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## Individual- and Community-level Correlates of Premarital Childbearing in South Africa

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of Premarital Childbearing in South Africa**

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## ABSTRACT

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In South Africa, there have been significant changes in childbearing among women. Most of these changes have been influenced by the steady increase in age of first marriage along with improvements in women's education and participation in the labor force. For many women in South Africa, both young and old, premarital fertility remains an important topic of concern because it has important demographic, social, economic, and health implications for mothers and their children. Thus, the overall aim of this study is to examine the individual- and community-level correlates of premarital fertility among women age 25 to 49 in South Africa. Using data from the South African Demographic and Health Survey (SADHS) 2016, the study examines premarital fertility among a sample of women age 25 to 49 who have ever given birth and have ever been in a union ( $N = 3,008$ ). In the study, 57.3% of births were premarital in comparison to 42.7% that occurred in a union. There were some statistically significant variables associated with premarital fertility in the bivariate analysis, such as age at first birth, age at first sex, education, and household wealth status. In the adjusted logistic regression, age at first birth and household wealth were significantly associated with premarital birth. Women who were older than age 18 when they had their first birth had lower odds of reporting a premarital birth in comparison to those who were younger than age 18 at the time of their first birth ( $OR = 0.4$ , 95% CI: 0.3–0.5;  $p < .05$ ). In addition, women in the lower (second, middle, and fourth) wealth quintiles had approximately twice the odds of reporting a premarital birth compared to women from the highest wealth quintile. However, there were no statistically significant differences between the women in the lowest and highest wealth quintile. The findings of this study highlight important factors associated with premarital fertility among women age 25 to 49 in the South African context. Policies and interventions should address the correlates associated with premarital fertility as a step toward improving the socioeconomic circumstances of women and advancing gender equality.

**Key words:** premarital fertility, women, South Africa, DHS



# 1 INTRODUCTION

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Globally, there have been significant changes in women's reproductive behavior. In many developed countries in Europe and America, age at first marriage has been rising for a number of decades (Lundberg, Pollack, and Stearns 2016). The increasing age at first marriage has been accompanied by nonmarital cohabitation as well as premarital childbearing (Lundberg, Pollack, and Stearns 2016; Sassler and Schoen 1999). Similar patterns of declining marital rates have now been seen in several developing countries in sub-Saharan Africa (Garenne 2016; Hosegood, McGrath, and Moultrie 2009). For example, in South Africa, this phenomenon dates back to the 1940s and has been observed ever since (Garenne 2016; Hosegood, McGrath, and Moultrie 2009; Mhongo and Budlender 2013).

Several arguments have attempted to explain the low and falling marriage rates. The most prominent explanation includes improvements in women's education and their greater participation in the formal labor market. Education is strongly associated with the delay of marriage to an older age (Sabbah-Karkaby and Stier 2017). Society is advancing, and more women on the African continent are becoming increasingly educated, which gives them access to the job market and prolonged labor participation (Kalule-Sabiti et al. 2007; Kim 2016). Improvements in the economic status of women have also made women less dependent on men, which may have also led women to favor different lifestyles such as cohabitation or singleness. Women with better educational attainment and economic prospects tend to be more selective in their choice of a partner, and they often prefer men who are matched equally to them. Therefore, these women choose to delay marriage until they find this desirable partner (Raymo and Iwasawa 2005).

Increasingly, improvements in women's level of education have also affected their fertility. Numerous studies have found that women with higher levels of education and greater job prospects are opting to delay marriage until later ages, which also affects their fertility (Kebede, Striessnig and Goujon 2021; Maharaj and Shangase 2020; Samari 2019). According to Kim (2016), women with a primary education tend to have approximately 30% fewer children in comparison to women with no education, while women with secondary education tend to have 50% fewer children than women with primary education. The differences in these estimates narrow as income increases. Development efforts geared towards expanding access to education and promoting gender equality have resulted in a decline in age at first birth among highly educated women over the past 25 years (Grant 2015). This suggests that increased age at first marriage and higher levels of educational attainment among women are responsible for delayed childbearing and a growing share of Africa's premarital births including in patriarchal and traditional contexts.

