

Digital Gender Gap and Its Implications for Adolescent Girls' Empowerment in Rural India

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DOI: <https://doi.org/10.51584/IJRIAS.2026.11050191>

Received: 18 May 2026; Accepted: 23 May 2026; Published: 13 June 2026

ABSTRACT

The digital divide in India is a very crucial matter, which is deeply interconnected with socio-cultural, economic, and gender-based inequalities. This study explores the digital gender gap and its implications for the empowerment of adolescent girls in rural India, taking insights from the Annual Status of Education Report (ASER) 2023: Beyond Basics. Despite the widely spread sense of smartphones and the growth of digital platforms for education, a gap persists in terms of access, ownership, and usage of digital devices between rural boys and girls (youth). Annual Status of Education Report 2023 reveals that while nearly 90 percent of rural youth report having access to a smartphone at home, boys are more than twice as likely as girls to own their own device. While, females lag behind in digital skills such as- using maps, browsing for information, and managing online tasks. These gaps are not only related to technological but reflect broader gendered social norms that limit girls' mobility, decision-making power, and exposure to digital era. The study analyzes how this digital exclusion affects adolescent girls' access to online learning, career aspirations, self-expression, and social connectedness all key components of empowerment. It also examines the correlation between girls' digital engagement and their ability to aspire beyond traditional roles, as observed in both the quantitative data and qualitative focus group discussions from ASER report 2023. This paper highlights the urgent need for gender sensitive digital inclusion strategies in rural education policy. Empowering girls digitally in rural India, it demands community sensitization, female digital mentorship, and safe online environments. Bridging the digital gender gap can serve as a catalyst for broader social transformation, enabling adolescent girls in rural India to become active participants in knowledge economies and decision-making area.

Keywords: Digital Gender Gap, Empowerment, Rural India, Adolescent Girls, ASER report

INTRODUCTION

Digital technology has become an essential driver of social and economic development in the 21st century, making available to billions of people information, education, healthcare, jobs, and countless other opportunities and resources that were once inaccessible. The mobile for communication has virtually reached saturation levels in many regions of the world. It has embedded itself in everydayness (Sane & Traore, 2009; Sylvester, 2016). Yet this digital revolution has not been fully inclusive. The digital gender gap remains a critical issue in the digital space in India, where the access and usage of digital technologies are not the same between males and females. And in rural India, the situation is further compounded by socio-cultural norms, poverty, lack of infrastructure and educational barriers, all of it limiting the access of girls to the fruits of digital progress. The digital gender gap both mirrors and perpetuates disparities, and stands in the way of girls being able to navigate themselves and the world around them.

Similarly, the ASER 2023 also notes that digital education resources have become ubiquitous since COVID-19, but access remained disproportionately biased in favour of boys—more so in conservative rural settings, where parental preferences towards education shifted subtly when it came to their children's use of digital devices perceived as male tools. This means that teenage girls in rural areas are left digitally excluded, excluded from much more than technology, but from all the opportunities that technology creates. This gap has far-reaching consequences. Especially in times of adolescence a transformative phase for identity, aspirations, and social involvement empowerment depends on exposure to information, an outlet for self-expression, and opportunities

to develop skills. Digital technologies can play a role in advancing girls' power by increasing their schools' completion or participation in their communities by ensuring they are literate in digital mediums and with a voice in decision-making. But that is to entrench their marginal status, foster dependence, and prevent the breaking of intergenerational cycles of poverty and social exclusion. Moreover, the digital divide produces new kinds of inequality and marginalization within a globalized world in which the ability to use digital technologies is seen as implying capability, and even as relevance. In this scenario, the digital gender gap needs to be considered not only as a question of technology, but of development and gender justice. It demands a multi-faceted response – one that is holistic and combines infrastructural development, digital literacy and capacity building, along with inclusive policies of education, community sensitisation and gender sensitive decision making. Government initiatives such as Digital India, Beti Bachao Beti Padhao, and PM e-Vidya, while well-meaning should be challenged, dissected, retooled and adopted in a manner that moves rural adolescent girls from being just “beneficiaries” to “active agents” in the digital landscape. South Asia has some of the world's largest populations India, Pakistan and Bangladesh together account for more than 20 percent of all people. The area is also among the fastest growing technology markets due to its expanding infrastructure and increasing availability. Nevertheless, despite these advances, South Asia has one of the largest on-line-gender gaps in the world, such that women are 58% less likely to access the mobile Internet as compared to men (Sambasivan et al., 2019). COVID-19. As it became apparent that it created more harms on the already existed education inequities globally. There is scant information on how the digital divide have further amplified the traditional educational system and increased existing gender disparities within the historically discriminated communities (Nayak & Alam, 2022).

