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# SOCIO-CULTURAL AND CONTEXTUAL DETERMINANTS OF INTERGENERATIONAL CHANGE IN FERTILITY PATTERNS: A SYSTEMATIC REVIEW

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**Abstract**
The intergenerational change in fertility patterns is largely triggered by the socio-cultural and contextual determinants. The familial traits and attributes are transmitted from one generation to next generations through the parents. The mothers' fertility behavior is significantly associated with their daughters' fertility patterns. The objective of this systematic review is to identify the determinants of intergenerational change in fertility patterns found in the scientific literature review as potentially determining change in fertility patterns across two generations. At the searching stage, 98 research articles were identified by using key terms in alone and combination through different research database and search engines such as Google Scholar, PubMed, Elsevier, Scopus, Web of Science, Science Direct, Science Scholar, Taylor and Francis Online and Wiley Online Library. The criteria of the included studies were (i) Published articles, (ii) Published in "W" and "X" category research journals recognized by Higher Education Commission, Pakistan for the year 2022-23, (iii) Fully accessed research articles, and (iv) Research articles published in English language. At the final stage, 22 research studies were included for the systematic review. The findings of the included research studies yielded that socio-cultural determinants (education, rural-urban difference and employment status) and contextual determinants (relative age at marriage, mother's fertility preferences, parental family size and supportive environment of family bring the intergenerational change in fertility patterns. The findings can be summed up that intergenerational change in fertility patterns is largely influenced by the parents' fertility behavior. The Fertility characteristics and behavior of the parents at the same time shaped by their educational status, residential area, employment type, age at first marriage and environment of family.

**Key Words:** Systematic Review, Fertility Patterns, Intergenerational, Family Size, Childbearing

## 1. INTRODUCTION

It is argued that fertility traits and attributes are transmitted from one generation to next generation through parents. It has been observed that married daughters take their mothers' experience of fertility as a model. The results of the different research studies suggest that children from larger families tend to have extended family size; while, children from smaller families tend to have fewer children (Requena & Reher, 2023). Different research studies have been conducted to identify the intergenerational transmission of fertility-specific determinants through familial connections across generations (Anderson et al., 1987). For several societies, intergenerational change in fertility patterns widely confirmed. There is two important reasons to understand the intergenerational change of fertility patterns. Firstly, the meaning of family has been changed within socio-cultural context. Family norms and traits of fertility behavior influence the fertility patterns of their children. Strong ties and bonding of the parents-children likely to have high level of intergenerational change in terms of fertility behavior. Secondly, it is also assumed that size of family of origin highly influences the expected family size of the children (Morosow & Trappe, 2018).

Dahlberg and Kolk (2018) in their research study "Explaining Swedish sibling similarity in fertility: Parental fertility behavior vs. social background" found that fertility behavior of the parents has greater influence on the sibling similarity in family size as compared to social background. Regarding the determinants of intergenerational change in fertility behaviors and patterns, Testa et al (2017) conducted a research study to explore the factors that influence highly educated women to plan a larger family size. They found that family of origin is greatly influenced by the education level of mothers. Daughters with highly educated mothers likely to have more children. Similarly, more siblings' size within a family trigger the more children. It is stated that mother is a main source of learning for daughters and she provides care, advice and social support. Therefore, daughters' take fertility behaviors from their mothers.

It is also hypothesized that family of origin has visible influence on the intergenerational fertility patterns. There was a positive relation between the total number of siblings and expected family size and the relationship between family of origin and total expected family size cannot be explained by change in intergenerational socioeconomic status alone (Lutz & Peter, 2018). The socio-cultural determinants such as age at marriage, age at first birth, birth-intervals, educational status of spouse, residential area, and employment status of spouse, contraceptive use, access to health facility and access to mass media trigger the intergenerational change in fertility patterns. It is stated that strong socioeconomic background is a driving force which has greater influence on the fertility decisions (Lim, 2021).

### 1.1 Objectives

- To identify the socio-cultural and contextual determinants of intergenerational change in fertility patterns found in the scientific literature review as potentially determining change in fertility patterns across two generations.

