

# Comparative Analysis of Demographic and Socio-Economic Determinants of Fertility in Northern and Southern Gombe State

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*Abstract- Demographic and socio-economic factors are important determinants of fertility among couples, and these factors can greatly determine the number and quality of children in a region. This study aimed to compare demographic and socio-economic determinants of male parent in relation to fertility in Gombe North and Gombe South. Hence, male average rate of fertility and demographic and socio-economic factors in relation to child bearing were observed and analysed. Frequency tables using cross tabulation, averages, percentages, T-Test and correlation analysis were used in analyzing data obtained from the field, which were collected through purposive sampling techniques. Results show that Gombe North has more average fertility (3.7) than Gombe South (2.02), majority of the male respondents were not married hence they have no children, some children from Gombe south were born outside marriage, early marriages were identified in Gombe North than in Gombe South, high proportion of educated male parents were identified in Gombe South than in Gombe North, most children in both sampled regions were from working class parent but with low incomes. Occupation, income and age were identified to have significant association with child bearing as against ethnicity and education which has no relationship to the number of children in the regions. The following recommendations were made: people should be encourage to have more education because it has significant effect on children development, government and religious leaders should joint hand to discourage having children outside marriage and people should have more source of income to increase their earnings in order to give quality life to their children.*

*Indexed Terms- fertility, demographic, socio-economic*

## I. INTRODUCTION

The production of a child is a biological process, the various activities and events that lead to the act of sexual intercourse and, later, to giving birth are affected by the social, economic, cultural, and psychological characteristics of the woman and the man, as well as by the environment in which they live. The key to this seeming paradox is that engaging in intercourse, conceiving, and giving birth are themselves behaviors that are influenced by other factors, most of them social and cultural, (Poston and Bouvier, 2010).

Social demographers are primarily interested in ascertaining whether, how, and why various social, economic, cultural, and environmental factors influence both the likelihood of a man and woman having a baby and the number of babies they will have in their lifetime. Variables such as social class, economic status, religious beliefs, psychological disposition, attitudes about children, and many others have all been shown to be important in the decision to have a baby, as well as the number of babies (from zero to some positive number) a couple will have. Demographers have shown, for example, that the more years of education a person has, the fewer will be the number of children, (Poston and Bouvier, 2010).

Majority of countries in the world with the highest fertility rate are all found in Africa with Niger Topping the list with the highest fertility rate at 7.153 children per woman, followed by Somalia with 6.123 children per women. Other countries with high

fertility rate include: The Democratic Republic of Congo, Mali and Chad with 5.963, 5.922 and 5.797 children per woman, respectively. In African continent Tunisia has the lowest fertility rate with just 2.147 children per woman (World Population Review, 2018). Two of the most densely populated countries in the world China and India having fertility rates on the lower end of the scale with fertility rate of 1.635 and 2.303 children per woman respectively.

The current population of Nigeria is 198,489,646 as of January, 2019, based on the latest United Nations estimates. This shows an annual increase of 2.6 % with total fertility rate of 5.67 per woman (worldometer, 2019). The total fertility rate of Nigerian women indicates that at the end of a woman's childbearing age, given the current fertility situation, she should give birth to about 6 live children. The situation in Nigeria taken in the context of the declining mortality rate, does spell doom for the country and to compound the situation, life expectancy is currently given at 52.6 years. The implication is that the rate of population growth is in sharp contrast to the level of economic growth. Thus, the quality of the population is compromised for quantity (Isiugo and Abanihe, 1996; Ushie, 2009).

Considering the pessimistic view of population growth which considers increase in population as a major problem that has direct negative impact on socioeconomic and environmental development in a region, one can clearly see this in the region where this study is undertaken. Because the above theory is clearly pointing to the developing countries where there is high birth rate with little development. According to Demographic and Health Survey, (2013), Gombe state had the second highest fertility rate with 7.0 live births per woman after Bauchi state which emerged the highest with 8.1 live births per woman, (Demographic and Health Survey, 2013). Results had also shown that North Eastern Nigeria had the highest percentage of male working age group with no education of about 44.7% which is almost half of the population. However, Gombe State has significant percentage of male of working age group with no education which accounted for 37.2% meaning more than one third of the population of male in Gombe state were not educated

which is relatively high when compared with other states in Nigeria. Gombe State also had the lowest wealth quintiles in North Eastern Nigeria which accounted for 40.4%, (Demographic and Health Survey, 2013). Many socio economic and demographic variables related to male working age groups in the region are at the disadvantage side. Hence, this research seeks to study the demographic and socio-economic characteristics of male working population in relation to fertility in Gombe State with special focus on Gombe South and Gombe North.

