

## Exploring the Nexus between Women's Literacy Rates and Family Size: A Case Study of Nepal



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**ABSTRACT:** The literacy rate of a nation serves as a pivotal indicator of its developmental trajectory across the globe. However, in many developing countries, including those in South-Asia, a notable gender disparity persists in literacy rates, with women lagging behind men. This study focuses on Nepal, a representative country in this region, utilizing data spanning three decades from the National Population Census (1991 to 2021). The findings reveal a considerable rise in women's literacy rates over the three-decade period, marking a noteworthy shift from the substantially low rates observed in 1991. The trend consistently ascended in subsequent years—2001, 2011, and 2021—indicating a positive trajectory in female literacy. Crucially, an intriguing relationship emerged between women's literacy rates and family size. Historically, when female literacy rates were considerably lower, the national average family size tended to be higher. However, with the progressive increase in female literacy rates in recent years, a marked shift toward smaller, nuclear family sizes, averaging around four members, was observed. This shift implies that literate women exhibit heightened self-awareness regarding family planning, influencing the move toward maintaining smaller nuclear families. Notably, while male literacy rates exceeded 50% even three decades prior, solely bolstering male literacy did not correlate with maintaining nuclear family sizes. The study emphasizes the unique effectiveness of female literacy in shaping and maintaining the transition toward smaller nuclear family structures. These findings underscore the critical role of women's education in influencing family planning and size, marking a pivotal factor in shaping societal structures and developmental paradigms.

**KEYWORDS:** Female, Literacy, Nuclear family, Developing countries, Society

### BACKGROUND

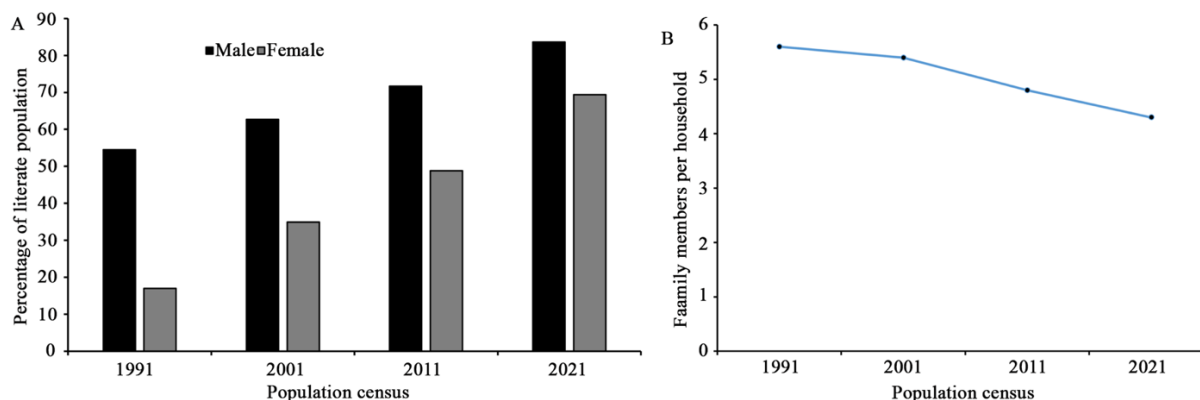
Empowering women through education has been recognized globally as a catalyst for progress. Educational attainment among women correlates positively with improved health outcomes, economic prosperity, and social advancement within communities (Alaoui, 2015; Subramanian, 2023). However, the journey toward gender parity in education has encountered obstacles, particularly in regions where cultural norms, socio-economic disparities, and traditional beliefs hinder female access to education (King & Hill, 1997; Klasen, 2002; Dessy et al. 2022). Education serves as a powerful tool in breaking the cycle of poverty and empowering individuals to make informed decisions. When women have access to quality education, it not only enhances their individual prospects but also contributes significantly to the socio-economic fabric of their communities (Alaoui, 2015; Hashaam & Yasmeen, 2022; Subramanian, 2023). However, cultural norms, socio-economic inequalities, early marriages, and inadequate infrastructure continue to impede educational opportunities for girls and women in many parts of the world (Raj et al. 2019; Dessy et al. 2022).

