



Research Article

On Agreement of Urdu Relative Clauses

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Article History

Received: April 20, 2025

Revised: August 18, 2025

Accepted: August 25, 2025

Published: August 30, 2025

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<https://doi.org/10.70843/ijass.2025.05209>

Abstract

This study investigates the syntactic architecture of Urdu relative clauses utilizing a mixed-methods approach. The study assimilates a corpus-based analysis with Kayne's (1994) model. Accumulating naturally occurring Urdu data, this study categorizes relative clauses into subject relative clause, object relative clause, ergative relative clause, agentive relative clause, postpositional relative clause, and locative relative clause types, each introduced by distinct relativizers such as *jo*, *jise*, *jinhon*, *jin se*, and *jahan*. The results show that relativizers in Urdu are morphologically marked for number, gender, case, and function as probes that agree with their corresponding goals—particularly the head noun or embedded clause constituents. The study illustrates the role of ergative alignment in perfective structure, the syntactic integration of postpositional and locative relativizers, which encode relational and spatial semantics within clausal structures. This study demonstrates how relative clauses serve to discourse-level functions such as topicalization, focus, referential, and specificity. However, the findings suggest that Urdu employs a complex relativization strategy, equating typological properties in Indo-Aryan languages—Punjabi, Pashto, Persian, and Sanskrit—with principles of universal grammar. The study implicates second language pedagogy, computational parsing, and typological comparison, providing insights into clause accessibility, feature inheritance, and movement operations.

Keywords: Relative clause, Probe-goal, Agreement, Ergative, Agentive.

Introduction

Relative clauses are syntactic constituents that function as the modifiers, complements and adjuncts of nominal projections, typically the head of a noun phrase (NP), thereby contributing a referential specificity and propositional content (Ross, 1968; Chomsky, 1965, 1977; Bresnan & Grimshaw, 1978; McCawley, 1981; Toribio, 1992; Grosu & Landman, 1998; Bury, 2003; Erlewine & Gould, 2016; Ilyas et al., 2023). Simply, a relative clause is subordinated to the matrix clause and connected to the surrounding material by a pivot constituent (Marantz, 2013; Matushansky, 2019; Perminger, 2014). Consider English examples (1a-1c) where the relative operators which and who introduced relative clauses that modify the NP.

1. a. The car that John saw yesterday is very beautiful.
- b. The book that was read by Kick yesterday is mine.
- c. I saw many happy people who played football on the ground.

In the above-stated examples (1a-1c), the relative clause serves as a postnominal modifier. Example (1a) embeds a relative clause within a matrix copular structure (Salzmann, 2020), while (1b) features a passive relative clause embedded in a copular matrix (Ali et al., 2023). Example (1c) indicates a tensed matrix clause with a modified NP. Crucially, the relative operators (*which* and *who*) function as syntactic binders that establish a dependency between the antecedent and the embedded clause (Hiraiwa, 2005; Ke, 2023). This study investigates NP-agreement phenomena in Urdu relative clauses, focusing on the morphosyntactic behavior of the relative

pronoun *jo* (who) and the resumptive pronoun—*vo* (he and she). Consider the examples (2a-2e), indicating intricate patterns of agreement in Urdu. Relative clauses may represent the basic properties of a relative pronoun, a resumptive pronoun, a complementizer (possibly special relative C), relative particle, and relative verbal affix (Alexiadou et al., 2000; Zwart, 2000).

2. a. Ali-ne aik larka dekh-a jo kheel-ta tha.
 Ali-ERG a boy see-INF who play-ASP be.PST
 “Ali saw a boy who played.” [jo relative clause]
- b. Ali-ne aik larki dekhi jo kheel-ti thi.
 Ali-ERG a girl see-INF who play-ASP be.PST
 “Ali saw a girl who played.” [jo relative clause]
- c. Ali-ne aik larka dekhi jo keh kheel-ti thi.
 Ali-ERG a boy see-INF who that play-ASP be.PST
 “Ali saw a girl who played.” [jo+keh relative clause]
- d. Ali-ne aik larki dekh-i vo kheel-ti thi.
 Ali-ERG a girl see-INF she play-ASP be.PST
 “Ali saw a girl who played.” [Resumptive pronoun relative clause]
- e. Ali-ne aik larki dekh-i *vo keh kheel-ti thi.
 Ali-ERG a girl see-INF she that play-ASP be.PST
 “Ali saw a girl who played.”