On the other hand, it is evidenced that digitalization provides a variety of opportunities for women's empowerment and more equal participation of women in the labour markets, financial markets, and entrepreneurship as it is an effective instrument to be used by women to combat discrimination, promoting full equality, health, and citrus, and to promote the participation in the decisions that affect the quality of their life and the future of their communities (Ganeshan & Vethirajan, 2020).

This research study aims to delve deeper into the form and consequence of the digital gender divide for rural Indian adolescent girls, and to consider how digital exclusion impacts their empowerment, voice and agency. It also seeks to document current constraints and innovative interventions with potential to be models for advancing more equitable forms of digital inclusion and gender- transformative change.

Research Question

- What is the extent of the digital gender gap among adolescent girls and boys (aged 14–18) in rural India, particularly in terms of smartphone access, and usage? How it's provide impact on women empowerment?
- How do the Career aspirations of rural adolescent girls reflect their level of empowerment and access to non-traditional opportunities?

Research Objective

- To analyse the gender-wise differences in smartphone access, and usage patterns among adolescents aged 14–18 in rural India, & that gender gap impact on women empowerment.
- To examine how the career aspirations of rural adolescent girls are influenced by their level of empowerment and access to non-traditional vocational opportunities.

MATERIALS & METHOD

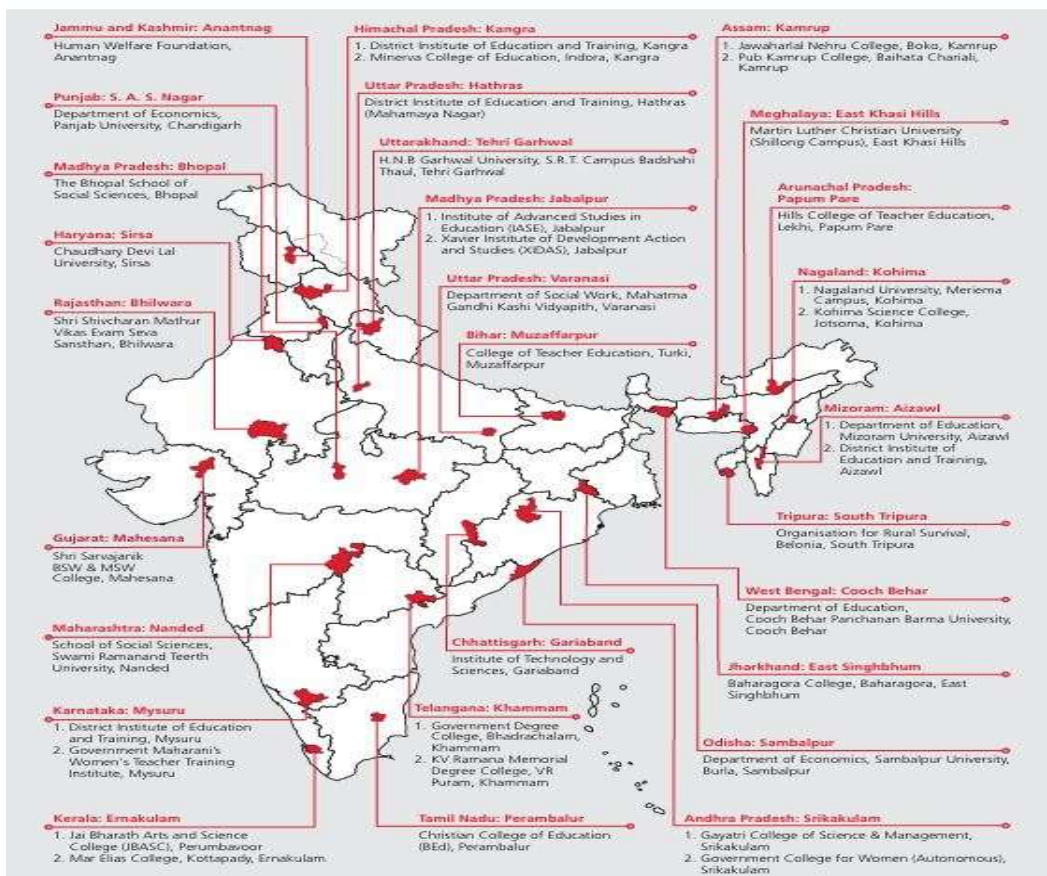
The title- ‘Digital Gender Gap and Its Implications for- Adolescent Girls’ Empowerment in Rural India’ secondary method has been used and ASER 2023 report has been taken as the basis to analyse this paper. The ASER 2023 report, titled “Beyond Basics”, focuses on the data that reflects the real-life preparedness of adolescents, not just school enrolment, but their readiness for jobs, adulthood, and citizenship in a digital world.

