

#### SOCIAL NETWORKS CORRELATE TO FERTILITY INTENTIONS AND REALIZATION AMONG MENOPAUSAL WOMEN IN SUBURBAN AREAS OF BAYELSA STATE, NIGERIA

**Endurance Uzobo (Ph.D) and Blessing O. Moroyei** Department of Sociology, Niger Delta University, Bayelsa State, Nigeria

Email: enduzobo@gmail.com; ORCID iD: https://orcid.org/0000-0002-8180-8268

#### Cite this article:

Uzobo E., Moroyei B.O. (2022), Social Networks Correlate to Fertility Intentions and Realization among Menopausal Women in Suburban Areas of Bayelsa State, Nigeria. African Journal of Social Sciences and Humanities Research 5(2), 119-130. DOI: 10.52589/AJSSHR-MHSZFTZM

#### **Manuscript History**

Received: 22 May 2022 Accepted: 12 June 2022 Published: 24 June 2022

**Copyright** © 2022 The Author(s). This is an Open Access article distributed under the terms of Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0), which permits anyone to share, use, reproduce and redistribute in any medium, provided the original author and source are credited.

**ABSTRACT:** The study examined the roles of social networks in fertility intentions and realization among menopausal women in suburban areas of Bayelsa State. Although studies have previously shown the influence that social networks have on fertility behaviour, their roles on fertility intentions and realization among women before menopause especially in the suburban areas remained unknown. Social network theory provided the theoretical base for this study while a retrospective cross-sectional research was employed for the design. A multistage sampling technique was utilized to distribute 385 copies of structured questionnaires to menopausal women (aged 50+ years). The quantitative data were analysed with the use of descriptive statistics. The average age of the respondents was 52.88±3.20 years. Findings revealed that the social networks available before menopause ranged from relatives (26.4%), neighbours (22.0%), husbands' relatives (11.1%), religious group members (11.1%), friends (7.5%), co-workers (3.6%) and community heads (3.6%). The highest percentage of social networks that influenced the use of contraceptives before menopause was relatives (33.5%). Also, social networks were significantly related to family planning use ( $x^2=102.41$ , DF=6, p < 0.05). The result also showed that relatives (42.6%) had the highest influence on the number of children intended before menopause, while friends (24.2%) and relatives (23.6%) had the highest proportion of influence on the total number of children that were ever born. In conclusion, different forms of social networks influenced respondents' fertility behaviour. It is therefore recommended that the use of social networks should be considered a critical factor in designing reproductive health policy among women as an informal mechanism of disseminating reproductive health information.

**KEYWORDS**: Social Network, Menopausal Women, Fertility Intentions, Fertility Realization, Suburban Areas.



#### INTRODUCTION

In recent times, the rate at which fertility patterns have changed has highly been placed on the value accrued to social networks and interactions. Hence, in family research, fertility intentions have been closely examined in line with social networks explanations (Sobotka & Beaujouan 2014; Liefbroer, 2009). The combined effects of social interaction and network on fertility behaviour have majorly been shown on a large scale, meanwhile, researchers have focused their studies on the patterns of influence through which an individual's relationship affects the fertility behaviour and intention of others (Keim et al., 2009).

The importance of social relationships and interactions on fertility behaviour was emphasized by Bongaarts and Watkins (1996), who noted that there are at least three aspects of social interactions that affect fertility outcomes. First is information exchange; second is the combination of evaluating its meaning, and the action that is either restricted or supported by social influence. Kohler (2001) also added that to fully decipher the difference in demographic behaviour of people with similar environmental conditions, the importance of social interactions in the context of lowest-low fertility should not be ignored.

The importance of the perspective of networks stresses that individuals' fertility behaviour is not acting in isolation; rather, it is intertwined with a network of social relationships (Granovetter, 2007). Individual actors trade knowledge, material and immaterial commodities, and services through social relationships with their network partners. Hence, individuals' social capital is built through resource binding in social networks (Buhler & Philipov, 2005). People also acquire, transmit, renegotiate, and dispute social norms to modify their behaviour in social interactions (Mitchell, 1973). As a result, social networks play an important role in shaping people's future desires, as well as facilitating or disabling people's actions (Keim et al., 2009).

