

The Persistence of Age Gaps in Indian Marriages: A Socio-Economic Analysis

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Abstract: This study investigates the trends in spousal age differences in India from 1991 to 2011, analyzing socio-economic, educational, and cultural influences on marital age preferences. Data from the NSSO, Census of India, and NFHS indicate a decline in spousal age gaps until 2001, reflecting a shift towards egalitarian marital norms due to increased female education and empowerment. Post-2001, this trend plateaus or reverses, pointing to the persistence of traditional norms and emerging economic factors in marital decisions. The research highlights a correlation between economic affluence and larger spousal age gaps, varying regionally. Educational disparities, especially when husbands are more educated, result in larger age gaps, whereas equal educational levels correlate with narrower gaps. The findings suggest that economic and educational progress influences, but does not fully transform, traditional marital age norms, underscoring the need for continued focus on gender equality and educational empowerment.

KEYWORDS: Spousal age difference, Indian marriage market, Modernity, Social change, NSSO data, NFHS data.

JEL CLASSIFICATION: J1; Z13; Z18; O47

1. Introduction:

In recent times, both Western nations and India have seen a trend toward smaller age gaps between spouses. Research by Shafer (2013), Kolk (2015), and Dommaraju (2021) has highlighted this shift. Specifically in India, the average marrying age for women increased from 13 in 1911 to 19.3 in 2011, and for men, it went up by five years. Consequently, the age difference between spouses has decreased from seven to slightly less than four years, mirroring a worldwide trend of reducing age disparities in marriages. However, in certain high-income urban areas in India, a greater age difference is often viewed as a status symbol, contradicting the general trend of narrowing age differences. This phenomenon is particularly evident in regions where marriage plays a critical role in the social structure.

This study examines the determinants of marital timing and age gaps between spouses, drawing on theories from Becker (1981) and Oppenheimer (1988, 1997). Becker's theory proposes that traditionally, younger women marry for financial stability provided by older men, a trend less prevalent among economically self-sufficient women. Becker also observed that financially secure men are more inclined to marry. Oppenheimer's theory further suggests that as women increasingly contribute outside the household, they delay marriage for personal and professional advancement, leading to smaller age disparities in marriage.

The research of Mu and Xie (2014) unveiled a complicated, inverted U-shaped trend in spousal age similarity within China, indicative of the complex interplay between economic development, consumerism, education equality, and marital age trends. Dommaraju (2021) also found that in South and Southeast Asia, marriages with similar-aged spouses remain

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uncommon, underscoring the persistent influence of traditional norms and the impact of men's marriage age on the age gap between spouses. In patriarchal societies, larger age differences between spouses often reflect entrenched gender inequalities (Casterline et al., 1986; Carmichael, 2011; Gustafson & Fransson, 2015).

The paper further explores how societal transformations and changes in marital systems have contributed to reducing age disparities between spouses. The decline in parental influence on spouse selection and a shift towards more companionate marriages have significantly impacted this trend (Kalmijn, 1994, 1998; Carmichael, 2011). Additionally, marrying later in life typically correlates with smaller age differences. The role of educational environments in facilitating interactions among similarly-aged individuals, and the trend of delayed marriage due to higher education, also affect this dynamic (Carmichael, 2011; Gustafson and Fransson, 2015). Nevertheless, the effect of education on spousal age differences varies globally, influenced by the societal position of women and cultural contexts (Casterline et al., 1986).

It further explores the paradox where higher income levels are linked to wider age gaps between spouses, despite increased female autonomy due to higher education, income, and urbanization. Utilizing extensive data from the National Sample Survey's 50th, 61st, and 68th rounds, we delve into the key elements that influence the age difference between spouses. Our focus is on understanding the role of income and substitution effects, alongside other factors like caste, ethnicity, and socio-demographic variables. Our findings reveal a notable negative impact of income on the spousal age gap in urban settings. At the same time, the data show a trend towards reducing age hypergamy, as indicated by the inverse relationship with proxies for the substitution effect. Despite economic advancements, this trend might unintentionally perpetuate larger age gaps in marriages, potentially upholding patriarchal standards in contexts where gender biases are prevalent in both social and economic arenas.

