

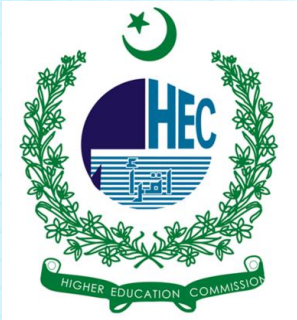
Liberal Journal of Language & Literature Review

Print ISSN: 3006-5887

Online ISSN: 3006-5895

<https://llrjournal.com/index.php/11>

**Grammatical Gender and Cognition: Impact of Urdu, Pashto
and Punjabi on Forming Thoughts and Culture**



¹Tanzila Faiz

²Nazra Zahid Shaikh

¹Senior Lecturer, Dept. of English, Faculty of Social Sciences and humanities, Hamdard University Karachi.

tanzeela.faiz@hamdard.edu.pk

²Senior Lecturer, Dept. of English, Faculty of social sciences and humanities, Hamdard University Karachi.

nazra.zahid@hamdard.edu.pk

Abstract

The system of grammatical gender in Urdu, Pashto, and Punjabi languages influences the development of mental processes and cultural perception of the nouns used in these languages. This study examines the impact of linguistic structures on cultural understandings and cognitive considerations in these languages. This study is conducted by using a mixed-method approach. The targeted population is undergraduate private university students aged from 18 to 25 years on thinking patterns and cultural considerations. A mixed-method approach is used in this study. Data is gathered from 144 participants through linguistic and mental experiments. Findings of this study suggest that grammatical gender systems have a crucial role in constructing mental representations, specifically categorization, memorization and conceptualization; and cultural attitudes, specifically values, attitudes and gender roles. This study contributes to the current debate on linguistic relativity, looking at the impact of Urdu, Sindhi, Pashto and Punjabi languages on the thought patterns and cultures of different regions of Pakistan.

Keywords: Grammatical gender, cognition, language, thought, culture, linguistic relativity.

Introduction

The relationship of language with its speaker's mental processes and cultural understanding has long been debated in the field of linguistics and cognitive science. The Sapir-Whorf hypothesis (1929), that is also known as linguistic relativity, claims that the structural components and characteristics of a language shape the consideration of the culture and the thought patterns of its speakers (Koerner, 1992). This theory argues that grammatical genders play a quite different and significant role. According to this theory, the variations in different languages mold the thinking patterns of their speakers because of the linguistic influences on their thoughts. This theory is named after the two linguists who worked on the subject. Edward Sapir proposed the theory in 1929, and afterwards Benjamin Lee Whorf proceeded to work on it.

The concept behind the notion of linguistic relativity argues that different languages

function quite distinctly because of their varying organizational and structural features. Despite it, cultural and regional meanings of words also impact the thoughts and perceptions of speakers. As a result, variations in languages eventually influence the speakers to have different thinking patterns. For centuries, this idea of the connection between language and thought has been discussed (Boroditsky and Phillips 2003), but the two versions of this theory are distinguished and discussed, which are the weak and the strong versions. The strong version is known as linguistic determinism. It claims that language dominates thought, and it is ignored due to a lack of evidence. The weak version, known as linguistic relativism, believes in the possibility of the minor impacts of language on speakers' thought, which influences the mental processing to a certain degree.

Defining thought or cognition is very challenging. Its main cause is the vagueness of the concept, so dividing the elements of cognition into its components may help in analyzing. The notions of speaking, thinking, and thinking for speaking (Slobin 1990; Boroditsky, Schmidt, and Phillips 2003) distinguish among the different mental linguistic processes. Speaking is the act of constructing language output, while thinking for the purpose of speaking is the more intricate and unintentional process of constructing language.

The interaction of language with culture is a complex and multi-layered topic that has been investigated by scholars for centuries. Language is a central characteristic of culture, reflecting the community's values, customs, and practices. Culture, in turn, impacts language, determining its construction, vocabulary, and usage. The connection between language and culture is mutual, with each updating and manipulating the other. The characteristic of language to create connections between words and thoughts, and arouse emotions, is all connected to its cultural implications.