Furthermore, according to Marsden and Friedkin (1993), studies centred on social networks have distinguished two (2) types of ties, which are strong and weak. Strong ties can be used to represent kin and non-kin individuals who have close emotional and more frequent contact and assist themselves on a daily basis. Weak ties are represented by individuals who do not share any form of emotional attachment and who do not desire or expect any form of mutual reciprocation (Granovetter, 1973; Friedkin, 1982). Thus, the effect of individual personal relationships rely deeply on an individual's attributes, cultural context, as well as on life domain. Although some people may influence a person's decision in the purchase of a new car, the same set of persons might be irrelevant in deciding on using contraception or having a child.

Surprisingly, an individual's fertility behaviour is seen not to have been acted in isolation; it is rather embedded in the social networks that existed among such individuals (Granovetter, 1985). Most often than not, the exchange of fertility ideas whether material or immaterial goods such as contraceptive techniques, sex preference and consequently desired number of children are bound in social built (Bernardi & Klarner,2014). The transmission of fertility norms through learning and negotiation is usually shaped by the interactions between and among interacting individuals within the social networks (Mitchell, 1973).

This also means that the low use of effective modern contraceptive methods (see National Population Commission & ICF, 2019) and the high fertility levels among women of childbearing age in Nigeria could be explained by the transmission of ideas on contractive use, particularly the misconceptions of people about modern contraceptive techniques that they are fraught with side effects, and the beliefs that using modern family planning methods is a sin in



some religious parlance. Again, the belief that male children are preferred to female children (Fayehun et al., 2011; Isiugo-Abanihe et al., 2017) and the exercise of a dominant role over women's fertility behaviour (Isiugo-Abanihe, 2010) cannot but be explained by the interacting individuals sharing social norms that affect women's fertility within their social networks. The consequences of the transmission of these social norms are that there would still be increased low contraceptive use prevalence and fertility levels, especially among women of reproductive age.

Despite a vast majority of studies explaining fertility behaviour by socio-economic characteristics among populations and their subgroups, there are few empirical studies that analyze the influence of social networks on fertility intentions and realization, especially in Nigeria. Meanwhile, extant demographic literature has stressed the significance of social networks in the usage of contraceptives and the realization of fertility intentions among women of reproductive age (Bongaarts & Watkins, 1996; Lyngstad & Prskawetz, 2010). Consequently, while some literature emphasized the influence of social networks on women's fertility behaviour, others concentrated on the importance of social interactions in the aspect of lowest-low fertility countries, with a total fertility rate (TFR) of less than 1.3, were not just influenced by their socio-demographic background, but also by the induced multiplier effects of peer pressures within the interacting individuals such as peers, neighbours, siblings and co-workers, among others.

Although studies have explored the impact of family background or relatives, colleagues, neighbours and partners on the chances of increased fertility among women (Mitchell, 1973; Friedkin, 1982; Granovetter, 1985; Marsden & Friedkin, 1993; Bongaarts & Watkins, 1996; Kohler, 2001; Toulemon & Testa, 2005; Lyngstad & Prskawetz, 2010; Sobotka & Beaujouan, 2014), only a few have explored the influence of social networks on actual fertility behaviour (Kohler & Kohler, 2002; Pink et al., 2014). This study therefore examined social networks as correlates of fertility intentions and realization among menopausal women in suburban areas of Bayelsa State, Nigeria.

## **Theoretical Framework**

The study's theoretical foundation is based on the social network theory. The work of Ferdinand Tonnies, a sociological forerunner to the social network theory, asserts that social groupings can emerge as direct and personal social relationships that serve as a link between persons who share similar values and ideas, or as impersonal, formal, and functional social links.

Sociologically, social network theory has two viewpoints on social interaction (Bernardi & Klarner, 2014). To begin with, the theory claims that social actors depend on their structured environment, which includes society, organizations, and the network of human relationships in which they have been immersed. Secondly, the structural environment is not a determinant of their actions; rather, it acts as a framework that opens up opportunities for their actions as such allow individual agencies. Additionally, the theory asserts that social structure serves as a bedrock for building peoples' actions and helps to restrict and shape an actor's actions; it also affects the way an individual sees an opportunity to be taken by first weighing his/her actions (Bernardi & Klarner, 2014). Individuals are also entrenched in social constructs or networks that can be viewed as continuing systems of social relations, according to the theory. The social



network model can further be divided into four sub-strands namely social learning, social pressure, social support and social contagion theory.

The first sub-strand, which is the *Social learning theory*, asserts that individuals take part in social learning by directly observing or conversing with others. For instance, a woman who wants to learn the use of contraceptives may do so by conversing with family members, colleagues in the office, friends, members of the same religious affiliation and neighbours (Bernardi, 2003).

