

## Sociological Analysis of Fertility Differentials among Pakhtun Women



Muhammad Nisar	Assistant Professor, Department of Sociology, Bacha Khan University Charsadda, <a href="mailto:muhdnisar@bkuc.edu.pk">muhdnisar@bkuc.edu.pk</a>
Asad Zia	PhD Scholar, Department of Sociology, International Islamic University, Islamabad (IIUI)
Dilkash Sapna	Lecturer in Sociology, Bacha Khan University Charsadda <a href="mailto:sapnawisal@gmail.com">sapnawisal@gmail.com</a>
Imran Khan	PhD scholar Department of Sociology, Bacha Khan University Charsadda <a href="mailto:imransocio99@gmail.com">imransocio99@gmail.com</a>

**Abstract:** *This study aims to investigate the underlying causes of fertility differentials in Pakhtun society. The study was qualitative in nature, conducted in the district of Malakand of Khyber Pakhtunkhwa Pakistan, where 30 married women were selected purposively. The data was collected through in-depth interviews with female research investigators, keeping in view the cultural sensitivity of the area and to ensure the collection of proper facts, analysed thematically. Major findings of the study showed that early marriages, firm belief in religion, avoidance of contraceptives, preference of male children, socio-economic background of the family, women's education, job opportunities, and their autonomy in household decision-making are some of the key reasons for fertility differentials among the Pakhtun tribes. To control fertility and to limit the gap between fertility differentials of different groups, education, jobs, and autonomy, especially financial autonomy, should be given to women to decide their number and spacing of children without external pressure.*

**Keywords:** Fertility, Fertility Differentials, Pakhtun Society, Married Women

### Introduction

Pakistan is the world's sixth most populated country, with a population of about 21 million people (Bureau of Statistics, 2017). Despite having a long-established population planning programme, Pakistan ranks second in fertility among South Central Asian countries. Similar population planning initiatives began in other nations in the area at about the same time as Pakistan's, but these countries have been far more successful in reducing population growth. To be sure, Pakistan's fast population growth provides an exceptionally big demographic dividend, which should aid economic development; yet, the population's low skill

levels may decrease the dividend's influence, and possibly turn it into a demographic danger (Nayab, 2008).

In most modern populations, fertility is the most significant factor influencing population growth rates. The degree of fertility in a population influences not only its present size, but also its future pace of growth, as well as the population's current and future age structure. Fertility indicators are the most critically required indicators from a census in most developing nations. As a result, one of the most essential components of a census analytical report is the analysis of fertility levels and trends (Niyaz, 2000). It is the capacity to have healthy children

as a result of normal sexual behaviour (Ferasat, 2002). The ratio of live births in a certain area to the population of that area, expressed per 1000 people per year (Aysha, 2007), or the number of children that an average woman gives birth to during her reproductive years (fertility rate) (Samir, 2010).

### **Fertility differential**

Differential fertility refers to the variance in fertility of various groups or classes in the population (Bulato & Bongaarts, 1999). The term "fertility differential" refers to the disparities in human fertility across groups based on criteria such as race, colour, residency, socioeconomic position, and psychological qualities (Johnson, 1969). This research briefly examines previous trends in specific forms of differential fertility, but it is primarily concerned with present trends and patterns. It is only available in the United States.

In a nation like Pakistan, where a multitude of languages are spoken throughout the country, each with its own set of norms, traditions, and other customs, studying fertility differentials by ethnicity is critical for successful policy implementation. This is due to the fact that ethnicity and ethnic characteristics such as ethnic attitude, ethnic identification, and cultural customs have an impact on reproductive behaviour. When compared to the influence of other characteristics such as urban-rural domicile, wife's education, husband's education, and household income, ethnicity is a major factor of similar or even greater relevance (Wong & Shui, 1985).