In India today, significant societal shifts are occurring, marked by improved educational levels, declining fertility rates, and a general trend of shrinking age differences between spouses in line with economic growth. However, this scenario of reduced age gaps in the context of economic development paints a complicated picture that warrants deeper investigation. A detailed analysis of different income groups, based on the monthly per capita income data from the National Sample Survey Organisation (NSSO), shows not just intriguing results but also a variety of viewpoints. This situation highlights a tense interplay between modern developments and cultural changes within the Indian population.

The paper is organized as follows: The rest of the paper is organized as follows: Section 2 describes the data, and methodology. Section 3 reports the main results found, and finally, I conclude the with major findings of the analysis.

2. Data sources, and Methodology:

This investigation utilizes data from three principal sources: individual-level records from the National Sample Survey Organisation (NSSO) - Schedule 10 (Employment Unemployment Survey), augmented by the Census of India and the National Family Health Survey (NFHS) data. The NSS data for the years 1993-1994, 2004-2005, and 2011-2012 were specifically chosen for analysis. These rounds represent comprehensive household surveys conducted periodically at both national and state levels, known for their accuracy. These surveys from

the NSSO are critical for deriving metrics such as monthly per capita expenditure, unemployment rates, and poverty indicators, while also providing in-depth information on occupational and educational classifications.

The research aims to analyze patterns and trends in the age difference between spouses and the age at marriage for men and women, leveraging state-level data from the census. Given the importance of marriage age as an indicator of spousal age disparity, this study addresses the lack of direct marriage age data in the census records. An indirect estimation method is applied to determine the average age at marriage, which calculates the proportion of unmarried individuals within each age group, based on the population that has never married. The Singulate Mean Age at Marriage (SMAM) method, introduced by Hajnal in 1953, is employed here. This technique estimates the average marriage age using the distribution of single individuals across age groups, a useful approach in contexts like India where marriage registration data might be lacking. Data from the three most recent censuses (1991, 2001, and 2011) are utilized for this purpose. The research calculates the age difference in marriage by subtracting the female's age at marriage from the male's, using the SMAM method. Further, a cross-validation of this age gap with NSS data shows a consistent pattern in marital age differences across both datasets. The study also incorporates data from all rounds of the National Family Health Survey (NFHS), from the first to the fifth. This inclusion aims to examine the spousal age gap across different education and income levels, enhancing the validation of findings derived from the NSS data. By integrating NFHS data, the study broadens its analytical scope and solidifies the reliability of its insights regarding how educational and income factors influence the differences in spousal ages.

3. Results and Analysis

This research offers a nuanced perspective on the interplay of socio-economic and demographic factors influencing marital age differences across urban and rural sectors. Table 1, encapsulates demographic and socio-economic transitions across rural and urban sectors, reveals an intricate pattern in the spousal age gap. The data indicates a national decline in the age difference between spouses until 2001, followed by a plateauing trend, with some states even showing an increase in this gap from 2001 to 2011. A case in point is Kerala, where the rural spousal age gap rose from 5.4 years in 1991 to 6.8 years in 2011, suggesting the influence of unique socio-cultural dynamics within the region. The data also highlights substantial urban-rural disparities in states like Bihar, where the urban spousal age gap was significantly larger than its rural counterpart in 2011. This difference points towards the variation in marital norms and socio-economic conditions between urban and rural settings within the same state.