Comprehensive Analysis & Interpretation

ASER 2023

ASER is designed to capture the lives of 14-18-year-olds. The logic was simple – the Right to Education Act (RTE) promises free and compulsory education up to the age of 14, because by the age 14 when most children have finished Std VIII, if possible only Std VIII, a mere 4 years later at the age of 18 years these youngsters would be forced to shoulder adult responsibility. ASER data over time has revealed clearly that, while a growing proportion of children were completing 8 years of schooling at around age 14, of those many could Not demonstrate foundational skills. And almost nothing was known about what they were up to during the archaic transitional period from childhood to adulthood, and how prepared they were for their expected role. The ASER (Annual Status of Education Report) is a national citizen led household survey that provides a picture of girls-boys schooling and learning in rural India. The 'Basic' ASER survey, first conducted in 2005, has been conducted annually till 2014 and on an alternate-year basis from 2016. The 'basic' version of ASER captures information about pre-school and school enrolment for 3-16 year olds, and tests 5-16 year olds on a one-on-one basis to measure their basic reading and arithmetic abilities. The most recent 'basic' ASER survey, ASER 2022, covered nearly 7,00,000 children in all rural districts of India. Over the years, ASER further unpacks various elements of children's schooling and learning in rural India. Beyond Basics In 2017, ASER went 'Beyond Basics' for the first time with a focus on activities, awareness, abilities and aspirations of young people aged 14 to 18 years in 28 districts in the country. ASER 2023 'Beyond Basics' goes back to the same age group after six years, gathering data on some of the same parameters while also adding new domains which have gained significance in a post-pandemic world. The survey covered 28 districts in 26 states of India.

Where was 'Beyond Basics' done, and by who?



ASER 2023 Beyond Basics

Analysis related to Objective-1- To analyse the gender-wise differences in smartphone access, and usage patterns among adolescents aged 14–18 in rural India, & that gender gap impact on women empowerment.

Sex	% Youth who:			Of those who can use a smartphone, % who have their own smartphone
	Have a smartphone at home	Could bring a smartphone to do digital tasks*	Can use a smartphone	
Male	90.9	72.9	94.7	43.7
Female	87.3	62.0	89.8	19.8
All youth	89.0	67.1	92.1	31.1

-Smartphone availability and use-

1.Smartphone Availability at Home

- Male youth: 90.9% have a smartphone at home.
- Female youth: 87.3 percent have a smartphone in their home.

Though modest, the differential is indicative of a slightly higher likelihood that males have smartphones at home, with the implication that digital tools are received early priority in masculinised spaces.

2.Could Bring Phone to do Digital Work (Such as Schoolwork)

- Male: 72.9%
- Female: 62.0%

Boys are much more likely to be given smartphones for digital tasks, which reflects higher digital freedom and trust from family/ community.

3.Can Use a Smartphone

- Male: 94.7%
- Female: 89.8%

There’s a small but significant gender divide in digital skills or access to smartphones, where boys are slightly ahead in having digital literacy.

4.Penetration of Those Expected to Make Use of Smartphone

- Male: 43.7% own a smartphone.
- Female: 19.8% own a smartphone.

This is the most disturbing of the digital gender gaps. Although both sexes can have access, girls are much less likely to have their own smartphone and more constrained in personal use and digital autonomy.

It demonstrates an evidence of the digital gender divide among the rural youths where boys are relatively having more access, autonomy and ownership of smartphones than girls. This evidence illustrates that the restricted digital device ownership experienced by women and girls is not only challenging the independence of their learning and communication, but also the traditional gender types, on which digital empowerment has the

impact. These gaps bring to the fore the necessity for the implementation of targeted interventions for digital inclusion and efforts to ensure equal access to digital technology for adolescent girls in rural India.

disparity in owning a Smartphone between Males and Females is very high in rural India consisting of 26 states and 28 districts. Its an imagery depicts the male dominated, where males have more control access of ownership than females. It’s essentially a digital gender gap between teenage boys and girls, with a 23.9 percentage point divide lying in this category. As per ASER-2023, women in 21st century, are not yet fully digitally literate and in our society, we were never allowed to neglect that gap we have between boys and girls. This might be related to lots of social norms and psychological reasons that cause the gender gap.