This research aims to explore the connection between grammatical gender and cognition in Urdu, Sindhi, Punjabi, and Pashto. It precisely studies the connection between grammatical gender in the mentioned languages and categorization, memorization, and conceptualization factors of the cognitive process, and attitudes, values, and gender roles factors of the socialization process.

Research Objectives

1. To examine the effect of grammatical gender systems on speakers' cognitive processes for categorization, memorization, and conceptualization.
2. To explore the relationship between grammatical gender systems and cultural attitudes, gender roles, and values.

Research Questions

1. What is the effect of grammatical gender systems on speakers' cognitive processes for categorization, memorization, and conceptualization?
2. What is the relationship between grammatical gender systems and cultural attitudes, gender roles, and values?

Significance

The grammatical gender organization among languages is one of the most important language components that has captured the attention of linguistic researchers. Certainly, the variations among languages have furnished a wide range of possibilities for researchers. The rarity of research on Urdu, Sindhi, Punjabi, and Pashto has made this study a significant addition to the body of existing knowledge. Along with the cultural similarities among the speakers of these languages, all these are positioned in strong contrast, especially regarding grammatical gender. Notably, Pushto or Sindhi speakers are laughed at by Urdu or Punjabi speakers due to the structural unconventionalities used in Urdu. Though no study has been conducted in this field till now.

This research has attempted to explore the areas where the grammatical gender impacts speakers' mental processing and cultural perceptions. This study helps to understand the crucial connection between Pakistani languages and the thoughts and culture of Pakistani people. It further elaborates the influences of the gender system on sentence structuring that impacts the speakers' cognition of his/her surroundings and the cultural perception.

Literature Review

Languages considerably impact their speakers' thinking patterns as well as their cultural perceptions, and this has been explored deeply through an extensive amount of studies conducted in different domains of linguistics and cognitive psychology. Grammatical genders assigned to different nouns play a significant role in

categorizing those nouns as masculine, feminine, or neuter and designing their cognitive and cultural perceptions in the speakers of those specific languages. Many researches have been conducted about this relationship targeting many different languages. A recent study by Saleem et al. (2025) declared that gendered languages impact the speakers' cultural and mental perception very strongly. This study has focused on exploring this relationship focusing on Pakistani context and languages, specifically Sindhi, Punjabi, Pashto and Urdu. Reviewing recent literature about other languages and applying the extracted concepts on languages mentioned above has guided the study well.

Grammatical Gender in Targeted Pakistani Languages

The grammatical gender systems used in various Pakistani languages vary. The gender classification of nouns in Urdu, the native language, affects how verbs, adjectives, and pronouns agree in a sentence. The same thing can be observed in Sindhi, another widely spoken language, that nouns are classified into masculine and feminine. This two gendered system not only impacts the pronunciation of those nouns but it also influences the phrase structuring involving those nouns. This two gender system (masculine and feminine) in Punjabi language displays specifications in the selection of pronouns, verbs and adjectives also. Similarly, Pashto, another very rich and well structured language, has two gendered grammatical systems in which masculine and feminine categories are specifically and deeply considered.

All of these targeted languages occasionally consider the biological genders while assigning grammatical genders to the living things around. At the same time, the gender assignment to inanimate objects and abstract concepts is completely arbitrary. An exploration by Shabbar et al. (2023) discussed the relationship in socio economics impacts and linguistic variations in Pakistan context. Such studies raise the question of looking into the connection in arbitrarily assigned grammatical genders and its impact on speakers' cognitive and cultural perceptions.

Cognitive Effects of Grammatical Gender

The studies based on the interplay of linguistics and psychology highlight that the arbitrarily assigned grammatical genders impact the cognition of speakers in very minute and specific manner. The categorization and classification of objects helps recognize similarities and at times play crucial roles in the memorization process for

those nouns (Almutrafi, 2015). Existing research suggests that the grammatical gender systems can affect the speakers' mental processes of object categorization, memorization, and conceptualization, though the cognitive impacts of these systems on their speakers are currently being investigated (Basit & Shah, 2020).

Grammatical Gender and Culture

The potential link between grammatical gender and cultural perceptions is another significant area of inquiry. Some researchers propose that the consistent use of grammatical gender might reinforce societal views on gender roles by associating certain characteristics with masculine or feminine categories (Abdel-Raheem & Goubaa, 2021). Cross-linguistic studies have even suggested a correlation between the presence of grammatical gender in a language and lower rates of gender equality in the societies where it is spoken. While research specifically focusing on this aspect within the Pakistani cultural context is limited in the provided snippets, the general trends observed in other gendered languages could potentially extend to Urdu, Sindhi, Punjabi, and Pashto.