The *Social Pressure Theory* averred that friends and family influence the personal choices of people. This could take the shape of a parent issuing a severe warning to their children about not receiving aid if they have more than a specified number of children. Pregnant women may also feel pushed by the fact that all of their friends have a particular number of children, while they are gradually being left out (i.e., feeling out of sync with their social circle) (Scommegna, 2014). This may put them under pressure to have a particular number of children to meet the expectations of their parents or their social group.

*Social support theory* gives a description of the physical and material resources a person can get from friends and family. For instance, giving birth to a certain number of children may bring about some physical and material benefits from parents, other relatives and friends. These resources may range from physical assistance with the child to financial support. For instance, in Bulgaria, Scommegna (2014) noted that social support which takes the form of living with grandparents, and other financial support can be given to newly wedded couples.

Lastly, *Social contagion theory* describes how a particular behavioural pattern can spread among people who share emotional attachment. Different scholars have also affirmed that childbearing among a particular social network occurs in a sequential manner (Bernardi, 2003). Bernardi also asserts that although contagion involves emotional reaction, it also requires the combined effect of both social learning and pressure. Hence, the use of contraceptives could spread to pregnant women through their friends or family members.

## MATERIALS AND METHODS

#### Design and Settings

This research adopted a retrospective cross-sectional survey design to thoroughly examine the influence of social networks on fertility intentions and realization among menopausal women. The study recruited respondents from the suburban areas of Bayelsa State since the social networks which influence these women are known. The study was conducted in suburban locations around Yenagoa City, Bayelsa State. These areas included Elebele, Tombia, Gbaratoru, Okolobiri and Famgbe. These study settings were selected purposively because they serve as the immediate suburban areas of Yenagoa city which is the capital city of Bayelsa State. The study population was made up of menopausal women who are 50 years and above, and have spent at least a year in their current communities prior to when this survey was conducted.



## Sample and Sampling Techniques

In getting the sample size for this study, Cochran's sample size formula was used. The computation is given below:

$$\frac{Z^2 P(1-P)}{d^2}$$

where n =sample size

Z = statistics level of confidence

P = expected prevalence or proportion = 5% (0.05)

1 = constant

n =

d = marginal error at 5% (standard value of 0.05)

n = 
$$\frac{1.96^2 * 0.5(1 - 0.5)}{0.05^2}$$
  
n =  $\frac{3.8416 * 0.25}{0.0025} = 384$ 

Hence, the total number of respondents recruited for this was 384.

Both probabilistic and non-probabilistic sampling techniques were used to get the required sample for this study. Firstly, the purposive non-probabilistic sampling technique was used to select suburban areas in Bayelsa State, namely Elebele, Tombia, Gbaratoru, Okolobiri and Famgbe. On the other hand, the respondent-driven probabilistic sampling technique was employed to recruit respondents in two waves. In the respondent-driven sampling process, women aged 50 years and above were first identified through an initial contact before referrals of other women in the same age categories were made by the first contact. The initial contact with women in this age group made it easier to administer the survey instrument through the referral procedure until each community's sample size was reached.

## Data Collection

Data for this study was sourced using a structured questionnaire designed in sections. The general and specific aims of the study guided the questionnaire design. Hence, apart from the respondents' socio-demographic profiles in the instrument, the types of social networks available for the respondents, how social networks influenced contraceptive use behaviour before menopause, and how social networks influenced fertility intentions and realization were also captured.

## Validity and Reliability of Instrument

In an attempt to validate the research instrument, a pre-test of the structured questionnaire was conducted with menopausal women in two communities different from those of the selected research locales, after which minor modifications were made based on observed error level



before moving forward with the actual study. In addition, ideas from colleagues at the Niger Delta University in Bayelsa State were also inputted to the research instrument to strengthen the validity level. Cronbach's alpha coefficient was used to measure the dependability of the research instrument. This yielded a value of 0.65 which suggested that the study's instrument measured what it claimed to measure.

#### Data Analysis

Collected data were analyzed at two levels, namely univariate and bivariate levels. The univariate analysis made use of basic descriptive statistics including percentages, distribution tables and charts. Nevertheless, the mean as a descriptive tool was used to determine the average age and income of the respondents. Descriptive tools were mainly utilized to analyze the socio-demographic variables of respondents as well as all other variables appropriate for descriptive analysis. The second level of analysis was based on bivariate analysis, which involves a simultaneous examination of the relationship that existed between two variables. This was performed with the aid of cross-tabulations with a confidence level of 95% (p<0.05). However, while some of the outputs were presented in tables, some were presented in graphs to show the relationship between two related variables.

