
HINDUSTANI DIALECT ANALYSIS AT PHONOLOGICAL LEVEL: SPOKEN IN WESTERN UTTAR PRADESH

Afreen Arif* and Dr. Pallav Vishnu

Department of Linguistics, Aligarh Muslim University, Aligarh, Uttar Pradesh, India

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ABSTRACT

The current study addresses the issue of insufficient phonological analysis of the Hindustani dialect spoken in the town of Atrauli, Aligarh district, Western Uttar Pradesh, India. Although there have been research on the phonology of numerous dialects in different places, no extensive analysis has been carried out in this particular case. This study employs William Labov's variationist paradigm as an experimental approach to define the phonemic inventory and analyse systematic patterns of variation in the Hindustani dialect spoken in Atrauli. The study is quantitative, using natural speech recordings to investigate how social factors like religion and age affect phonological variance. The study demonstrates that, while the dialect conforms to the Khari Boli phonemic inventory, distinct patterns of phonological variation are impacted by religion and age, demonstrating the importance of sociodemographic factors on language behaviour. The study suggests that these differences represent deeper social and cultural identities within the community, emphasising the significance of context-specific phonological research.

Keywords: Phonological Variation, Hindi/Urdu, Western Uttar Pradesh, Variationist Sociolinguistics, William Labov.

1. INTRODUCTION

In multilingual societies, phonological variation gives information about age, gender, religion, education, and socioeconomic status. Hindustani, which includes Hindi and Urdu, provides a unique setting for analysing these differences given to its wide historical use across various areas and social classes. Research on the political and social differences between Hindi and Urdu—Hindi associated with Hindus and Urdu with Muslims—emphasizes their unique features. According to Nizami et al. (2020), both languages are from the Indo-Aryan branch of the Indo-European family. Despite their mutual intelligibility, they are currently recognised as Sanskritized and Persianized varieties of 'Hindustani,' written in Devanagari and Nastaliq scripts, respectively. Since the late twentieth century, linguistic scholars have concentrated on studying variations. Language scientists and sociolinguists agree that a thorough understanding of sociolinguistics is required for research into advanced disciplines of linguistics such as syntax, phonology, semantics, morphology, computational linguistics, and natural language processing.

Using William Labov's variationist framework, the purpose of this study is to define the phonemic inventory of the Hindustani dialect in Atrauli, as well as to analyse systematic patterns of variation, frequency of variation, and the social factors that influence them. Religious and age-related variances exist in the use of sounds like /kh/ vs. /x/, where Hindu speakers may say /ək^hbar/ for 'newspaper' whereas Muslim speakers use /əxbar/. The investigation will look into if there is free variation in these sounds. Data will be collected

through natural speech recordings in home and marketplace settings, employing Labov's quantitative methods for analysis. It should be noted that specific linguistic features found in one religious group can also be present in others, owing to cultural proximity and shared living environments. This analysis focuses on identifying predominant features within each religious group, investigating systematic patterns, and examining sociolinguistic factors influencing them. These initial findings are expected to provide a foundational understanding for a comprehensive comparison of spoken variants in the Hindustani dialect, contributing to the study of language evolution.

The study's strength is its unique focus on the phonology of Atrauli town, using William Labov's framework and filling a substantial vacuum in existing literature. To accomplish this, we aim to answer four essential research questions.

- 1- What is the phonemic inventory of the Hindustani dialect spoken in Atrauli, Aligarh district, Western Uttar Pradesh?
- 2- What systematic patterns of phonological variation can be identified in the Hindustani dialect spoken in Atrauli?
- 3- How do social factors, such as religion, influence phonological variation in the Hindustani dialect spoken in Atrauli, particularly in the usage of sounds like /kh/ versus /x/?
- 4- How do social factors, such as age, influence phonological variation in the Hindustani dialect spoken in Atrauli, particularly in the usage of sounds like /kh/ versus /x/?

