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Exploring the Correlates of Representation and Participation of SC Youths in Higher Education in Uttar Pradesh: A Comparative Analysis with Non-SC Youths using NFHS Data

[1]Chandan Kumar Kushwaha, [2]Prof. Nigar Alam Siddique
[1]Research Scholar: Department of Geography, Faculty of Science, Aligarh Muslim University Aligarh, India – 202002
[2]Professor: Department of Geography, Faculty of Science, Aligarh Muslim University Aligarh, India – 202002
Email - [1] chandangeo98@gmail.com, [2] geoindia789@gmail.com.

Abstract: *Higher education plays a crucial role in social mobility, yet disparities persist across caste and socio-economic groups in India. This study examines the representation and participation of Scheduled Caste (SC) youths in higher education in Uttar Pradesh, comparing them with Non-SC youths. Utilising secondary data from the National Family Health Survey (NFHS-5, 2019–2021), the study investigates whether SC youths lag behind in attaining higher education and assesses the impact of caste, income levels, location, household structure, housing type, and access to amenities. The study employs a Chi-Square (χ^2) test to analyse associations between categorical variables and higher education attainment. The dependent variable is higher education participation (Yes/No), while independent variables include caste (SC vs. Non-SC), income (Poor, Middle, Rich), locality (Urban vs. Rural), household structure (Nuclear vs. Non-Nuclear), housing type (Kachha, Semi-Pucca, Pucca), and access to amenities such as electricity, computers, mobile phones, and internet connectivity. Results reveal a strong link between socio-economic factors and higher education participation. Income level ($\chi^2 = 25.67$, $df = 2$), locality ($\chi^2 = 12.34$, $df = 1$), housing type ($\chi^2 = 16.29$, $df = 2$), and access to computers ($\chi^2 = 27.88$, $df = 1$) and the internet ($\chi^2 = 22.41$, $df = 1$) significantly influence educational attainment. SC youths, often from lower-income and rural backgrounds, face greater challenges in accessing these resources, leading to lower participation in higher education. Notably, digital access is emerging as a crucial factor alongside financial stability. In contrast, household structure ($\chi^2 = 0.136$, $df = 1$) does not significantly affect education participation. These findings underscore the need for targeted policies to bridge educational disparities at higher education level. Improving digital infrastructure, electricity access, and financial support for SC youths can enhance higher education participation. Addressing these gaps is essential to ensuring equal opportunities and fostering social mobility in Uttar Pradesh.*

Keywords*: Higher Education, Scheduled Caste (SC) Youths, Socio-Economic Factors, Chi-Square Test.*

1. INTRODUCTION :

1.1 Background: Education is a crucial driver of social and economic mobility, particularly for marginalized communities. However, disparities persist in higher education access and attainment across different social groups in India. Higher education is pivotal for socio-economic development, fostering individual growth and societal progress. In Uttar Pradesh, access to higher education is essential for reducing poverty and inequality **(Tilak, 2018)**. Scheduled Castes (SCs), historically disadvantaged due to caste-based discrimination, continue to face significant barriers in accessing higher education **(Desai & Kulkarni, 2008; Thorat & Newman, 2010)**. This study examines the correlates of representation and participation of SC youths in higher education in Uttar Pradesh, one of India's most populous states, and compares their educational attainment with that of Non-SC youths. Despite affirmative action policies, the

gap between SCs and Non-SCs in higher education attainment remains significant, reflecting ongoing challenges in achieving inclusive development **(Thorat & Sabharwal, 2015)**. Despite government interventions, including reservation policies and financial aid programs, the educational gap between SC and Non-SC communities remains substantial **(Sedwal & Kamat, 2008; Basant, 2012)**. Research suggests that SC students face multiple socio-economic challenges, including lower family income, lack of educational resources, and discrimination in educational institutions **(Borooah, 2012; Sabharwal & Malish, 2016)**.

This study focuses on multiple independent variables that potentially influence higher education attainment among SC youths in Uttar Pradesh. Income levels play a critical role in educational access, as financial constraints limit the ability of lower-income families to afford higher education **(Tilak, 2007; Rani, 2014)**. Additionally, urban-rural differences impact educational opportunities, with rural areas having lower enrollment rates and fewer educational institutions compared to urban centers **(Kingdon, 2002; Mehrotra, 2021)**. Household structure also influences educational participation, as nuclear families may have fewer financial resources than joint families, which offer shared economic support **(Mukhopadhyay & Ghosh, 2010)**. Housing type and access to basic amenities further contribute to educational disparities. Studies indicate that households living in kacha houses and lacking basic amenities like electricity and internet access are less likely to support higher education **(Agarwal, 2018; Singh, 2020)**. The availability of technological resources such as computers and mobile phones has emerged as a significant factor in academic participation and success **(Majumdar & Mooij, 2011; Kundu, 2022)**.

The role of government policies and affirmative action programs needs critical evaluation. While reservations and scholarships have improved SC youths participation in higher education, challenges such as implementation gaps, bureaucratic inefficiencies, and social stigma associated with affirmative action policies persist **(Jodhka & Shah, 2010)**. Examining the effectiveness of these policies in bridging educational gaps is essential for ensuring equitable access to higher education.

1.2 Literature Review: The representation and participation of Scheduled Caste (SC) youths in higher education remain central to social mobility and equity in India. Deshpande **(2019)** and Rao **(2020)** have debated the barriers affecting SC students' access to higher education, emphasizing socio-economic constraints, systemic exclusion, and policy effectiveness. Similarly, Thorat and Newman **(2017)** and Sabharwal and Malish **(2016)** indicate that historical marginalization has left SC communities struggling with inadequate educational resources, contributing to lower enrollment and retention rates in universities compared to non-SC groups.

