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Trilingual Morphological Interactions: A Contrastive Analysis of Bound Morphemes in English, Portuguese, and Urdu

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Abstract—**This study examines the morphological patterns of three languages—English, Portuguese, and Urdu—used by Urdu-speaking migrants in Portugal. Focusing on bound morphemes, both derivational and inflectional, the research adopts a comparative-descriptive design to explore possible cross-linguistic influences and typological distinctions. Drawing on the Contrastive Analysis Hypothesis (CAH) as a historical framework, the study critically evaluates its applicability alongside contemporary perspectives in second language acquisition (SLA) and morphological pedagogy. Data were sourced from grammars, morphology texts, and existing literature to identify shared derivational cognates and divergent inflectional systems across the three languages. Findings reveal that while derivational morphemes often exhibit semantic and formal similarities facilitating transfer, inflectional morphemes reflect significant typological divergence, corresponding to the analytic (English), fusional (Portuguese), and agglutinative (Urdu) spectrum. These patterns provide a rich ground for testing that morphological awareness effects in vocabulary acquisition, yet inflectional differences are expected to pose specific learning challenges. The study underscores the theoretical significance of typology-informed contrastive analysis and highlights practical implications for pedagogy and translation. It concludes by recommending classroom-based testing of derived and inflected forms to optimize learning strategies for multilingual migrants.**

Index Terms—**contrastive analysis, language typology, trilingual analysis, multilingualism, migration**

I. Introduction

In recent decades, the migratory flows from South Asia to Europe have reshaped the sociolinguistic landscape of several European nations. Portugal has experienced significant migration flows over the past decades, with notable increases from countries such as Brazil, Ukraine, and various African nations. According to the International Organization for Migration (2025), Portugal's foreign-born population has been steadily increasing, particularly in the 21st century. However, the presence of Urdu-speaking migrants in Portugal is less documented. While specific statistics on Urdu-speaking migrants are limited, the broader context of migration to Portugal provides insight into the linguistic landscape. This influx has contributed to a multilingual environment in which languages such as English, Portuguese, and Urdu intersect, particularly in urban areas with diverse immigrant communities.

The migration of Urdu speakers to Portugal, though less prominent than that of other groups, is part of this broader trend. Immigration from Pakistan to Portugal has been increasing, indicative of a wider trend of South Asians pursuing new chances in this European country. Portugal's attractiveness stems from its favourable immigration regulations, robust family reunion framework, and the promise of a superior quality of life. The Portuguese labour market is accessible to individuals who are fluent in English, offering opportunities across all sectors. It presents significant opportunities for Pakistani citizens (Saad, 2024).

Migrants often maintain their linguistic heritage while adapting to the sociolinguistic realities of their new environment. Most try to learn the local language and master the appropriate accent to facilitate their adaptation and strengthen ties with the local population (Taborda, 2025). This demographic trend underscores the importance of linguistic preparedness, particularly in learning Portuguese, the host country's official language. The presence of Urdu in Portugal therefore adds a layer of complexity to the country's linguistic tapestry, influencing language contact phenomena and potentially shaping language acquisition and usage patterns among the migrant population. Most Pakistani immigrants to Portugal speak English, which is an official language in Pakistan (Ahmad et al., 2013). English often serves as an intermediary language for immigrants, while Urdu remains their primary linguistic background. In such a situation, three languages are in interplay, namely English, Portuguese, and Urdu. While all are Indo-European languages (Figure 1), they exhibit vast typological differences (Garcia, 2011).

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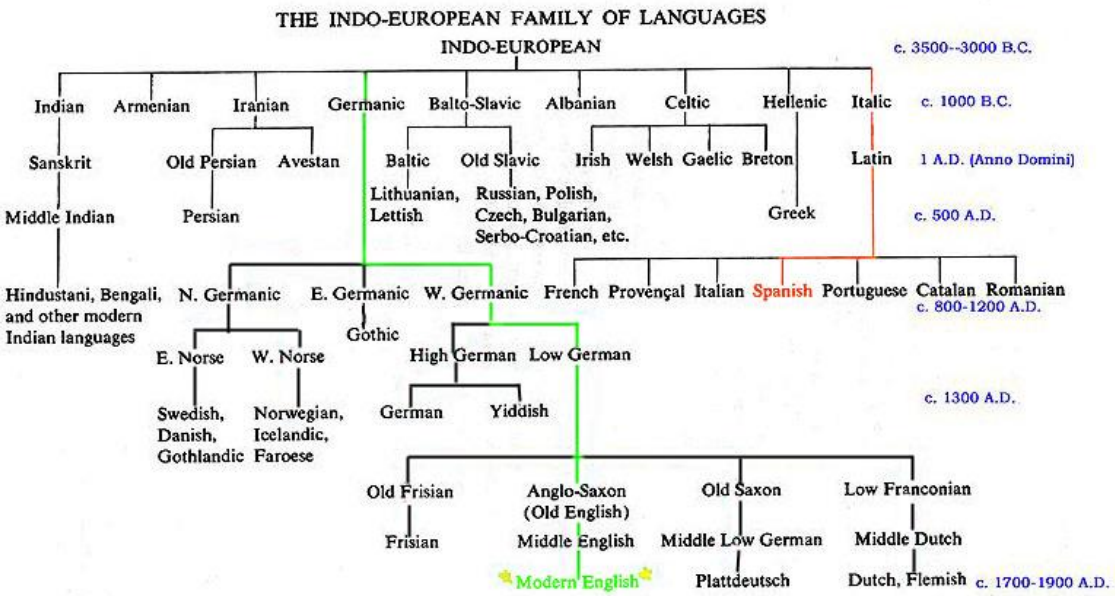