In many parts of the world, marriage is used as a marker for exposure to the risk of childbearing for women. In contrast to many other countries, in South Africa, later age at first marriage does not necessarily lead to a delay in childbearing. In fact, marriage is becoming less common and does not appear to be necessary for childbearing. According to Statistics South Africa (2022), the total number of men and women who are getting married has declined steadily from 2011 to 2020. In addition, the age at first marriage is considerably higher in South Africa than in other African countries. In 2019, the age at first marriage in South Africa was 33 for women (Statistics South Africa 2019). Numerous studies suggest that the strong association between marriage and fertility is declining to such an extent that it has become normal for a woman to have at least one child before marriage (Palamuleni, Kalule-Sabiti, and Makiwane 2007; Sennott et al. 2016). Some researchers suggest that among the African population, fertility and motherhood play a role that is

distinct and of greater importance than marriage (Palamuleni, Kalule-Sabiti, and Makiwane 2007; Preston-Whyte and Zondi 1989). In many African cultures, marriage is usually a long and complicated process, which often extends over a long engagement and involves the payment of lobola (bride-wealth) (Ngubane 1981). As many women on the African continent begin to question the practice of a bride-wealth payment and marriage, if marriage is a blessing or a curse, and what marriage does to their autonomy and life aspirations, we are likely to continue seeing premarital childbearing being embraced and tolerated (Amoah et al. 2019). At one time, premarital births carried a social stigma. This has diminished over the years, and has normalized premarital fertility in the process. Thus, the overall aim of the study is to examine the individual- and community-level correlates associated with premarital childbearing among women in South Africa.

## **1.1 Research Questions**

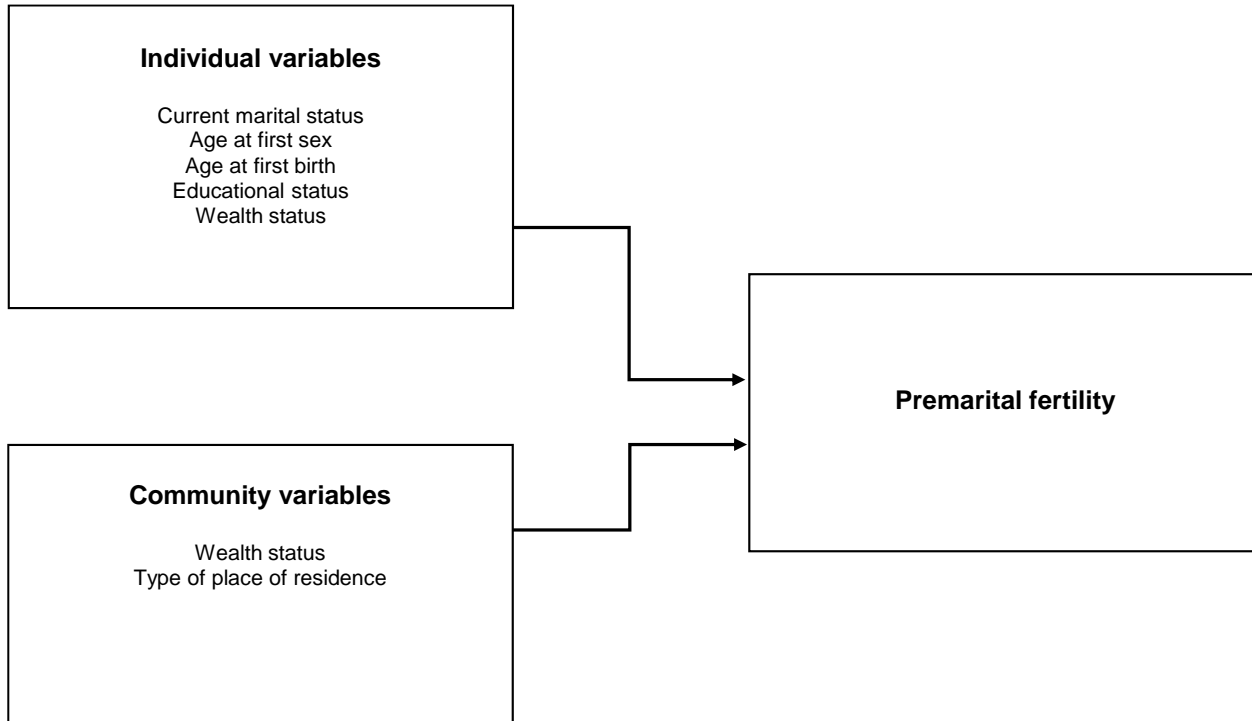
The study is guided by two key research questions:

- What is the extent of premarital childbearing among women in South Africa?
- What are the individual- and community-level correlates of premarital childbearing in South Africa?