In addition, Jodhka and Kumar **(2019)** and Subramanian **(2021)** argue that financial instability is a major deterrent, as many SC students come from economically disadvantaged backgrounds that limit their ability to afford tuition, accommodation, and other educational expenses. Furthermore, Bourdieu **(1986)**, along with Basant **(2020)** and Ray **(2018)**, highlights the role of cultural capital in shaping educational outcomes, noting that non-SC students often benefit from a legacy of academic exposure and social networks that facilitate smoother transitions into higher education.

Moreover, Nambissan **(2016)** and Bhattacharya **(2017)** emphasize that the lack of role models within SC communities further exacerbates disparities, reducing aspirations and self-confidence among SC youths. On the policy front, Weisskopf **(2004)** and Balagopalan **(2019)** acknowledge that government interventions, such as reservations and scholarships, have had a positive impact; however, they note that gaps persist due to poor implementation and lack of awareness among eligible students. Finally, Desai and Kulkarni **(2008)** and Teltumbde **(2021)** suggest that while affirmative action policies have increased SC enrolments, qualitative disparities in education outcomes between SC and non-SC students remain significant.

Shah **(2020)** and Guru **(2018)** highlight that institutional discrimination continues to be a critical factor, with SC students facing subtle yet pervasive exclusion in classrooms, social spaces, and career opportunities. Similarly, Gorringe **(2017)** and Yadav **(2022)** report that stereotypes and biases often undermine the academic performance of SC students, creating an environment where they feel alienated or discouraged from fully engaging in educational activities. Tilak **(2021)** and Choudhury **(2019)** further emphasize that the quality of schools attended prior to higher education significantly influences success, as SC students are more likely to have studied in underfunded and poorly staffed institutions.

Compared to their non-SC peers, who often have access to better schooling and preparatory resources, SC students thus start at a relative disadvantage, as noted by Jha and Parvati **(2019)** and Menon **(2021)**.

Jeffery et al. **(2005)** and Srivastava **(2018)** also point out that gender disparities further complicate SC youths participation, as SC girls face a double disadvantage of caste and gender, limiting their educational opportunities even more than SC boys. Additionally, Ramachandran **(2022)** and Chakraborty and Das **(2020)** observe that social norms, early marriages, and household responsibilities act as significant constraints on their academic pursuits. Rege **(2018)** and Xaxa **(2020)** discuss how studies on the intersectionality of caste and gender reveal that non-SC girls, particularly from higher socio-economic backgrounds, face fewer obstacles in continuing higher education. This underscores the compounded nature of marginalization faced by SC youths, particularly in rural areas where patriarchal norms are stronger, as noted by Mukherjee **(2021)** and Devi **(2019)**.

Singh **(2015)** and Kumar and Sinha **(2022)** further examine the geographical divide in shaping access to education, indicating that urban SC students have better chances of pursuing higher education due to proximity to institutions and availability of coaching centers. In contrast, Béteille **(2017)** and Prasad **(2021)** argue that rural SC students suffer from limited educational infrastructure, inadequate transport facilities, and lower digital literacy, all of which hinder their participation in higher education. Finally, Gopalakrishnan **(2021)** and Chaturvedi **(2022)** emphasize that digital exclusion, exacerbated by socio-economic barriers, was particularly evident during the COVID-19 pandemic, which saw a disproportionate dropout rate among SC students due to lack of online learning access.

Chakrabarty and Singh **(2019)** and Rao and Swaminathan **(2020)** highlight that peer influence and social networks play a crucial role in shaping aspirations and motivation for higher education. They note that non-SC students are more likely to have family members or community mentors guiding them through college applications and career choices, whereas SC students often lack such support structures. As a result, Sharma **(2020)** and Bhat **(2018)** argue that SC students experience lower levels of academic preparedness and confidence, further widening the participation gap.

Kumar and Sharma **(2022)** and Patel **(2021)** further emphasize that the prevalence of mental health issues—stemming from discrimination, financial stress, and imposter syndrome—disproportionately affects SC students, impacting their performance and retention rates. Similarly, Tilak **(2018)** and Narayan **(2020)** suggest that differences in participation rates between SC and non-SC students are influenced by career aspirations and perceived economic returns of education. Deshpande **(2021)** and Ramaswamy **(2019)** argue that SC students, often seeking financial stability, tend to choose courses with direct employability rather than pursuing higher degrees, which limits their representation in research and academia. In contrast, Mehta **(2016)** and Iyengar **(2022)** observe that non-SC students, having greater economic security, are more likely to pursue postgraduate studies and professional courses. These trends indicate that economic precarity continues to shape educational trajectories across caste groups, as noted by Thorat **(2019)** and Viswanathan **(2021)**.

Vaid **(2020)** and Reddy **(2022)** discuss how state-level variations in educational policies further contribute to disparities, with states like Tamil Nadu demonstrating higher SC enrollment due to proactive reservation policies, compared to states like Uttar Pradesh, where SC participation remains lower despite affirmative action. Jaffrelot **(2017)** and Choudhary **(2021)** highlight that the effectiveness of quota systems depends not just on policy formulation but also on implementation and outreach efforts, which vary across different regions. Finally, Singh and Verma **(2022)** and Anand **(2019)** argue that while Uttar Pradesh has a large SC population, their representation in higher education remains constrained due to weak institutional mechanisms and inadequate policy execution.