### **Worldwide fertility rate through time to time**

Prior to the historical fertility shift, which occurred in much of Europe and North America during the late eighteenth and early twentieth century's, married women may have anticipated eight or more children, according to Lucas (2002). Many women today do not have any children at all. For millennia, fertility had a positive elasticity in relation to income. It is currently 0, or even negative. The fertility transition is an important component of the process that moved the European economy, and subsequently other economies, from slow to fast

and sustained growth.

According to Cleland and Wilson (1987), war caused large, temporary decreases in fertility, and the post-World War II period saw a "Baby Boom." By the 1970s, "low-low" fertility had spread over much of Western Europe. Some OECD (Organization for Economic Cooperation and Development) nations now have fertility rates that are too low to support population expansion alone via natural increase. Although the link between fertility and mortality drops varies by country, the German example shown is pretty common. For the majority of the nineteenth century, birth rates outpaced mortality rates, resulting in population growth (even with, as in the German case, extensive emigration). This is no longer the case; German natural growth rates were negative for most of the late twentieth century. The United States saw a significant baby boom in the two decades after World War II. From 2.3 in 1940 to 3.8 in 1957, the overall fertility rate rose. Similarly, statistics on cohort fertility show an increase from a completed fertility rate of 2.4 for women who had their children shortly before the baby boom (birth cohorts 1911–1915) to a rate of 3.2 for women who had their children during the baby boom's height.

According to Kohler, Billari & Ortega (2002), the birth boom was followed by an equally quick baby slump. Throughout the 1960s, the overall fertility rate plummeted, eventually falling below 2.0 in 1973. The baby boom marked a stunning, albeit brief, reversal of a century-long downward trend in fertility rates. Demographic economics has a major issue with understanding the origins of the baby boom.

According to Acemoglu, Autor, and Lyle (2004), "we provide a unique account of the baby boom, based on the need for female labour during World War II." The conflict caused a significant increase in the need for female work. Millions of women were attracted into the work sector to replace men in factories and offices while men were fighting the war in Europe and Asia. The war had a significant and long-lasting impact on female employment: women who worked during the war gained vital labour market experience, and many of them continued

to work after the war ended.

In addition to the males who returned from the war, a considerable number of the war generation's experienced women were still working. We contend that this resulted in a decrease in demand for inexperienced young women, who were pushed out of the work market and instead decided to have more children. The majority of the baby boom is made up of these younger women (Sathar, 1993).

Much attention has been paid to studying the differences in fertility of various groups of the population of a country, such as groups divided by locality, income, occupation, religion, education, age, age at marriage, women's employment, and other important socio-economic characteristics, according to Theodor (1969). In comparison to data on overall fertility, the particular statistics necessary for studies of differential fertility are uncommon. "Differences in the fertility rate of distinct sectors of a community."

#### **History of fertility in Pakistan from 1998-till date**

From 1961 to 1987, Pakistan's fertility rate stayed steady at 6.8 children per woman, although the population rose as life expectancy climbed and the fertility rate remained constant. The population growth rate fell between 1990 and 2000 as the fertility rate fell fast and life expectancy remained stagnant. In the decade 1991–2000, the fertility rate began to drop dramatically, dropping from 6.3 to 4.8 children. The fertility decline began around 1988, with a decrease of roughly 2 children per woman in each decade until 2000 and later years. The ensuing decade, 2000–2009, saw a slowdown in the fertility transition, with a drop from 4.8 to around 4.0. By 2015, the proposed population policy for 2009–10 aims to lower fertility from 3.56 (2009) to 3.1 births per woman. To attain this goal, the contraceptive prevalence rate must rise from 30% to 60% by 2030. CPR increased from 12 to 28 from 1991 to 1998, an average of 2% per year; from 1998 to 2004, it increased from 28 to 33, an average of less than 1% per year (National Population Bureau, 2010).

In Pakistan, Rees (2007) conducted research that

revealed that fertility levels and patterns differed between younger, older, and all women. Despite the fact that the difference was not substantial, the Balochi or Brohi ethnic group had the greatest fertility when compared to other ethnic groups. The Siraiki-speaking people were the second most fertile group. Punjabis were found to have the lowest fertility, while Urdu speakers were virtually on par with them. Further, a study conducted by Ullah et al. (2021) found that in Pakistan, fertility differentials occur among women for some medical as well as social reasons, where infertility is caused by some gynaecological reasons.