## **1.2 Conceptual Framework**

The study was guided by a conceptual framework that suggests there are a number of correlates associated with premarital fertility among women (see Figure 1). The conceptual framework explains the relationship between individual- and community-level factors and premarital childbearing among women. The framework suggests that premarital childbearing among women in South Africa is influenced by several individual- and community-level factors such as marital status, age at first sex, age at first birth, educational status, and household wealth status. According to the framework, premarital childbearing is also associated with wealth status at the community level, as well as the place of residence (urban or rural). The study customized the conceptual framework to the existing data on individual- and community-level characteristics that may be significantly associated with premarital fertility among women age 25 to 49 in the South African context. This conceptual framework aids in understanding how the individual- and community-level variables affect premarital fertility among women. Data analysis and interpretation of the study findings have been guided by this conceptual framework to help understand the effects of both individual- and community-level factors on premarital fertility.

**Figure 1** Conceptual framework of the individual and community factors associated with premarital fertility





## 2 DATA AND METHODS

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### 2.1 Data

This study investigated premarital fertility among women age 25–49 using data from the South African Demographic Health Survey (SADHS) 2016. The DHS is a nationally representative, cross-sectional sample survey. In South Africa, the DHS has been collected since 1988. In the current study, we draw on data from 2016 because this is the most recent survey available. The DHS is a household, cross-sectional survey that is conducted in low- to middle-income countries across the world. The survey provides information on key issues such as fertility, mortality, nutrition, gender-based violence, HIV, and many other factors. Details on the survey methodology are available in the SADHS 2016 final report (National Department of Health et al. 2019).

This study draws on information obtained in the Woman’s Questionnaire, which collects data from all eligible women age 15–49 in the household who provided information on fertility. Information on all women is stored in the Individual Recode file. The sample used in this study was drawn from this file, which had a total of 8,514 respondents. However, the current study limited the sample to women age 25–49. The exclusion of women younger than age 25 was made to avoid censoring of the outcome variable. Women younger than age 25 may not have been fully exposed to the risk of experiencing a premarital birth. Thus, the sample was reduced to 5,601 (weighted N = 5,672) women age 25–49. However, since we were concerned with premarital fertility, this measure is restricted to ever-married women with at least one birth. Thus, the final analytical study sample included 2,912 (weighted N = 3,008) women who had reported having a birth and were currently or previously in a union.

### 2.2 Variables

#### 2.2.1 Dependent variable

The outcome variable for this study is conceptualized as premarital fertility among all women age 25–49 who have ever had a birth and have ever been in a union, either married or cohabiting. In the SADHS, there is no distinction between married and cohabitation. Thus, we identify those as married and cohabiting as ever been in a union. The dependent variable, which is premarital fertility, was constructed as a binary outcome using a variable that identifies the marriage to first birth interval. In the original variable, the interval is negative for births that preceded a woman’s marriage or union.

#### 2.2.2 Independent variables

There were a number of independent variables of interest. These variables were identified and examined for suitability and missing data as part of the data-cleaning process. The independent variables of interest were grouped into two categories: individual and community. Some of the individual-level variables were recoded into binary or categorical variables, whereas others such as region and wealth index retained their original categories. In this study, age 18 was selected as the cut-off point for two of the individual variables, age at first birth and age at first sex, because 18 is the legal age of marriage in South Africa (Mwambene 2018). In addition, a child is generally defined legally as a person under the age of 18. Approximately 20% of women had a birth when they were younger than age 18. For the community-level variables, place of

residence was analyzed as a binary outcome, and wealth status as the proportion of households in the lowest two wealth quintiles in each cluster. Community variables are important to measure because they determine the conditions under which women make decisions and choices that influence premarital fertility (Baranowska-Rataj 2011). In this study, we equate clusters to communities. A number of studies have approximated clusters for communities using DHS data as primary sampling units (PSUs) or clusters in rural and urban areas that can be used for approximation in an actual community (Kaggwa, Diop and Storey 2008; Mutumba, Wekesa, and Stephenson 2018). Thus, the community wealth variable examined in this study includes proportions in the woman’s cluster of residence. It was important to examine wealth at the community level because wealth inequality is a distinct feature in many South African communities that were previously disadvantaged. Thus, wealth at the community level could be reflective and related to education level and access to health services, which could ultimately influence pregnancy outcomes (Wabiri et al. 2016). Table 1 provides a summary of the independent variables explored in the analysis.