In the context of family dynamics, the education of women plays a pivotal role in influencing family size and structure (Kim, 2023; Lohani et al. 2023; Phiri et al. 2023). Historically, in many societies where female education was limited, larger family sizes were prevalent. However, as access to education increased for women, there was a notable shift in family size dynamics (Kakoli & Sayeed, 2015). Educated women tend to have a better understanding of family planning methods, contraception, and reproductive health, enabling them to make informed choices about the size of their families (Jiang & Hardee 2014; Kebede, 2019; Liu & Raftery 2020). The concept of family size, particularly the prevalence of nuclear families, holds significant importance in societal dynamics and individual well-being. Smaller family sizes, as observed in nuclear families, offer numerous advantages. They allow for more focused attention on each family member's needs, fostering deeper connections and support systems within the household (Peterson and Rose, 2003; Anderson, 2014). With fewer individuals, resources like time, finances, and emotional energy can be allocated more effectively, contributing to a higher quality of life and enhanced opportunities for personal growth and development.

This study delved into three decades' worth of population census data from Nepal. Through an analysis of secondary data obtained from the National Population Census, a discernible correlation emerged between women's literacy rates and the

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maintenance of an approximate nuclear family size of around four members (NPHC, 1991, 2001, 2011, 2021). Upon meticulous examination of the census data, the intriguing observation surfaced that women's literacy rates were proportionally linked to family size, prompting an investigation into the relationship between female literacy and family size using this three-decade population census dataset. Notably, the data revealed a compelling trend: as female literacy rates increased over time, there was a consistent trend in sustaining a nuclear family size (Figure 1). This finding underscores the noteworthy influence of female education on shaping family structures towards smaller, nuclear units over the examined period. In this study, the adult literacy rate is defined as the percentage of people ages 15 and above who can both read and write with understanding a short simple statement about their everyday life. The male and female adult literacy rate is the ratio of the total literate male and female population aged 15 years and above to the total male and female population respectively in the same age group and is expressed as a percentage.



**Figure 1. Bar diagram showing the percentage of the literate population of Nepal in the population census from 1991 to 2021 (A). Line graph showing the number of family members per household according to population census data spanning the same period from 1991 to 2021 (B).**

The data reveals an intriguing trend in Nepal's demographics over the years. In 1991, despite male literacy exceeding 50%, households maintained a considerably large family size, averaging around six members (Figure 1A). During this period, female literacy staggered at a mere 17%, one-third of the male literacy rate (Figure 1A). By 2001, female literacy doubled, coinciding with a marginal 0.2 decrease in average family size (Figure 1A-B). However, by 2011, a significant drop in average family size from 5.4 to 4.8 coincided with a female literacy rate of 48.8%, marking nearly half the female population as literate (Figure 1A-B). Despite this progress, the 2011 figures still showcased a substantial gap between male and female literacy rates, reflecting persistent gender biases in Nepal's education system (Figure 1A). Remarkably, in 2021, the literate female population surged to approximately 70%. Curiously, this surge in female literacy correlated with an decrease in average family size, converging towards a smaller, nuclear family structure, averaging around four members (Figure 1A-B). This data collectively underscores a strong correlation between female literacy rates and household family size in Nepal.

The correlation between female literacy and the maintenance of family size, as observed from Nepal's population census data, favors a shift towards smaller, nuclear families, emphasizing the profound impact of education. This relationship highlights the crucial significance of investing in female education as a cornerstone of social development. Empowering women through education not only enhances individual capabilities but also fosters informed decision-making within families, society, and the nation as a whole (Jiang & Hardee, 2014; Kakoli & Sayeed, 2015). Moreover, educated women tend to make informed choices about family planning, significantly contributing to the preference for smaller family sizes (Jiang & Hardee, 2014; Kebede, 2019; Liu & Raftery, 2020). Additionally, as literacy rates among women increase, there is a noticeable trend towards nuclear family setups, indicating the transformative influence of education on societal constructs (Somani, 2017). Therefore, recognizing the intrinsic link between female education, family structure, and societal evolution underscores the imperative nature of prioritizing and promoting female literacy. Investing in education for women is pivotal for fostering progressive societal changes and ensuring holistic development.

### ACKNOWLEDGEMENTS

I express my sincere gratitude to Dr. Yam Aryal for his invaluable assistance during the preparation of this manuscript.

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