Examples (2a-2b) show canonical *jo*—headed relative clauses with gender-congruent agreement, while example (2c) introduces a clausal complementizer *keh* (that), yielding a biclausal structure. In (2d), both the relative operator and complementizer are omitted, and a resumptive pronoun *vo* occupies the subject position of the embedded clause. Example (2e) illustrates a syntactic constraint—Island Constraint: the co-occurrence of *vo* and *keh* results in ungrammaticality, proposing a structural incompatibility between resumptive strategies and overt clause heads. Relative clauses formation and construction were studied in the literature, focusing on Indo-Aryan languages; the interaction between agreement, clause structure, and resumptive pronouns in Urdu-Hindi remains underexplored (See Figure 1). Prior analysis has largely focused on canonical *jo* constructions, leaving the syntactic interpretive properties of *jo+keh* and *vo*-resumptive clauses insufficiently theorized. This research study addresses this research lacuna by investigating the conditions that prioritize agreement and licensing and blocking in complex relative constructions.

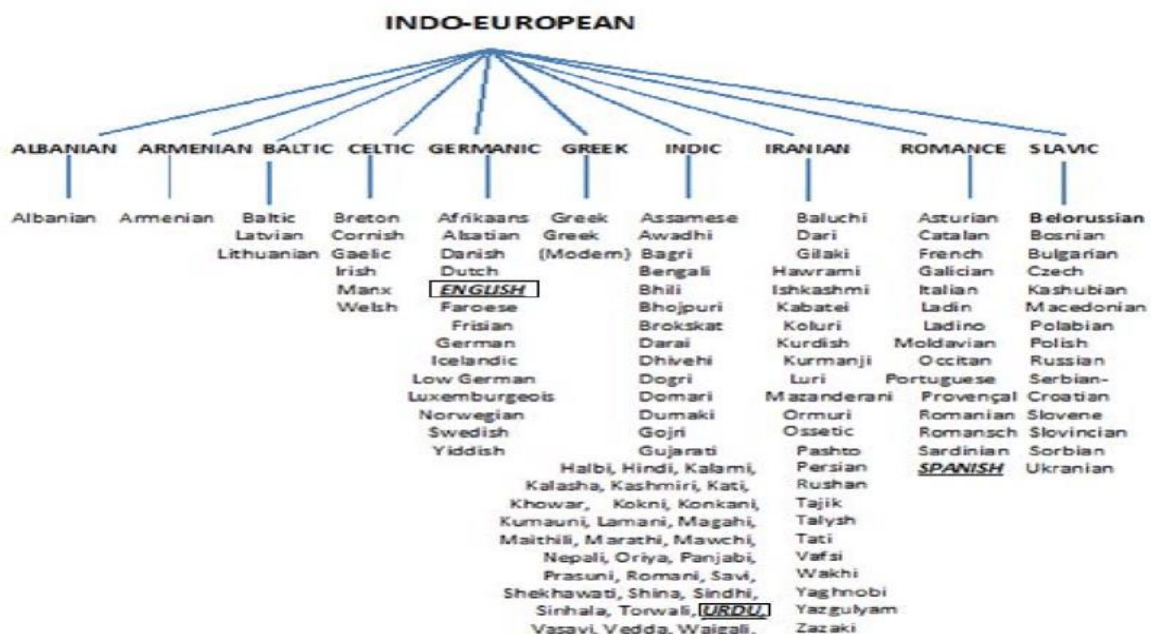


Figure 1. Language family.

Urdu is a South Indo-Aryan language that exhibits a very rich syntactic pattern, agreement, split case system,

complex verbal constructions, and intricate argument appending, followed by a rich morphological system shaped by centuries of closely associated contact with Persian, Arabic, and Turkic languages (Ashraf et al., 2021; 2025; Dar et al., 2024). It shows a canonical linear order of the sentence comprising Subject+Object+Verb, postpositional phrase structure, and split ergativity, particularly evident in perfective constructions. Consider (3) for word order.

(3) Aqsa rooti khaati hai.

Aqsa. SUB bread.OBJ eat-INF be

“Aqsa eats bread.”

[Subject > Object > Verb > Inflection]

Urdu’s verbal morphological patterns encode gender, person, number, and tense features, while noun phrases indicate agreement and case-marking through inflectional suffixes and prepositions. The language also supports complex clause construction, such as relative clauses, complement clauses, and resumptive pronoun constructions, making it a rich theoretical ground for syntactic inquiry.