## 2. MATERIALS AND METHODS

### 2.1 Identification and Study Selection

An organized searching methodology has been adopted to identify the relevant research studies. The research articles were identified through different database and search engines such as Google Scholar, PubMed, Elsevier, Scopus, Web of Science, Science Direct, Science Scholar, Taylor and Francis Online and Wiley Online Library. The pertinent literature was searched through key terms in alone and combination. The key terms were combined by AND, OR for identifying the maximum number of research studies. The used key terms in alone and combined were "Intergenerational Transmission of fertility" OR "Socioeconomic Differentials in Fertility" OR "Sibling Similarity in Fertility" OR "Mother's Fertility Intentions" OR "Fertility Patterns across Two Generation" OR

"Family Influences on Family Size" OR "Intergenerational Fertility Patterns" OR "Determinants of Fertility" AND "Number of Siblings and Expected Family Size "AND "Parental and Children Fertility Behavior" AND "Social Background and Fertility Preferences" AND "Age at Marriage and Effect on Fertility" AND "Status of Women and First-Birth Interval".

### 2.2 Eligibility of the Included Studies

#### 2.2.1 Inclusion Criteria

The inclusion criteria of the identified research studies were considered as under:

- Relevant Published articles
- Published in "W" and "X" category research journals recognized by Higher Education Commission, Pakistan for the year 2022-23.
- Fully accessed research articles
- Research articles published in English language

#### 2.2.2 Exclusion Criteria

The identified research articles were excluded under the following exclusion criteria:

- Articles which are not fully accessed
- Studies which had not outcome of interest
- Studies which had not relevancy of objective, methods and population after screening
- Research articles published in other languages except English

### 2.3 Data Extraction

The data was extracted from the included research articles by following Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines. The extracted data was classified with the comprehensive detail of the title of research articles, authors' name and publishing year, objectives, study design, data collection method, sample size, study subject, primary outcome of interest and determinants (Table 1).

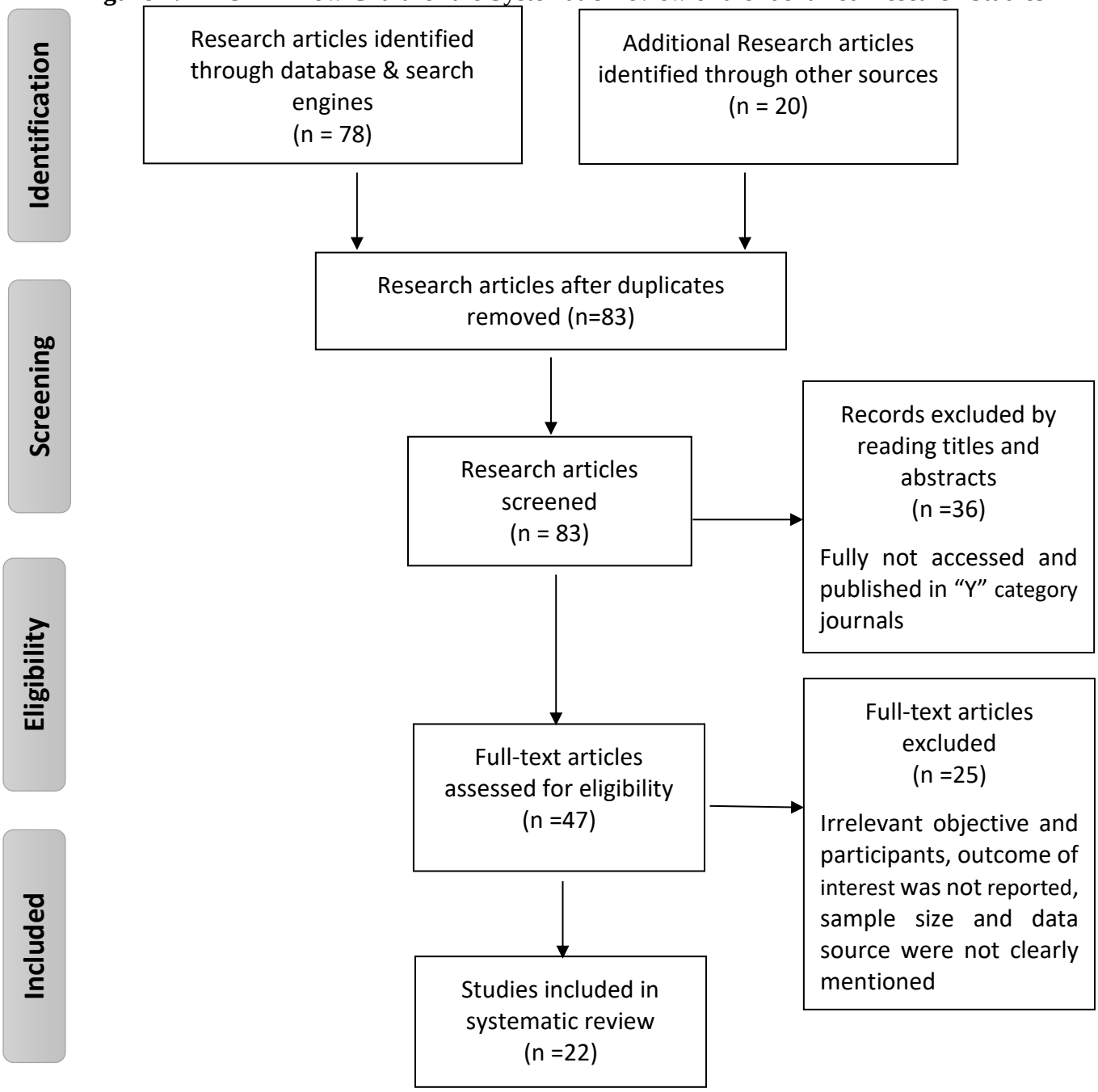
At initial stage, 98 research articles were identified through different search engines and databases, only 22 research articles were included in the systematic review study to understand and examine the determinants of intergenerational change in fertility patterns. Out of these 22 research articles, 16 articles published in "W" category journals and 06 articles published in "X" category journals recognized by Higher Education Commission, Pakistan.