## II. LITERATURES

Previous researches had shown that age, age at first marriage, the use of contraceptives and educational levels has significance effect on fertility differentials among various communities, (Ogaboh, 2011 and Mahanta, 2016). Poston and Bouvier, (2010) and Skirbekk, (2008), stated that, there is a negative relationship between education and fertility, meaning the more the level of education the lesser the fertility, in other words those that attends high level of education tends to have fewer children. Similarly, many studies shows that there is a negative relationship between fertility and employment, meaning the more the number of women of reproductive age engage in private and government jobs the fewer the child bearing, (ozgoren, Ergocmen and Tensel 2018; Al-Zalak and Goujon, 2017; Beguy, 2009 and Skirbekk, 2008). Income among couples is another important factor that determines fertility in different regions. Siow-Li, Lai and Nai-PengTey, 2014 and Skirbekk, 2008, in their studies indicated that poor people have more children than rich people.

However, none of the above studies made a comparative analysis of fertility in relation to demographic and socio-economic characteristics between Gombe North and Gombe South, all the above researches focused on women fertility only but this research focused on men working age group and their demographic and socio-economic characteristics in relation to fertility in these two regions and lastly none of the above researches borders to know how many children are born legally and how many were born out of wedlock,. It is in view of this and other socio economic challenges related to fertility in the regions attracted the attention of the researchers to

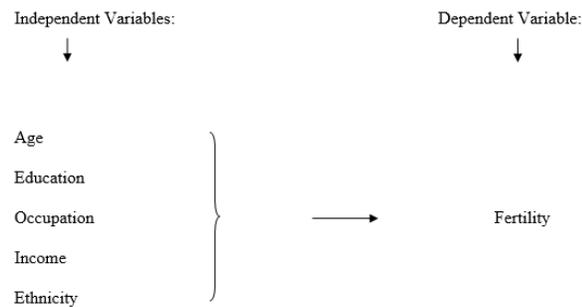
investigate and analyze the demographic and socio economic determinants of fertility among male working age groups in Gombe State. The aim is achieved through the investigations of the following objectives:

- To know the average rate of fertility among male of working age groups between Gombe North and Gombe South and to examine if there is any difference in fertility between the regions.
- To identify the demographic and socio economic characteristics of male working age groups in Gombe South and Gombe North in relation to fertility and to know if there is any relationship between demographic and socio economic characteristics and number of children.

### III. RESEARCH HYPOTHESIS

This study adopted two (2) null hypotheses which states that:

- There is no difference of child bearing between Gombe South and Gombe North.
- There is no relationship between demographic and socio-economic factors and male fertility between the two regions; this is subject to statistical test.



The above dependant and independent variables were tested to see the relationship between demographic and socio-economic factors and male fertility in Gombe South and Gombe North.

### IV. METHODOLOGY

The types of data used in this research are both quantitative and qualitative data, which were basically derived from men of working age group (15 – 64) using purposive sampling techniques. The quantitative data involves information of various men

age groups, number of their children and level of their income, while the qualitative data obtained were information about their beliefs, ethnicity, occupation and their educational attainment in relation to fertility which were further converted to quantitative data for the purpose of analysis. Demographic and socio-economic data were sourced directly from the male respondents from Dukku and Billiri L.G.A which were obtained by level 200 students supervised by some course lecturers. Other secondary data were sourced from Demographic and Health Survey, 2013, National Population and census data 2006, published and unpublished sources, Journals, text books and internet sources.

Areas of study were selected using crude balloting method; in which pieces of papers with inscriptions of names representing L.G.As in Gombe South and Gombe North were mixed in a container, in which the researcher picked a paper among the mixed papers, and one L.G.A was selected from each region in Gombe North and Gombe South which include: Dukku from Gombe North and Billiri from Gombe South.