-Youth who can use a smartphone, % youth who used social media in the reference week and know how to use safety features-

Sex	% Youth who used any social media in the reference week	Of these, % youth who can:		
		Block/report a profile	Make profile private	Change password
Male	93.4	56.7	55.6	64.8
Female	87.8	48.0	40.4	40.0
All youth	90.5	52.3	47.8	52.2

This data set exposes a major gender digital gap in social media use and ability to do digital safety ability criterion to change password – 64.8% of boys could, as compared to only 40.0% of girls. Although the share of both male (93.4%) and female (87.8%) adolescents who accessed social media during the reference week is high, the difference between boys and girls widens when it comes to managing and dealing with safety tools available online. The percentage of users who could block or report a profile was also lower for female users at 48.0% vs. 56.7% for male users for example. In the same vein, among boys only 55.6% were able to make their profiles private and only 40.4% of girls were able to do so. The starkest disparity is actually the youth skills. These figures show that although girls are using social media, their digital literacy and use of privacy and safety features is poor. The discrepancy is a symptom of a wider problem of digital empowerment where girls may have access to digital but don’t necessarily have the skills, confidence, or support to use digital platforms safety or effectively. Closing this gap is critical to achieving meaningful and secure digital participation for adolescent girls.

-Youth who have ever accessed online services-

Sex	% Youth who have ever accessed any online service	% Youth who have ever done the following activities online:			
		Made payments	Filled a form	Paid a bill	Booked a ticket
Male	37.6	26.3	20.0	11.3	6.9
Female	19.0	9.4	13.8	3.8	2.0
All youth	27.6	17.2	16.8	7.4	4.3

This information points to a distinct digital gender divide particularly in opportunities and use of online services by children and young people, undermining digital empowerment, in particular for girls. Forty percent of boys go online for services compared to 20% of girlsa nearly 20 percentage point difference. For particular activities,

the gaps remain: 26.3% of boys pay online compared with only 9.4% of girls, and 20.0% of boys fill in forms online while 13.8% of girls do. For paying bills (11.3 percent of men compared with 3.8 percent of women) and booking tickets (6.9 percent of men compared with 2.0 percent of women), the gap is even larger. These numbers represent not only girls' limited digital access, but also tight online confidence, financial independence, and online literacy. Therefore, closing this gender divide is not only a precondition for the advancement of girls' empowerment and socio-economic independence in our digital age, but also for digital inclusion.



- 51.2% of male youth reported shopping online, compared to 42.2% of female youth.
- A significant 59.9% of boys use online maps or location-based services, while only 28.7% of girls do.

This over 30% gap highlights, this reflects lower digital confidence and autonomy among girls in exploring the outside world, both physically and digitally.

-Youth who could do digital tasks on a smartphone-

Sex	% Youth who could bring a smartphone to do digital tasks*	Of these, % youth who could do the following tasks:				Of those who found video, % able to share it
		Setting an alarm	Browsing for information	Using Google Maps	Finding YouTube video	
Male	72.9	74.7	72.0	48.9	85.2	92.5
Female	62.0	58.0	69.7	25.3	77.9	85.8
All youth	67.1	66.4	70.9	37.1	81.6	89.3

It draws attention to the gender differences in digital skills proficiency and functional use of smart phones among young people. It is centred on the proportion of young people who had access to a smartphone for digital activities and could use particular digital skills. The information indicates a digital gender divide in which men excel over women in all the indicators.

The proportion of access to smartphones for the completion of digital tasks was higher among males (72.9 %) and lower among female (62.0 %). This implies that boys are more free to manipulate digital tools for academic or informational uses. And even performing basic tasks like setting an alarm, 74.7% of boys could manage such a task, compared with 58.0% of girls, suggesting a divide in even the simplest of digital actions.

As for search and retrieval, both males and females presented a higher competence (72.0% for males; 69.7% for females), and not a significant gap. It's all linear [and trivial] which is why you rarely hear of any such "boundaries." But start applying some more complicated functions, and this binary choice does matter. 77 48.9%

of boys were able to make use of Google Maps, compared to 25.3% of girls, pointing to some degree of circumscribed digital mobility and spatial knowledge for girls. For example, 85.2% of males could find a YouTube video, as opposed to 77.9% of females. Of the children who found videos, 92.5% of boys were able to share them, compared with 81.6% of girls.