2. LITERATURE REVIEW

2.1 Background of Hindustani:

Hindi and Urdu have their origins in Khariboli spoken in Delhi and the neighbouring areas (Koul, 2008). Hindustani, which includes both languages, emerged as a lingua franca in India prior to independence, due to historical, cultural, and linguistic compatibility that aided its widespread adoption (Koul, 2008). Administrative languages like Sanskrit (earliest Hindu kingdoms), Persian (Muslim dynasties), and subsequently English (British government) were historically reserved for the elite, in contrast to Hindustani's status as a general-purpose language (Koul, 2008). Hindustani can be defined in a variety of ways, including as a single language with two separate styles: Hindi and Urdu (Rai, 2000). It also serves as a linguistic bridge between Hindi and Urdu (University of Texas at Austin 2012). Scholars have investigated the political and social factors that lead to the distinction of Hindi and Urdu, which are frequently connected with Hindu and Muslim identities, Hindi as Hindu, Urdu as Muslim highlighting their shared uniqueness (Koul, 2008; Lelyveld, 1993). Hindi and Urdu are both members of the Indo-Aryan branch of the Indo-Iranian family, which is part of the larger Indo-European language family (Nizami et al., 2020). Despite their common beginnings and mutual intelligibility, they have diverged in script: Urdu is commonly written in the Nastaliq alphabet, whereas Hindi uses Devanagari (Nizami et al., 2020). This linguistic dichotomy reflects their progression into Sanskritized and Persianized registers, sometimes known as 'Hindustani'.

2.2 Sociolinguistic Variation at Phonological level:

Sociolinguistic research on South Asian languages has revealed coexisting language systems among monolingual speakers, which are influenced by variables such as limited social mobility and underdeveloped mass media. Researchers such as Ferguson and Gumperz, drawing on T. Hill's distinction between vernacular and koiné variants, have investigated these language dynamics (Srivastava & Kelkar, 1969).

(Labov, 1963, 1966, 1964) is credited with advancing sociolinguistic research by employing quantitative approaches to analyse significant fluctuations ("linguistic variables") across social contexts, rather than abstract analyses of continuous linguistic features. According to (Mishra & Bali, 2011) research on dialect-based differences provides insights into how language is utilised and evolves throughout time. Scholars like Jaberg and Jud (1928-1940) observed notable variations in Italian dialects across different social groups, highlighting the intricate relationship between language and societal dynamics.

Recent research continues to look into how social and cultural factors influence language use. Morris (2021) investigated social factors that influence phonological transfer among Welsh-English bilinguals, whereas Sinnemäki (2020) investigated /r/ production in Welsh-English bilinguals, demonstrating gender, home language, and community influences on phonological interactions. Gonzales (2023) investigated Indonesian dominance and its effects on Javanese phonology in multilingual East Javanese children, focusing on how dominant languages influence phonological patterns and the importance of social factors in language acquisition and development. Shen (2024) investigated phonological variance in Toronto's multilingual populations, emphasising the social consequences of language use and the role of socioeconomic status (SES) in metropolitan contexts.

Despite continuous sociolinguistic study, focusing on different linguistic elements. We still don't fully comprehend the scope of phonological variation and the social factors governing them. More comprehensive research is needed to close this gap and gain a better grasp of how social variables influence phonological variety.

2.3 Labov Sociolinguistics:

Quantitative Sociolinguistics empirically investigates linguistic variation in order to find patterns that link variation to both internal (Linguistic) and exterior (social) influences.

