ABSTRACT:

Introduction: In the context of low-income and lower-middle-income countries, rapid population growth poses challenges to the allocation of public resources required to address poverty, hunger, and ensure universal access to essential services. This study focuses on Liberia, aiming to investigate the intricate relationship between educational attainment, socio-demographic factors, and preferences for the sex of children among women.

Objective: This research seeks to examine the impact of educational attainment and various socio-demographic variables on the preferences for the sex of children among women in Liberia.
Methods: Data from the 2019/2020 Liberia Demographic and Health Survey (LDHS) were utilized, encompassing 8,065 females aged 15 to 49. Both bivariate and multivariate analyses were employed to explore the research question.
Findings: The study reveals a significant correlation between educational attainment and gender preferences, particularly among women with secondary and higher education, who show a pronounced preference for female children. Desired family size emerged as a robust predictor, with larger families associated with diminished gender preferences. Additionally, several socio-demographic variables, including age, region, place of residence, total number of children born, ethnicity, and religion, demonstrated significant associations with gender preferences.

Conclusions: The noteworthy correlation between a preference for female children and the attainment of secondary or higher education underscores the evolving cultural perspectives on gender preferences. This shift highlights the need for advocacy and initiatives at the national and local levels to promote gender equality and challenge entrenched traditional stereotypes. Addressing reproductive justice and fostering gender equity are essential steps toward achieving a more inclusive and equitable society.

Key Findings from Tables:

Table 6.1: Respondents with secondary and higher education are 1.5 and 1.6 times more likely to prefer girls over boys, respectively, compared to those with no education.
Table 6.2: Education maintains significance even when intermediate variables are introduced, with respondents with secondary and higher education more likely to prefer boys over girls.
Table 6.3: Even when controlling for intermediate variables and socio-demographic characteristics, a significant relationship between educational attainment and gender preferences persists. Women with secondary education are 1.4 times more likely to prefer girls over boys.
In summary, these findings underscore the complex interplay between educational attainment, socio-demographic factors, and gender preferences, emphasizing the need for targeted interventions to promote reproductive justice and gender equity in Liberia.

Table 1.1: Multinomial regression showing the relationship between educational attainment and sex preference for children.

Dependent Variable	Independent variables and categories	B	S.E.	Odd ratio	p-value
Preference for Girls	Intercept	0.251	0.069		<0.001
	Reference = No formal education				
	Primary education	0.040	0.103	1.0	0.698

	Secondary education	0.397	0.094	1.5	<0.001
	Higher education	0.465	0.180	1.6	0.010
No Sex Preference	Intercept	1.283	0.059		<0.001
	Reference = No formal education				
	Primary education	0.000	0.088	1.0	0.999
	Secondary education	0.435	0.081	1.5	<0.001
	Higher education	0.453	0.159	1.6	0.004

Reference category for the dependent variable was preference for boys and Nagelkerke R-squared: 0.007. Analysis was by multinomial regression at statistical significance of 0.05.

Table 6.2: Educational Attainment, Intermediate variables, and Sex Preference for Children.

Dependent Variables	**Independent variables/categories**	**B**	**OR**	**Sig.**
Girls Preference	Intercept	0.33		0.999
	Desired family size			
	Reference = No child (0)			
	Small family (1-2)	-0.502	0.6	0.999
	Average family (3-4)	-0.028	1.0	0.999
	Large family (5 and above)	-0.104	0.9	0.999
	Education			
	Reference = No education			
	Primary education	0.07	1.1	0.523
	Secondary education	0.401	1.5	<0.001
	Higher education	0.467	1.6	0.014
No Sex Preference	Intercept	16.30		<0.001
	Desired family size			
	Reference = No child (0)			
	Small family (1-2)	-13.228	0.0	<0.001
	Average family (3-4)	-14.617	0.0	<0.001
	Large family (5 and above)	-15.386	0.0	-
	Education			
	Reference = No education			
	Primary education	-0.147	0.9	0.121
	Secondary education	0.090	1.1	0.320
	Higher education	-0.105	0.9	0.537

Reference category for the dependent variable was preference for boys and Nagelkerke R-squared: 0.095. Analysis was by multinomial regression at statistical significance of 0.05.

Table 6.3: Multinomial regression model showing the relationship between educational attainment, other socio-demographic variables, and sex preference for children.