The sampling frame of male working age group was obtained from National Population and Housing census (2006) which accounted for 600,935 male working age groups in Gombe State which saved as the based population. However, the sampling frame of 600,935 was projected to 2019 at 3.3 growth rate using the exponential formula below:

$$P_2 = P_1 \times e^{(r \times t)}$$

Where:

- "P<sub>2</sub>" represents the future population.
- "P<sub>1</sub>" is the population at the beginning time.
- "e" is the base of the natural logarithms (2.71828), and is a constant value.
- "r" is the rate of increase (natural increase divided by 100).
- And "t" represents the time period involved.

Therefore, the estimated projected sampling frame for this study is 922,856 male working age groups. Furthermore, sampling size was obtained using Krejcie and Morgan Table (1970), as 382 sample size. Hence, 382 questioners were distributed equally between the selected sample regions in both Northern

and Southern Gombe. This makes each of the regions to have 191 questioners.

Lastly, this research employed the use of both descriptive and inferential statistics using SPSS version 16. However, descriptive statistics used include frequency tables using cross tabulation, averages and percentages, while inferential statistics used includes correlation analysis which shows the relationship between male demographic and socio economic variables in relation to number of children as well as the use of Independent T-Test to test male fertility difference between the two regions selected. Furthermore GIS technique was employed to map out the selected sampled regions.

### V. STUDY AREA

Gombe State occupies a total land area of about 17,982.034 km<sup>2</sup> (National Population and Housing Census, 2006). It is made up of eleven (11) local government areas namely: Dukku, Nafada, Bajoga, Kwami, Akko, Yamaltu deba, Kaltungo, Billiri, Shongum, Balanga and Gombe L.G.A. The state is located between latitudes 9<sup>0</sup> 30' and 12<sup>0</sup> 30' North and longitudes 8<sup>0</sup> 45' and 11<sup>0</sup> 45' East. It shares boundaries with Yobe in the north, Borno State in the east, Adamawa and Taraba States in the south and Bauchi State in the west (Abbas, 2014). According to National Population and housing census, (2006), Gombe State had 2,365,040 people, but the projected population of Gombe State 2019 at 3.3% growth rate stands as 3,631,992. Thus the ethno – linguistic composition of Gombe State include, amongst others, the Fulbe, the Bolewa, the Tera, the Tangale, Tula, Waja, Wurkum, Jara, Dadiya, Cham, Awak, Pero, Kamo, Kushi and Bangunji, (Abba, Shehu and Abba, 2000).

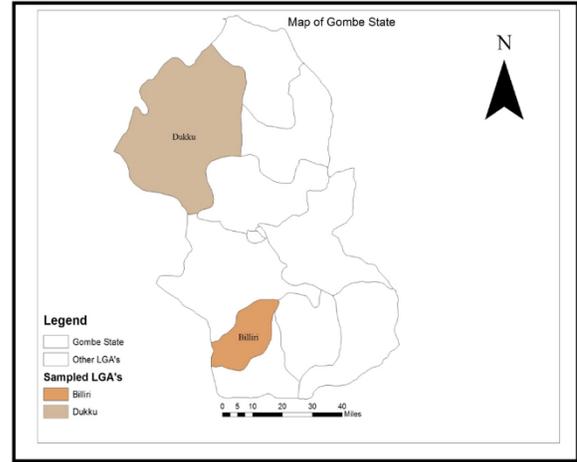


Figure 1: Gombe State  
Source: Geographic Information System Laboratory, Federal University of Kashere, 2019.

### VI. RESULTS AND DISCUSSION

This section critically analyzes results obtained from the field using different statistical tools. The information analyzed are: rate of fertility in the study areas, demographic characteristics of male working age groups in Billiri and Dukku in relation to fertility using cross tabulation and the use of Independent T-Test to test the difference between average fertility in the sampled regions. Correlation analysis is also used to test the relationship between fertility and demographic and socio-economic characteristics of male parent in the study areas.

#### VII. MALE AVERAGE FERTILITY RATE IN DUKKU AND BILLIRI

Average rate of fertility is very important in fertility studies because its reveal mean number of children a person has, this will show whether there is high fertility or low fertility in a region. Below is a table presenting the sum, mean, median, and mode of fertility in the two sampled regions in Gombe State.