These disparities reflect more than just access — they also represent inequalities in digital confidence, literacy and autonomy. Girls less involvement in hands-on digital activities implies girls are more likely to be passive users without experience, training, or support. The closure of this gap is crucial for advancing digital empowerment and allowing adolescent girls to fully utilize educational, informational, and social resources available in today's increasingly digital world.

Analysis related to Objective-2 To examine how the career aspirations of rural adolescent girls are influenced by their level of empowerment and access to non-traditional vocational opportunities.

District	Sex	Army	Police	Teacher	Doctor	Nurse	Engineer	IAS	IPS	Any government job	Any private job	Sports person	Agriculture/related work	Own or family enterprise	Other	Household work	Don't know	Don't want to work	Total
Andhra Pradesh: Srikalahasti	Male	23.0	13.2	3.0	2.8	0.9	16.3	1.5	1.2	9.2	7.1	5.4	1.4	0.0	6.1	0.2	7.7	4.9	100
	Female	1.6	9.1	15.4	17.7	14.1	11.1	1.5	0.9	7.4	2.6	0.2	0.0	0.5	6.1	0.0	9.1	2.9	100
Andhra Pradesh: Rajamahendravaram	Male	7.4	6.0	3.4	16.2	0.0	12.0	4.7	0.3	3.7	0.9	4.1	0.9	5.2	16.0	0.0	17.8	1.6	100
	Female	2.4	2.8	6.0	15.7	18.0	3.1	0.3	1.4	1.0	0.4	1.3	1.8	0.4	18.4	0.0	24.1	2.9	100
Assam: Kamrup	Male	26.4	11.5	5.1	8.6	0.9	7.4	0.0	1.0	7.6	3.0	4.3	0.6	1.0	13.6	1.4	13.7	0.5	100
	Female	4.4	14.1	15.1	17.4	17.8	1.0	0.5	1.9	6.0	0.4	0.1	0.3	0.0	5.8	0.3	13.8	1.3	100
Bihar: Muzaffarpur	Male	11.8	11.8	4.2	8.7	0.0	10.8	2.5	1.0	6.1	0.9	1.2	0.3	5.5	3.0	0.7	19.0	0.3	100
	Female	2.3	12.7	15.1	11.3	1.8	2.7	3.8	1.0	3.8	0.0	0.0	0.0	0.6	3.5	1.2	19.1	1.0	100
Chhattisgarh: Garha Mandla	Male	11.6	12.0	8.8	8.7	0.0	1.5	1.2	0.4	1.8	0.8	0.4	13.4	3.0	5.3	1.2	27.0	1.8	100
	Female	1.5	8.2	23.8	14.7	5.7	1.4	1.5	1.5	0.6	0.3	0.0	5.3	0.1	1.8	2.9	19.1	2.1	100
Gujarat: Mahesana	Male	10.6	19.2	4.3	5.6	0.9	11.3	2.3	1.0	7.9	4.4	2.8	1.0	1.4	10.1	0.4	10.0	1.8	100
	Female	1.9	14.8	16.2	9.6	9.4	2.6	1.9	2.1	2.2	1.4	0.0	0.2	0.3	7.4	4.7	22.7	1.9	100
Haryana: Sirsa	Male	12.4	13.6	6.4	5.4	0.0	7.4	2.4	0.4	5.9	1.0	3.6	0.8	1.9	16.9	0.0	20.8	1.3	100