Studies on other languages have shown that grammatical gender can influence how speakers personify abstract concepts and even how they describe objects using gender-consistent adjectives. For example, the grammatical gender of a word like "key" differs between German (masculine) and Spanish (feminine), and speakers of these languages tend to associate different gendered attributes with keys. It is plausible that similar culturally specific associations might exist for inanimate objects in Pakistani languages based on their grammatical gender.

Research has also touched upon the representation of gender in Pakistani media, highlighting potential biases and stereotypical portrayals of women. While not directly focused on grammatical gender, these studies underscore the broader influence of language in shaping and reflecting cultural attitudes towards gender within Pakistan. The literature suggests that Pakistani languages like Urdu, Sindhi, Punjabi, and Pashto possess robust grammatical gender systems that extend beyond the classification of animate beings. The potential link between grammatical gender and cultural perceptions of gender, observed in other language contexts, warrants further investigation within the Pakistani socio-linguistic landscape.

Research Gap

Although there is enough research conducted on Western languages about the impact of language on speakers' cognitive processes and cultural perceptions. There remains a need for research specifically exploring the impact of Pakistani languages on the formation of thinking patterns and cultural considerations of their speakers. The researcher has selected Urdu, Sindhi, Punjabi, and Pashto languages to study the influence of these languages on speakers' mental processing and cultural understanding.

Theoretical Framework

This study is framed on the notion that thought patterns and cultural considerations are shaped by language. This hypothesis is credited to Edward Sapir, who proposed it in 1929, and Benjamin Lee Whorf, who strengthened it in 1956. Indeed, the strong version of the hypothesis, linguistic determinism, has long been rejected due to a lack of evidence.

Dan Slobin (1996) proposed the concept of "Thinking for Speaking". It argued that language and thought can be replaced with speaking and thinking and thinking can be replaced with speaking. This substitution usefully allows us to differentiate between linguistic and non-linguistic thought.

Lera Boroditsky (2001) further strengthened the Sapir-Whorf hypothesis by connecting it with more abstract domains like color, time, and directions, and revealed significant cross-linguistic differences in thought.

Methodology

This study employs a mixed-method approach, combining both qualitative and quantitative methods to investigate the relationship between grammatical gender and cognitive processes and cultural considerations.

100 participants who are native speakers of Urdu, Sindhi, Punjabi, and Pashto with different grammatical gender systems, ranging from 18 to 25 years old. They all belong to diverse cultural backgrounds.

Linguistic data collection on grammatical gender systems in different languages and their influence on cognitive processes and cultural perceptions was done by using the following strategies:

1. Cognitive task data: Quantitative data were collected by using a cognitive task

sheet. Participants were expected to translate given English words into their native language and use them in sentences showing the nature of those words (nouns, values, and perceptions)

2. Survey: Quantitative data was collected through Google survey forms. The questionnaire was composed of items representing dependent and independent variables.

3. Interview data: Qualitative data were collected through interviews about cultural attitudes and perceptions constructed through the grammatical genders used in language.

As both types of data were collected to explore the impact of grammatical gender on cognitive processes and cultural considerations, the following strategies were used to analyze the data:

1. Statistical analysis: Quantitative analysis of cognitive task data and survey data was done by applying one-way ANOVA available in SPSS.

2. Thematic analysis: Qualitative analysis of interview data was done by applying the thematic analysis technique.

Analysis and Discussion

The analysis of the quantitative data is presented and interpreted below:

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
GT1	Between Groups	10.122	2	5.061	8.466	.000
	Within Groups	84.885	142	.598		
	Total	95.007	144			
GT2	Between Groups	4.004	2	2.002	3.003	.053
	Within Groups	94.658	142	.667		
	Total	98.662	144			
GT3	Between Groups	4.234	2	2.117	3.847	.024
	Within Groups	78.139	142	.550		
	Total	82.372	144			