William Labov's pioneering work established the basis for linguistic variation theory. His study on Martha's Vineyard (Labov, 1963), Labov investigated how local dialect features (particularly vowel pronunciation) differed among the island's various social groupings. He used quantitative tools to investigate the frequency of these vowel shifts and their relationship to variables such as age, occupation, and islander identification. As well as his 1964 PhD thesis on sociolinguistic stratification in New York City (Labov, 1964) He used quantitative framework to investigate linguistic variables such as the pronunciation of post-vocalic /r/ (rhoticity) among socioeconomic groups. This study illustrated how language variety was affected by social factors in an urban setting. In his seminal investigations on Martha's Vineyard and New York City, William Labov introduced sample surveys, naturalistic experiments, and quantitative analysis that transformed sociolinguistics. His study established the key principles for understanding language variety and the social factors responsible for variation. Using these tools, Labov established the systematic character of linguistic variation and its relationship to social factors, establishing a solid foundation for analysing phonological variation across speech communities.

This study will use Labov's variationist framework to analyse phonological variation in the Hindustani dialect spoken in Atrauli, with a focus on systematic patterns of variation, frequency, and the impact of social factors such as religion and age.

2.4 Demographic Context:

Atrauli is an Urban Local Body of the type Municipality in the Aligarh district of Uttar Pradesh. There are 27 wards in Atrauli Municipality, with elections occurring every five years. According to the 2011 Census India report, the Atrauli Nagar Palika Parishad has a population

of 50,412, with 26,368 males and 24,044 females. The expected population of Atrauli Nagar Palika Parishad in 2024 is roughly 69,000. Out of which population 63.01% is Hindu population and 36.38% Muslim Population. This significant difference in the population based on religion creates a unique context for analysing phonological variants impacted by social factors such as religion and age. The study intends to investigate these differences, specifically in the use of sounds such as /kh/ versus /x/ in this broad demographic situation.

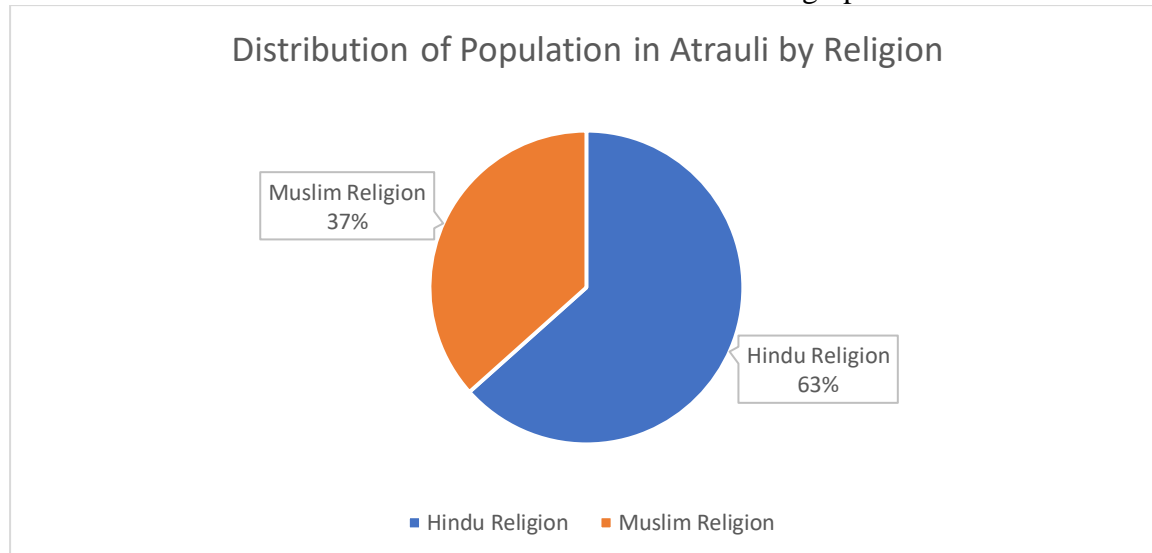


Chart:1 The chart is demonstrating the data of population distribution based on Religion.