	Female	2.4	13.2	29.2	12.1	2.2	2.4	2.8	4.2	3.3	1.0	0.8	0.0	0.5	15.1	1.3	13.9	0.8	100
Himachal Pradesh: Kangra	Male	42.3	6.1	2.5	4.1	0.0	8.9	1.1	0.9	3.8	1.9	1.7	0.4	2.0	12.7	0.0	11.4	0.3	100
	Female	6.8	12.5	17.7	18.1	3.0	3.2	2.7	3.3	5.5	0.4	0.1	0.3	1.8	13.0	0.0	11.1	0.4	100
Jammu and Kashmir: Anantnag	Male	10.6	4.1	8.8	11.3	0.2	8.2	5.9	1.8	7.0	0.9	4.0	0.9	2.9	7.4	0.0	5.9	0.3	100
	Female	1.0	3.6	11.6	11.7	2.3	1.1	7.4	2.0	8.5	0.3	0.2	0.0	0.8	10.0	0.6	5.3	3.7	100
Jharkhand: East Singhbhum	Male	10.4	8.5	8.0	5.8	0.2	11.5	0.7	0.8	4.8	1.9	4.8	2.2	1.8	6.0	2.3	17.3	1.1	100
	Female	1.1	4.6	11.1	10.1	12.2	1.9	0.6	0.1	3.5	0.6	1.0	0.8	0.0	4.9	2.5	41.5	1.5	100
Karnataka: Mysuru	Male	8.8	29.8	5.8	4.2	0.3	15.8	0.7	1.3	4.9	4.5	8.8	3.2	1.9	6.7	1.3	10.7	0.7	100
	Female	0.0	11.6	20.9	19.1	7.5	11.1	2.4	0.8	5.1	3.0	0.2	0.4	0.9	8.2	0.4	6.2	2.0	100
Kerala: Emakulam	Male	4.8	4.6	1.0	4.2	8.6	13.2	0.8	0.0	1.3	1.2	2.6	0.0	1.0	35.5	0.0	21.2	0.0	100
	Female	1.0	2.1	5.0	14.5	33.4	4.2	0.7	2.1	1.3	0.5	0.0	0.8	0.2	21.0	0.0	13.1	0.0	100
Madhya Pradesh: Bhopal	Male	11.0	12.7	2.4	11.4	0.0	5.7	1.9	1.9	3.4	2.4	0.7	4.4	6.7	5.7	0.2	28.1	2.4	100
	Female	2.2	12.6	10.8	19.0	1.3	1.6	1.8	5.3	1.6	1.6	0.0	0.2	0.9	7.8	1.2	26.1	5.8	100
Madhya Pradesh: Jabalpur	Male	15.1	13.3	1.5	8.0	0.0	2.7	1.5	0.2	1.8	1.5	1.6	6.8	6.2	8.2	0.8	29.7	0.5	100
	Female	2.2	13.2	11.2	17.0	3.6	0.8	1.7	3.0	0.8	1.2	0.0	0.6	0.2	6.4	2.4	34.5	1.3	100
Maharashtra: Nashik	Male	10.1	28.1	2.0	7.2	0.5	11.8	1.9	2.3	7.3	2.5	1.6	2.8	2.5	4.0	0.5	12.9	0.7	100
	Female	2.3	20.9	8.0	15.9	6.6	2.7	2.0	4.1	2.3	0.4	0.3	0.5	0.8	3.9	1.2	15.5	2.8	100
Meghalaya: East Khasi Hills	Male	15.1	8.4	3.2	3.4	0.4	5.9	1.8	0.9	1.2	0.1	12.8	3.2	3.9	25.0	0.9	19.6	3.2	100
	Female	2.2	9.2	18.5	19.0	14.8	2.2	0.4	0.0	1.4	0.0	0.9	1.2	1.3	18.4	2.6	16.2	1.0	100
Mizoram: Aizawl	Male	22.7	7.5	6.9	4.8	0.0	3.9	2.8	0.5	3.8	1.3	15.3	0.9	1.2	10.9	0.0	16.8	1.1	100
	Female	4.5	6.9	18.6	16.6	12.6	9.5	2.5	0.3	2.5	0.3	2.8	0.0	0.4	18.6	1.3	18.2	0.8	100
Nagaland: Kohima	Male	30.5	5.9	7.2	8.6	0.2	10.3	0.0	0.5	1.7	0.6	5.2	8.3	8.8	18.6	0.0	15.2	8.3	100