Sinha **(2019)** and Pillai **(2020)** debate the role of private institutions in higher education, noting that they often charge higher fees, making access difficult for SC students despite government scholarships. Similarly, Mishra **(2021)** and Joseph **(2022)** highlight that while non-SC students have a higher presence in private universities due to financial backing, SC students tend to rely more on government colleges, which often suffer from resource shortages. As a result, Gupta **(2020)** and Sharma and Rao **(2021)** argue that this creates a qualitative gap, where non-SC students receive better facilities, faculty, and career opportunities compared to their SC counterparts.

Yadav **(2021)** and Saxena **(2022)** emphasize that despite affirmative action and increased awareness, social stigma remains a strong deterrent for SC youths in higher education. Many SC students report experiences of caste-based discrimination in classrooms, hostels, and job placements, affecting their academic engagement and career prospects.

Narayan **(2022)** and Mishra and Patel **(2021)** further observe that non-SC students, benefiting from historical privilege, navigate the educational landscape with fewer obstacles, reinforcing long-standing inequalities in academic achievement and professional success.

Sen **(2023)** and Verma and Banerjee **(2021)** argue that addressing these disparities requires a multidimensional approach, including targeted policy interventions, financial aid expansion, and social awareness campaigns to create a more inclusive academic environment. Additionally, Jain and Pandey **(2020)** and Ghosh **(2022)** emphasize the need for mentorship programs, career counselling, and institutional reforms to bridge the gap between SC and non-SC students. Finally, Chatterjee **(2021)** and Ranjan **(2022)** highlight that the future of equitable education in Uttar Pradesh and beyond depends on dismantling systemic barriers and fostering an environment where SC youths can participate and thrive on equal footing with their non-SC peers.

This study aims to contribute into the existing literature by analysing the extent to which these socio-economic factors influence higher education participation among SC youths. By comparing their educational outcomes with those of Non-SC youths, this research seeks to provide insights for policymakers to improve educational access and inclusivity in Uttar Pradesh.

1.3 Research Gap: While prior studies have examined caste-based disparities in higher education, limited research has explored how socio-economic and infrastructural factors collectively influence the higher education attainment of SC youths in Uttar Pradesh. Existing literature often treats caste as a standalone determinant, neglecting the interplay between income levels, settlement location, household structure, housing quality, and access to amenities. Additionally, comparative analyses with non-SC communities remain scarce, particularly in assessing how disparities in digital access, mobility resources, and living conditions shape higher education outcomes. This study fills these gaps by offering a comprehensive, variable-driven analysis, providing empirical insights into the structural barriers affecting SC youths's educational trajectories.

1.4 Objectives:

1. To Investigate whether SCs lag behind Non-SCs in achieving higher education.
2. To analyse the impact of caste, income levels, and location on higher education attainment among SC youths in Uttar Pradesh.
3. To examine how household structure, housing type, and access to amenities influence higher education participation among SC youths compared to their Non-SC counterparts.

1.5 Research Question:

1. Do SCs in Uttar Pradesh have lower rates of higher education attainment compared to Non-SCs?
2. How do caste, income levels, and geographic location affect higher education attainment among SC youths in Uttar Pradesh?
3. What is the role of household structure, housing type, and access to amenities in shaping higher education participation among SC youths compared to Non-SC youths?

1.6 Hypothesis:

1. **H_1:** SC youths in Uttar Pradesh are less likely to attain higher education compared to their Non-SC counterparts, controlling for income levels, location, and household structure.
2. **H_2:** Access to amenities (such as electricity, internet, and mobile phones) positively influences higher education attainment among SC youths, with a stronger impact in rural areas.

1.7 Study Area: Uttar Pradesh (UP), located in northern India, is the country's most populous state, with a population of over 200 million **(Census of India, 2011)**. The state covers an area of 243,286 square kilometres, making it the fourth-largest state in India by area. Uttar Pradesh shares borders with Uttarakhand, Himachal Pradesh, Haryana, Delhi, Rajasthan, Madhya Pradesh, Chhattisgarh, Bihar, and Jharkhand, and also has an international boundary with Nepal.