Table 1 Male Average Rate of Fertility in Dukku and Billiri

DU	N	Valid	191
KK		Missing	0

U	Mean	3.70	
	Median	3.00	
	Mode	0	
	Sum	707	
BIL LIR I	N	Valid	191
		Missing	0
	Mean	2.07	
	Median	1.00	
	Mode	0	
	Sum	396	

Source: Field Survey, 2019

The results above depicts relatively high average fertility rate in Dukku L.G.A with 3.7 children approximately four (4) children per male parent which is higher than the world average of 2.5 and lower than the Nigerian average of 5.4 children per woman (United Nation, 2019) and almost double that of Billiri L.G.A with just 2.07 approximately two (2) children per male parent which is lower than the world average of 2.5 as well lower than the Nigrian average of 5.4 children per woman (United Nation, 2019). This shows that Gombe North has high

average fertility rate than Gombe South which is expected because Gombe North has dominant of Muslims population. This is in concurrent with the research conducted by Stonawski, Potancokova, Cantele and Skirbekk, (2016) which shows that, regions with the highest total fertility rate in Nigeria are found among the Muslims communities with 5.5 for Muslims and 4.5 for Christians that is in non-sharia states, while in sharia state the total fertility rate is 7.2 for Muslims and 4.2 for Christians.

Further results show that the most occurring frequency of male of working age groups are those with no children with model score of zero (0). This could be as the result that; many of them are within the younger age group between the age of 15 -19 of which must of them are not married, and this is typical characteristics of developing countries with high population of younger age groups with very low population of older age groups.

VIII. HYPOTHESIS TESTING OF FERTILITY DIFFERENTIALS BETWEEN BILLIRI AND DUKKU

Table 2 Independent Samples T-Test of Number of Children between Billiri and Dukku

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
NUMBER OF CHILDREN	Equal variances assumed	15.528	.000	4.123	380	.000	1.628	.395	.852	2.405
	Equal variances not assumed			4.123	331.902	.000	1.628	.395	.851	2.405

Source: Field Survey, 2019

The table above shows there is a positive mean difference of 1.628 with positive t-value of 4.123 is statistically significance at 0.000, meaning the researchers reject the null hypothesis that said there is no difference of number of children between Dukku and Billiri and accepted the alternative hypothesis

that said there is statistical significant difference of rate of fertility between Dukku and Billiri.

IX. DEMOGRAPHIC AND SOCIO ECONOMIC CHARACTERISTICS OF MALE PARENTS IN RELATION TO FERTILITY IN THE SAMPLED REGIONS

This section observed and analyzed demographic and socio-economic information of male parents in relation to fertility. This is achieved through the use of cross tabulation between fertility and demographic and socio-economic variables; this clearly shows the intersection or the interaction between fertility and demographic and socio-economic variables in the study areas.

Child bearing is expected through marriage which is the legal or moral way for any couple to have children, but there are other ways through which people get children which are considered as illegal or immoral way of having children. The table below shows the male marital status in relation to the number of children.

• MARITAL STATUS IN RELATION TO FERTILITY

Table 3 Male Marital Status in Relation to Fertility

Regions	Marital Status	Frequency	No. of Children	% of No. of Children
Dukku	Married	142	707	100
	Not Married	49	0	0
Total		191	707	100
Billiri	Married	98	389	98.2
	Not Married	93	7	1.8
Total		191	396	100

Source: Field Survey, 2019

The above results shows that 100% of the children in Dukku were born through marriage which is the legal way of having a child in Gombe, but this is contrary to the situation in Billiri where almost the entire children (98.2%) were obtained through marriage some little proportion (1.8%) were obtained through other ways which could be considered as immoral way of having children.

• AGE GROUPS IN RELATION TO FERTILITY

Age categories are important determinant of fertility because there are certain ages which child birth is expected which are 15 – 49 for females but for male can exceed 49 years but it is expected that old age is the stage where fertility is very minimal or not at all. Table 3 displays male age categories and the number of child bearing in Dukku and Billiri.