According to Halli (1987), the primary categories of fertility difference are based on age at marriage, education, wife's work status, occupation, religion, income, wealth, landholding, caste, age, bureaucratic posts, and so on. Differential fertility categorization is heavily influenced by education and occupation.

#### **Literature review**

According to Chamei (1977), various ideas pertaining to religion and fertility have been made. According to "particularized theology," it is religion's basic nature that promotes fertility, regardless of socio-economic or demographic considerations. Others, on the other hand, suggest that fertility disparities are a result of inequalities in the socioeconomic features of members of various religious groups. Thus, it is the qualities of religious communities, not religion itself, that are significant in affecting fertility numbers.

Goldscheider & Uhlenberg (1969) focused on how the paradigm of minority status was used to explain why Muslim fertility in India was low, with no more than one child, and even this disparity is unlikely to persist as Muslim fertility drops with growing levels of education and living conditions. While the lower rate of contraceptive usage among Muslims is the primary cause of fertility disparities, the use of contraceptives has grown more rapidly among Muslims in recent years. On the other hand, the significantly greater fertility rate among Muslims, on the other hand, cannot be understood in isolation from its socioeconomic

and political environment.

For diverse economic, social, political, and cultural reasons, Peach (1996) discovered that fertility rates fluctuate dramatically between countries. As a result, a multi-cultural community is likely to exhibit a wide range of fertility patterns. Since the Second World War, the ethnic and religious makeup of the UK population has become more diversified, owing to increased immigration from new Commonwealth nations favoured by the decolonization process and post-war rebuilding generating economic possibilities in the UK. From the 1950s through the 1960s, the Black Caribbean, then known as West Indian, became increasingly popular. A swarm of male labourers from the Indian subcontinent joined them.

Caldwell (1980) went on to say that education has been proven and recognised throughout the world as a key factor in decreasing fertility, particularly among women. Literate individuals are more inclined to accept such policies than illiterate people, so education has its own benefit. He also claims that "the influence of mass education on family economics is the key driver of the date of the commencement of the fertility transition."

Halli (1987) found that minority fertility is lower than that of the majority at upper socio-economic levels and greater at lower socio-economic levels based on an examination of the fertility behaviour of Chinese and Japanese minorities in Canada. Researchers go on to say that religious differences in fertility might be the result of religious discrimination in accessing healthcare and family planning services. On the other hand, according to Dharmalingam (1996), riots can impede the supply of healthcare and family planning services by preventing many Muslims from visiting health centres where the majority of the personnel are Hindus.

Easterlin's relative income hypothesis is likely the most well-known explanation for the baby boom, according to Easterlin (1961). He claims that the disparity between a couple's real and expected material well-being influences fertility decisions. When this thesis is applied to the baby boom in the United States, it is further argued

that those who grew up during the Great Depression had modest material goals. They increased their need for children as a result of the wealth of the post-war years.

According to Hindu tradition, sons are needed to light their deceased parents' funeral prayers and assist in their souls' salvation. As a result, the majority of Indian couples prefer boys to daughters. Many couples continue to have children after they have reached their desired family size in order to have boys. In terms of purpose, over 20% of Indian couples prefer more boys than girls, whereas just 2% to 3% want more daughters than sons (IIPS, 2007). Rath (1998) reported that the impact of educational status and income indicates that a combination of these factors is associated with reduced fertility, longer birth intervals, and lower levels of infant mortality.

According to Santow (1995), family planning programme activities increased in the 1990s, and they are likely to be credited with the current increase in contraceptive prevalence and the subsequent decrease in fertility. However, significant improvements in services did not begin until the mid-1990s, and hence cannot be blamed for the dramatic rise in contraceptive prevalence in the first part of the decade. Withdrawal is a method of avoiding pregnancy that is not reliant on contraceptive supplies or services, and it is frequently used to indicate that a fertility drop is due to increased motivation to prevent pregnancy rather than advances in the means to do so.