3. METHODOLOGY

3.1 Data Collection

The study was carried out in the Aligarh district's, Atrauli town, with an emphasis on Atrauli dialect speakers from a variety of religious backgrounds, including the Muslim and Hindu groups. A total of 48 participants participated in the data collection process, ensuring a representative sample from each faith group: 24 Hindus and 24 Muslims. Of these participants, 12 young and 12 elderly individuals were chosen from the Muslim community, and the same is true for the Hindu community. The younger age group falls within the 18–31 age range, whereas the older age group falls between the 32–50 age range. Natural voice recordings were used as data collecting techniques. The naturalistic experiments, took held in both home and public settings for the participants. To guarantee accurate representation and analysis, phonological data from these sessions was painstakingly transcribed using the International Phonetic Alphabet (IPA).

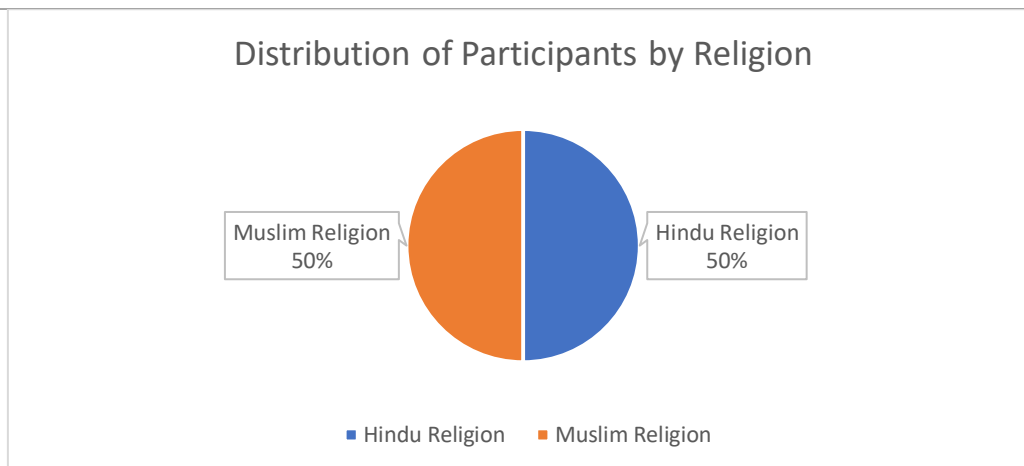


Chart: 2 Distribution of Participants by Religion

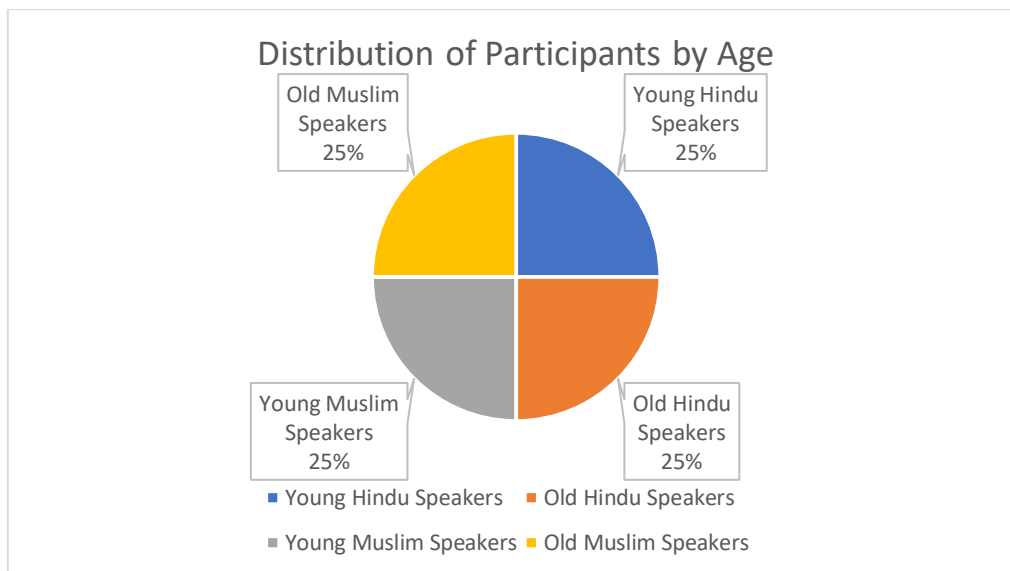


Chart: 3 Distribution of Participants by Age Group

4. RESULTS

4.1 Analysis of detailed Phonemic Inventory:

STOPS

| PLACE OF ARTICULATION | Voiceless Unaspirated | Voiceless Aspirated | Voiced Unaspirated | Voiced Aspirated | Nasalized Voiced |
|-----------------------|-----------------------|---------------------|--------------------|--------------------|------------------|
| Bilabial | /p/ | /p ^h / | /b/ | /b ^h / | /m/ |
| Dental | /t̪/ | /t̪ ^h / | /d̪/ | /d̪ ^h / | /n/ |
| Alveolar | /t/ | /t ^h / | /d/ | /d ^h / | |
| Velar | /k/ | /k ^h / | /g/ | /g ^h / | /ŋ/ |
| Uvular | /q/ | | | | |

FRICATIVES

| PLACE OF ARTICULATION | Voiceless | Voiced | Breathy Voiceless |
|-----------------------|-----------|--------|-------------------|
| Labiodental | /f/ | /v/ | |
| Alveolar | /s/ | /z/ | |
| Palatal | /ʃ/ | /ʒ/ | |
| Uvular | /x/ | | |
| Glottal | | | /h/ |
| Velar | | /ɣ/ | |