**Table 1** Definitions and measures of the independent variables

Variable label	Variable name	Description
<b>Individual</b>		
Current marital status	v502	Married and/or living together; formerly married/living with a partner
Age at first sex	v531	<18; >18
Age at first birth	v212	<18; >18
Highest level of education	v106	None/primary; secondary; higher
Region	v024	Western Cape; Eastern Cape; Northern Cape; Free State; KwaZulu-Natal; North West; Gauteng; Mpumalanga; Limpopo
Household wealth quintile	v190	Lowest, second, middle, fourth, highest
<b>Community</b>		
Community wealth	v190	Proportion of households in the lowest two wealth quintiles within each cluster
Place of residence	v102	Urban; rural

## 2.3 Statistical Analysis

The data were downloaded and analyzed with Stata version 17. The study used descriptive statistics, percentages, and frequency distribution to describe individual and community characteristics of the study sample. To identify the factors associated with premarital fertility, the Pearson chi-squared test was used in the bivariate analysis. For the continuous variable of community wealth, differences in proportions were assessed using *t*-tests. To test the degree of correlation between the variables, the Pearson Correlation was executed, and a correlation coefficient above 0.5 was used to check for highly correlated variables. The results indicate that the two community variables of interest showed a strong correlation. However, keeping both variables in the same model did not bias the results. A logistic regression was used to analyze the individual- and community-level correlates of premarital fertility among women age 25–49. Unadjusted and adjusted logistic regression models were estimated to determine the factors associated with premarital fertility. The main difference between the unadjusted and adjusted odds ratios (OR) is the addition of variables in the adjusted model. In the unadjusted model, each independent variable was entered into the model individually, while the adjusted includes all variables. Both unadjusted and adjusted odds ratios are presented along with the 95% confidence intervals (CI) and the corresponding *p* values to denote the statistical significance of the OR. Estimates were considered statistically significant at  $p < .05$ . The complex



survey design and sampling weights were considered to adjust for representativeness of the estimates and for nonresponse.



## 3 RESULTS

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### 3.1 Characteristics of the Study Sample

Table 2 presents the background characteristics of all women age 25–49 in comparison to women in the same age category who have ever been in a union and reported a birth, who are our analytical sample. Overall, 57.3% of women between the ages of 25–49 reported a premarital birth in comparison to 42.7% of the analytical sample. The median age among all women is age 35, while it is age 37 for our analytical sample. The median age at first sex is age 18 for all women, while it is age 17 for our analytical sample. The median age of first birth is age 20 both for all women and the analytical sample. The mean number of children ever born among all women is 2.2 compared to 2.7 for the analytical sample.

Age at first sex is an important indicator of premarital fertility, because those who engage in sex at a young age have a greater chance of reporting a premarital birth. The findings indicate that 50.6% of all women who reported age at first sex when they were younger than age 18 compared to 52.8% in the analytical sample. Approximately 48.2% of all women between the ages of 25–49 were currently in a union compared to 85.7% of women in our analytical sample. Education levels were similar with 72.8% of all women between the ages of 25–49 having a secondary level of education in comparison to 71.2% of ever-married women who reported a birth. Most women (28.1% for all women and 31.8% for our analytical sample) resided in the Gauteng province of South Africa. At the community level, the average percentage of clusters with households in the lowest two wealth quintiles is 37.6% among all women between the ages of 25–49, whereas it is 36.1% for ever-married women who reported a birth. Most of the women between the ages of 25–49 live in urban areas (68.8%) compared to 72% of ever-married women who reported a birth.

**Table 2** Characteristics of all women age 25–49 and analytical sample of women age 25–49 who have ever given birth and were ever in a union