Table 1: Spousal age gap: Census of India, 1991, 2001 & 2011

Area Name	Rural			Urban		
	1991	2001	2011	1991	2001	2011
India	4.7	4.6	4.4	4.9	4.7	4.6
Jammu & Kashmir		3.7	3.1		3.2	2.2
Himachal Pradesh	4.2	4.2	4.3	4.0	3.3	3.2

Punjab	3.3	3.2	3.1	3.5	3.1	3.2
Uttarakhand		4.2	4.1		4.0	3.9
Haryana	4.0	4.0	3.9	3.9	3.7	3.5
Delhi	3.8	3.9	3.8	3.6	3.7	3.6
Rajasthan	4.1	3.7	3.4	4.2	3.9	3.6
Uttar Pradesh	4.0	3.8	3.5	4.2	4.0	3.9
Bihar	4.7	4.5	4.2	5.2	5.3	5.0
Arunachal Pradesh	5.0	4.1	3.4	5.3	4.5	3.2
Nagaland	3.9	3.1	2.9	4.8	4.2	3.0
Manipur	3.4	3.1	2.7	3.6	2.9	2.9
Mizoram	4.4	3.9	3.1	4.2	3.2	2.2
Tripura	6.0	5.6	5.1	6.5	6.2	6.4
Meghalaya	4.4	4.2	3.6	4.0	3.6	3.0
Assam	6.1	5.7	5.5	6.3	6.1	6.0
West Bengal	6.4	6.0	5.8	6.0	6.1	6.0
Jharkhand		4.5	4.2		5.0	4.8
Orissa	4.7	4.7	4.8	5.5	5.5	5.5
Chhattisgarh		3.3	3.2		4.5	4.1
Madhya Pradesh	3.9	3.7	3.5	4.6	4.4	4.2
Gujarat	3.3	3.3	3.3	3.8	3.8	3.7
Maharashtra	5.2	5.0	4.8	4.9	4.6	4.4
Andhra Pradesh	5.3	4.9	4.8	5.3	5.0	4.8
Karnataka	6.1	5.9	5.9	6.2	5.9	5.6
Goa	5.3	5.0	5.3	5.1	5.0	5.1
Kerala	5.4	6.2	6.8	5.8	6.5	7.2
Tamil Nadu	5.4	5.4	5.7	5.7	5.5	5.4

Source: Author computation from different Census rounds, 1991-2011

The census data from 1991 to 2011 exhibit a modest nationwide reduction in the average spousal age gap across both rural and urban sectors, indicating a gradual shift in societal attitudes towards marital age norms. However, the trend of a more pronounced age difference in urban areas suggests a higher prevalence of age hypergamy in these regions. The NFHS data further corroborates this, showing a stagnation in the decrease of the spousal age gap after 2001.

The analysis of spousal age gap in relation to varying Monthly Per Capita Expenditure (MPCE) levels, as presented in Table 2, unveils a compelling correlation between spousal age gap and prosperity. In higher income brackets, the age difference either increases or remains constant, implying that economic affluence might be associated with more traditional marital age preferences. This relationship is consistent at both national and regional levels, with some variations. For instance, in 2011-12, the wealthiest segment in rural areas had a spousal age

gap of 5.1 years, while in urban areas it was 5.2 years. However, in the southern region of India, the gap was significantly wider, especially in the highest income class. Interestingly, there has been some longitudinal adjustment in the spousal age gap from 1993-94 to 2011-12, with a consistently positive correlation between prosperity and age difference, particularly at the highest income levels.