Understanding agreement in Urdu-Hindi relative clauses contributes to broader typological and theoretical debates on relativization strategies, operator-resumptive alternation, and clause linkage. The findings have implications for the theory of syntax that accounts for agreement, movement, and pronoun resolution, specifically in languages with ergative alignment and split agreement systems (Kidwai, 2022; Kramer, 2009). By analyzing the structural constraints and interpretive effects of *jo*, *vo*, and *keh*, this study advances our understanding of clausal architecture and referential dependency in South Asian Languages.

Research Questions

RQ1: How does agreement function in Urdu relative clauses introduced by relativizers, and what syntactic factors manipulate agreement?

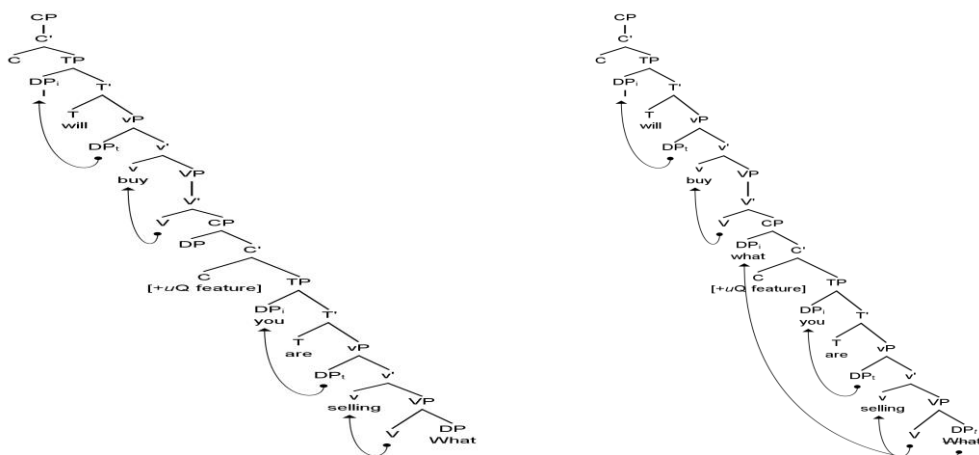
RQ2: To what extent do semantic features—animacy and definiteness affect agreement patterns in internally headed relative clauses in Urdu?

Literature Review

Relative clauses have remained under investigation and are central to syntactic theory (Chomsky, 1965), who opined that subordinate structures are generated via movement (transformational rules). Later, standard theory articulated that relative pronouns originate inside the clause and move to the edge, leaving a trace behind their base position (Chomsky, 1995, 2001, 2005, 2014). Consider the relative clause (4a-4b).

(4a) I will buy you are selling what.

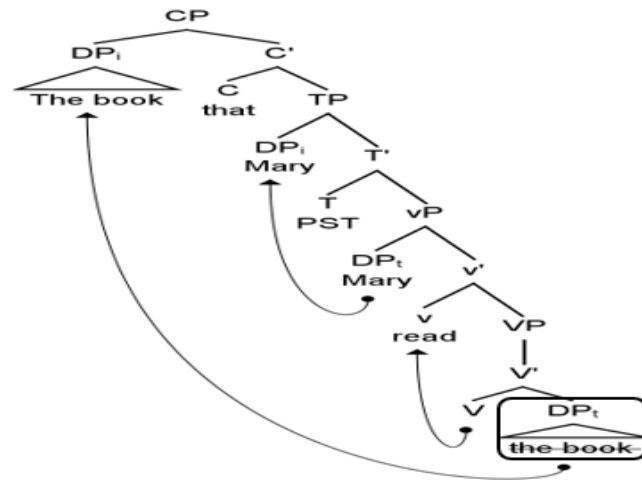
(4b) I will buy what_i you are selling ~~what~~.



The above examples (4a-4b) indicate the movement analysis, just like the interrogative transformation. The debate started on the position of the noun. The positions of the noun have been proposed, externally headed

relative clauses. Consider the example (5).

(5) The book that Mary read.



In syntactic literature, head-raising analysis was stipulated by Kayne (1994) and extended by Bhatt (2002) and Hulsey and Sauerland (2006). This instantiation argues that nouns originate inside the relative clause and are then raised to the surface position. In this way, certain semantic and syntactic phenomena—scope and reconstruction effects are accounted under this analysis. Traditionally, Bresnan and Grimshaw (1978) specified free relative clauses from interrogative, arguing that *wh*-items serve as the head of the phrase. Free relative clauses lack an external antecedent and perform the function of a noun phrase.

