study. This is because a life course perspective may be very critical in this discourse. For instance, it would be important to know factors that influence youth that will remain in school after some time. Longitudinal data would also answer questions like examining how soon young adults drop out of school. These questions are very important for youth development and only a longitudinal data can unravel them. Regardless of this limitation, the strength of this study is exploring the gender differential in the influence of family structure on youth educational outcomes in a country experiencing a change in the traditional family setting.

### Conclusion

This study has identified gender differentials in the effect of family structure on educational outcomes of youth in Nigeria. Our findings are in support of the literature on the social learning theory that young adults are more likely to emulate behaviors of same-sex parents. It also highlights the significance of parents in the lives of young adults; therefore, at the individual level, it would be important that parents build relationships with youth and encourage them to influence their academic aspirations. Communities can also help with support groups for youth living in lone-parent households where parental involvement may be insufficient. For policy and interventions, empowering lone parents with low socioeconomic status so they can be good role models for youth is essential. Community-based interventions such as enrolling youth into community schools or sponsoring these youth to attend government schools that have also been successful elsewhere (Chatterji et al., 2010) could be implemented in Nigeria to support youth living with neither parent and are unmarried. Some other variables that could be considered for future research include place of residence and region as males and females from the northern region had higher odds of not enrolling. Interventions must target youth in these regions.

### Authors' Note

The statements made and the views expressed are solely the responsibility of the authors.

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