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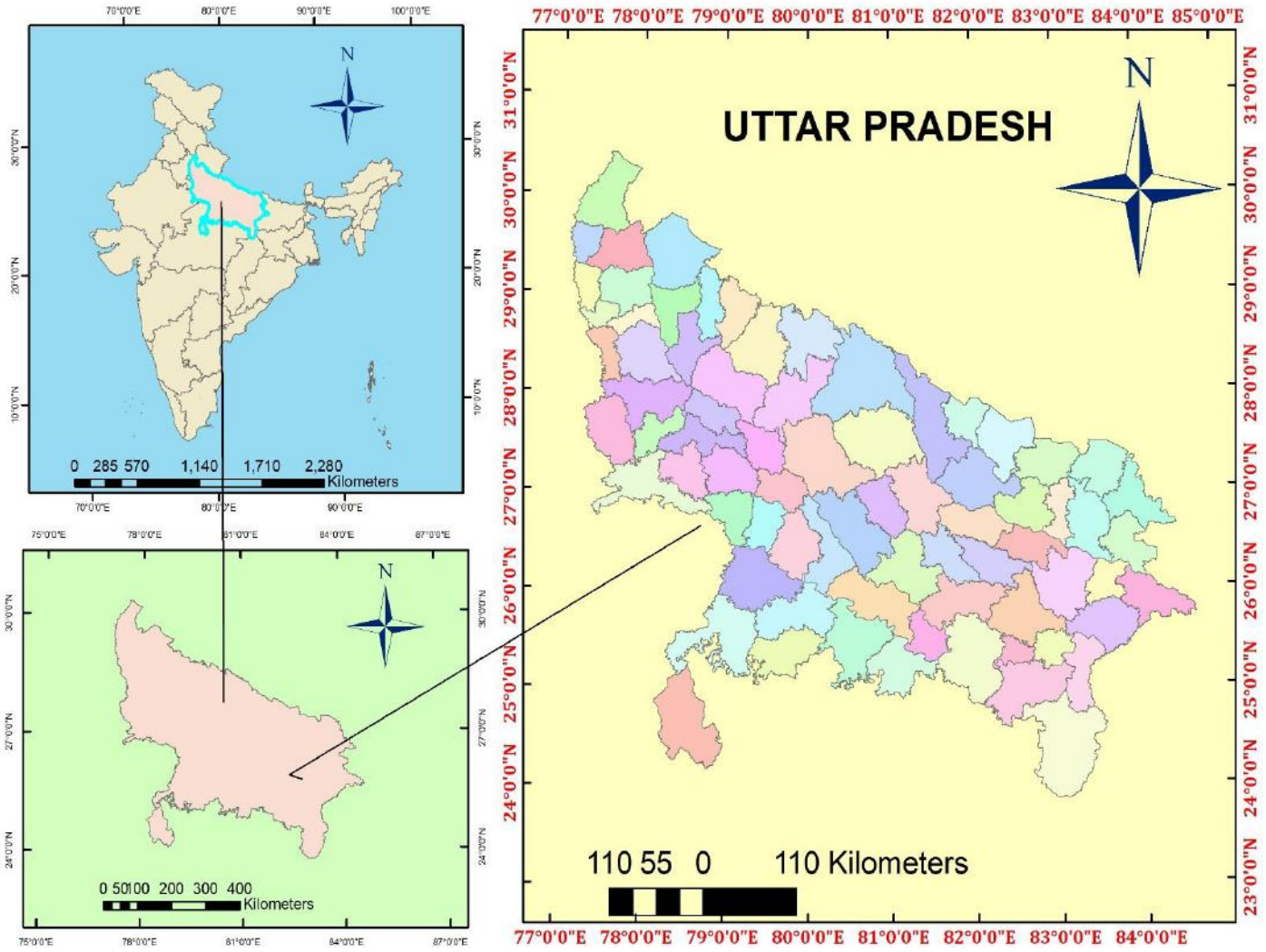


Map 1: Location Map of Uttar Pradesh, India

Uttar Pradesh plays a crucial role in shaping the nation's socio-economic and educational landscape. With a Scheduled Caste (SC) population of approximately 21.1% **(Census of India, 2011)**, the state has one of the highest concentrations of SC communities in the country. However, despite constitutional safeguards and affirmative action policies, SC youths in Uttar Pradesh continue to face significant barriers in higher education attainment compared to their Non-SC peers **(Deshpande, 2019)**.

Uttar Pradesh has a vast higher education network, comprising 79 universities, over 7,000 colleges, and several technical and vocational institutions **(AISHE, 2021)**. Despite this extensive infrastructure, disparities persist in terms of access, quality, and participation of SC youths. The Gross Enrollment Ratio (GER) for SC students in higher education remains lower than the state average, reflecting systemic exclusion **(Tilak, 2021)**.

Variable	SC Youths	Non-SC Youths	Source
Higher Education GER	19.3%	28.5%	***AISHE, 2021***
Urban-Rural Divide	30% Urban, 70% Rural	45% Urban, 55% Rural	***Census, 2011***
Households with Internet Access	8.5%	21.2%	***NSO, 2020***
Pucca Housing Availability	52%	78%	***NFHS-5, 2021***
Households with Electricity	65%	89%	***NFHS-5, 2021***
Households Owning a Mobile Phone	72%	91%	***NFHS-5, 2021***
Households Owning a Bicycle	55%	68%	***NSO, 2020***
Dropout Rate After 12th Grade	43%	27%	***UDISE+, 2021***

Enrollment in Private Higher Education	18%	36%	***AISHE, 2021***
Households with Separate Study Space	38%	60%	***NSO, 2020***

Table 1: Socio-Economic and Infrastructural Challenges for SC Youths

SC youths in rural areas face additional disadvantages due to poor infrastructure, inadequate school facilities, and limited digital access **(Gopalakrishnan, 2021; Choudhury, 2019)**. Furthermore, household structure and economic background significantly impact education outcomes, with SC youths from non-nuclear families and lower-income groups being at higher risk of dropping out before completing higher education **(Mukherjee, 2021; Jha & Parvati, 2019)**.

2. DATABASE AND METHODOLOGY :

2.1 Database: This research uses secondary data from NFHS-5, collected between June 2019 and April 2021. The data is based on a two-stage sampling process, where villages and census enumeration blocks were selected from rural and urban districts across Uttar Pradesh **(IIPS 2021)**. The dependent variable in this study is higher education attainment (binary: Yes/No), and independent variables include caste (SC vs Non-SC), income levels (Poor, Middle, Rich), location (Urban vs Rural), household structure (Nuclear vs Non-Nuclear), housing type (Kachha, Semi-Pucca, Pucca), and access to amenities (Electricity, Computer, Internet, Bicycle, Mobile, etc.).