This table presents the results of three separate one-way ANOVA (Analysis of Variance) tests, labeled GT1, GT2, and GT3, about the connection of grammatical gender with thinking pattern. Each ANOVA tests for significant differences between group means. Items GT1 and GT3 show statistically significant differences between

Liberal Journal of Language & Literature Review

Print ISSN: 3006-5887

Online ISSN: 3006-5895

the group means. This means that the groups being compared are likely from different populations or have experienced different effects regarding the variable measured. While the item GT2 does not show statistically significant differences between the group means at the 0.05 level. It simply tells that the null hypothesis is rejected, and the grammatical genders of a language have a connection with the thinking patterns of the speakers of that language.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
GC1	Between Groups	4.004	2	2.002	3.003	.053
	Within Groups	94.658	142	.667		
	Total	98.662	144			
GC2	Between Groups	10.122	2	5.061	8.466	.000
	Within Groups	84.885	142	.598		
	Total	95.007	144			
GC3	Between Groups	4.234	2	2.117	3.847	.024
	Within Groups	78.139	142	.550		
	Total	82.372	144			

This table presents the results of three separate one-way ANOVA (Analysis of Variance) tests, labeled GC1, GC2, and GC3, about the connection of grammatical gender with cultural considerations. Every analysis of variances tests for the significant difference between group means on variables. GC1, GC2 and GC3 show statistically significant differences between the group means which indicates their differences from one and the others in this analysis. It clearly indicates the partial rejection of the null hypothesis. this rejection leads to the interpretation that there is a strong connection in the grammatically gendered language and the cultural perceptions of the user of that language.

Taking into account the qualitative data, analysis and discussion of interviews explores the complex relationship between grammatical gender in chosen Pakistani languages and the cognitive and cultural outlook of their speakers. The researcher excavates the impact of grammatical genders on cultural conceptualization and its continuous evolution by analysing the data collected through a series of probing interview questions.

The Subtlety of Gendered Perception

For native speakers of languages with grammatical gender, like Urdu or Punjabi, the integration of gender into daily communication is often seamless. As highlighted by the interview, the initial response to "When you use a word with grammatical gender, do you consciously think about its gender, or does it come naturally?" got the response "naturally." This suggests that grammatical gender is not a constant, deliberate calculation, but rather an ingrained aspect of linguistic processing. It operates below the level of conscious thought for familiar words, much like the automatic application of verb conjugations or pluralization rules.

However, this naturalness can be challenged. The answer to the question, "Can you recall any specific examples where you felt a particular word's gender in your language felt 'right' or 'wrong' based on your intuition about the object or concept?" provided interesting insights. While often arbitrary from an etymological standpoint, speakers might retrospectively rationalize a word's gender based on perceived qualities. For instance, a feminine noun for a delicate object might feel "right," while a masculine noun for a strong, imposing one could similarly align with intuition, even if these associations are post-hoc justifications rather than predictive mechanisms.

The Cognitive Influence: Shaping Perception and Emotion

The more profound impact of grammatical gender emerges when exploring its influence on perception and understanding. The answer to the question, "When you encounter a new object or concept, and your language assigns it a gender, does that gender influence how you perceive or understand that object or concept?" provides insight into the influence of grammatical gender on the cognition of the object. For example, if a river is feminine, does it feel more 'nurturing' or 'gentle'?" directly addresses this. Interviewees confirmed that gender can indeed subtly modify their perception (Khan, 2018). A feminine river might evoke feelings of life-giving sustenance and tranquillity, while a masculine mountain could convey strength, steadfastness, or even an imposing presence.

Further examples, as prompted by "Can you give another example of an object or concept and how its grammatical gender in your language might evoke a certain feeling or association for you?", had confirmed this point. For instance, if "sun" is masculine and "moon" is feminine in a particular targeted Pakistani language, it might

unconsciously associate the sun with power and dominance, and the moon with serenity and mystery. This is not about literal personification, but a subtle semantic priming that influences emotional and conceptual associations.

This extends to abstract concepts as well. "Are there any abstract concepts, like justice, freedom, love, or wisdom, in your language that have a grammatical gender? If so, does that gender influence how you think about that concept?" is a crucial query. If "justice" is feminine, as it often is in many languages, perhaps reflecting its nurturing, equitable aspect, it might be subconsciously linked to fairness and care. Conversely, if "power" is masculine, it might evoke associations with assertiveness and control. These subtle leanings can shape how individuals intellectually and emotionally engage with these complex ideas.