#### Measurement of Variables

**Dependent Variables:** This study has two dependent variables, namely contraceptive use before menopause and fertility outcome after menopause. Contraceptive use before menopause is measured as a dummy variable comprising the methods of family planning used {male condom, female condom, female sterilization, male sterilization, pills, intrauterine device (IUD), injectables, implant, foam or jelly, diaphragm, emergency contraception and abortion} or any traditional method used. These were summed up to form used any method of contraception (1) and non-use of any method of contraception (0). Fertility outcome, on the other hand, was measured as a dummy variable comprising the number of children ever-born and alive. Although this was measured at the ordinal variable, this was regrouped to form low fertility outcome  $\{0 - 3 \text{ children} = 0\}$  and high fertility outcome  $\{4 \text{ children} and above = 1\}$ .

*Independent Variables*: For this study, the main independent variable is the category of social networks available to respondents. These were measured at a nominal level ranging from neighbours, friends, spouse, mother-in-law, father-in-law, and priest to other relatives. Additionally, the socio-demographic characteristics of the respondents were included as confounders to estimate the probability of the use of contraceptives and fertility outcomes. These variables include the age of the respondents, birth interval, sex preference, income, occupation and spousal demographic characteristics.

## **Ethical Considerations**

Ethical obligations associated with social research were properly observed in this study. Thus, this study strictly followed the ethical guidelines of the National Health Research Ethics Code (NHREC) and the Helsinki 1964 declaration as well as its later amendments. Specifically, formal authorization to conduct the study at the community level was obtained from the respective community heads before respondents were informed about the study and its anticipated advantages. They were also told that their responses would be kept private. Before administering the research instrument, they were verbally informed and individual respondents' agreement was sought.



#### RESULTS

#### **Socio-Demographic Characteristics of the Respondents**

Table 1 shows the socio-demographic characteristics of the respondents, which ranged from age, marital status, religion, ethnic group, education, family type and average income. First and foremost, the study revealed that the average age of the respondents was  $52.9\pm3.20$  while the majority of the respondents were between 55 and 54 years (66.8%). The marital status of the respondents indicated that, the majority of the respondents were married (71.9%) compared to other categories of marital status.

#### Table 4.1: Socio-demographic characteristics of the respondents

Variables	Frequency (n=385)	Percentage (%)
Age years (52.88± 3.20)		
50 - 54	257	66.8
55 – 59	110	28.6
60+	18	4.7
Marital status		
Married	277	71.9
Cohabiting	54	14.0
Widow	18	4.7
Divorced/separated	36	9.4
Religion		
Catholic	19	4.9
Christian (protestants)	312	81.0
Islam	36	9.4
Traditionalist	18	4.7
Ethnic group		
Ogbia	37	9.6
Epie-Atissa	274	71.2
Ijaw	74	19.2
Education		
No formal education	37	9.6
Primary	54	14.0
Secondary	201	52.2
Tertiary	93	24.2
Family type		
Monogamy	294	76.4
Polygamy	91	23.6
Average income (N20402.60±N19998.70)		
Less than N18000 (Low)	311	80.8
N18000 – N40000 (Medium)	38	9.9
N41000 and above (High)	36	9.4



Further analysis of the demographic attributes of the respondents revealed that most respondents were Christians (81.0%). Regarding the ethnic groups of the respondents, more than half of them were from the Epie-Atissa (71.2%) ethnic group. Additionally, the educational distribution of the respondents shows that more than half of the respondents had secondary school educational qualification (52.2%). The family type was predominantly monogamous in nature (76.4%). Finally, the average income of the respondents was N20, 402 with 80.8% earning less than N 18, 000 monthly.

#### Social Network Influencing Reproductive Health Behaviour among Menopausal Women

To ascertain who influenced women most in family planning use, numbers of children intended and those that were ever-born before menopause, Figure 1 presents describes the results. The results reveal that those that indicated relatives (33.5%) had the highest proportion, followed by 14.3% of the respondents who signified husbands' relatives and friends respectively. Other social networks noted by the respondents that influence the choice of family planning include co-workers (9.6%), religious group members (9.4%) and mother-in-law (4.9%).