AFFRICATES

| PLACE OF ARTICULATION | Voiceless Unaspirated | Voiceless Aspirated | Voiced Unaspirated | Voiced Aspirated |
|-----------------------|-----------------------|---------------------|--------------------|--------------------|
| Palatal | /tʃ/ | /tʃ ^h / | /dʒ/ | /dʒ ^h / |

FLAPS

| PLACE OF ARTICULATION | Voiced Unaspirated | Voiced aspirated |
|-----------------------|--------------------|-------------------|
| Retroflex | /ɾ/ | /ɾ ^h / |

Trill

| PLACE OF ARTICULATION | VOICED |
|-----------------------|--------|
| Alveolar | /r/ |

LATERAL

| PLACE OF ARTICULATION | Voiced |
|-----------------------|--------|
| Alveolar | /l/ |

It was found that Hindustani language spoken in Atrauli town, does not have any difference in their phonemic inventory matching the standard Khari Boli phonemic inventory including 36 consonant phonemes with their aspirated and unaspirated counterparts (Koul, 2008). Although, there are some Variation at phonological level is noticed related to age and religion.

4.2 Frequency Count and Distribution:

| Phoneme | Context | Age group | No. of times Sound occurrence in Hindu Speakers | No. of times sound occurrence in Muslim Speakers |
|-------------------|--------------|-----------|---|--|
| /k ^h / | Word-initial | Young | 3 | 4 |
| | | Old | 7 | 2 |
| | Word-medial | Young | 4 | 5 |
| | | Old | 6 | 2 |
| | Word-final | Young | 1 | 1 |
| | | Old | 0 | 2 |
| /x/ | Word-initial | Young | 2 | 4 |

| | | | | |
|--|-------------|-------|---|---|
| | | Old | 1 | 9 |
| | Word-medial | Young | 1 | 1 |
| | | Old | 0 | 6 |
| | Word-final | Young | 1 | 1 |
| | | Old | 0 | 2 |

Chart 4: Occurrence and distribution of /kh/ and /x/ by Age Group and Religious Background.

4.2.1

| Phoneme | No. of times sound occurrence in Hindu speakers | No. of times sound occurrence in Muslim speakers |
|---------|---|--|
| /kh/ | 87% | 66% |
| /x/ | 8.1% | 95% |

Chart 5: Occurrence of /kh/ and /x/ relative to different religion in percentage.