### **Methods and procedures of the study**

The following methods and procedures were adopted to conduct this study.

### **Nature, sampling, sampling method, and universe of the study**

The study was qualitative in nature. The data was collected from 30 respondents as it was at the saturation point of the data where no new information was coming. A purposive sampling technique was used as a method for the selection of respondents.

### **Study Universe**

The universe of the study was District Malakand of Khyber Pakhtukhwa, Pakistan.

### **Respondents of the study**

Married women who were willing to participate in the survey were included in the study.

### **Tools of data collection**

The required data was collected through an in-depth interview, which is a suitable method of data collection in qualitative research (Ritchie & Lewis, 2003). A two-step process was used for the collection of data. First, the interviews were recorded with the permission of the respondents. The audio tapes were then converted to bullet form, from which a summary was prepared to ensure the data's reliability. The data was collected with the help of well-trained female investigators, keeping in view the cultural sensitivity of the area where direct interaction of strangers is not possible.

### **Data analysis**

The information was analysed thematically where main themes and sub-themes were identified and summarised accordingly according to Maguire and Delahunt (2017).

### **Limitations of the study**

The study of fertility differentials among Pakhtun society was limited to the district of Malakand only because of the limited time and resources of the researcher. The study was carried out over five months in order to draw a generalised conclusion from the study.

### **Results and discussions**

The following are the main themes developed during the data collection process.

#### **Early age marriages and fertility differentials among Pakhtuns**

A majority of the respondents said that no doubt it's the culture of early marriage in the Pakhtun region that has resulted in a population explosion. We see that those who marry early at the age between fifteen and twenty will obviously have at least seven to nine children at the age of their fifties. Thus, early marriage may be termed a clue to population explosion. Early

after puberty, boys are at their best sexual condition and it is encouraged through religious and cultural courses that early marriage is necessary in order to have more and more children, which will support the parents in their old age. People in rural areas tend to marry at earlier ages compared to people living in urban areas, which is a cause of the different fertility ratio among these people, as fertility is low in urban areas and high in rural ones. In their studies in different parts of the world, Cain (1982), Mahmood and Khan (1985), and Ahmed (1991) found similar findings in their studies where they found that younger children, especially women, are more easily pressurised to conceive pregnancies compared to older women.

#### **Firm belief in religion and fertility differentials**

The respondent also showed a very religious belief that family planning does not matter and thought that it would not reduce the population because, as per Islamic principles, the will of Allah will happen whatever the condition is, thus holding the belief that family planning is fruitless and a wastage of money and time. Pakhtun is a Muslim nation that believes in Islam, and all the nations of the world derive their life standards from the religion to which they belong. The religious beliefs are the ways one acts upon. Our religion per se encourages more children, a large family size, the maximum number of men, and that is our Pakhtun tradition and a part of our culture. Mostly, people viewed more children as their religious obligation, as they quoted some of the Quraic verses and sayings of the Holy Prophet Mohammad SAW, from which it is clear that more children are the mercy of Allah. The messenger SAW said Allah will be proud of those who have more children. One of the respondents said, *"We are created by Allah and He will fulfil our desires." We are not concerned about our food, clothing, or shelter because He has promised to provide for all of these needs. He is the creator and the best planner.* "These are the reasons why most people do not allow their women to access family planning centres, as revealed by Sengupta (2003).

### **Socio-economic background of the family and fertility differentials**

On the other hand, it was discovered during the study that there is a significant difference in the fertility rates of poor and rich family women because a poor man is expected to work during the day and have full sex with his wife very frequently, he spends what he earns and has almost no savings for his family, whereas rich people are outside their homes, busy in business and having access to other recreational facilities, and they mostly spend time with their children.