The category and impact factor of journals were verified through the "Higher Education Commission Journal Recognition System". The included research articles were published from 1987 to 2023. The study design of the 13 research articles were longitudinal and remaining 09 articles had cross-sectional (Table 1). The subjects of the included research studies were married male and female in terms of mother and daughter, husband and wife, father and children.

### 2.4 Quality Assessment

Higher Education Commission (HEC) Journal Recognition System was used to assess the quality of research journals in which included research articles are published. The purpose of Journal Recognition System developed by the HEC is to recognize, reward and promote the high quality research. Journal Prestige Index (JPI) was also used to measure the prestige of a journal in which article is published within a subject area.

**Figure 1:** PRISMA Flow Chart for the Systematic Review of the Identified Research Studies




The above figure 1 describes the selection of research studies for the systematic review on the determinants of intergenerational change in fertility patterns. At initial stage, 98 research articles were identified through databases (78) and search engines (20). The 15 research articles were removed from the records due to duplication. After the removal of duplicates research studies, 83 research studies were screened and evaluated by reading titles and abstracts. The 36 research studies were excluded because these were not fully accessed and published in "Y" category research journals recognized by "HEC Journal Recognition System". Furthermore, 47 fully accessed research articles which published in high impact factor journals with "W" and "X" category recognized by "HEC Journal Recognition System" were analyzed and removed 25 research articles. The reasons were that objectives of the articles, data source, sample size and outcomes of the interest were not clearly mentioned. Resultantly, 22 research articles were included for the systematic review on determinants of intergenerational change in fertility patterns.