4.2.2

| Phoneme | Age group | No. of times sound occur in Hindu speakers | No. of times sound occur in Muslim speakers |
|---------|-----------|--|---|
| /kh/ | Young | 66.6% | 83.33% |
| | Old | 108.3% | 50% |
| /x/ | Young | 33.33% | 50% |
| | Old | 8.33% | 141.67% |

Chart 6: Occurrence of /kh/ and /x/ relative to age group in percentage.

4.2.3

| Phoneme | Linguistic context | No. of times sound occur in Hindu speakers | No. of times sound occur in Muslim speakers |
|---------|--------------------|--|---|
| /kh/ | Word-initial | 47.62% | 37.5% |
| | Word-medial | 47.62% | 43.75% |
| | Word-final | 4.76% | 18.75% |
| /x/ | Word-initial | 60% | 56.52% |
| | Word-medial | 20% | 30.43% |
| | Word-final | 20% | 13.04% |

Chart 7: Occurrence of /kh/ and /x/ relative to linguistic context in percentage.

5. DATA INTERPRETATION AND ANALYSIS

It was found that Hindustani dialect spoken in Atauli town, does not have any difference in their phonemic inventory matching the standard Khari Boli phonemic inventory including 37 consonant phonemes with their aspirated and unaspirated counterparts (Koul, 2008). It is crucial to note that the percentages above 100% in the occurrences of /kh/ among elder Hindu speakers are owing to the phoneme being used many times by each participant. This shows the cumulative count of the /kh/ sound in various language situations, emphasising the phoneme's frequent use in this demographic group. However, phonological variation due to age and religion have been observed.

5.1 Phonological Variations Based on Age and Religion: Distribution of /kh/ and /x/.

The study demonstrates distinct patterns in the usage of /kh/ and /x/ phonemes among Hindu and Muslim speakers, which vary with age.

- **Religious influence:**

Hindu speakers typically use the /kh/ sound in various linguistic settings, whereas Muslim speakers use the /x/ sound more frequently. Chart 2 reveals that /kh/ occurs 87% of the time in Hindu speakers and 66% in Muslim speakers. In contrast, /x/ appears 8.1% in Hindu speakers and 95% in Muslim speakers.

- **Age Influence:**

Younger Muslim speakers use /kh/ more frequently (83.33%) than their elder counterparts (50%). This shows that the younger generation of Muslims may be shifting their pronunciation rules. Older Hindu speakers have a higher frequency of /kh/ (108.3%) than younger Hindu speakers (66.6%), indicating a greater adherence to conventional pronunciation patterns among older people.

5.2 Linguistic Contextual Variation:

Both Hindu and Muslim speakers have a higher occurrence of the /kh/ sound in word-initial and word-medial places, but a significant decrease in word-final positions (chart7). For example, 47.62% of Hindu speakers employ /kh/ in word-initial and word-medial places, compared to only 4.76% in word-final positions. The /x/ sound is less common in Hindu speakers, but it is more uniformly distributed across different linguistic contexts in Muslim speakers, with the highest frequency in word-initial positions (56.52%). Furthermore, the observed generational shifts in phonological preferences among Hindu and Muslim speakers may be closely related to Atrauli's demographic composition, where Hindu people outnumber Muslims. This demographic discrepancy is likely to alter language transmission patterns and intergroup linguistic contacts, which may contribute to the observed linguistic innovations among younger speakers.

5.3 Social and cultural influences

The findings indicate that phonological changes in Atrauli's Hindustani dialect are influenced by social factors such as age and religion. These differences are consistent with broader sociolinguistic tendencies seen in other multilingual societies, where phonological traits can serve as indicators of social identity and group membership.

1- Religious Influence:

The different usage patterns of /kh/ and /x/ among Hindu and Muslim speakers demonstrate the importance of religion in creating phonological diversity. This is consistent with historical and social situations, where linguistic traits have become associated with religious identity.