Table 2: Spousal Age Gap by varying MPCE levels, NSS 50th, 61st and 68th rounds

Region	Level of MPCE	Urban			Rural		
		50 th	61 st	68 th	50 th	61 st	68 th
India	Below 20%	5.5	5.1	4.9	4.8	4.6	4.4
	Between 20% to 50%	5.7	5.2	5.0	5.1	4.9	4.8
	Between 50% to 80%	5.7	5.4	5.1	5.3	5.0	4.8
	Above 80%	5.7	5.4	5.3	5.4	5.1	5.1
North	Below 20%	4.1	3.9	3.8	4.1	3.7	3.8
	Between 20% to 50%	4.5	4.0	3.8	4.5	3.7	3.9
	Between 50% to 80%	4.7	4.2	3.9	4.3	3.8	3.7
	Above 80%	4.6	4.3	4.0	4.4	4.0	3.9
Central	Below 20%	4.3	3.9	4.0	3.6	3.4	3.5
	Between 20% to 50%	4.5	4.2	4.1	3.7	3.6	3.6
	Between 50% to 80%	4.8	4.5	4.4	3.9	3.8	3.7
	Above 80%	4.9	4.7	4.7	4.0	4.0	4.0
West	Below 20%	5.5	5.1	4.7	5.1	4.6	4.1
	Between 20% to 50%	5.5	4.9	4.8	4.9	4.6	4.3
	Between 50% to 80%	5.4	5.1	4.7	4.9	4.7	4.5
	Above 80%	5.2	4.9	4.9	5.2	4.9	4.8
South	Below 20%	6.5	6.1	5.9	6.3	5.7	5.8
	Between 20% to 50%	6.7	6.3	6.1	6.3	5.9	6.1
	Between 50% to 80%	6.8	6.7	6.2	6.5	6.2	6.0
	Above 80%	6.7	6.3	6.2	6.8	6.5	6.3
East	Below 20%	5.8	5.5	5.6	5.0	5.0	5.0
	Between 20% to 50%	6.5	6.1	6.1	5.2	5.3	5.3
	Between 50% to 80%	6.7	6.6	6.4	5.7	5.7	5.7
	Above 80%	7.0	6.8	6.6	6.5	6.4	6.2
Northeast	Below 20%	6.4	6.2	5.0	6.4	6.2	5.5
	Between 20% to 50%	6.2	5.1	4.7	6.4	6.2	5.2
	Between 50% to 80%	5.7	5.0	4.8	6.3	5.4	5.0
	Above 80%	6.1	5.2	5.1	6.1	5.1	5.0

SOURCE: NSS 50th, 55th, 61st & 68th round Employment and Unemployment Survey.

The impact of income on the spousal age gap is not homogenous across regions. In the South, higher income correlates with a larger age gap, whereas in the Northeast, the gap tends to decrease or stabilize across different income levels.

The largest age gaps are observed when the husband is a graduate and the wife has secondary or higher secondary education, and the smallest gaps occur when both spouses are graduates (See Table 3). This finding aligns with Becker's theory of positive assortative mating, suggesting a tendency among less affluent sections to choose partners with similar characteristics. However, the influence of education on the age gap varies significantly by

region. In the Northeast, for instance, the age gap remains relatively stable regardless of educational level, indicating that other factors may play a more crucial role in determining spousal age differences in this region.

The findings are further corroborated by the data sets from the National Family Health Survey (NFHS). It reinforces the nuanced understanding of spousal age gap trends in India (See, Appendix 2). The NFHS data, especially from rural areas, substantiates the observed larger spousal age gap, thus complementing and confirming the trends noted in urban settings. This congruence suggests a complex interplay between urban and rural dynamics in shaping marital age norms. Furthermore, the increasing spousal age gap among individuals with 5-9 years of education in the NFHS data echoes the earlier observations regarding the impact of educational disparities on marital age differences. The consistent trend of larger age gaps in scenarios where husbands are more educated than their wives aligns with the patterns observed in lower education brackets, reinforcing the influence of educational attainment on marital age preferences. Additionally, the rising trend in the spousal age gap across both Hindu and Muslim populations, as revealed by the NFHS, supports the persistence of traditional marital age preferences across religious lines. Similarly, the variations in spousal age gaps across different caste groups, as shown in the NFHS data, corroborate the complex interplay of social stratification and marital choices. Collectively, these findings from the NFHS data sets not only support but also enrich the earlier results, painting a comprehensive picture of the spousal age gap in India as a multifaceted issue, deeply influenced by a constellation of factors including geographic location, education, religion, caste, and economic status.