Table 4 Male Age Groups in Relation to Fertility

Regions	Age Groups	Frequency	No. of Children	% of No. of Children
Dukku	15 – 25	60	41	5.8
	26 – 35	71	199	28.1
	36 – 45	26	144	20.4
	46 – 55	22	187	26.4
	56 - 65	12	136	19.3
Total		191	707	100
Billiri	15 – 25	61	13	3.3
	26 – 35	58	64	16.2
	36 – 45	48	164	41.4
	46 – 55	17	88	22.2
	56 - 65	7	67	16.9
Total		191	396	100

Source: Field Survey, 2019

The results in table 3 inferred that there is relatively high percentage of child bearing among male population in Dukku and Billiri between the ages 26 – 55 especially within the age group 26 – 35 in Dukku while in Billiri the highest number of children is between the ages 36 - 45 this signifies early marriage in Dukku than in Billiri. The high number of children within those age groups is expected because they are within the range of reproductive age group, Gombe State Statistical Year Book, (1998) testify to the above statements which shows more than half (51.08%) of the population of Gombe State were between the ages 15 – 64 years (Gombe Seeds, 2006, p.41). However, low percentage is identify in Dukku and Billiri between the age group 15 – 25 which is also expected because they are at their early stage of child bearing. Another scenario is the dropping of number of children at the higher age

group in Dukku between the ages of 56 - 65 this could be as a result of low number of respondents in that age group perhaps as a result of death in that regions because recent statistics in Nigeria by United Nation (UN) (2019), shows the range of life expectancy from 2015 – 2020 in Nigeria as 54.18 years.

• ETHNIC GROUPS IN RELATION TO FERTILITY

Another important variable of discussion in this research is ethnic groups in relation to child bearing because there are some ethnic groups that are known with high fertility rate in Nigeria which are Hausa/Fulani this could be as the result of their culture or religion which encourage high birth rate. Table 4 shows people tribes with their number of fertility.

Table 5 Male Ethnic Groups in Relation to Fertility

Regions	Ethnicity	Frequency	No. of Children	% of No. of Children
Dukku	Fulani	156	525	74.2
	Bolewa	6	24	3.4
	Tangale	2	0	0
	Hausa	19	146	20.7
	Others	8	12	1.7
	Total		191	707
Billiri	Fulani	8	4	1.0
	Bolewa	39	102	25.8
	Tangale	122	264	66.7
	Waja	4	0	0
	Hausa	7	10	2.5
	Igbo	6	12	3.0
	Others	5	4	1.0
Total		191	396	100

Source: Field Survey, 2019

The above results indicates high number of children among Fulani tribes which account for almost three fourth (74.2) of the total population of children in Dukku, this is in concurrent with the research conducted by Abdullahi, Abdullahi and Abbas (2019) which observed a dominant Fulani ethnic groups in Gombe. However, in Billiri high number of children

were observed among Tangale tribe which account for more than two third (66.7) of the population in the region. Other tribes with significant number of children were Hausa tribes in Dukku and Bolewa in Billiri with more than one fifth (20.7%) and more than one quarter (25.8%) of the population respectively. However, the remaining are the minority tribes in relation to children in the study areas.

• RELIGIOUS BELIEVE IN RELATION TO FERTILITY

which clearly encourage high quality child birth. The table below represent the male believes in relation to their fertility.

Religious believe all over the world is a good determinant of fertility especially Islam religion

Table 6 Male Religious Believe in Relation to Fertility

Regions	Believes	Frequency	No. of Children	% of No. of Children
Dukku	Islam	191	707	100
Total				100
Billiri	Islam	57	114	28.8
	Christianity	134	282	71.2
Total		191	396	100

Source: Field Survey, 2019

The above results shows the whole population of children in Dukku L.G.A were from Muslim parents as against the situation in Billiri which shows dominants of Christian children of almost three forth (71.2%) in the population but with significance number of children from Muslim parent which account for over one fourth (28.8%) of the total population of children in the region. This shows that Billiri is more of heterogeneous region while Dukku is more of homogeneous in nature.

• EDUCATIONAL ATTAINMENT IN RELATION TO FERTILITY

Many studies shows education is one of the key social determinants of child bearing, because education increases people age of marriage which reduce child bearing, it is also evident that educated people have more knowledge or awareness about birth control leading to low child birth. The table below shows people educational level in Dukku and Billiri in relation to fertility.