2-Age Influence:

The age-related variances reflect generational shifts in pronunciation norms. Younger speakers, particularly those from the Muslim community, exhibit a preference for the /kh/ sound, which may be affected by modern linguistic trends or interactions with other linguistic communities.

6. IMPLICATIONS IN SOCIOLINGUISTIC RESEARCH

The findings are consistent with and contribute to William Labov's variationist theory, demonstrating how systematic patterns of phonological variation are influenced by social factors like religion and age. Labov's framework emphasises the importance of empirical evidence and quantitative research in identifying language diversity. This study supports

Labov's approach by establishing clear, quantitative disparities in the use of /kh/ and /x/ sounds across different social groups in Atrauli.

6.1 Understanding Social Identity through Language

The different usage patterns of the /kh/ and /x/ phonemes among Hindu and Muslim speakers highlight the importance of language in building and signalling social identity. This is compatible with sociolinguistic theories that view language as a symbol of group membership and social identity. The religious influence on phonological variance in Atrauli demonstrates how language traits can be used as emblems of cultural and religious connection.

6.2 Generational Shifts and Language Change

The age-related differences in phonological variation point to ongoing language change caused by generational shifts. Younger speakers, particularly in the Muslim community, are more likely to utilise the /kh/ sound, indicating linguistic innovation or adaptation. This finding is consistent with broader sociolinguistic patterns, in which younger generations frequently drive linguistic change.

6.3 Methodological Contributions.

The study also adds methodological value by adapting Labov's quantitative tools to a new linguistic situation. The utilisation of natural speech recordings, rigorous sampling, and IPA transcription ensures that the results are reliable and accurate. The quantitative research gives strong support for understanding the link between social conditions and phonological variance.

6.4 Broader sociolinguistic trends.

The findings of this study have important implications for understanding phonological variation in other multilingual and multicultural settings. The trends seen in Atrauli could be indicative of larger sociolinguistic dynamics at work in other areas where distinct socioeconomic groups cohabit. This study contributes to the expanding body of literature that investigates how social dynamics influence language use and evolution.

6.5 Future Research Directions:

Given the study's limitations, such as the limited sample size and emphasis on only two social factors (faith and age), future research should look into other variables such as gender, education, and socioeconomic position. Investigating these characteristics may yield a more complete picture of phonological variance in Hindustani dialects. Furthermore, increasing the sample size and covering more regions can improve the generalizability of the findings.

7. CONCLUSION

This study investigates the complex relationship between phonological variation and social factors in the Hindustani dialect spoken in Atrauli, Aligarh district, Western Uttar Pradesh. The findings are consistent with Labov's variationist theory, emphasising systematic phonological variation impacted by social variables and demonstrating the significance of quantitative research in sociolinguistics. The key findings of this research suggests; the Hindustani dialect

in Atrauli conforms to the conventional Khari Boli phonemic inventory, with no changes in basic phonemic structure; Distinct patterns of phonological diversity were discovered, particularly in the use of /kh/ and /x/ sounds, which were affected by religion and age; religious association and age have a substantial influence on phonological variance. Hindu speakers prefer /kh/, whilst Muslim speakers prefer /x/, with younger Muslim speakers moving towards /kh/. Finally, this study emphasises the intricate relationship between phonological variation and sociodemographic characteristics in the Hindustani dialect spoken in Atrauli. The data show that demographic factors, particularly the large variation in religion composition, have a major impact on language behaviours and phonemic preferences across socioeconomic groups. Future research should look into how demographic factors affect language change and evolution in heterogeneous multilingual groups.