Without a doubt, the economy is concerned with a family's fertility rates, and it has a significant impact on the family's living standards, as we see that poor people with little or no education and poor economic conditions have more children because they believe that their children will help them in old age as supporters for their parents, and that having more manpower will help them earn more in practical life. But on the other hand, rich people manage their family size by having a small family. Thus, they live in a better world, having access to education, health security, and employment, as stated by Pérusse (1993). Despite having capacity, rich people do not produce children. As one of the respondents replied, *"The very basic aim of marriage is not to have children. We cannot spoil our lives for the sake of children who may not be able to take care of us in our old age. That's why we are enjoying our life while keeping a limit on the number and spacing of our children."*

### **Unawareness /non-acceptance of family planning methods among Pakhtuns**

In some of the tribal areas, we lack family planning programmes and people do not act upon small family policies, which in turn results in a very large number of children per couple just a decade after their marriage. Because illiterate males and females in rural areas are unaware of the benefits of family planning for their own families, they continue to race the community in the race of having more children. Overpopulation is caused by a lack of awareness of family planning programmes and their implementation in remote rural areas. Pakhtuns are strong believers in fate and religion as

compared to other nations of the state, and thus they think that giving birth to children is not yet a problem either for them or for the rest of the people living in society as one of the respondent said that just act that

*"Allah is Raziq (food giver) and He will give food to all the people living in this world, as He claims in the Quran".*

Thus, there is a higher fertility rate among Pakhtuns in our country as compared to other ethnic groups. People of Pakistani society are reluctant to use contraceptives, which leads to a higher fertility rate (Farooq, 1981).

### **Desired of a male child, a cause of differential fertility**

Majority of the respondents were of the opinion that *"in our society the existence/birth of male child has been glorified since ages. Women considered themselves as blessed if they have male child or perhaps more than 3,4 male children. They are considered our protectors and the backbone the family. Sons protect us from enemies, help their fathers in bread earning and strengthens our position in the family"*.

This is also a fact that more than one wife at the same time leads to high fertility in our society and is a reason for the fertility differential. If a person has married one wife and has five or six daughters from that first wife, it is also very expected that he will marry another wife as he is in search of male children to be the heirs to his family land and property. Thus, by his second marriage, there is another start to giving birth to children, which in turn affects the family life of children and parents, as both are living in poor condition, having no access to resources for education and better living conditions. The second wife is also expected to have sex with her husband frequently and thus will give birth to at least five children or more, all subjected to the birth of a male child. Males are primarily valued in Pakhtun society as an economic asset, a continuation of family lineage, and a source of security in old age (Nayab, 2008).

### **Societal/in-law pressure leads to differential fertility**

This is a common truth in our society that when a couple has one or no child, even after five or six years of marriage, they are considered sterile in the eyes of relatives and friends. They are also perceived by friends as lacking the power to have sex in order to give birth to more children. The couple with a single child face taunting from people and, thus, decide to have more children in order to avoid such feelings from others. Sometimes we see that a woman who is the first wife of a man who is not fertile is facing the problem of a second wife on behalf of her husband. As we see, the wife is not overall a personal partner in a relationship in our society, but only a child-giving machine is expected to be. As one of the respondents said,

*"I wish my husband had not been under the pressure of my in-laws and I could have had 2, 3 children, so I might have cared for them in a good way".*

Thus, pressure from family members or friends becomes the cause of the fertility differential in Pakhtun society, as if in those societies where there is no such interference from in-laws or outer society, the number of children is limited.

#### **Female education and fertility differentials**

The female education ratio is very low among the Pakhtun. Among them, those women who are literate are first supposed to care for their children and housework. Secondly, they have to manage their time for their offices and jobs also, which leads to a number of problems for them and their families. It means that education is a cause of the different fertility rates among women, where due to their busy schedules, hectic jobs, and autonomy, educated women produce fewer children. One of the women responded that

*"educated women are more aware of their rights. They are doing jobs in different sectors, run their own businesses, and have more control on their bodies unlike the uneducated one who are in the control of their husbands. Due to economic independency, educated women are more likely to decide to get marry late and to have few children to focus more the better socialization of them".*

Caldwell (1981), Oppong (1983), Mahmood (1992), and Mahmood and Khan (1985) all found that education influences the age of marriage, the use of family planning methods, and the number and spacing of children.