(6) what you said.

In formal syntax, agreement is a unified mechanism whereby grammatical features: person, number, gender, and case are closely matched between syntactic constituents, specifically between a functional head (the probe) and a nominal constituent (the goal). Getting back to early transformational grammar, agreement was initially considered as a surface phenomenon, but Chomsky's Minimalist Program (2014) reconstituted it as a *feature-checking operation*, where unvalued features on a probe are valued by matching interpretable features on a goal within a local c-command domain. This process is mathematically modeled through a valuation function:

$$\text{Val}(\phi(\text{Probe})) = \phi(\text{Goal})$$

(7)

where ϕ denotes the set of phi-features: person, number, gender, and case. The probe-goal relation is conditioned by locality and structural accessibility, and successful agreement gives morphosyntactic realization at PF. Typological studies (Haig & Forker, 2018) demonstrate cross-linguistic variation in agreement domains, while Distributed Morphology (Baker & Vinokurova, 2010) posits agreement at the syntax-morphology interface, extending its role in grammatical architecture and inflectional paradigms. This agreement system has been employed in Urdu sentential construction in diverse linguistic phenomena such as applicative, nominal licensing, possessor, code-switching, scrambling, and inflected nominals (Mahajan, 1990; Malik, 2017). Urdu, a morphologically rich Indo-Aryan language, has garnered scholarly attention for its intricate syntactic and morphosyntactic configurations.

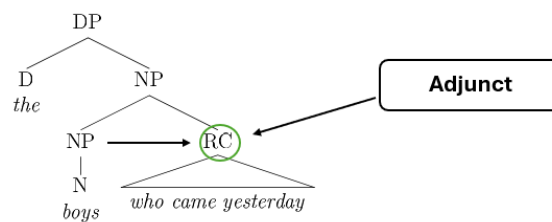
Ali et al. (2021a) examined clausal-internal scrambling in Urdu utilizing phase theory, showing that movement operations within the clause adhere to derivational constraints posited by minimalist syntax (Chomsky, 2014). This affirms the findings of Ali and Malik (2023), who interrogate the phenomenon of split tense projection in Urdu, positing that apparent bifurcation in tense morphology is illusory and attributable to interface-level interpretive mechanisms rather than syntactic bifurcation. Nominal licensing, specifically in applicative

constructions, has been rigorously investigated by Ashraf et al. (2025), who articulated that Urdu allows non-canonical licensing of nominal arguments via applicative heads, challenging traditional theta-theoretical assumptions. Their analysis underscores the role of functional projections in licensing strategies, particularly in ditransitive configurations. Code-switching, a unique sociolinguistic feature in Urdu-English bilingual communities, has been dissected through the Matrix Language Frame (MLF) model. Ali et al. (2021b) demonstrate that Urdu-English intra-sentential switching follows to MLF constraints, with Urdu often serving as the matrix language (Jabbar et al., 2021). Their minimalist account (Ali et al., 2020) further elucidates linearization principles governing verb incorporation and syntactic fusion in bilingual utterances. Collectively, these studies advance our understanding of Urdu's syntactic and morphological architecture, proposing a ground for agreement system in generative grammar, bilingual syntax, and morphological theory, but to the best of our knowledge, no study was dedicated to relative clauses construction in Urdu (Grosu & Landman, 1998; Hallman, 2024; Haug & Nikitina, 2016). To fill this theoretical and empirical gap, this study contributes to existing literature to provide a unified solution to the Urdu relative clauses.

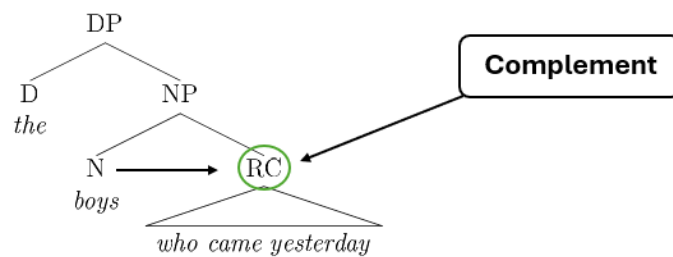
Models of Relative Clauses

Relative clauses are viewed as an adjunct (Ross, 1968; Erlewine & Gould, 2016). Consider the example (8). Later, it is assumed that relative clauses are complement of N but not adjunct (Meinunger, 2000; Platzack, 2000).