**Table 1 –** Characteristics of the included Research Studies (n=22)

| Title | Authors ,Year | Objectives | Study Design | Data Collection Method | Sample Size | Study Subject | Primary outcome of Interest | Determinants |
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| The influence of the number of siblings on expected family size in a cohort of young adults in Germany | Buhr, P. Lutz, K. & Peter. T. (2018) | To examine the relationship and socioeconomic factors associated with the number of siblings and expected family size | Longitudinal Study | Fifth Wave of the German Family Planning 1st wave in 2008/2009 5th Wave in 2012/13 | 1st wave sample size 12,000 participants (Three birth cohorts 1971-73, 1981-83, 1991-93) 5th Wave sample size declined to about 6,300 participants due to panel mortality | Married male & female | relationship and associated factors with number of siblings and expected family size | Similarity found in number of siblings and expected family size of their children |
| Socioeconomic differentials in fertility in South Korea | Lim, S. (2021) | To investigate the first and childbirths with socioeconomic difference among married women | Annual Longitudinal Study | Korean Labor and Income Panel Survey. Face to face interviews The analytic sample includes data from wave 1st (1998) to wave 20th (2017) | Representative sample of 5,000 household in urban areas at the baseline (1998) | Married women | Influence of socioeconomic status on the first and second child- | First and second child-birth are highly associated with the socioeconomic status of family |
| Intergenerational transmission of fertility timing in Germany | Morosow, K. & Trappe, H. (2018) | To examine the mother's and daughter's fertility behaviors | Annual Longitudinal Study | German Family Panel wave 1 to 3 (2008/2009, 2009/2010 & 2010/2011) and Demo Diff wave 1 to 2 (2009/2010 & 2010/2011) | Master sample of 13,891 respondents Four age group (15-19, 20-24, 25-29, 30-40) | Mothers & their daughters of cohorts (1971-73 & 1981-1983) | In which ways, mother's fertility behavior control her daughter fertility | Mother's fertility behavior is highly significant with the daughter's fertility behavior |
| Explaining Swedish sibling similarity in fertility: Parental fertility behavior vs. social background | Dahlberg, J. & Kolk, M. (2018) | To examine the parental fertility preferences and similarity among siblings | Annual Longitudinal Study | Data extracted from the Swedish Multigenerational Registers Swedish-born full biological siblings born between 1958 & 1967 | 88,358 women & 83,595 men for analysis age at first parenthood 117,560 women & 130,438 men for completed family size | Married Men & Women | Association of parental fertility preferences and social background with siblings' fertility | Parental fertility behavior is largely associated with the siblings' fertility as compared with social background |
| The impact of grandparental investment on mother's fertility intentions in four European countries | Tanskanen, A.O. & Rotkirch,A. (2014) | To examine the grandparents role in mothers' fertility preferences | Longitudinal Study | 1st wave of the Generation and Gender Survey from France (2005), Norway (2007-08), Bulgaria (2004) and Lithuania (2006) | 3,560 women were selected for the data analysis (2004-08) | Married Women living with a partner and at least one biological child under age 14. | In which ways grandparents influence the mothers' fertility intentions | Grandparents' social support and child-care are significant determinants of mothers' fertility intentions |