REFERENCE

- 1- Gonzales, W. D. W. (2023). Spread, stability, and sociolinguistic variation in multilingual practices: The case of Lánnang-uè and its derivational morphology. *International Journal of Multilingualism*. Advance online publication. <https://doi.org/10.1080/14790718.2023.2199998>
- 2- Hyman, L M. 1975. Phonology: Theory and Analysis. New York: Holt, Rinehart and Winston.
- 3- Jaberg, Karl, & Jud, Jakob. 1928. The language atlas as a research tool: critical foundation and introduction in the language and sachatlas of Italy and Southern Switzerland. Max Niemeyer Verlag
- 4- Jaberg, Karl. 1936. Aspects géographique du langage. Paris, Dorz.
- 5- King, R. D. (2001). The poisonous potency of script: Hindi and Urdu. *International Journal of the Sociology of Language*, 2001(150). <https://doi.org/10.1515/ijsl.2001.035>
- 6- Koul, O. N. (2008). *Modern Hindi Grammar*. https://openlibrary.org/books/OL22670226M/Modern_Hindi_grammar
- 7- Labov, W. (1963b). The Social Motivation of a Sound Change. *Word*, 19(3), 273–309. <https://doi.org/10.1080/00437956.1963.11659799>
- 8- Labov, W. (1964). Phonological Correlates of Social Stratification. *American Anthropologist*, 66(6_PART2), 164–176. https://doi.org/10.1525/aa.1964.66.suppl_3.02a00120
- 9- Labov, W. (2017). Uriel Weinreich: Builder on Empirical Foundations. *Journal of Jewish Languages*, 5(2), 253–266. <https://doi.org/10.1163/22134638-05020002>
- 10- Lelyveld, D. (1993). Colonial Knowledge and the Fate of Hindustani. *Comparative Studies in Society and History*, 35(4), 665–682. <https://doi.org/10.1017/s0010417500018661>
- 11- Mishra, D., & Bali, K. (2011). A Comparative Phonological Study of the Dialects of Hindi. *ICPhS*, 1390–1393. <https://dblp.uni-trier.de/db/conf/icphs/icphs2011.html#MishraB11>
- 12- Morris, J. (2021). Social Influences on Phonological Transfer: /r/ Variation in the Repertoire of Welsh-English Bilinguals. *Languages*, 6(2), 97. <https://doi.org/10.3390/languages6020097>
- 13- Nizami, M. S., Ahmed, T., & Yaseen, M. (2020). Hindustani or Hindi vs. Urdu: A Computational Approach for the Exploration of Similarities Under Phonetic Aspects. *International Journal of Advanced Computer Science and Applications/International*

Journal of Advanced Computer Science & Applications, 11(11).
<https://doi.org/10.14569/ijacsa.2020.0111191>

14- Rai, Alok. 2000. Hindi Nationalism. New Delhi: Orient Longman.

15- Shen, Y. (2024). Phonological variation and its social implications in multilingual communities. *Environment Social Psychology*, 9(6).
<https://doi.org/10.54517/esp.v9i6.2514>

16- Sinnemäki, K. (2020). Linguistic system and sociolinguistic environment as competing factors in linguistic variation: A typological approach. *Journal of Historical Sociolinguistics (Internet)/Journal of Historical Sociolinguistics*, 6(2).
<https://doi.org/10.1515/jhsl-2019-1010>

17- Srivastava, R. N., & Kelkar, A. R. (1969). Studies in Hindi and Urdu, I: Introduction and Word Phonology. *Language*, 45(4), 913. <https://doi.org/10.2307/412343>

ONLINE RESOURCES

- 1- University of Texas at Austin Hindi–Urdu Flagship. 2012. ‘Two Languages or One?’
http: <https://hindiurduflagship.org/about/two-languages-or-one/>
- 2- <https://www.ethnologue.com/subgroup/1290/>
- 3- <https://www.census2011.co.in/data/town/800765-atrauli-uttar-pradesh.html>
- 4- <https://localbodydata.com/municipality-atrauli-249022#:~:text=Wards%20of%20Atrauli,27%20wards%20in%20Atrauli%20Municipality.>