Table 3: Spousal Age Gap by spousal education matching, NSS 50th, 61st, and 68th rounds

Region	Education matching	Urban			Rural		
		50 th	61 st	68 th	50 th	61 st	68 th
India	Husband and wife both Secondary	5.7	5.4	5.2	4.8	4.8	5.0
	Husband High sec & Wife Secondary	5.6	5.3	4.8	5.2	4.8	4.7
	Husband Graduate & Wife Secondary	5.9	5.7	5.6	5.6	5.6	5.5
	Husband and wife both High Sec	5.1	5.0	4.8	5.0	4.4	4.3
	Husband Graduate & Wife High Sec	5.6	5.5	5.2	5.5	5.2	5.1
	Husband and wife both Graduate	5.0	4.7	4.6	4.9	4.9	4.7
North	Husband and wife both Secondary	4.5	4.1	4.0	3.6	3.9	4.0
	Husband High sec & Wife Secondary	4.4	4.4	3.8	3.9	3.4	3.9
	Husband Graduate & Wife Secondary	5.0	4.4	4.6	4.4	4.5	4.2
	Husband and wife both High Sec	4.3	3.8	3.8	3.3	3.6	3.5
	Husband Graduate & Wife High Sec	4.7	4.5	4.0	3.3	3.9	4.3
	Husband and wife both Graduate	4.4	3.8	3.6	4.1	3.8	3.6
Central	Husband and wife both Secondary	4.6	4.7	3.9	3.0	3.3	3.4
	Husband High sec & Wife Secondary	4.7	4.2	4.3	3.3	3.7	3.7
	Husband Graduate & Wife Secondary	5.0	4.4	4.4	4.1	4.0	4.1
	Husband and wife both High Sec	4.9	4.5	4.1	3.3	3.7	3.5
	Husband Graduate & Wife High Sec	4.8	4.7	4.4	3.9	4.2	3.9
	Husband and wife both Graduate	4.7	4.2	4.3	3.9	4.1	3.6
West	Husband and wife both Secondary	5.4	5.2	4.2	4.5	4.6	4.8

	Husband High sec & Wife Secondary	5.6	4.8	4.5	5.5	4.5	4.7
	Husband Graduate & Wife Secondary	5.5	5.2	5.2	5.4	5.4	5.3
	Husband and wife both High Sec	4.4	4.7	4.4	4.7	4.9	4.5
	Husband Graduate & Wife High Sec	5.2	5.4	5.2	5.4	5.3	4.8
	Husband and wife both Graduate	4.6	4.5	4.4	4.2	4.5	4.6
South	Husband and wife both Secondary	6.7	6.5	6.1	5.9	6.1	6.1
	Husband High sec & Wife Secondary	6.5	6.4	5.9	6.6	6.3	5.9
	Husband Graduate & Wife Secondary	6.5	7.0	6.6	6.8	6.6	6.9
	Husband and wife both High Sec	5.7	6.3	5.8	6.3	5.6	5.5
	Husband Graduate & Wife High Sec	6.6	6.5	6.0	6.5	6.5	6.6
East	Husband and wife both Graduate	5.4	5.5	5.3	5.2	5.6	5.4
	Husband and wife both Secondary	7.1	6.0	6.6	5.3	5.3	5.6
	Husband High sec & Wife Secondary	7.0	6.5	5.8	5.6	5.2	5.0
	Husband Graduate & Wife Secondary	6.7	6.5	6.1	5.9	6.3	5.9
	Husband and wife both High Sec	6.7	6.3	6.1	6.5	4.9	5.0
Northeast	Husband Graduate & Wife High Sec	6.5	6.7	6.4	6.0	6.0	5.6
	Husband and wife both Graduate	6.3	6.0	5.9	6.0	5.7	6.0
	Husband and wife both Secondary	5.6	5.2	4.7	5.8	5.2	5.0
	Husband High sec & Wife Secondary	5.3	5.4	4.5	5.4	5.2	4.9
	Husband Graduate & Wife Secondary	6.0	5.5	5.1	5.9	5.5	5.4
	Husband and wife both High Sec	5.0	5.0	5.0	5.7	4.3	4.7
	Husband Graduate & Wife High Sec	6.0	5.2	5.0	6.6	5.4	5.0
	Husband and wife both Graduate	5.5	4.9	4.5	5.3	4.9	4.7