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| Are daughters' childbearing intentions related to their mother's socio-economic status? | Testa et al, (2016) | To investigate the association between mothers' socioeconomic status and daughter fertility behavior | Longitudinal Study | Data extracted from Generation and Gender Survey Italy (2003), Bulgaria (2004), Austria (2008/2009) and Norway (2007/2008) | 12,606 women aged 18-49 years were selected for the data analysis | Only the daughters-mothers were selected | How does mothers' socioeconomic status shape the daughters' childbearing behavior | Mothers' socioeconomic status largely associated with the childbearing intention of daughters |
| The influence of a supportive environment for families on women's fertility intentions and behavior in South Korea | Yoon, S.Y. (2017) | To investigate the relationship between the supportive environment and intention of second child-birth | Longitudinal Survey | Korean Longitudinal Survey of Women & Families (2007, 2008 & 2010) | The final analytic sample comprises 526 women under the age of 40 with one child. | Married women under the age of 40 with one child | How does supportive environment influence the intention of second child-birth | Supportive behavior of husband, in-laws and state policies encourage the child-birth of second children |
| Division of domestic labour and lowest-low fertility in South Korea | Kim, E. (2017) | To find out the relationship between division of domestic labour and low fertility | Longitudinal Survey | Korean Longitudinal Survey of Women & Families (2008, 2010 & 2012) | | | How does division of domestic labour influence the women's fertility intentions and fertility behavior? | Division of household labour in terms of husband participation in household chores is largely determined the women's fertility intentions. |
| Family influences on family size preferences | Axinn, W.G.,Clr-kberg. M.E., & Thornton, A. (1994) | To examine the parental fertility behavior and children's fertility intentions | Longitudinal Study | Mothers were interviewed in winter 1962, and in fall 1962, 1963, 1966, 1977, 1980 & 1985<br>The children born in 1961 were interviewed in 1980 & 1985, at ages 18 & 23. | 867 families were interviewed | Mothers and their children | In which ways, mothers' fertility preferences shape their children's fertility intentions and behavior | Mothers' fertility influence is highly significant with the children's fertility behavior |
| Selected determinants of fertility in Vietnam: Age at marriage, marriage to first birth interval and age at first birth | Luc et al, (1993) | To investigate the relationship of socio-cultural determinants with age at marriage, marriage to first birth interval and age at first birth | Cross-sectional Survey | Vietnamese Demographic and Health Survey | Sample size 4172 married women aged 15-49 | Married women | Influence of resident and education on age at marriage, marriage to first birth and age at first birth | Higher education and women resided in urban place significantly associated with age at marriage, marriage to first birth and age at first birth |
| Intergenerational transmission of relative fertility and life course patterns | Anderton et al, (1987) | To examine the transmission of fertility behavior across two generations | Longitudinal Study | Data are derived from the Mormon Historical Demography Project Four cohorts groups (1830-1839, 1840-1849, 1850-1859, 1860-1869) | Mother's sample size in four cohort group (415, 633, 1,196 & 1,412) Daughter's sample size in four cohort | Mothers and their daughters | Determinants of intergenerational transmission of fertility behavior | Mothers' fertility traits play an important role for transmitting the fertility behavior into next generation |

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| | | | | | group (837, 1,277, 2,499 & 3,445) | | | |
| The effect of childhood family size on fertility in adulthood: New evidence from IV estimation | Cools, S. & Hart, R.K. (2017) | To know the effect of siblings' size on their fertility in adulthood | Longitudinal Study | Norwegian Administrative Registers Norwegian families at least two children | Sample is all firstborns or second borns during the 1960 & 1969 110,000 men and 104,000 women | Man and Woman | examine the effect of siblings' on adult fertility | Childhood family size is a strong determinant of fertility behavior in adulthood |
| Beyond Transmission: Intergenerational patterns of family formation among middle-class American families | Fasang, A.E., & Raab, M. (2014) | To assess the parental influence in transmitting the family formation traits to their children | Longitudinal Study | Longitudinal Study of Generations in seven waves (1971-2000) Four-generation study | Sample size of 328 was drawn randomly from 840,000 members Eligible sample units were Grandparents and their spouses (G1), their adult children (G2) and their grandchildren (G3) | Parent-child dyads | Parental influence in family formation of their children | Emotional support and close-bonding of parents-children influence the family formation of their children |
| Intergenerational Patterns of Teenage Fertility | Kahn, J.R., & Anderson, K.E.(1992) | To know determinants associated with the intergenerational fertility transmission | Cross-sectional survey | National Survey of Family Growth 1988 | Sample is restricted to white and black women over the age of 20. Sample size was 6,084 black & white women | Married Black & White Women | Parental influence on teenage fertility of their children | Parents and family environment reinforce the same fertility patterns across two generations |
| Intergenerational transmission of fertility in Spain among cohorts born during the first half of twentieth century | Requena, M. & Reher, . D.S. (2023) | To find-out the relationship between intra-familial values and transmission of fertility | Cross-sectional survey | Socio-Demographic Survey 1991 including data on cohorts born between 1900-1946 | Total sample extracted 74,592 (Male 36,628 & Female 41,964) | Married male & female | Transmission of fertility between parents and children | Significant association between the fertility of parents and that of their sons and daughters. |
| Prolonged birth-intervals in Hamedan, Iran: variations and determinants | Erfani, M., Nojomi, M.M., & Hosseini, H. (2018) | To dig out the determinants associated with the birth intervals of first and second children | Cross-sectional survey | Hamedan Survey of Fertility 2015 | A representative sample of 3000 married women aged 15-49 | Married women aged 15-49 | Variations in first and second child-birth and associated factors | Education status and fertility control methods are highly associated with the birth-interval of first and second birth |
| Socio-Demographic influence on first | ZhenZhen, Z. (2000) | To find out the association between the age of marriage | Cross-sectional survey | National Fertility and Family Planning Survey 1992 | Sample size was 46,209 married women aged 15-49 | Married women aged 15-49 | Influence of Socio-Demographic characteristics on first | Place of residence and education are highly |