	All women 25+			Analytical sample		
	%	CI	N	%	CI	N
<b>Premarital fertility</b>						
Births in a union				42.7	40.0–45.4	1,284
Premarital births				57.3	54.6–60.0	1,725
Median age of respondents <sup>a</sup>	35		37			
Median age at first sex <sup>a</sup>	18		17			
Median age at first birth <sup>a</sup>	20		20			
Mean number of children ever born (SE)	2.2 (0.03)		2.7 (0.03)			
<b>Age at first birth</b>						
Younger than 18	19.7	18.4–21.1	1,017	20.0	18.3–21.8	600
Older than 18	80.3	78.9–81.6	4,140	80.0	78.2–81.7	2,408
<b>Marital status</b>						
Never in union	43.8	41.8–45.8	2,484			
Currently in union/living with a man	48.2	46.2–50.2	2,735	85.7	83.9–87.2	2,577
Formerly in union/living with a man	8.0	7.1–9.0	454	14.3	12.8–16.1	431
<b>Age at first sex</b>						
Younger than 18	50.6	48.6–52.6	2,743	52.8	50.3–55.4	1,528
Older than 18	49.4	47.4–51.4	2,675	47.2	44.6–49.7	1,364
<b>Wealth at the individual level</b>						
Lowest	18.1	15.6–20.8	1,024	16.6	14.0–19.7	501
Second	19.6	17.7–21.7	1,112	18.8	16.4–21.4	565
Middle	21.7	19.7–23.9	1,231	22.3	19.6–25.2	670
Fourth	20.6	18.4–22.9	1,167	19.8	17.5–22.2	595
Highest	20.1	17.1–23.4	1,138	22.5	19.1–26.4	677
<b>Educational level</b>						
None or primary	13.1	11.8–14.6	746	14.6	12.8–16.7	441
Secondary	72.8	70.9–74.6	4,130	71.2	68.7–73.6	2,143
Higher	14.0	12.3–16.0	797	14.1	12.0–16.5	425
<b>Region</b>						
Western Cape	12.3	10.9–13.9	699	14.4	12.5–16.4	432
Eastern Cape	10.5	9.4–11.7	593	9.9	8.7–11.2	297
Northern Cape	2.1	1.8–2.4	119	2.2	1.9–2.6	66
Free State	5.2	4.6–5.8	294	5.6	4.9–6.4	168
KwaZulu-Natal	17.8	15.8–19.9	1,007	11.2	9.4–13.3	336
North West	7.1	5.4–9.4	406	7.3	5.1–10.3	220
Gauteng	28.1	25.4–31.0	1,596	31.8	28.6–35.1	956
Mpumalanga	7.7	6.7–8.9	439	8.3	7.1–9.8	251
Limpopo	9.2	8.2–10.2	520	9.4	8.1–10.8	283
<b>Place of residence</b>						
Urban	68.8	66.4–71.2	3,905	72.0	69.0–74.7	2,165
Rural	31.2	28.8–33.6	1,767	28.0	25.3–31.0	844
<b>Proportion of clusters with households in the lowest two socioeconomic status</b>						
	37.6	34.4–40.9	5,672	36.1	32.5–39.7	3,008
<b>Total</b>			<b>5,672</b>			<b>3,008</b>

Note: Some variables do not add up to the total due to missing values.

<sup>a</sup> Not adjusted for the survey sample design

SE = standard error

## 3.2 Bivariate Analysis

The bivariate analysis presents the results of women between age 25–49, who have ever been in a union and reported a birth. A few variables were highly significant, while others showed no association with the outcome variable. Age at first birth, age at first sex, education level, and household wealth quintile were all

significantly associated with a premarital birth. Approximately 61% of women who were younger than age 18 when they had their first sexual encounter had a premarital birth. Most women (75.8%) who were below the age of 18 when they had their first birth had a premarital birth. Premarital birth was the lowest among those with the highest level of education (47%) compared to the remaining education groups (57–59%). The lowest level of premarital birth was found among women in the highest wealth quintile (43.8%), followed by the lowest wealth quintile (53.9%). The remaining wealth quintiles had similar percentages of premarital births at approximately 60%. At the community level, the average percentage of clusters with households in the lowest two wealth quintiles among women who reported a premarital birth is 36.3%, although this was not significant. Marital status, region, and place of residence were also not found to be significantly associated with premarital birth. These results are displayed in Table 3.