4. Conclusion

This comprehensive study, utilizing data from the National Sample Survey Organisation (NSSO), Census of India, and National Family Health Survey (NFHS), provides a deep dive into the spousal age gap trends in India over two decades (1991-2011). The findings reveal a nuanced and complex picture of marital age differences, influenced by a confluence of socio-economic, educational, and cultural factors.

The initial nationwide decline in the spousal age gap up to 2001 suggests a shift towards more egalitarian marital age norms, possibly reflecting the impact of increased female education and empowerment during this period. However, the post-2001 stagnation and even reversal of this trend in some states point to the resilience of traditional norms or the emergence of new economic influences on marital choices. The case of Kerala, with its increasing rural spousal age gap, and Bihar, with its significant urban-rural divide, underscore the diverse socio-cultural landscapes influencing marital practices in different regions of India.

The study's analysis of spousal age gaps in relation to varying income levels unveils a striking correlation between economic prosperity and traditional marital age preferences. Higher income brackets tend to exhibit a larger age gap between spouses, suggesting that economic affluence might reinforce traditional marital age norms. This trend holds true across different regions, although with regional variations, indicating that economic factors interplay with local cultural contexts to shape marital choices.

Educational compatibility between spouses further adds to the complexity of this landscape. The largest age gaps are observed when there is an educational disparity between spouses, particularly when the husband is more educated than the wife. This pattern resonates with Becker's theory of positive assortative mating and reflects the influence of socio-economic constraints and cultural norms on marital choices. However, in cases where both spouses are highly educated, the age gap tends to narrow, indicating a shift towards more egalitarian marital norms.

In conclusion, the study highlights the persistence of traditional social norms within Indian society, particularly in relation to marital age preferences, even amidst economic growth and educational advancements. While there is a gradual trend towards narrower age gaps, particularly among highly educated couples, the overall picture remains complex. This complexity suggests that economic development and educational achievements alone may not be sufficient to fully transform deeply entrenched societal norms. The findings underscore the need for continued efforts towards gender equality and educational empowerment, alongside economic development, to foster a more egalitarian approach to marital age norms in India.

Appendix 1:

Table 1: Singulate mean age at marriage (NFHS)

NFHS Year	Spousal age gap
1992-1993	5.0
1998-1999	5.0
2005-2006	5.0
2015-2016	4.8
Source: World Marriage Data 2019	

Appendix 2:

Table 2: Spousal age difference: NFHS

Background characteristic		NFHS 3	NFHS 4	NFHS 5
Residence	Urban	6.2	n. a	n. a
	Rural	5.1	5.2	5.5
Education	No education	4.8	4.7	4.7
	<5 years complete	4.9	5.0	4.9
	5-7 years complete	4.5	5.0	5.2
	8-9 years complete	4.2	4.7	5.4
	10-11 years complete	4.8	n. a	n. a
	12 or more years complete	n. a	n. a	n. a
Religion	Hindu	5.5	5.4	5.8
	Muslim	5.5	5.6	5.6
Caste	Scheduled caste	5.2	5.1	5.3
	Scheduled tribe	4.2	4.5	4.7

	Other backward class	5.4	5.3	5.9
	Other	5.9	n. a	n. a
Wealth				
Index	Lowest	4.6	4.1	4.5
	Second	5.1	4.9	5.2
	Middle	5.2	5.6	5.8
	Fourth	5.8	n. a	n. a
Source: National Family Health Survey, Ministry of Health and Family Welfare				

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