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| birth interval in China, 1980-1992 | | and first birth interval | | | | | birth interval among married women aged 15-49 | associated with the age at marriage and first birth. |
| Socioeconomic and cultural differentials in age at marriage and the effect on fertility in Nepal | Aryal, H.R. (1991) | To examine the socioeconomic and cultural difference associated with the age at marriage and fertility. | Cross-Sectional Survey | Nepal Fertility and Family Planning Survey 1986 | 5150 currently married women aged 15-49 | Married women aged 15-49 | Age at marriage and fertility by socioeconomic and cultural difference | Religious and cultural beliefs are important determinants of age at marriage. |
| Determinants of fertility in Nepal: Applications of an aggregate model | Thapa, S. (1987) | To investigate the proximate determinants of fertility in Nepal | Cross-sectional survey | National Fertility Survey 1976 | 6079 ever-married women (15-49) were interviewed | Ever-married women between the ages of 15 and 49 | Factors associated with high fertility | Urban resident, breastfeeding and education are highly significant with the childbearing behavior |
| Effects of the status of women on the first-birth interval in Indian urban society | Nath, D.C., Land, K.C., & Goswami, G. (1999) | To investigate the relationship between the status of women and first-birth interval | Cross-sectional survey | Two-phase household survey in Guwahati, the capital city of Assam, 1991-92 | 5000 eligible couples were selected | Married Couples | How does the status of women influence their fertility preferences | Education, decision-making and per capita income are the major determinants define the women's fertility preferences |
| Early marriage and early motherhood in Nepal | Choe, M.K., Thapa, S., & Mishra, V. (2004) | To examine the age patterns of first marriage and motherhood in Nepal | Cross-sectional survey | Nepal Adolescent and Youth Adult Survey (NAYA) 2000 | 7875 youths were selected for the data analysis | Young married and unmarried males & females ages 14-22 | Relationship between age at first marriage and early motherhood | Urban residence, education and cultural background are associated with the age at marriage and motherhood |
| Understanding generational differences in early fertility: Proximate and social determinants | Goldberg, R.E. (2018) | To observe fertility variations and associated factors across two generations | Longitudinal Survey | Add Health, longitudinal data from Waves 1-4 A cohort of youth who were in grades 7-12 in 1994-1995 | A total of 20,745 adolescents were interviewed in 1994-95, 14,738 were re-interviewed in 1996, 15, 170 interviewed in 2001-2002 and 15, 701 interviewed in 2008. | Adolescents women | Factors associated with variations in fertility patterns of successive generations | Second generation of immigrants perform marriage later and have limited fertility duration |

## 3. RESULTS AND DISCUSSIONS

Based on the insights extracted from the systematic literature review of the included research articles related to determinants of intergenerational change in fertility patterns can be discussed in two major classifications: socio-cultural determinants and contextual determinants.