Table 7 Male Educational Attainment in Relation to Fertility

Regions	Education	Frequency	No. of Children	% of No. of Children
Dukku	Primary	43	239	33.8
	Secondary	57	92	13.0
	Tertiary	62	168	23.8
	No Education	22	186	26.3
	Others	7	22	3.1
Total		191	707	100
Billiri	Primary	12	63	15.9
	Secondary	88	126	31.8
	Tertiary	86	205	51.8
	No Education	3	0	0
	Others	2	2	0.5
Total		191	396	100

Source: Field Survey, 2019

The results above inferred that the dominants numbers of children in Dukku were from parent with

either low level educational qualification or parent with no formal education which account for more than half of the population (percentage of primary

and no education). This is in concurrent with the fact presented by Demographic and Health Survey, (2013) which stated that Gombe State has significant percentage of male of working age group with no education which accounted for 37.2%, meaning more than one third of the populations of males in Gombe state were not educated. However, this is not the case in Billiri L.G.A in which majority of children in the region their parent obtained higher level qualification which account for more than half (51.8%) of the population. Hence, more prospect of development is tilting toward Billiri because education is key indices of development.

• OCCUPATION IN RELATION TO FERTILITY

People type of jobs is expected to determine the number of their children, because there are some occupations that involve person to leave his family for long period of time which greatly reduce fertility but those jobs that demand person to stay with his family always encourage high birth rate. The table below shows the comparative analysis of people occupation in relation to the number of child birth in the study areas.

Table 8 Male Occupation in Relation to Fertility

Regions	Occupation	Frequency	No. of Children	% of No. of Children
Dukku	Civil Servants	73	244	34.5
	Traders	49	109	15.4
	Artisans	29	140	19.8
	Farmers	32	160	22.7
	Others	8	54	7.6
Total		191	707	100
Billiri	Civil Servants	61	217	54.8
	Traders	56	55	13.9
	Artisans	34	81	20.5
	Farmers	31	39	9.8
	Others	9	4	1.0
Total		191	396	100

Source: Field Survey, 2019

Table 7 indicates majority of children from Dukku and Billiri were born from parent that engage in civil service with the former having more than one third (34.5%) of the population while the later having more than half (54.8%) of the population in the region. But it is clear that Billiri has more of the parent that engages in civil service than Dukku this testify the results in table 6 above which shows high proportion of parent with high school qualifications in Billiri. Further results shows significant proportion of children of almost one fourth (22.7%) in Dukku were born from those parent that engage in farming activities in contrast with the situation in Billiri where significant proportion of children of more than

one fifth (20.5%) were from those parent that engage in hand work. This indicates that Billiri has more features of a town while Dukku shows more feature of a village.

• INCOME IN RELATION TO FERTILITY

People’s level of earnings is documented as one of the important determinant of fertility in many part of the world. Numerous researches shows that poor people tend to have more number of children than the rich. Table 8 below presents people’s income in relation to their child bearing in Dukku and Billiri L.G.A.

Table 9 Male Income in Relation to Fertility

Regions	Income	Frequency	No. of Children	% of No. of Children
Dukku	1,000 – 30,000	125	388	54.9
	31,000 – 50,000	50	256	36.2
	51,000 – 100,000	14	48	6.8
	Above 100,000	2	15	2.1
Total		191	707	100
Billiri	1,000 – 30,000	95	140	35.4
	31,000 – 50,000	52	106	26.8
	51,000 – 100,000	30	117	29.5
	Above 100,000	14	33	8.3
Total		191	396	100

Source: Field Survey, 2019

The above table indicates that majority of children in Dukku and Billiri of more than half (54.9%) of the population for the former and more than one third (35.4%) for the later were from parent with low earnings. This is in concurrent with the research conducted by Siow-Li, Lai and Nai-PengTey, 2014 and Skirbekk, 2008, which shows that poor people have more children than rich people. The above results also testify the results presented by Demographic and Health Survey, (2013) which shows that Gombe State had the lowest wealth

quintiles in North Eastern Nigeria which accounted for 40.4%. However, the proportion of low income earning is higher in Dukku than in Billiri, while the proportion of high income earning is higher in Billiri than in Dukku, this shows that Billiri is more prosperous than Dukku. Hence, this is an indication of higher standard of living of children in Billiri than in Dukku because according to United Nation income is one of the indices of measuring people development.