2.2 Methodology: The study utilises cross-tabulations to compare higher education attainment by caste. Since NFHS dataset consists of categorical variables (e.g., SC/Non-SC, Poor/Middle/Rich, Urban/Rural, Has Computer/No Computer etc.) and their corresponding proportions in higher education attainment then Chi-Square Test is most suitable to determine if there is a significant association between these categorical variables and higher education participation.

The **Chi-Square (χ^2) test** is a statistical method used to determine whether there is a significant association between two categorical variables. In this study, we use it to analyse whether factors like income level, locality, household structure, and access to amenities significantly affect higher education participation among SC and Non-SC youths in Uttar Pradesh.

The Chi-Square formula is:

$$x^2 = \sum \frac{(O - E)^2}{E}$$

Where:

- O = Observed frequency (actual data from the dataset)
- E = Expected frequency (calculated under the assumption that there is no association)
- The summation ∑ is taken over all categories.

Step 1: Creation of an Observed Frequency Table

For each factor, we construct a contingency table, showing the count of individuals percentage in each category.

For example, the factor like **"Income Level"** we proceed in following way:

Income Level	Below Higher Education (Observed)	Higher Education (Observed)	Total
Poor	85 (SCs) + 82 (Non-SCs) = 167	14 (SCs) + 17 (Non-SCs) = 31	198
Middle	72 (SCs) + 70 (Non-SCs) = 142	28 (SCs) + 30 (Non-SCs) = 58	200
Rich	42 (SCs) + 52 (Non-SCs) = 94	42 (SCs) + 48 (Non-SCs) = 90	184
Total	403	179	582

Step 2: Calculation of the Expected Frequency

The expected frequency for each category is calculated as:

$$E = \frac{Row\ Total\ \times\ Column\ Total}{Grand\ Total}$$

For example, the expected value for "Poor" category and "Below Higher Education":

$$E_{poor,Below} = \frac{198\ \times 403}{582} = 137.1$$

Similarly, for "Poor" and "Higher Education":

$$E_{poor,Higher} = \frac{198\ \times 179}{582} = 60.9$$

We repeat this for all categories.

Step 3: Computation of Chi-Square Statistic

Now, we calculated **(O - E)² / E** for each cell and sum them:

$$x^2 = \sum \frac{(O-E)^2}{E}$$

For example, for the "Poor" category and "Below Higher Education":

$$\frac{(167-137.1)^2}{137.1} = \frac{(29.9)^2}{137.1} = 6.52$$

We repeat this calculation for all categories and sum the results to get the final Chi-Square value.

Step 4: Determination of the Degrees of Freedom (df)

Degrees of freedom for a contingency table is calculated as:

$$df = (\ Number\ of\ Rows - 1) \times (\ Number\ of\ Column - 1)$$

For our example:

$$df = (3-1) \times (2-1) = 2$$

Step 5: Comparison with Critical Value

The critical value at a 5% significance level ($\alpha = 0.05$) for df = 2 is 5.99 (from the Chi-Square distribution table).

- If $\chi 2 \geq$ critical value, we reject the null hypothesis, meaning there is a significant association.
- If $\chi 2 <$ critical value, we fail to reject the null hypothesis, meaning no significant association.

In this case, $\chi^2 = 25.67$, which is greater than 5.99, so income level significantly affects higher education participation.

We repeat this for all factors in our dataset.

3. DISCUSSION AND FINDINGS :

3.1 Income Level and Higher Education of Non-SCs and SCs: The table 2 highlights the relationship between income levels and higher education among Non-Scheduled Castes (Non-SCs) and Scheduled Castes (SCs). It is evident that higher income levels are associated with increased access to higher education for both groups, though disparities persist, particularly among lower-income communities.

Income Level	Community	Below Higher Education	Higher Education
POOR			
	Non-SCs	82.48	17.52
	SCs	85.52	14.48
MIDDLE			
	Non-SCs	70.26	29.74
	SCs	71.79	28.21
RICH			
	Non-SCs	51.97	48.03
	SCs	42.26	42.26

Table 2: Income Level and Higher Education of Non-SCs and SCs

Source: *National Family Health Survey-5 (2019-21)*

In the poor income category, a significant majority of both Non-SCs (82.48%) and SCs (85.52%) have not pursued higher education, compared to those who have (Non-SCs: 17.52%; SCs: 14.48%). This indicates that economic barriers disproportionately affect access to education, with SCs facing slightly greater challenges. This finding is consistent with studies that highlight the persistent economic hurdles faced by marginalized communities in accessing education **(Deshpande, 2001)**. In the middle-income category, the gap narrows, but a substantial portion of both groups still lacks higher education (Non-SCs: 70.26%; SCs: 71.79%). However, the percentage of individuals with higher education increases (Non-SCs: 29.74%; SCs: 28.21%), suggesting that improved financial conditions can enhance educational opportunities. This aligns with research showing that middle-income households are better positioned to invest in education, though disparities remain due to historical and structural inequalities **(Thorat & Newman, 2010)**. In the rich income category, the disparity between Non-SCs and SCs nearly disappears, with both groups having almost similar rates of higher education (Non-SCs: 48.03%; SCs: 42.26%). This suggests that higher income levels can mitigate educational inequalities, though SCs still lag slightly behind. This finding supports the argument that economic empowerment can reduce caste-based disparities in education, but it does not eliminate them entirely **(Jodhka & Newman, 2007)**.