	Female	4.4	3.2	23.4	13.3	6.0	3.8	0.5	0.0	2.0	0.7	0.7	0.7	0.2	27.4	0.0	13.2	0.7	100
Odisha: Sambalpur	Male	11.3	16.8	8.0	4.0	0.3	12.7	0.8	0.3	4.8	2.1	1.9	3.1	1.7	4.1	1.0	27.1	0.3	100
	Female	3.5	11.4	23.5	7.2	12.7	0.7	1.0	0.9	2.8	0.6	0.4	0.6	0.4	1.9	1.8	29.4	1.2	100
Rajasthan: S. A. S. Nagar	Male	12.2	11.8	1.1	3.7	0.0	5.7	1.2	2.2	5.7	1.8	4.0	1.1	11.3	21.0	0.4	16.5	0.3	100
	Female	4.0	7.8	11.8	13.8	3.3	2.4	2.5	3.8	4.4	2.9	0.2	0.0	2.1	25.8	0.4	11.3	1.1	100
Rajasthan: Bikaner	Male	10.4	12.1	28.4	6.5	0.5	2.1	1.7	0.5	3.1	1.5	2.3	4.8	5.2	5.3	1.8	19.6	1.0	100
	Female	3.0	14.7	33.6	10.5	3.3	0.2	1.9	1.9	1.8	0.5	0.6	0.6	1.0	3.2	3.1	18.9	2.9	100
Tamil Nadu: Perambalur	Male	1.3	8.2	3.1	8.7	1.2	24.0	3.4	8.8	3.4	1.7	2.8	1.5	1.0	15.4	0.0	13.3	2.8	100
	Female	0.1	2.2	7.7	21.0	23.3	3.5	7.5	2.9	2.8	0.8	0.7	1.8	0.5	14.8	0.1	9.4	0.7	100
Telangana: Kamarnam	Male	3.8	9.8	8.9	4.7	0.5	8.2	0.9	2.0	4.3	2.5	4.8	5.1	0.2	5.4	2.7	18.8	18.0	100
	Female	0.7	4.0	15.5	14.2	25.2	5.2	1.8	0.9	1.5	0.5	0.2	0.6	0.3	4.2	4.3	9.3	11.7	100
Tripura: South Tripura	Male	14.0	15.2	22.9	6.0	1.8	5.5	0.3	1.4	14.2	1.2	1.0	1.0	2.8	1.3	0.9	16.4	0.2	100
	Female	3.8	12.4	31.5	8.9	14.5	2.0	0.7	1.3	10.0	1.1	0.0	0.4	0.5	8.0	0.4	9.2	0.0	100
Uttar Pradesh: Hathras	Male	10.3	15.7	1.8	7.8	0.2	8.6	3.3	1.0	7.3	3.9	1.1	1.1	2.8	6.3	1.0	27.0	1.1	100
	Female	1.6	14.4	12.7	13.5	1.3	1.2	3.5	1.4	2.7	0.8	0.3	0.2	0.7	4.3	2.6	36.4	2.5	100
Uttar Pradesh: Varanasi	Male	3.1	12.0	2.8	18.2	0.0	10.8	3.4	0.7	4.0	2.4	3.8	0.5	3.1	7.1	0.4	24.4	0.6	100
	Female	1.3	14.1	12.9	23.9	3.6	2.8	4.4	1.2	2.9	0.9	0.5	0.1	1.2	6.2	0.8	21.2	2.1	100
Uttarakhand: Tehri Garhwal	Male	37.9	5.7	3.9	5.3	0.2	5.8	0.7	1.9	2.8	2.4	0.0	2.2	10.2	6.1	18.8	2.0	100	
	Female	7.0	14.7	17.3	18.4	2.0	5.5	0.7	2.0	1.5	0.8	0.4	1.0	0.5	10.4	0.5	22.5	0.8	100
West Bengal: Cooch Behar	Male	16.2	10.7	8.6	3.5	0.3	7.2	0.3	0.8	3.7	3.2	0.9	6.0	7.5	7.7	2.3	18.1	2.4	100
	Female	2.8	15.8	11.2	10.5	18.2	1.3	0.2	0.0	3.4	0.6	0.6	0.3	0.2	7.3	2.9	22.1	2.8	100
All districts	Male	13.8	13.6	6.0	7.1	0.5	9.4	1.7	1.1	5.4	2.5	2.2	2.5	3.4	7.9	0.9	19.9	2.0	100
	Female	2.4	12.5	16.0	14.8	8.4	3.4	2.3	1.7	5.9	0.8	0.3	0.4	0.6	6.8	1.6	22.0	2.1	100