• TEST OF SIGNIFICANCE

Table 10 Correlations Analysis between Demographic and Socio-economic Variables and Number of Children in Dukku and Billiri

DUKKU L.G.A		Age Group	Educational status	Income Per Month	Ethnicity	Occupation	Number of Children
Age Group	Correlation	1	.024	.207**	.001	.065	.695**
	Sig.		.745	.004	.993	.368	.000
Educational Status	Correlation	.024	1	.145*	-.077	.034	.061
	Sig.	.745		.045	.289	.639	.405
Income Per Month	Correlation	.207**	.145*	1	-.089	-.291**	.148*
	Sig.	.004	.045		.219	.000	.042
Ethnicity	Correlation	.001	-.077	-.089	1	.191**	.123
	Sig.	.993	.289	.219		.008	.090
Believes	Correlation	.a	.a	.a	.a	.a	.a
	Sig.	.	.	.	.	.	.
Occupation	Correlation	.065	.034	-.291**	.191**	1	.201**
	Sig.	.368	.639	.000	.008		.005
Number Of Children	Correlation	.695**	.061	.148*	.123	.201**	1
	Sig.	.000	.405	.042	.090	.005	

BILLIRI L.G.A		Age Group	Educational Status	Income Per Month	Ethnicity	Occupation	Number Of Children
Age Group	Correlation	1	-.076	.225**	.051	-.140	.693**
	Sig.		.296	.002	.485	.053	.000
Educational status	Correlation	-.076	1	.206**	-.086	-.208**	-.077
	Sig.	.296		.004	.239	.004	.292
Income Per month	Correlation	.225**	.206**	1	.009	-.308**	.217**
	Sig.	.002	.004		.902	.000	.003
Ethnicity	Correlation	.051	-.086	.009	1	.064	-.077
	Sig.	.485	.239	.902		.381	.291
Occupation	Correlation	-.140	-.208**	-.308**	.064	1	-.249**
	Sig.	.053	.004	.000	.381		.001
Number Of Children	Correlation	.693**	-.077	.217**	-.077	-.249**	1
	Sig.	.000	.292	.003	.291	.001	

Source: Field Survey, 2019

The correlation coefficient between number of children and occupation in Dukku and Billiri is statistically significant at 0.005 for Dukku and 0.001 for Billiri, showing; there is significant relationship between number of children and male parent occupation. As such the researcher rejects the null hypothesis that says there is no association between number of children and occupation. Further results also show a weak positive relationship at magnitude of 0.201 (20.1%) meaning occupation increases with increase number of children in Dukku, this is not in concurrent with the study conducted by ozgoren, Ergocmen and Tensel 2018; Al-Zalak and Goujon, 2017; Beguy, 2009 and Skirbekk, 2008 that showed a negative relationship between occupation and number of children. However, the situation in Billiri is different because it shows a negative relationship at magnitude of -0.249 (-24.9%) meaning occupation increases with decrease number of children, this agreed with the research conducted by ozgoren, Ergocmen and Tensel 2018; Al-Zalak and Goujon, 2017; Beguy, 2009 and Skirbekk, 2008 which stated that occupation has negative relation to child bearing.

The correlation coefficient between number of children and ethnicity in Dukku and Billiri is statistically not significant at 0.090 for Dukku and 0.291 for Billiri, showing; there is no significant association between number of children and ethnicity in these regions. As such the researcher accepts the null hypothesis that says there is no relationship

between number of children and ethnicity. Further results also show a weak positive relationship at magnitude of 0.123 (12.3%) meaning ethnicity increases with increase number of children in Dukku, this is contrary to the results in Billiri which shows a negative relationship at magnitude of -0.077 (-07.7%) meaning ethnicity increases with decrease number of children.

The correlation coefficient between number of children and income in Dukku and Billiri is statistically significant at 0.042 for Dukku and 0.003 for Billiri, showing; there is significant relationship between number of children and income. Therefore, the researcher rejects the null hypothesis that says there is no association between number of children and income. Other results show a weak positive relationship in Dukku and Billiri at magnitude of 0.148 (14.8%) and 0.217 (21.7%) respectively, meaning income increases with increase number of children, meaning the more the income the more the children. However, the above result is not in agreement with the research conducted by Siow-Li, Lai and Nai-PengTey, 2014 and Skirbekk, 2008, which indicated that poor people have more children than rich people.