### 3.1 Socio-cultural Determinants

#### 3.1.1 Education

The included studies for systematic review stated that educational status of parents-children play an important role in determining intergenerational change in fertility patterns. Lim in his research study "Socioeconomic differentials in fertility in South Korea" found that socioeconomic conditions such as educational status, employment status and household annual income of the both partners influence their decision-making about the birth-intervals and second-child birth. Additionally, it was found that women with tertiary educational attainment had higher risk of first birth as compared to women with graduates of high school in South Korea (Lim, 2021). Dahlberg and Kolk indicated that education is an important mediating determinant of explaining the association between the parents-children fertility patterns (Dahlberg and Kolk, 2018). Zhenzhen demonstrated that age at first marriage and education were not directly associated in his research study (Zhenzhen, 2000). Nath, Land and Goswami conducted a research study "Effects of the status of women on the first-born interval in Indian Urban Society" with aim to examine the influence of certain aspects (education, employment, role in family decision-making and age at marriage) on the status of married women in Indian urban society. They found out that there was a significant association between the female education and age at marriage. The women with higher education had higher mean age at marriage in Indian urban society (Nath, Land and Goswami, 1999). Luc et al in their research showed that married women with higher level of education had visible higher age at first birth as compared to the women with primary education or no formal education (Luc et al, 1993). The above findings can be concluded that education attainment of the women have greater influence on the intergenerational change in the fertility patterns in terms of age at marriage, age at first birth and birth-intervals.

#### 3.1.2 Rural-Urban Difference

In the light of systematic review of literature, rural-urban difference is a proximate determinant of intergenerational change in fertility patterns. Zhenzhen in his research study "Social-demographic influence on first birth interval in China, 1980-1992" figured out that women reside in rural areas get marriage earlier and give birth to first child earlier. He further demonstrated that 95% of the women married before reaching at the age of 20 and among these 90% of the married women gave birth to their first child within two years of marriage (Zhenzhen, 2000). Thapa concluded that women living in urban settlements have lower fertility rate as compared to women living in rural areas due to higher age at marriage and practice of contraceptive methods (Thapa, 1987). Choe, Thapa and Mishra find out in their research study that difference in mean age is larger in urban areas as compared to the rural areas (5.3 years vs 4.2 years). They further figured out that Nepalese parents have greater influence regarding the decisions of marriage of children in rural areas (Choe, Thapa and Mishra, 2004). The above results yielded that rural-urban difference influence the intergenerational fertility patterns.

#### 3.1.3 Employment Type

Employment type of the mothers and that of their daughters regarded as crucial determinants influence the fertility behavior of mother and daughter. Lim in his research stud demonstrated that there was a significant relationship between the wife's employment type and birth of first child. He concluded that unemployed female have short birth interval of first child as compared to the employed female (Lim, 2021). Nath, Land and Goswami in their study "Effects of the status of women on the first-birth interval in Indian urban society" concluded that mean age at marriage was higher among females who were highly educated, employed with higher Per Capita Income and active participated in household decision-making (Nath, Land and Goswami, 1999). Dahlberg and Kolk in their research study indicated that parental occupation was a strong determinant which explained that 28% of the brother's

and sister's age at first birth (Dahlberg and Kolk, 2018). The findings of the included studies can be summarized that there was a significant association between the employment type and intergenerational change in fertility patterns.

### 3.2 Contextual Determinants

#### 3.2.1 Relative age at marriage

Relative age at marriage of mother play an integral role in determining the age at marriage of her daughter. There was a strong association between the age at marriage and number of children ever-born. The age at marriage determines the duration of the fertility. Zhenzhen (2000) in his research study established that there was a close association between the age at marriage and the timing of first birth. Aryal (1991) in the research article "Socioeconomic and cultural differentials in age at marriage and the effect on fertility in Nepal" discussed that socioeconomic and cultural characteristics had strong influence on the age at marriage. Religion, work before marriage, education of husband and wife, ethnicity and geographical region were the determinants of age at marriage. Thapa (1987) concluded his research study that higher age at marriage trigger the lower fertility among women. Nath, Land and Goswami (1999) in their study revealed that female education played a decisive role in increasing age at marriage and it ultimately leads to fewer births. Choe, Thapa and Mishra (2004) in research study "Early marriage and early motherhood in Nepal" yield that practice of early marriage triggers the early motherhood and it shows the women's subordination and subjugation. Luc et al (1993) discussed that women with no education and primary education married before the age of 22 years of age and he further elaborated that women residing in rural areas have shorter birth intervals as compared to the women residing in urban areas. The results of the above studies can be concluded that age at marriage, birth intervals and number of children are correlated. It can said that potential of fertility is highly determined by age at marriage and it shapes the intergenerational fertility patterns.