#### **Women's autonomy and fertility differentials**

Similarly, most of the respondents were of the opinion that educated women are more powerful than uneducated women. They are aware of their rights. Mostly, they marry in their later lives. They are economically sound and can make their own decisions. They are out of the control of their in-laws and usually free of societal pressure. They can take part in household decisions that make them autonomous, first in marriage and then in producing children and using contraceptives. One of the respondents replied that

*"In Pakhtun society women are treated inferior because of its patriarchal nature and because of men earning power. Due to these reasons the number of children and use of contraceptives is decided by husband. But now the things are changing. Those women who are going outside of their houses, earn a handsome amount, and help their spouses financially; can now decide the number and spacing of children".*

These results are similar to the findings of Iqbal et al. (2021), who found that women's autonomy is a major weapon with women in using contraceptives and deciding the number and spacing of children. It means those women who are autonomous and are actively involved in household decision, use contraceptives (Nisar et al., 2021).

#### **Conclusions and recommendations**

Based on the above findings and discussions, it is concluded that fertility is not the same phenomenon found among all groups, but rather it is different among different ethnic, economic, educational, religious, and tribal groups. Similarly, differential fertility is mostly associated with women's economic status, their autonomy, household decisions, inter-spousal communication, and their level of education. In comparison to their counterparts who were more dependent on their spouses and living under the

extreme influence of society, especially in-laws, those women who were highly educated, working, and had financial decision-making power were more dominant and had the power to make decisions regarding their marriages, use of contraception, spacing, and number of children. It is recommended that if education, job opportunities, and access to family planning are provided to women, the fertility differential gaps between such women can be eradicated, the population can be limited, and future resources can be saved.

## References

- Acemoglu, D., Autor, D. H. & Lyle, D. (2004). ["Women, War, and Wages: The Effect of Female Labor Supply on the Wage Structure at Midcentury," \*Journal of Political Economy\*](#), University of Chicago Press, vol. 112(3), 497-551.
- Ahmad, A. (1991). *Women and Fertility in Bangladesh*. New Delhi: Sage Publications.
- Aysha J. (2007). The social context of family size preferences and fertility behavior in a South Indian village. *Genus*, 52: 83-103.
- Bongaarts, J., & Bulatao, R. A. (1999). Completing the Demographic Transition. *Population and Development Review*, 25(3), 515-529. <http://www.jstor.org/stable/172345>
- Cain, M. T. (1982). Perspectives on family and fertility in developing countries, *Population Studies*, vol. 36, 159-175.
- Caldwell, J. C. (1981). The mechanisms of demographic change in historical perspectives, *Population Studies*, vol. 35, 5-29.
- Caldwell. (1979). Education as a factor in mortality decline: An examination of Nigeria data. *Population Studies*, Volume 33.
- Chamei, J. (1977). Religious Differentials in Fertility: Lebanon, 1971, *Population Studies*, 32(2), 365-82.
- Clelan and Wilson. (1970). Social structure and fertility. *Economic development and cultural change*. Vol. IV( 3).
- Cohen, J.E. (2003). Rural poverty in South India. In T. N. Srinivasan disparity in child survival in Rural India, 472-482.
- Dharmalingam, A. (1996). The social context of family size preferences and fertility behavior in a South Indian village. *Genus*, 52, 83-103.
- Durr-e-Nayab. (2008). Demographic dividend or demographic threat in Pakistan? *Pakista Development Review*, 47(1), 1-26.
- Easterlin, R. 1961. An economic framework for fertility analysis, *Studies in Family Planning* 6, no. 3: 54-63.
- Farooq, G. M. (1981). Concepts and Measurement of Human Reproduction in Economic Models of Fertility Behaviour. Population and Labour Policies Programme. Working paper No. 102. Geneva: ILO.
- Ferasat, S. (1999). *Social Geography*, Rawat Publication, Jaipur and New Delhi, pp 317-69.
- Goldscheider C, Uhlenberg P. (1969). Minority group status and fertility. *American Journal of Sociology*, 74:361-372.
- Greenwood. (2005). Adoption of Family Planning In the Rural Raipur District, Chhattisgarh (India). *Research Link*, 30(5), 52-55.
- Halli, S. S. (1987). *How Minority Status Affects Fertility*, Greenwood Press.
- Kohler, H.-P., Billari, F. C., & Ortega, J. A. (2002). The Emergence of Lowest-Low Fertility in Europe during the 1990s. *Population and Development Review*, 28(4), 641-680. <http://www.jstor.org/stable/3092783>.
- Lucas, R. E. (2002). *Lectures on economic growth*. Cambridge, MA.
- Maguire, M., & Delahunt, B. (2017) *Doing a Thematic Analysis: A Practical, Step-by-Step Guide for Learning and Teaching Scholars*. All Ireland Journal of Higher