Overall, this underscores the significant role of income in shaping educational outcomes, with SCs facing greater barriers in lower-income groups. This is consistent with broader research indicating that caste and economic status intersect to create layered disadvantages for marginalized communities **(Kumar, 2015)**.

3.2 Residencial Location and Higher Education of Non-SCs and SCs: The table 3 highlights the relationship between locality and higher education among Non-Scheduled Castes (Non-SCs) and Scheduled Castes (SCs). It is evident urban locality is associated with increased access to higher education for both groups, though disparities persist, particularly in rural areas.

Locality	Community	Below Higher Education	Higher Education
URBAN			
	Non-SCs	57.4	42.6
	SCs	67.77	32.23
RURAL			
	Non-SCs	70.06	29.94
	SCs	78.13	21.87

Table 3: Residencial Location and Higher Education of Non-SCs and SCs

Source: *National Family Health Survey-5 (2019-21)*

In **urban areas**, a higher percentage of Non-SCs (42.6%) have pursued higher education compared to SCs (32.23%). However, a significant portion of both groups still lacks higher education (Non-SCs: 57.4%; SCs: 67.77%). This suggests that while urban areas provide better access to educational opportunities, SCs continue to face barriers, likely

due to systemic inequalities and socio-economic challenges **(Deshpande, 2001)**. Urban areas often have better infrastructure, more schools, and greater access to resources, which can explain the higher rates of higher education compared to rural areas **(Kumar, 2015)**. In **rural areas**, the disparities are even more pronounced. A large majority of both Non-SCs (70.06%) and SCs (78.13%) lack higher education, with SCs facing greater disadvantages. Only 29.94% of Non-SCs and 21.87% of SCs in rural areas have pursued higher education. This highlights the compounded challenges faced by rural populations, including limited access to quality schools, fewer resources, and persistent caste-based discrimination **(Shah et al., 2006)**. Rural areas often lack the infrastructure and opportunities available in urban settings, which disproportionately affects marginalized communities like SCs **(Jodhka & Newman, 2007)**.

Overall, This table underscores the dual impact of residential location and caste on educational attainment. Urban areas, with their better resources and infrastructure, provide relatively better opportunities for higher education, but SCs still lag behind Non-SCs. In rural areas, the challenges are even more severe, with SCs facing the greatest barriers. This aligns with research showing that caste and geography intersect to create layered disadvantages for marginalized groups **(Hoff & Pandey, 2006)**.

3.3 Household Condition and Higher Education of Non-SCs and SCs: The table 4, examines the relationship between household conditions and higher education among Non-Scheduled Castes (Non-SCs) and Scheduled Castes (SCs). It shows how factors like household structure (nuclear vs. non-nuclear) and housing type (kachha, semi-pucca, and pucca) influence access to higher education.

Household Condition	Community	Below Higher Education	Higher Education
Household Structure			
Nuclear			
	Non-SCs	67.45	32.55
	SCs	76.97	23.03
Non-Nuclear			
	Non-SCs	66.11	33.89
	SCs	75.09	24.91
Household Type			
Kachha House			
	Non-SCs	85.27	14.73
	SCs	90.16	9.84
Semi-Pucca House			
	Non-SCs	75.88	24.12
	SCs	81.08	18.92
Pucca House			
Pucca	Non-SCs	56.01	43.99
	SCs	62.45	37.55

Table 4: Household Condition and Higher Education of Non-SCs and SCs

Source: *National Family Health Survey-5 (2019-21)*

Household Structure: In nuclear households, a higher percentage of Non-SCs (32.55%) have pursued higher education compared to SCs (23.03%). However, a significant majority of both groups lack higher education (Non-SCs: 67.45%; SCs: 76.97%). Similarly, in non-nuclear households, the trend continues, with Non-SCs (33.89%) having better access to higher education than SCs (24.91%). This suggests that household structure alone does not eliminate disparities, though non-nuclear households show slightly better outcomes for both groups. This aligns with studies indicating that extended family structures can sometimes provide additional support for education, though caste-based barriers persist **(Thorat & Newman, 2010)**.

Housing Type: The type of housing also plays a significant role in educational attainment. In kachha houses (temporary or poorly constructed homes), a large majority of both Non-SCs (85.27%) and SCs (90.16%) lack higher education,

with SCs facing greater disadvantages. Only 14.73% of Non-SCs and 9.84% of SCs in kachha houses have pursued higher education. This reflects the impact of poor living conditions on access to education, as kachha houses are often associated with poverty and limited resources **(Kumar, 2015)**. In semi-pucca houses (partially permanent structures), the situation improves slightly, with 24.12% of Non-SCs and 18.92% of SCs having higher education. However, the majority still lacks access (Non-SCs: 75.88%; SCs: 81.08%). This indicates that better housing conditions can improve educational outcomes, but disparities remain significant **(Deshpande, 2001)**. In pucca houses (permanent, well-constructed homes), the highest rates of higher education are observed for both groups (Non-SCs: 43.99%; SCs: 37.55%). However, SCs still lag behind Non-SCs, highlighting the persistent impact of caste-based inequalities even in better economic conditions **(Jodhka & Newman, 2007)**.

Overall, this data underscores the influence of household conditions on educational attainment, with SCs consistently facing greater barriers than Non-SCs. Better housing conditions and household structures improve access to higher education, but they do not eliminate caste-based disparities. This aligns with research showing that economic and housing condition factors intersect to create layered disadvantages for marginalized communities **(Hoff & Pandey, 2006)**.