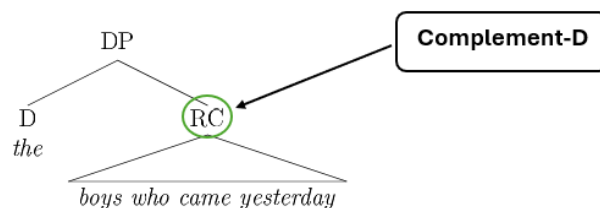
(8) The boys who came yesterday.



In example (8), N as *boys* is the head and RC is an adjunct but not a complement. According to Meinunger (2000) and Platzack (2000), the *boys* is N, a head and RC is a complemented of N but not adjunct.



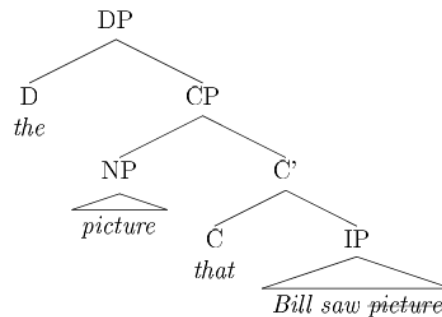
Albeit to the above analysis, Smith (1964), Kayne (1994), Schmitt (2000), Bianchi (1999; 2000), Alexiadou et al. (2000), and Zwart (2000) articulated that RC is neither the complement of N nor adjunct of N but complement of D. According to them, D directly selects RC as a complement, but D never selects NP as a complement because RC is the extension of nominal phrase. The NP, *boys* generate within the RC then move for scope marking and reconstruction effect.



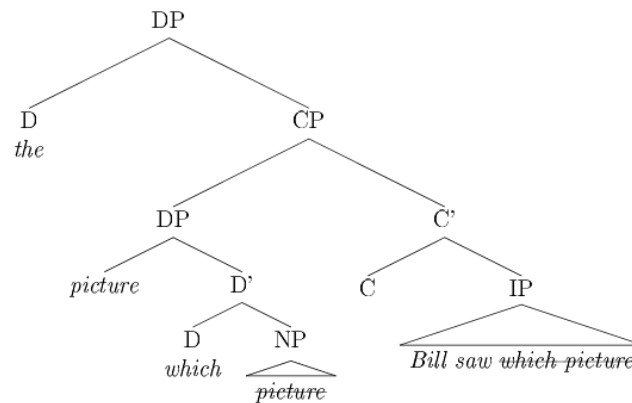
Kayne's (1994) Model of Relative Clause

Kayne (1994) articulated that relative clauses provide additional information about the nominal phrase and following the Abney DP hypothesis as a functional head, it was proposed that relative clauses combine the D-complement hypothesis with the raising hypothesis. According to Kayne (1994), relatives have two types: complementizer and relative pronouns (Béjar & Rezac, 2009).

(9) The picture that Bill saw.



(10) The picture which Bill saw.



Research Methodology

This study employs mixed-methodology, theory-driven grounded in generative grammar (Chomsky, 1995, 2014), to investigate the agreement of relative clauses in Urdu syntax. Data were collected from one of the field methods such as *non-participant observations*—a phenomena in which, without actively participating with participants—data is collected. During observation, data were gathered aiming to minimize influence on the behavior or linguistic output of participants, thereby getting naturalistic data (Kawulich, 2005). This method is particularly effective in examining language use in real-world situations, such as spontaneous speech and syntactic construction among communities. In theoretical linguistics, we combined corpus analysis and theoretical modeling, strengthening the empirical foundation of the syntactic analysis by grounding abstract structure and patterns. In this study, we employed Kayne's (1994) model of RC.

Table 1. Corpus Details of Relative Clauses.