Variables/categories	Preference for girls			No sex preference		
	B	OR	Sig	B	OR	Sig
Intercept	0.486		0.999	16.901		<0.001
Age groupings in years						
Reference = 45-49 years						
15-19	-0.244	0.8	0.303	0.094	1.1	0.657
20-24	-0.22	0.8	0.298	0.077	1.1	0.687
25-29	-0.468	0.6	0.021*	0.235	1.3	0.190
30-34	-0.038	1.0	0.848	0.242	1.3	0.181
35-39	-0.209	0.8	0.296	0.123	1.1	0.495
40-44	-0.029	1.0	0.892	0.152	1.2	0.437
Region						
Reference = North Central						
Northwestern	-0.105	0.9	0.784	0.087	1.1	0.786
South Central	-0.254	0.8	0.118	-0.235	0.8	0.104
Southeastern A	0.625	1.9	0.094	0.723	2.1	0.033*
Southeastern B	0.059	1.1	0.899	0.423	1.5	0.276
Place of residence						
Reference = Rural						
Urban	0.073	1.1	0.544	0.270	1.3	0.011*
Educational status						
Reference = No education						
Primary	0.057	1.1	0.631	-0.062	0.9	0.547
Secondary	0.325	1.4	0.008*	0.175	1.2	0.101
Higher	0.269	1.3	0.209	-0.138	0.9	0.469
Wealth quintiles						
Reference = Lowest						
Second	0.291	1.3	0.128	0.104	1.1	0.537
Middle	-0.125	0.9	0.367	-0.146	0.9	0.231
Fourth	-0.261	0.8	0.079	-0.218	0.8	0.093
Highest	0.286	1.3	0.100	-0.027	1.0	0.860
Marital status						
Reference = Never in union						
Married	-0.171	0.8	0.125	-0.022	1.0	0.822
Previously married	-0.07	0.9	0.695	0.26	1.3	0.098
Employment status						
Reference = Employed						
Not working	-0.011	1.0	0.906	-0.111	0.9	0.167
County						
Reference = Gbarpolu						

Bomi	-0.017	1.0	0.968	0.019	1.0	0.958
Bong	-0.141	0.9	0.411	-0.138	0.9	0.367
Grand Bassa	-0.133	0.9	0.531	0.188	1.2	0.292
Grand Cape Mount	0.909	2.5	0.036*	0.246	1.3	0.512
Grand Gedeh	-0.456	0.6	0.310	-0.305	0.7	0.447
Grand Kru	0.898	2.5	0.108	0.209	1.2	0.672
Lofa	0.117	1.1	0.535	0.096	1.1	0.564
Margibi	0.659	1.9	0.002*	0.724	2.1	<0.001*
Maryland	0.632	1.9	0.207	-0.312	0.7	0.473
Montserrado	-	-	-	-	-	-
Nimba	-	-	-	-	-	-
River Cess	-0.347	0.7	0.480	-0.49	0.6	0.269
Sinoe	-	-	-	-	-	-
River Gee	-	-	-	-	-	-
Religion						
Reference = No religion						
Christian	-0.161	0.9	0.668	-0.388	0.7	0.242
Muslim	-0.685	0.5	0.082	-0.536	0.6	0.122
Traditional religion	0.372	1.5	0.667	0.43	1.5	0.584
Ethnicity						
Reference = "Others"						
Kwa speaking group	-0.052	0.9	0.902	-0.801	0.4	0.016*
Mandi speaking group	0.163	1.2	0.693	-0.716	0.5	0.027*
Mel speaking group	0.035	1.0	0.938	-0.632	0.5	0.077
None/only English	0.213	1.2	0.630	-0.571	0.6	0.106
Total children ever born						
Reference = No child (0)						
Low births (1-2)	0.209	1.2	0.123	0.087	1.1	0.469
Average births (3-4)	0.141	1.2	0.426	0.171	1.2	0.274
High births (5+)	0.094	1.1	0.646	0.449	1.6	0.012*
Desired family size						
Reference = No child (0)						
Small family (1-2)	-0.400	0.7	0.999	-13.031	0.0	<0.001*
Average family (3-4)	0.096	1.1	0.999	-14.448	0.0	<0.001*
Large family (5+)	0.041	1.0	0.999	-15.317	0.0	.

Reference category for the dependent variable was “preference for boys” and Nagelkerke R-squared: 0.248. B= beta coefficient, OR =odd ratio. Multinomial regression at statistical significance of p <0.05*.