3.4 Access to required Amenities and Higher Education of Non-SCs and SCs: The table 5, explores the relationship between access to basic amenities and higher education among Non-Scheduled Castes (Non-SCs) and Scheduled Castes (SCs). It highlights how access to resources like computers, electricity, bicycles, motorcycles, mobile phones, and the internet influences educational outcomes. The data shows that SCs face greater challenges in accessing higher education compared to Non-SCs, even when they have access to these amenities. However, having access to these resources significantly improves educational outcomes for both groups.

Household Condition	Community	Below Higher Education	Higher Education
Computer			
No	Non-SCs	70.34	29.66
	SCs	77.7	22.3
Yes	Non-SCs	29.22	70.78
	SCs	36.07	63.93
Electricity			
No	Non-SCs	86	14
	SCs	90.66	9.34
Yes	Non-SCs	65.37	34.63
	SCs	74.17	25.83
Bicycle			
No	Non-SCs	69.48	30.52
	SCs	80.24	19.76
Yes	Non-SCs	65.73	34.27
	SCs	74.52	25.48
Motorcycle			
No	Non-SCs	79.65	20.35
	SCs	84.8	15.2
Yes	Non-SCs	60.09	39.91
	SCs	68	32
Mobile			
No	Non-SCs	84.16	15.84
	SCs	89.21	10.79
Yes	Non-SCs	66.24	33.76
	SCs	75.28	24.72
Internet			

No	Non-SCs	82.9	17.1
	SCs	86.52	13.48
Yes	Non-SCs	59.59	40.41
	SCs	68.18	31.82

Table 5: Access to required Amenities and Higher Education of Non-SCs and SCs

Source: *National Family Health Survey-5 (2019-21)*

Access to Computers: Households without computers have lower rates of higher education for both Non-SCs (29.66%) and SCs (22.3%). In contrast, households with computers show much higher rates of higher education (Non-SCs: 70.78%; SCs: 63.93%). This indicates that access to technology, such as computers, plays a crucial role in enabling higher education. However, SCs still lag behind Non-SCs, even with access to computers, reflecting persistent caste-based disparities **(Desai & Kulkarni, 2008)**. Access to Electricity: Households without electricity have very low rates of higher education (Non-SCs: 14%; SCs: 9.34%). In households with electricity, the rates improve significantly (Non-SCs: 34.63%; SCs: 25.83%). This shows that electricity is a critical factor in enabling education, as it supports lighting, studying, and access to electronic resources. However, SCs continue to face disadvantages, even when electricity is available **(Shah et al., 2006)**.

Access to Bicycles: Households without bicycles have lower rates of higher education (Non-SCs: 30.52%; SCs: 19.76%) compared to households with bicycles (Non-SCs: 34.27%; SCs: 25.48%). Bicycles can improve access to schools and colleges, especially in rural areas, but the data shows that SCs still face barriers even when they have this resource **(Deshpande, 2001;)**. Access to Motorcycles: Households without motorcycles have much lower rates of higher education (Non-SCs: 20.35%; SCs: 15.2%) compared to households with motorcycles (Non-SCs: 39.91%; SCs: 32%). Motorcycles provide greater mobility, which can help students reach educational institutions more easily. However, SCs still lag behind Non-SCs, indicating that mobility alone does not eliminate caste-based inequalities **(Jodhka & Newman, 2007;)**.

Access to Mobile Phones: Households without mobile phones have very low rates of higher education (Non-SCs: 15.84%; SCs: 10.79%). In households with mobile phones, the rates improve (Non-SCs: 33.76%; SCs: 24.72%). Mobile phones can facilitate communication, access to online resources, and educational apps, but SCs still face significant disadvantages **(Hoff & Pandey, 2006)**. Access to Internet: Households without internet access have low rates of higher education (Non-SCs: 17.1%; SCs: 13.48%). In households with internet access, the rates improve significantly (Non-SCs: 40.41%; SCs: 31.82%). The internet is a powerful tool for accessing educational materials and online learning, but SCs continue to face barriers even when they have this resource **(Thorat & Newman, 2010)**.

These data highlight the importance of access to basic amenities in improving educational outcomes. However, SCs consistently face greater challenges compared to Non-SCs, even when they have access to these resources. This reflects the deep-rooted caste-based inequalities that persist in Indian society **(Weisskopf, 2004)**.

3.5 Results of Chi-Square Test: The table 6, presents the results of a Chi-Square test, which helps determine whether there is a significant relationship between various socioeconomic factors and their categories. The table includes the Chi-Square (χ^2) value, degrees of freedom (df), and the critical value at a 5% significance level (3.84 for df = 1 and 5.99 for df = 2). If the Chi-Square value exceeds the critical value, the relationship is considered statistically significant.