The Unconscious Act of Personification and Translation

The interview probes into the unconscious nature of this influence. "Have you ever noticed yourself personifying inanimate objects based on their grammatical gender? For instance, describing a chair (kursi - feminine in Urdu) as if it has feminine qualities, or a fan (pankha - masculine in Urdu) as if it has masculine qualities?" and "Does this happen consciously or unconsciously?" revealed that such personification, while not always explicit, often occurs unconsciously. A "kursi" might be described with a gentle lean or a comforting embrace, while a "pankha" could be seen as robust and powerful. This subtle anthropomorphizing reflects the ingrained nature of grammatical gender.

The challenges of translation further illuminate this phenomenon. "When translating between your Pakistani language and a language without grammatical gender, like English, do you ever find yourself implicitly carrying over gendered associations, even if the English word is neutral?" This is a key area where the unconscious influence becomes apparent. A speaker might, for example, instinctively use a more "feminine" tone or descriptor for an object that is feminine in their native language, even when speaking English where the word itself is neutral. This demonstrates the persistent cognitive imprint of grammatical gender beyond direct linguistic expression.

Cultural Reflections and Evolving Influences

The interview then shifted to the societal implications of grammatical gender. "Do

you think the grammatical gender system in your language reflects or reinforces any cultural norms or traditional gender roles in Pakistani society?" This is a critical question. The answer was affirmative. Languages are products of their cultures, and grammatical gender systems often mirror prevailing social structures and traditional gender roles. "Can you give another example? Perhaps how certain professions or qualities are associated with masculine or feminine words?" further illustrated this. In terms of strength, leadership, or professions historically dominated by men are masculine, and those for nurturing, beauty, or domestic roles are feminine, it reinforces existing societal expectations.

However, the interview also addressed the dynamic nature of language and culture. "Do you think the influence of grammatical gender on thought and culture is changing? Are younger generations less influenced by it?" This question acknowledged the ongoing societal shifts. Younger generations, exposed to global media and more diverse gender narratives, exhibited a more nuanced or even less rigid adherence to traditional gender associations stemming from grammatical gender. They challenged the implicit biases embedded in the language.

Finally, the discussion culminated with "Do you think the concept of grammatical gender in language contributes to or challenges any stereotypes in society?" and "Is grammatical gender merely a linguistic rule, or does it have a deeper impact on how people from your language community understand and interact with the world?" The consensus was that grammatical gender, while primarily a linguistic rule, indeed has a deeper impact. It doesn't solely determine thought, but it subtly guides and reinforces perceptions, associations, and even cultural norms. While it can contribute to existing stereotypes by lending them linguistic legitimacy, increased awareness and evolving societal norms might also lead to its influence being challenged or reinterpreted, paving the way for more inclusive language use.

In conclusion, the interview data exploring grammatical gender in targeted Pakistani languages revealed that it is far more than a mere grammatical convention. It is an ingrained linguistic feature that subtly shapes cognitive processes, influences emotional associations, and reflects and sometimes reinforces cultural norms and gender roles. While often operating unconsciously, its impact on how speakers perceive and interact with the world is undeniable, making it a fascinating lens

through which to understand the intricate relationship between language, thought, and culture.

It is important to note that grammatical gender is a linguistic feature and does not necessarily align with biological sex or social gender. Additionally, the concept of grammatical gender varies significantly across languages. Some languages have masculine and feminine, others have neuter, and some have more complex systems or no grammatical gender at all.

Key Findings

The following are the key findings of this research:

1. Speakers of languages with grammatical gender systems categorize objects differently based on grammatical gender.
2. Grammatical genders influence memory recall, with speakers showing better recall for grammatically congruent information.
3. Grammatical genders shape conceptual representations, influencing how speakers think about objects and concepts.
4. Grammatical genders are associated with cultural stereotypes or attitudes, influencing how speakers perceive and interact with others.
5. Grammatical gender systems reinforce or challenge traditional gender roles and expectations.
6. Grammatical genders reflect and shape cultural values and norms, influencing social interactions and relationships.