The correlation coefficient between number of children and education in Dukku and Billiri is not statistically significant at 0.405 for Dukku and 0.292 for Billiri, showing; there is no significant relationship between number of children and male

education. Hence, the researcher accepts the null hypothesis that says there is no association between number of children and male education. However, further results show a weak positive relationship in Dukku at magnitude of 0.061 (06.1%) meaning education increases with increase number of Children, in other words the higher the level of education the more the number of children, however, this is not in concurrent with the study conducted by Poston and Bouvier, (2010) and Skirbekk, (2008), which stated that, there is a negative relationship between education and fertility, meaning the more the level of education the lesser the fertility. While in Billiri the situation is different which shows a negative relationship at magnitude of -0.077 (-07.7%), meaning education increases with decrease number of children, this is in agreement with the research conducted by Poston and Bouvier, (2010) and Skirbekk, (2008), that stated, there is a negative relationship between education and fertility, meaning the more the level of education the lesser the fertility.

The correlation coefficient between number of children and age in Dukku and Billiri is statistically significant at 0.000 for Dukku and 0.000 for Billiri, showing; there is significant relationship between number of children and age. This is in concurrent with the research conducted by Ogaboh, 2011 and Mahanta, 2016 that stated age has significant effect on child bearing. Therefore, the researcher rejects the null hypothesis that says there is no association between number of children and age. Other results show a strong positive relationship between number of children and age in Dukku and Billiri at magnitude of 0.695 (69.5%) and 0.693 (69.3%) respectively, meaning age increases with increase number of children, in other word it means the more people grow in age in Dukku and Billiri the more the number of children.

### CONCLUSION

Demographic and socio-economic factors are important determinants of fertility not only in Gombe but in all part of the world. However, parent's demographic and socio-economic characteristics are major indices of measuring children development, because the more the income and education of parent, it is expected the more the quality of food, school,

shelter and other social development of a child. Hence, in this study it is obvious that, there is a significance difference between the average number of children per male parent in the two sampled areas, which shows that Dukku L.G.A which represents the Northern Gombe State has the highest proportion (3.7) of children per male parent than Billiri L.G.A with average fertility of 2.07 which represents the southern Gombe. Furthermore, it is clearly shown that most male parent in the study area are less affluent and less educated and they are the ones with high number of children especially in Dukku region, this is in agreement with research conducted by Siow-Li, Lai and Nai-PengTey, 2014 and Skirbekk, 2008, which shows that poor people have more children than rich people. Hence, this will greatly affect the quality of their children in terms of their standard of living. Another issue observed in Billiri is the proportion (1.8%) of children that were obtained not through marriage which is a serious problem in the community, because those types of children encounter neglect from their parent and also stigmatization from the community; consequently this will greatly deter them from positive development.

Further investigations show parent occupation, income and age are the major factors that show a significant effect with child bearing in Dukku and Billiri, while ethnicity and education have no significant relationship with number of children in the study areas.

Fertility studies is a vast area in population studies as such further research could be done to investigate number of wives in relation to child bearing and the quality of children in relation to demographic and socio-economic characteristics of their parents and parents fertility preferences.

In view of the above demographic and socio-economic challenges of male parents in relation to the number of children in Gombe North and South the following recommendations were made:

- There is a serious need for people to be educated because this has serious positive effect on the quality of children. More public enlightenment is highly encouraged especially in the Northern Gombe about the importance of male education to

children. Government support is absolutely needed to encourage more males to be enrolled in schools. There is a need for male parent to increase their sources of income because it is evident that most male parent with low level of income tends to have high number of children especially in Northern Gombe, and high number of children means high burden or more responsibilities. With more income it will enable the children to have nutritious food, better education; service homes, better clothing, better health etc and this will greatly improve or develop children positively.

- The issue of children born outside marriage in Gombe South should be discouraged due to the fact that both the culture and the religion of people in the region do not support that. Children born outside marriage are considered as outcast in a society as such they are faced with many difficulties on how to make life, hence some of them end up becoming nuisance to the community. Government with religious leaders should joint hand to minimize if possible eradicate the problem in Gombe South.

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