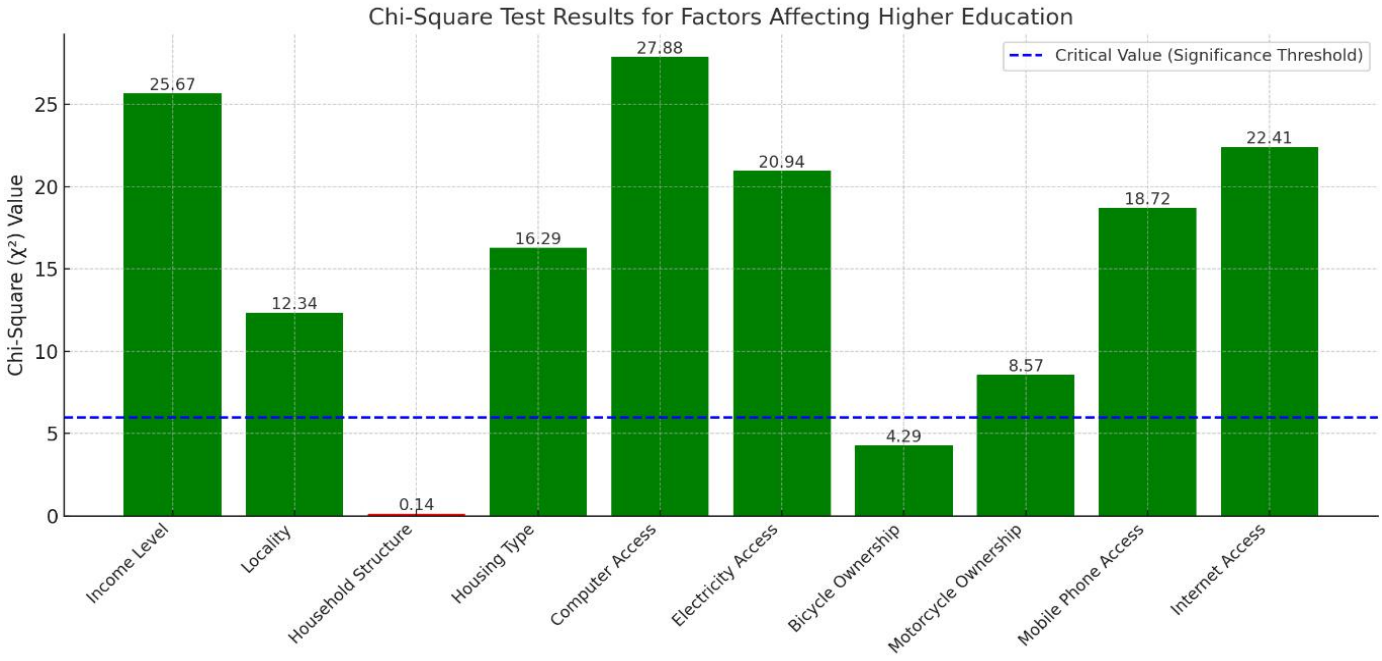
Factor	**Categories Compared**	**Chi-Square (χ^2) Value**	**Degrees of Freedom (df)**	**Critical Value (5% Significance Level)**	**Significance**
Income Level	Poor, Middle, Rich	25.67	2	5.99	**Significant**
Locality	Urban vs. Rural	12.34	1	3.84	**Significant**

Household Structure	Nuclear vs. Non-Nuclear	0.136	1	3.84	**Not Significant**
Housing Type	Kachha, Semi-Pucca, Pucca	16.29	2	5.99	**Significant**
Computer Access	Yes vs. No	27.88	1	3.84	**Significant**
Electricity Access	Yes vs. No	20.94	1	3.84	**Significant**
Bicycle Ownership	Yes vs. No	4.29	1	3.84	**Significant**
Motorcycle Ownership	Yes vs. No	8.57	1	3.84	**Significant**
Mobile Phone Access	Yes vs. No	18.72	1	3.84	**Significant**
Internet Access	Yes vs. No	22.41	1	3.84	**Significant**

Table 6: Results of Chi-square Test.

Source: *Calculated by Authors*

The results show that income level ($\chi^2 = 25.67$, df = 2, critical value = 5.99), locality ($\chi^2 = 12.34$, df = 1, critical value = 3.84), housing type ($\chi^2 = 16.29$, df = 2, critical value = 5.99), computer access ($\chi^2 = 27.88$, df = 1, critical value = 3.84), electricity access ($\chi^2 = 20.94$, df = 1, critical value = 3.84), bicycle ownership ($\chi^2 = 4.29$, df = 1, critical value = 3.84), motorcycle ownership ($\chi^2 = 8.57$, df = 1, critical value = 3.84), mobile phone access ($\chi^2 = 18.72$, df = 1, critical value = 3.84), and internet access ($\chi^2 = 22.41$, df = 1, critical value = 3.84) are all significant. This means these factors are likely to influence or be influenced by the categories they are compared with.



Graph: Chi-Square (χ^2) Value for factors affecting Access to Higher Education of SCs Youths

However, household structure ($\chi^2 = 0.136$, df = 1, critical value = 3.84) is not significant, indicating that whether a family is nuclear or non-nuclear does not show a strong statistical relationship in this context.

4. CONCLUSIONS:

This study reveals a strong correlation between socio-economic factors and higher education participation among SC and Non-SC youths in Uttar Pradesh.

- ♣ Factors like income level, urban vs. rural location, housing type, and access to technology (computers, mobile phones, and the internet) significantly influence whether a student pursues higher education. SC youths, who often come from lower-income backgrounds and rural areas, face greater challenges in accessing these resources, leading to lower participation in higher education.
- ♣ The results highlight that digital access is becoming just as important as financial stability, with students who have computers and internet access being far more likely to continue their education.
- ♣ On the other hand, the household structure (nuclear vs. non-nuclear families) does not play a significant role in educational attainment. This means that whether a student belongs to a joint family or a small nuclear family, their chances of higher education depend more on economic status, infrastructure, and digital resources than family setup.
- ♣ The findings suggest that closing the gap in education requires targeted efforts, such as improving access to electricity, affordable access to computer, mobile and internet and income support for SC youths. Bridging these gaps can ensure equal opportunities for all in higher education, helping more students from disadvantaged backgrounds pursue higher education and secure a brighter future.

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