**Table 3 Bivariate analysis of factors associated with premarital fertility among women age 25–49, SADHS 2016**

	%	CI	N	p value
<b>Age at first birth</b>				<.001
Younger than 18	75.8	70.7–80.2	600	
Older than 18	52.7	49.7–55.7	2,408	
<b>Marital status</b>				.132
Currently in union/living with a man	58.0	55.0–60.9	2,577	
Formerly in union/living with a man	53.4	48.1–58.7	431	
<b>Age at first sex</b>				<.001
Younger than 18	61.4	58.0–64.7	1,528	
Older than 18	51.2	47.4–55.0	1,364	
<b>Educational level</b>				<.001
None or primary	57.1	52.2–61.9	441	
Secondary	59.4	56.1–62.7	2,143	
Higher	46.9	40.6–53.2	425	
<b>Wealth at the individual level</b>				<.001
Lowest	53.9	48.3–59.3	501	
Second	62.1	57.5–66.5	565	
Middle	63.4	58.3–68.3	670	
Fourth	63.0	57.2–68.5	595	
Highest	44.8	38.6–51.2	677	
<b>Region</b>				.349
Western Cape	55.8	48.2–63.1	432	
Eastern Cape	60.1	53.8–66.0	297	
Northern Cape	60.5	53.3–67.2	66	
Free State	58.4	52.9–63.7	168	
KwaZulu-Natal	58.6	50.2–66.5	336	
North West	57.6	52.3–62.7	220	
Gauteng	58.5	52.1–64.6	956	
Mpumalanga	59.5	53.4–65.2	251	
Limpopo	48.0	41.5–54.5	283	
<b>Place of residence</b>				.431
Urban	57.9	54.4–61.3	2,165	
Rural	55.9	52.3–59.4	844	
<b>Community wealth</b>	36.3	32.3–40.3	3,008	.857
<b>Total</b>			<b>3,008</b>	

Note: *p* values for categorical variables are from chi-squared tests, *p* value for continuous variable (community wealth) uses *t*-tests.

### 3.3 Multivariate Analysis

The multivariate analysis measures the magnitude of the association between premarital births and the independent variables of interest. The results of both the unadjusted and adjusted OR are presented in Table 4. In both the unadjusted and adjusted models, women who were older than age 18 when they experienced their first birth had 60% lower odds of reporting a premarital birth in comparison to women who were younger than age 18 at age of first birth (OR = 0.4, 95% CI: 0.3–0.5,  $p < .001$ ). In the unadjusted model, women who reported age at first sex when they were older than age 18 had 30% lower odds of reporting a premarital birth (OR = 0.7, 95% CI: 0.5–0.8,  $p < .001$ ). In the adjusted model, age at first sex did not retain its significance. When examining education level, the unadjusted model showed that women with a higher level of education had 30% lower odds of reporting a premarital birth compared to women with no or primary level of education (OR = 0.7, 95% CI: 0.5–0.9,  $p < .001$ ). In the adjusted model, level of education did not retain any statistical significance. In the unadjusted model, all categories of wealth quintiles had significantly higher odds of premarital childbearing compared to the highest wealth quintile. However, in

the adjusted model, the lowest wealth quintile lost its statistical significance. In the adjusted model, women from the second, middle, and fourth wealth quintiles had almost twice the odds of premarital fertility compared to women in the highest wealth quintile. The community variables of community wealth and place of residence were not significant in both unadjusted and adjusted models.

**Table 4** Logistic regression of the individual and community correlates of premarital fertility among women age 25–49, SADHS 2016

Characteristics	UNADJUSTED			ADJUSTED		
	OR	CI	<i>p</i> value	OR	CI	<i>p</i> value
<b>Age at first birth</b>						
Younger than 18	1			1		
Older than 18	0.4***	0.3–0.5	0	0.4***	0.3–0.5	<.001
<b>Marital status</b>						
Currently in a union/living with a man	1			1		
Formerly in union/living with a man	0.8	0.7–1.1	0.132	0.8	0.6–1.0	.057
<b>Age at first sex</b>						
Younger than 18	1			1		
Older than 18	0.7***	0.5–0.8	0	0.9	0.7–1.2	.475
<b>Education</b>						
None/primary	1			1		
Secondary	1.1	0.9–1.4	0.454	1.3	1.0–1.7	.077
Higher	0.7**	0.5–0.9	0.009	1.0	0.7–1.5	.892
<b>Wealth at the individual level</b>						
Lowest	1.4*	1.0–2.0	0.036	1.6	0.9–2.7	.112
Second	2.0***	1.5–2.8	0	2.2**	1.4–3.5	.001
Middle	2.1***	1.5–3.0	0	2.1***	1.4–3.2	<.001
Fourth	2.1***	1.5–2.9	0	2.0***	1.4–2.8	<.001
Highest	1			1		
<b>Region</b>						
Western Cape	1			1		
Eastern Cape	1.2	0.8–1.8	0.378	1.1	0.8–1.7	.514
Northern Cape	1.2	0.8–1.8	0.366	1.1	0.7–1.6	.794
Free State	1.1	0.8–1.6	0.570	0.9	0.6–1.3	.685
KwaZulu-Natal	1.1	0.7–1.8	0.622	1.2	0.7–1.8	.510
North West	1.1	0.7–1.6	0.695	0.9	0.6–1.3	.608
Gauteng	1.1	0.7–1.7	0.584	1.0	0.7–1.5	.893
Mpumalanga	1.2	0.8–1.7	0.444	0.9	0.6–1.4	.651
Limpopo	0.7	0.5–1.1	0.128	0.7	0.4–1.1	.090
<b>Type of place of residence</b>						
Urban	1			1		
Rural	0.9	0.8–1.1	0.431	0.9	0.7–1.2	.621
<b>Community wealth</b>						
	1.0	0.8–1.4	0.858	0.8	0.5–1.2	.279