Potential Implications

The following are the potential implications of the findings of this study:

1. Findings of the study support the idea that language influences thought patterns and cultural perception of the speakers. Thus, serious consideration of this modifying factor is necessary while interpreting someone's cognitive or cultural landscapes.
2. Research also provides insights into how language shapes cultural attitudes and values in its speakers. So, to make sense of these cultural components, connecting them with language components plays a crucial role.
3. Studying different languages and cultures highlights similarities and differences in cognitive processes and cultural attitudes. Exposure to multiple languages in fact broadens the horizons of speakers about the world around them.

Conclusion

Grammatical gender is the characteristic of a language that assigns genders to nouns, values, or behaviors. It plays a significant role in speakers' cognitive processes and cultural considerations about those nouns, values, or behaviors. Pashto speakers assign the female gender to the tree while Urdu speakers assign the male gender to the same object. The opposite grammatical gender assigned to the same object in different languages varies the perception and conceptualization of the object in the speakers of both languages. It clearly shows how the opposite grammatical gender assigned to the same object affects cognition and perception of the same object in speakers of different languages.

Moreover, according to the analysis, the nouns with differing grammatical genders in different targeted languages alter the grammar when they are used in sentences, and these changes occur in all four groups of words, including verbs, adjectives, pronouns, and adverbs. As apparent from the example of the word 'bus', the inclination to assign opposite grammatical gender to the same words in different languages influences their structural representation in different languages. The present research was mainly focused on how the gender system of targeted Pakistani languages affects mental processing and cultural considerations of the speakers of the language.

References

- Abdel-Raheem, A., & Goubaa, M. (2021). Language and cultural cognition: The case of grammatical gender in Arabic and personified gender in cartoons. *Review of Cognitive Linguistics*, 19(1), 111-141.
- Almutrafi, F. (2015). *Language and cognition: Effects of grammatical gender on the categorization of objects* (Doctoral dissertation, Newcastle University).
- Basit, A., & Shah, F. (2020). Integration of Adjectives to Learn Grammatical Gender for Object Categorization in Urdu for Balti Speakers. *NOTION: Journal of Linguistics, Literature, and Culture*, 2(1), 1-16.
- Khan, U. (2018). *Influence of Social Class on Cognitive Development of Syntax: A Study of Pakistani EFL Learners* (Doctoral dissertation, National University of Modern Languages, Islamabad.).
- Koerner, E. K. (1992). The Sapir-Whorf hypothesis: A preliminary history and a

Liberal Journal of Language & Literature Review

Print ISSN: 3006-5887

Online ISSN: 3006-5895

bibliographical essay. *Journal of Linguistic Anthropology*, 2(2), 173-198.

Mehmood, N., & Umar, H. GRAMMATICAL GENDER AND ITS EFFECTS ON COGNITION: THE CASE OF PASHTO BILINGUAL SPEAKERS.

Nazar, S., & Nordin, N. R. M. (2024). Grammaticality in Writing Skills of L2 English Learners: Challenges in Pakistani Academic Setting. *EVOLUTIONARY STUDIES IN IMAGINATIVE CULTURE*, 517-533.

Saleem, A., Abbas, I., & Rehman, A. (2025). A Psycholinguistics Study of Gendered Language and its Impact on Social Cognition and Brain Functions. *International Research Journal of Arts, Humanities and Social Sciences*, 2(02), 324-345.

Shabbar, S. Z., Kaiser, E., & Jafri, T. S. (2023). UNRAVELING GENDERED LANGUAGE: AN IN-DEPTH ANALYSIS OF LINGUISTIC DISPARITIES AND SOCIETAL INFLUENCES. *PAKISTAN ISLAMICUS (An International Journal of Islamic & Social Sciences)*, 3(2), 528-537.

Shahidy, M. A. (2024). *The Role of Grammatical Gender and Religiosity in Shaping Implicit Gender Attitudes: An Investigation Into Pashto and Dari Languages* (Master's thesis, Southern Illinois University at Carbondale).

Simral, T. CONTRASTIVE ANALYSIS OF URDU AND PUNJABI PROVERBS: A SOCIETAL PERCEPTION OF MALE AND FEMALE GENDERS FROM A CULTURAL-LINGUISTIC PERSPECTIVE Mahnoor.