1. Gender Differences in Aspirations for Non-Traditional Occupations

The information reveals a substantial disparity in interest between professions like-

- Army: Male interest always exceeds female interest (e.g., 37.9% in Uttarakhand–Tehri Garhwal Males vs. 7.0% with females,).
- Police: There is 18% gender gap (e.g., 29.3 % Karnataka: Mysuru Males vs. 11.6% for females). Some regions demonstrate very high female participation.
- Engineer: Still male dominated but with female participation in some districts.

The evidence points towards a significant gender difference in nonconventional career aspirations, such as the Army, police and engineering, highlighting the ongoing impact of social norms and access barriers on girls in rural areas. For example, in Uttarakhand’s Tehri Garhwal district, 37.9% of boys aspire to be in the Army, while only 7.0% of girls do, a gender divide that is dramatic. In Karnataka’s Mysuru district, the gap between interest in joining the police force was around 18% in 2006: 29.3% for boys and 11.6% for girls. It is mostly boys who express interest in such challenging technical disciplines as engineering and civil services and only some districts register female interest, they said. Such low aspiration among women could be attributed to the following:

- Lack of role models,
- Societal restrictions,
- Safety concerns,
- Lower digital or information access.

Together, these restrictions impact girls’ self-confidence and restrict their vision for their career. The findings underscore the crucial importance of gender-sensitive educational reforms, mentorship systems and the broadening of possibilities of digital literacy, focused especially in rural areas, so that girls may see, dream, and attempt non-classical professional paths with the same level of comfort and security.

2. High Aspirations in Traditional Female roles

- Teacher, & Nurse:

The majority of girls dream of taking on the following time-honoured female-centric professions:

- Nurse: 33.4% in Kerala–Ernakulam (Female)
- Teacher: 25.2% in Haryana–Sirsa (Female) & 6.4%(Male), there we can see 18.8% Gender gap.

These patterns imply a gendered process of socialization, in which girls are socialized to take “safe,” “nurturing” roles deemed appropriate to dominant scripts of the good life. Let them hear from family, neighbours, relatives that teaching and nursing are the best options for girls. They will be taking care of the family along with the job also, won’t be a big issue.

The data depicts that the aspiration of being a teacher or a nurse is still widespread among rural adolescent girls which is indicative of gendered career preference profile. For example, the highest percentage of girls (33.4%) in Kerala–Ernakulam want to become a nurse, reported under “Any nurses”, other than all the districts in the survey covered. Correspondingly, 25.2 per cent of girls in Haryana–Sirsa opt for teaching. These careers, while honourable, are part of an extension of women's recognized place in the home as caregiver. These patterns reflect a way in which gendered socialization works: Girls are nudged ever so gently rather than herded, whether by family or culture or school, toward careers that seem “safe,” “nurturing” and socially acceptable. The result is that girls are less likely to choose non-traditional male-dominated fields such as engineering, police and the military. While these professions reflect aspiration and aspirations to gain stability, they also underscore limited occupational diversity frequently as a result of limited exposure, lower digital access and entrenched gender

norms. This thus underscores the importance of empowerment opportunities and inclusive careers counselling aimed at expanding aspirations for rural adolescent girls.

3. Entrepreneurship and private sector has a low participation

- Own or Family Enterprise: in own or Family Enterprise 0.6% of females (All Districts) involved ports.
- Any Private Job: In most districts, lower than boys in just about every district.
- Sports: Well below one percent for girls, reflecting inadequate encouragement or opportunity in physical or public professions.

These nodes illustrate low levels of economic empowerment and of autonomy within the workforce for rural girls, indicating poor access to different competitive fields.

4. Digital & Informational Empowerment (Implied)

While digital access is not specifically referenced in the data, these aspirations serve as an implicit indicator of the digital gender divide:

- Higher male representation in tech and information-heavy industries (engineering, IAS, IPS),
- Male aspirations in diverse roles are generally higher and this may be due to better information, internet access, device ownership and career counselling.

CONCLUSION

The research clearly shows that the digital gender divide in rural India is more than a gap in technology; it is a pervasive social and structural problem with direct implications for the agency of adolescent girls. Smartphone ownership is high for both genders at home, but ownership, agency and competent use of digital tools are overwhelmingly on the side of boys. Girls are far less likely to have a smartphone, access the Internet, use a device to undertake more advanced digital tasks, including online safer, thus preventing them to have an independent interaction with the digital sphere. This digital divide is indicative of broader gendered norms limiting girls' mobility, autonomy, and access to contemporary mediums of information, thus curtailing their intellectual development, vocational preparedness, and self-expression. And there's a corresponding gender stigma in rural girls' career aspirations, further confirming the trend towards gendered limitation. Girls most mostly pursue traditional and socially acceptable occupation like teaching and nursing with little representation in non-traditional occupation like Army, police, Engineer and entrepreneur. These desires reflect their digital disempowerment and limited exposure to various career options, compounded by societal constraints, security issues, low digital literacy and lack of female role models.

Taken together, these results emphasize that the digital gender gap is simultaneously a cause and effect of disempowerment among rural adolescent girls. Addressing this divide is critical to ensuring both technological inclusion and gender equity, educational parity, and socio-economic justice. It also calls for a multi-pronged approach to include, but not limited to gender-sensitive digital education, community participation, mentorship programs, and policy reforms that support girls to be safe and strong in the digital space and dream of different, empowered futures.

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