\* Significant at  $p < .05$ ; \*\* significant at  $p < .01$ ; \*\*\* significant at  $p < .001$





## 4 DISCUSSION

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The aim of this study was to establish the level of premarital fertility and to examine the individual- and community-level correlates of premarital fertility among women in South Africa using the 2016 SADHS. This study recognizes that premarital fertility could affect women over their life course, although the study excluded women who were younger than age 25 to avoid censoring for the outcome. The study found that approximately 57% of women who have ever given birth and are in a union reported premarital fertility. Other studies that examined premarital fertility among women above age 35, as well as those who had a birth or were married before the age of 10, found that premarital fertility exceeds 30% in Côte d'Ivoire and 40% in Liberia (Clark, Koski, and Smith-Greenaway 2017). Thus, this could reflect the general trend in many African countries. In South Africa, patterns of marriage have changed dramatically over the past few decades (Hosegood, McGrath, and Moultrie 2009; Posel, Rudwick, and Casale 2011). Thus, high levels of premarital fertility are an outcome of rising age of first marriage because women are delaying marriage, are engaging in first sex at an early age, and have longer exposure to the risk of pregnancy before marriage.

In this study, among those who first gave birth before they turned age 18, 76% are before marriage or premarital birth. This is interesting because, in the South African context, cultural practices heavily influence sexual behavior among unmarried women (Khumalo et al. 2020; Ndinda et al. 2011). There are strong cultural rules and expectations that shape sexual beliefs and practices among young women. For example, it is not common for parents to communicate about sexual matters with young people because sex is a taboo subject that is not discussed. Mudhovozi, Ramarumo, and Sodi (2012) suggest that culturally embedded perceptions prevented mothers from imparting knowledge on sexuality to their daughters. As a result, many young women have engaged in sexually risky behavior, which heightened their risk of unintended pregnancy. Further, age at first sex, especially early sexual debut, has been associated with multiple sexual partners, infrequent use of condoms, unplanned pregnancy, and unsafe abortion and HIV, including sexually transmitted infections (STIs) (Richter, Norris, and Ramjith 2015; Shu et al. 2016). Premarital fertility could also signal the lack of contraception use and access among women (Hlongwa, Peltzer, and Hlongwana 2020; Zwang and Garenne 2008). In South Africa, the contraceptive prevalence rate is 49.1% (Chersich et al. 2017). This is concerning because South Africa has one of the highest levels of HIV and STIs in the world. The findings also suggest that many children under age 18 are having unprotected sex that not only results in premarital fertility, but also exposes them to risk of HIV and STIs. The estimated overall HIV prevalence rate is approximately 13.7% and the total number of people living with HIV (PLWHIV) is approximately 8.2 million (Statistics South Africa 2021).

Although women in rural areas at the time of the survey had slightly lower odds of reporting a premarital birth compared to those in urban areas, the difference was not statistically significant. The movement of women between rural and urban areas for the purposes of labor and education could be exposing them to similar perceptions, resources, and facilities (Yang 2021). In addition, since we do not know the place of residence of the women when they had the premarital birth, the findings could also be reflective of the converging views on premarital childbearing in both urban and rural areas in South Africa. This was also observed in countries such as Poland, where premarital fertility in rural areas was similar to that experienced in urban areas in the 2000s (Baranowska-Rataj 2011). This could signal the need to strategize and revisit existing interventions and programs that are available in both urban and rural areas.