#### 3.2.2 Mother's preferences of fertility

Mother's preferences of fertility was a strong variable affect the daughter's fertility preferences. The different research studies showed that mother having lower fertility is more likely to transmit fertility-reducing behavior in her daughter. Requena and Reher (2023) performed a research study "Intergenerational transmission of fertility in Spain among cohorts born during the first half of the twentieth century" with aim to investigate the transmission of intra-familial values associated with reproduction and life cycle. They found that there was significant relationship between the fertility of parents and that of their sons and daughters. Axinn, Clarkberg and Thornton (1994) concluded their research study by demonstrated that mothers' fertility preferences had longer influence on their children fertility. They further explained that mothers' fertility preferences passed down to their children through early adulthood. Kahn and Anderson (1992) stated the same that marriage and childbearing behaviors were highly influenced by the mothers' teenage fertility and family formation. The above results can be concluded that mothers' fertility preferences relatively greatly associated with their daughters intended family size.

#### 3.2.3 Parental Family Size

It is also observed that parental family size influence the family size of their children. For example, a daughter belong to a large family size tend to marry earlier and terminate the birth of first child earlier, it leads to a large family size. A research study conducted by the Anderson et al (1987) demonstrated that there was a significant relation between the exposure to large family size and expected family size. They further yielded that mother's relative fertility and daughter's relative fertility was strongly associated. Axinn, Clarkberg and Thornton (1994) in their research study "Family influences on family size preferences" figured out that completed size of children ever born to mother have significant association with the child's family size preferences and fertility of parents continues to influence the intergenerational change in the fertility patterns of the children. Testa at el (2016) performed a research and concluded that daughters with more siblings were more likely to have large

family size as compared to their counterparts with single brother or sister. Dahlberg and Kolk (2018) found that parents' age at first birth, size of siblings and socioeconomic characteristics were highly significantly associated with sibling similarities in fertility patterns. The discussions of the findings can be summarized that parental family size highly influence the intergenerational change in fertility patterns of successive generations.

### 3.2.4 Supportive environment of family

Environment of family and emotional support encourage the women to take second child-birth. The support and cooperation of grandparents and husband is highly important determinants of intergenerational change in fertility patterns. Tanskanen and Rotkirch (2014) conducted a research study "The impact of grandparental investment on mothers' fertility intentions in four European countries" with aim to investigate the association between grandparents' investments and the intentions to have a second or third child. They yielded that grandparents' emotional support and child care encourage the mothers to have second child. Yoon (2017) concluded his research study that there was a significant association between the supportive environments of the family and fertility intentions. He found that support of parents or in-laws increased the chance of having second children. Kim (2017) indicated that support of husband in terms of sharing household chores create a sense of birth of second children. The above narrated findings can be concluded that supportive environment of family brings change in the fertility behaviors across the generations.

## 4. CONCLUSION

In the systematic review of 22 research studies on the socio-cultural determinants of intergenerational change in fertility patterns can be concluded that there are variety of determinants which influence the fertility patterns across the generations. Most prominent determinants are the educational status of parents and children, rural-urban difference, employment status, relative age at first marriage, mothers' preferences of fertility, parental family size and supportive environment of the family. The above discussed results indicated that intergenerational change in fertility patterns and behaviors are mostly transmitted by the parents. Particularly, age at marriage is a significant determinant which influence the duration of fertility and number of children. The co-variates of age at marriage are diverse in nature such as educational attainment, rural-urban difference, employment status and mothers' fertility preferences. The included research studies for systematic reviews also yielded that parental family size and number of siblings are also strong determinants of intergenerational change in fertility patterns. Summing up the all discussions, it can be summarized that intergenerational change in fertility patterns is largely influenced by the parents' fertility behavior.

## 5. ACKNOWLEDGEMENT

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## 6. CONFLICT OF INTEREST

The Authors have no conflict of interest to disclose.

## 7. CONTRIBUTION

The cogent findings of this systematic review study contribute to understand the fertility patterns across two successive generations and associated socio-cultural factors in a coherent and scientific way.

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