- Education (AISHE-J), 9, 3351.  
<https://ojs.aishe.org/index.php/aishe-j/article/view/335/553>
- Mahmood, N. (1992). Desire for additional children among Pakistani women: The determinants, *The Pakistan Development Review*, vol. 31, 1-30.
- Mahmood, N. and Z. Khan. (1985). "Literacy transition and female nuptiality: Implications for fertility in Pakistan", *The Pakistan Development Review*, vol. 24, 589-600.
- National Population Bureau. (2010).
- Nisar, M., Farooq, N., Adil, M., Ibrar, A. & Iqbal, H. (2021). HOUSEHOLD DECISION MAKING AND USE OF CONTRACEPTIVES AMONG PAKHTUN WOMEN, *Harf-o-Sukhan*, 5(3), 312-318.
- Niyaaz, H. (2000). Estimating fertility from household composition data in the census: the 'own-child' approach, *Population Trends* (29), 15\_19.
- Oppong, C. (1983). Women's roles, opportunity costs and fertility", in R. A. Bulatao and R. D. Lee (eds.) op cit.
- Peach, C. (1996). Ethnicity in the 1991 Census. Volume 2: The Ethnic Minority Populations of Great Britain. London: HMSO.
- Pérusse D. (1993). Cultural and reproductive success in industrial societies: testing the relationship at the proximate and ultimate levels. *Behav. Brain Sci.* 16, 267-283. (10.1017/S0140525X00029939)
- Rath. (1998). Occurrence of few biological events in females in relation to literacy, economic status and adoption of family planning in rural and urban area of central Orissa, India. *Man India*, 68(2-3), 228-234.
- Rees, W. E. (2007). An ecological economics perspective on sustainability and prospects for ending poverty, *Population and Environment*, 24(1), 15-46.
- Ritchie, J., & Lewis, J. (2003). *Qualitative Research Practice—A Guide for Social Science Students and Researchers*. London, Thousand Oaks, CA: Sage Publications Ltd.
- Samir (2010) Fertility differentials according to females' education, employment and family planning adoption in rural Bangladesh. *Nufusbil Derg*, 17-18,. 21-39.
- Santow, G. (1995). Coitus interruptus and the control of natural fertility, *Population Studies* 49 (1): 19-44.
- Sathar, Z. (1993). 'Who Gets Primary Schooling in Pakistan: Inequalities Among and Within Families', New York: The Population Council Working Paper No.52.
- Ullah, A., Ashraf, H., Zubair, S, m Sikandar, K. U. R., Ali, N., Shakoor, A. & Nisar. M. (2021). Battling the Invisible Infertility Agony: A Case Study of Infertile Women in Khyber Pakhtunkhwa-Pakistan, *Journal of Ethnic and Cultural Studies*, 8(2), 89-105  
<http://dx.doi.org/10.29333/ejecs/679>
- Wong, A. K. & Shui, M. N. (1985). Ethnicity and Fertility in Southeast Asia: A Comparative Analysis. Singapore: Institute of Southeast Asian Studies. (Research Notes and Discussion Paper No. 50).