At the community level, there was no statistical association between wealth and premarital fertility. In the adjusted regression analysis model, after controlling for other key variables of interest, there were no significant differences between women in the lowest and the highest wealth quintile. This is interesting given the extremes of wealth inequality in the country. One caveat with these interpretations is that we do not know the wealth status of the women when they had the premarital birth because this could have changed at the time of the survey. Although previous studies have noted inequality disparities in premarital fertility between richer and poorer communities (Kearney and Levine 2014), the current study did not find any differences. Household wealth was associated with premarital fertility in this study, where it was observed that women residing in poorer households had greater odds of reporting a premarital birth compared to women in richest households. This suggests the protective nature of household wealth compared to community wealth in preventing premarital fertility. One explanation could be that women in richer households have better access to health services, including abortion and family planning. In addition, women in richer households can afford to pursue education and have better job prospects. The findings of this study were consistent with that of Kara and Maharaj (2015) and Nyarko and Potter (2021) who suggested that socioeconomic status is an important indicator of childbearing. In their findings, Kara and Maharaj (2015) indicated that women living in households with a lower wealth index are six times more likely to experience early childbearing compared to their counterparts who reside in wealthier households. In addition, a number of other studies have also documented the relationship between pregnancy outcomes and community wealth (Kaggwa, Diop, and Storey 2008; Mutumba, Wekesa, and Stephenson 2018).

Education has been an instrumental factor in reducing inequality between men and women (Baliamoune-Lutz and McGillivray 2015). In our study, education was an important predictor of premarital fertility before adjusting for other confounding variables. However, controlling for other variables weakened the effect of education on premarital births. Worldwide, education attainment for women has increased dramatically and has changed fertility trends. In South Africa, access to education has been a national priority, although more than 10% of women in this study had only a primary level of education or less. Many women continually struggle to complete their education because of childbearing and childrearing responsibilities, especially when they lack both family and social support (Groves et al. 2021). In this study, the analysis suggests that most women attained higher levels of education, reporting at least a secondary level of education. It is possible that they received the support they need from family to continue their education even with a premarital and early birth. In South Africa, young women are not forced to drop out of school after a pregnancy. Girls are allowed to remain in school during their pregnancies and return soon after having their child (Department of Education 1996).

The findings of this study have important implications for promoting gender equality and providing recommendations for attaining global and regional development goals. The outcomes of the study would be useful for policymakers to understand the context in which childbearing and marriage patterns are changing across the African continent. To advance the Sustainable Development Goals (SDGs) and ensure that gender equality is attained, there should be continued monitoring and evaluation of the factors that contribute to development among women in low-income countries. By highlighting childbearing patterns, southern African countries can revisit initiatives aimed at reducing unplanned pregnancy and recommit to focusing on universal educational policies for women of all ages. This is important in the global COVID-19 pandemic, which is threatening to reverse the gains made in educational attainment and the labor force participation of women.

This study has limitations. First, it relies on cross-sectional data based on the reports provided by women at the time of the survey in 2016. The women reported on events such as premarital births that happened before the survey. This can be affected by recall bias. In addition, we do not know the status of women at the time of the premarital birth. We do not know her wealth status or place of residence, which may have changed at the time of the survey. In some contexts, premarital fertility carries a stigma and reports from women can be misleading if they feel they might be judged for having a premarital birth. Thus, they may rather report these as births that occurred in a union (Gyan 2018).

However, there are also several strengths inherent in the study. The DHS has a large sample size and a nationally representative sampling methodology. Thus, in this study, we applied the complex survey design that increased the generalizability of our study findings. However, to gain a better understanding of other factors that influence premarital fertility, we recommend undertaking a qualitative study that would provide detailed perceptions and experiences of premarital fertility among this age group of women. The changing social and economic dynamics that are associated with premarital childbearing require more detailed research that considers contemporary patterns of change. The phenomenon of premarital childbearing should receive more attention because women are increasingly pursuing higher education and better employment opportunities.



## 5 CONCLUSION

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This study provides insights on correlates of premarital fertility in South Africa using the latest available—2016 SADHS. Premarital fertility is common in South Africa with the majority of women age 25–49 having experienced a pregnancy outside of marriage. The individual-level factors that were significantly associated with premarital fertility were age at first birth, age at first sex, and household wealth. While the South African government has made progress in uplifting communities after 1994—when the country moved from apartheid to a democratic state—inequality persists among households in the same neighborhoods (Francis and Webster 2019). To address the individual-level correlates of premarital fertility, more emphasis should be placed on strengthening interventions in family structure. Family planning programs should pay continued attention to addressing premarital fertility, especially among young women. Government must prioritize the reduction of inequality by empowering households economically, creating employment, and addressing gender disparities that continue to exist in post-apartheid South Africa. The study highlights important findings that can be utilized to formulate policies and interventions that address premarital fertility among women to promote gender equality and women’s empowerment.



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