Sr. No	Corpus Details	Value
1	Total sentences	280
2	Total Phrases	2632
3	Total Relative clauses	280
4	Total <i>jo</i> -type relative clauses	112
5	Total <i>jise</i> -type relative clauses	56

6	Total <i>jinhon</i> -type relative clauses	28
7	Total <i>jin-se</i> type relative clauses	28
8	Total <i>jahan</i> type relative clauses	28
9	Mean Phrases of each sentence	9.4
10	Standard Deviation (Phrases per Sentence)	2.01

Data Analysis

This section presents relative clauses corpus indicating the most commonly occurring relative pronouns in Urdu and which are *jo*, *jise*, *jinhon*, *jin se*, and *jahan*. Table 2 demonstrates five relative pronouns exhibiting their frequency, proportional distribution, and statistical dispersion. *Jo* is the most occurring relative pronoun in Urdu data (n=112), comprising 9.25% of total clauses with a standard deviation of 1.71%, showing moderate variability. *Jise*, *jinhon*, and *jin se* each depict 10% of the data, though only *jise* includes dispersion metrics. *Jahan* appears less frequently (8%), with no standard deviation reported.

Table 2. Corpus of Urdu Relative Clause.

Sr. No	Relative Clause Type	Frequency	Mean	Std
1	<i>jo</i>	112	9.25%	1.71
2	<i>Jise</i>	56	10.00%	1.41
3	<i>jinhon</i>	28	10.00%	-
4	<i>jin se</i>	28	10.00%	-
5	<i>Jahan</i>	28	8.00%	-
6	Total	280	-	-

The absence of standard deviation for some entries proposes limited data points of uniform distribution. Overall, the dataset totals 280 instances, offering insights into prevalence of clause types and syntactic variation. Now, we represent the analysis of all these types of clauses in a separately below.

Relative *jo* type clauses

(11) Wo larki *jo* kal aayi thi bohat zahan thi.

That girl.3SG.FEM RP yesterday come be.PST. FEM very intelligent be. PST.FEM

“The girl who came yesterday is very intelligent.”

(12) Wo larka *jo* gana gaa-ta hai mera bhai hai.

That boy.3SG.MAS RP song sing-ASP be. PRS.MAS my brother be. PRS.MAS

“The boy who sings song is my brother.”

In the above-stated examples (11-12), it is observed that each embedded clause is introduced by *jo*, which functions as a relative pronoun. This clause is called internally headed relative clauses as the head of the embedded clause is a relative pronoun. The antecedents *wo larki* and *wo larka* are basically nominal phrases specified for gender and number features, triggering agreement in verbal morphology (*aayi thi* vs. *gaa-ta hai*). The embedded clauses are finite and postnominal, modifying the head noun. The matrix predicates (*bohat zahan thi*, *mera bhai hai*) affirm properties about the referents, integrating the relative clause as a restrictive modifier.

Relative *jise*-type clauses

(13) Ye wo kitaab hai *jise* mein-ne para-a hai.

It that book.3SG.FEM be.PRS RP I-ERG.1SG.MAS read-INF.3SG.MAS be. PRS

“It was that book which I read.”

(14) Ye wo pizza tha jise mein pehli bar khaiya tha.

It that pizza.3SG.MAS be. PST RP I.1SG.MAS first time eat-INF.PST be.PST

“It was that pizza which I ate first time.”

The examples (13-14) show the features of cleft construction with extraposed relative clauses introduced by *jise* a relativizer performing a function of an object relative pronoun. The matrix clause (*Ye wo kitaab hai, Ye wo pizza tha*) foregrounds the referent elements, while the embedded clause (*mein-ne para-a hai, me pehli bar khaiya tha*) gives a clue of predication. In (13), the ergative case marking (*mein-ne*) demonstrates transitive perfective alignment; on the other hand, (14) employs nominative *mein* with perfective verb morphology. The relative clause is postnominal and restrictive, modifying the head noun. These structures show a split topicalization and focus, with the relative clause encoding the event and the matrix clause asserting identification.

Relative *jinhon* type clauses

(15) Ustaad jinhon-ne hame syntax parhai bohat meharban they.

Teacher.3SG.MAS RP-ERG we syntax teach very kind be.PST

“The teachers who taught syntax were very kind.”

(16) Hume jinhon-ne maara vo pakr-ee gaye.

We.1PL.MAS RP-ERG hit they catch-INF be.PST

“Those who hit us were caught.”

The examples (15-16) depict interesting facts regarding the relative pronoun, *jinhon-ne*. These examples are subject relative clauses introduced by a relative pronoun—*jinhon-ne*, a compound relativizer marker for ergative case, exhibiting transitive agentivity in perfective constructions. In both examples (15-16), the relative clause precedes the matrix clause, shaping a cleft-dislocated structure. The embedded clauses (*hame syntax parhai, maara*) are finite and transitive, with *hame* and *hume* performing a function as accusative objects. The matrix predicates (*bohat meharban they, vo pakr-ee gaye*) posit properties about the antecedents. These constructions demonstrate agentive relativization with ergative alignment, where the relative pronoun encodes both syntactic role and agreement features, providing to clause cohesion and referential clarity (Ali et al., 2021b; Saram et al., 2023).