Figure 1: Percentage distribution of who influenced the use of family planning

# Influence of Social Networks on Contraceptive Use Behaviour of Women Before Menopause

This study further explored the influence of social networks on contraceptive use behaviour among menopausal women. Table 2 shows the report. The chi-square statistics shows that there is a statistically significant relationship between social networks and the use of family planning  $(x^2=102.408, DF = 6, p<0.05)$ . Further analysis revealed that those who indicated that relatives and religious group members (28.1%) were the social networks that influenced them in the use of family planning have the highest proportion respectively, while those who pointed to husbands' relatives (14.8%), neighbours (14.8%), and friends (14.1%) had the least proportion.



## Table 2: Table showing the influence of social networks on the methods of family planning used

	Use of family planning	
Social Networks	Non-use	Used
Mother-in-law	19 (7.4%)	-
Husband's relatives	18 (7.0%)	19 (14.8%)
Relatives	20 (7.8%)	36 (28.1%)
Neighbours	109 (42.4%)	19 (14.8%)
Friends	36 (14.0%)	18 (14.1%)
Religious group members	19 (7.4%)	36 (28.1%)
Co-workers	36 (14.0%)	-
$X^2 = 102.408$	•	
DF = 6		
P = 0.000		
Significant at p<0.05		

Influence of Social Networks on Fertility Intentions and Realization of Menopausal

# On the social networks that influenced respondents regarding the number of children intended to be born before menopause, relatives had the highest proportion (42.6%) followed by friends (19.0%) and neighbours (14.5%). Other social networks that were influential to the number of intended children included mother-in-law (9.6%), religious group members (4.9%), co-workers (4.7%), and husbands' relatives (4.7%) [See Fig 2].



Figure 2: Percentage distribution of respondents by who influenced the number of children intended

Women



Volume 5, Issue 2, 2022 (pp. 119-130)

On the reports on the social network that influenced respondents in the number of children ever born, Figure 3 reported that those who indicated friends had the highest proportion (24.2%), closely followed by those who mentioned relatives (23.6%), religious group members (19.0%), neighbours (19.0%), husbands' relatives (4.7%) and co-workers (4.7%) respectively.



Figure 3: Percentage distribution of respondents who influenced the number of children ever born

## **DISCUSSION OF FINDINGS**

This section deals with the presentation and discussion of findings in line with the existing literature. And this has been done by the particular objectives of the study. To ascertain the influence of social networks on family planning use, findings indicated that the respondents were influenced by their husband's relatives, friends, co-workers, religious group members and mother-in-law, among others, before menopause. Further findings also revealed that social networks were significantly related to the usage of family planning methods before menopause. This implies that the use or non-usage of family planning is influenced by the social networks or relationships the respondents had before attaining the age of menopause.

Findings on the fertility intentions revealed that the relatives of the respondents had the highest proportion of influence on fertility intentions before menopausal age, while respondents' husbands' relatives had the lowest proportion of influence. This finding is consistent with the work of Buhler and Philipov (2005), and Buhler and Fratzack (2007) who proposed that people who have more networks feel much more secure and are, therefore, very likely to realize their fertility intentions sooner.



Findings from this study also noted that despite relatives influencing the fertility intentions of the respondents, the friends of the respondents had a bigger influence on respondents who reported that they were influenced to give birth to more children. This is closely followed by those who were influenced by their relatives, religious group members, neighbours, husbands' relatives and co-workers. This supports the claim made by Bramoulle et al. (2009) that the social environment or individual-level characteristics shared by individuals might explain behavioural similarities that alter time. This further explains that the orientation of the social networks surrounding a woman would go a long way in determining her fertility behaviour before she becomes sexually inactive.

#### CONCLUSION

Given that social networks are fundamental in determining human behavioural patterns, it is also evident in this research that social networks serve as correlates of fertility intentions and realization among menopausal women because this set of persons greatly influenced family planning use, fertility intentions and realization among menopausal women. This means that social networks could be used to change fertility behaviour from high to low fertility.

Based on the findings of this study, the following recommendations have been made for reproductive health policy-makers:

- a) Since the current state of fertility behaviour is tilting towards high fertility, particularly in the study area, there is a need to sensitize women on the use of modern contraceptives to inculcate the habit of modern fertility norms.
- b) The use of social networks as an informal mechanism for transmitting modern fertility norms should be encouraged rather than focusing on the formal mechanism of sensitizing women.
- c) Passing context-specific reproductive health information from one generation to another through the use of social network mechanisms should be prioritized by reproductive health policymakers.

#### REFERENCES

- Bernardi, L. (2003). Channels of Social Influence on Reproduction. *Population Research and Policy Review*, 22(5), 427–555.
- Bernardi, L., &Klarner, A. (2014). Social Networks and Fertility. *Demographic Research*, 30 (1), 641–670.
- Bongaarts, J., & Watkins, S. C. (1996). Social interactions and contemporary fertility transitions. *Population and Development Review*, 639-682.
- Bramoulle<sup>'</sup>, Y., Djebbari, H., & Fortin, B. (2009). Identification of peer effects through social networks. *Journal of Econometrics*, 150(1), 41–55.
- Buhler, C., &Fratczak, E. (2007). Learning from others and receiving support: the impact of personal networks on fertility intentions in Poland. *European Societies*, 9(3), 359–382.



- Buhler, C., &Philipov, D. (2005). Social capital related to fertility: Theoretical foundations and empirical evidence from Bulgaria. *Vienna Yearbook of Population Research*, 53– 81.
- Fayehun, O. A., Omololu, O.O., &Isiugo-Abanihe, U. C. 2011. Sex of preceding child and birth spacing among Nigerian ethnic groups. *African Journal of Reproductive Health*, 15(2), 79-90.
- Friedkin, N. E. (1982). Information Flow Through Strong and Weak Ties in Intraoganizational Social Networks. *Social Networks*, 3(4), 273-85.
- Granovetter, M. (2007). Introduction for the French Reader. Sociologica, 2, 1–8.
- Isiugo-Abanihe, U. C. (2010). *Continuity and change in Nigeria's fertility regime*. An inaugural lecture delivered on 6<sup>th</sup> May, 2010 at the University of Ibadan, Nigeria. Ibadan: University of Ibadan Press.
- Isiugo-Abanihe, U. C., & Fayehun, O. (2017). Ethnic, religious and educational homogamy in Nigeria. *Africa Population Studies*, 31 (1), 3510-3518.
- Keim, S., Klärner, A., &Bernardi, L. (2009). Who is relevant? Exploring fertility relevant social networks. Working Papers of the Max Planck Institute for Demographic Research. Available at: http://www. demogr. mpg. de/papers/working/wp-2009-001. Pdf
- Kohler, H. P. (2001). *Fertility and Social Interaction. An Economic Perspective*. Oxford: Oxford University Press.
- Kohler, H. P., & Kohler, I. (2002). Fertility decline in Russia in the early and mid 1990s: The role of economic uncertainty and labour market crises. *European Journal of Population*, 18(3), 233–262.
- Liefbroer, A. C. (2009). Changes in family size intentions across young adulthood: A lifecourse perspective. *European Journal of Population*, 25, 363-386. doi:10.1007/s10680-008-9173-7
- Lyngstad, T. H., & Prskawetz, A. (2010). Do siblings' fertility decisions influence each other? *Demography*, 47(4), 923-934.
- Marsden, P. V., &Friedkin, N. (1993). Network Studies of Social Influence. In S. Wasserman and J. Galaskiewicz (Eds.), *Advances in Social Network Analysis*, (22), 127-51. London: Sage.
- Mitchell, J. C. (1973). Networks, norms, and institutions. In J. Boissevain, J. and J. C. Mitchell (Eds.), *Network Analysis Studies in Human Interaction* (pp. 2-35). The Hague: Mouton.
- National Population Commission, NPC, & ICF. (2019). *Nigeria Demographic and Health Survey 2018*. Abuja, Nigeria, and Rockville, Maryland, USA: NPC and ICF International.
- Pink, S., Leopold, T., & Engelhardt, H. (2014). Fertility and social interaction at the workplace: Does childbearing spread among colleagues? *Advances in life course research*, 21, 113-122.
- Scommegna, P. (2014). Family, Friends Help Shape Childbearing Choices. *Population Reference Bureau. https://www.prb.org/resources/family-friends-help-shapechildbearing-choices/*
- Sobotka, T., &Beaujouan, É. (2014). Two is best? The persistence of a two-child family ideal in Europe. *Population and Development Review*, 40, 391-419. doi:10.1111/j.1728-4457.2014.00691.x
- Toulemon, L., & Testa, M. R. (2005). Fertility intentions and actual fertility: A complex relationship. *Population & societies*, *415*(4), 1-4.