Relative *jin se* type clauses

(17) Hum jin se pyaar kar-te hein vo hum-se doo hein.

We.1PL.MAS RP love LVB-ASP be. PRS we.1PL.MAS far be.PST

“They are far whom we love.”

(18) Wo ustad jin se mein-ne swal pocha onho-ne jawab diya.

This teacher RP he.3SG.MAS question ask him answer be.PST

“The teacher whom I questioned answered me.”

In the examples (17-18), object relative clauses are observed which are introduced by the complex relativizer *jin-se*, which provides plurality and postpositional connection (*se* indicating instrumental/comitative relation). Example (17) a relative clause (*jin se pyaar karte hein*), which modifies an implicit antecedent (*vo*), constructing a cleft-like structure with the matrix predicate (*hum-se doo hein*) expressing spatial separation. In (18), the relative pronoun, *jin-se*, creates a link to object, *swal*, with *mein-ne*, as the ergative marker of

subject. The matrix clause (*onho-ne jawab diya*) gives a reaction response. The constructions show postpositional relativization, clause chaining, and discourse prominence through topicalization.

Relative *jahan* type clauses

(19) Ye wo jaga hai jahan hum kheel-te thy.

This that place . be. PRS RP we.1PL.MAS play-ASP be. PST

“This is that place where we played.”

(20) Ye wo school jahan hum par-te they.

This that school RP we.1PL.MAS read-ASP be.PST

“This is that school where we read.”

Examples (19) and (20) give the properties of locative relative clauses initiated by *jahan*, a relativizer encoding spatial reference. The matrix clauses (*Ye wo jaga hai*, *Ye wo school*) construct the referent, while the embedded clauses (*hum kheel-te thy*, *hum par-te they*) are finite and aspectually marked with habitual/progressive morphology (*-te*). The relative clause functions as a postnominal modifier, specifying the location associated with the event. These types of structures demonstrate headed, restrictive relative clauses with locative relativization. The syntactic structure depicts clause embedding, with *jahan* facilitating as an adverbial complement linking spatial semantics to the matrix predicate, thereby enhancing referential specificity.

Conclusions

In this study, relative clauses are, in Urdu, investigated, and the outcomes of the study reveal complex and rich typological diversity in relativization strategies, exhibiting both structural complexity and functional specificity. Urdu uses different types of relativizers—*jo*, *jise*, *jinhon*, *jin se*, and *jahan*—each encoding distinct grammatical roles such as subject, object, agentive ergative, postpositional, and locative functions (Alghamdi et al., 2025). These relativizers are morphologically marked for case, number, and gender, with the syntactic roles they perceive within embedded clauses. The study, furthermore, depicts both headed and extraposed relative clauses, with restrictive modification being the dominant function. In addition, Ergative agreement in perfective transitive structure (e.g., *mein-ne*, *jinhon-ne*) gives the interaction between case marking and clause embedding. Postpositional relativizers like *jin se* reveal the ability of Urdu to encode relational semantics within the relativizer itself, extending clause cohesion. Locative relativization via *jahan* introduces adverbial clauses that specify spatial parameters, expanding the referential scope of the matrix noun. This study implicates theoretical and methodological underpinnings (Den Dikken, 2011). From a typological perspective, Urdu demonstrates an ergative-absolutive system comprising Indo-Aryan morphosyntactic features with flexibility in clause placement and relativizer construction (Alnuzailli et al., 2025). For second language acquisition and computational parsing, understanding these clause types enhances the ability to generate syntactic models and natural language processing. Pedagogically, explicit instruction on relativizer-case interaction and clause integration can trigger learners' syntactic competence. Moreover, the data support the argument that Urdu relative clauses are not merely syntactic adjuncts but serve as integral components of discourse structure, contributing to referential clarity, topicalization, and information packaging. This underscores the requirement for further corpus-based and psycholinguistic research to explore processing load, clause accessibility, and cross-linguistic parallels in South Asian languages.

Acknowledgments

I would like to express my gratitude to Aqsa Shehzadi who supported and contributed to this research. Special thanks to my mother for her invaluable guidance.

Disclosure Statement

No conflict of interest was reported regarding this research study.

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