Figure 1. Indo-European Language Family Tree, Highlighting the Three Languages Analyzed in This Study

A. Theoretical Foundation

The three languages under investigation differ typologically and genealogically. English, a Germanic language, exhibits a relatively simple morphological structure compared to many other languages. It is predominantly analytic, relying heavily on word order and auxiliary verbs to convey grammatical relationships rather than inflectional morphology. English has a limited system of inflectional morphemes, primarily marking tense, aspect, number, and possession. For instance, the plural morpheme -s is added to nouns (e.g., cats), and the past tense morpheme -ed is added to regular verbs (e.g., walked). Derivational morphology in English is productive and diverse, enabling the creation of new words by adding prefixes and suffixes. Examples include un- (as in undo) and -ness (as in happiness). However, English lacks the rich system of inflectional morphology found in many other languages, relying instead on auxiliary constructions and word order to express grammatical nuances.

Portuguese, a Romance language, is spoken by around 260 million individuals, rendering it the fourth most widely spoken language globally. It is an official language in countries throughout four continents: Europe, South America, Africa, and Asia. It exhibits a more complex morphological structure than English, characterized by both inflectional and derivational morphemes. It is considered a fusional language, where a single morpheme can express multiple grammatical features simultaneously. For example, the verb form falávamos (we spoke) combines person, number, tense, and aspect in a single inflectional morpheme. Nouns and adjectives in Portuguese inflect for gender and number, with -o and -a marking masculine and feminine singular forms, respectively, and -s marking plural forms. Verbs conjugate across various tenses, aspects, moods, and persons, often through the addition of suffixes that fuse multiple grammatical features. Derivational morphology in Portuguese is also robust, with numerous prefixes and suffixes that alter the meaning or grammatical category of a base word. For instance, the prefix re- can indicate repetition (e.g., refazer – to redo), and the suffix -ção often forms nouns denoting action or effect (e.g., educação – education).

Urdu, an Indo-Aryan language, has a distinct morphological structure characterized by agglutinability. In Urdu, words are often formed by stringing together a sequence of morphemes, each representing a single grammatical feature. This agglutinative structure allows the expression of complex grammatical relationships by adding multiple affixes. Nouns in Urdu inflect for gender, number, and case. Inherent features of the noun mark gender, while number is indicated by suffixes such as -e for plural. Case is marked by postpositions that follow the noun. Verbs in Urdu conjugate for tense, aspect, mood, person, and number, with each feature typically represented by a separate morpheme. Derivational morphology in Urdu is highly productive, with a variety of prefixes and suffixes that can alter the meaning or grammatical category of a base word. For example, the suffix -wala can denote someone associated with a particular activity or thing (e.g., dastawala – one who carries a bag), and the prefix be- can indicate negation (e.g., be-izzat – dishonored). The degree of morphological complexities of English, Portuguese, and Urdu is depicted in the continuum presented in Figure 2.

Typologically, English (analytical) is the simplest, followed by Urdu (agglutinative) and finally by Portuguese (fusional).

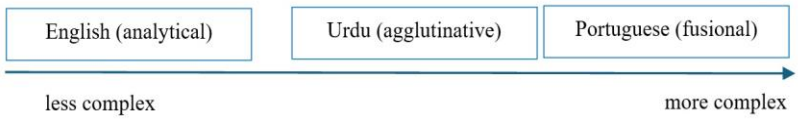

Figure 2. Complexity Spectrum According to the Language Typology of English, Portuguese, and Urdu

B. Significance of the Study

The present study is significant in that it offers a systematic morphological comparison of English, Portuguese, and Urdu within a unique trilingual migration-driven context. It thereby creates a foundation for testing several theoretical claims in linguistics and applied linguistics, while also highlighting practical pedagogical implications. This study is unique in that it compares and contrasts the morphological systems of three languages operating in a single context, unlike earlier contrastive analysis studies, which typically examine two languages.

(a). Theoretical Significance

1. Cross-Linguistic Influence (CLI)

The trilingual comparison provides an empirical basis for examining the extent to which structural similarities and differences across analytic, fusional, and agglutinative systems may facilitate or constrain transfer. Trilingual comparisons are very rare in the literature (Ali et al., 2025). Previous work has shown that CLI is bidirectional, occurring both from L1 to L2 and vice versa (Jarvis & Pavlenko, 2008; Odlin, 1989). Although the present study is descriptive, its findings highlight morphological domains where cross-linguistic influence is most likely to occur—for instance, derivational cognates across English and Portuguese, or divergent inflectional paradigms between Portuguese and Urdu. These contrasts create fertile ground for future classroom- and corpus-based research to test CLI predictions (Comesaña et al., 2018).

2. Morphological Awareness (MA)

Morphological awareness is a well-documented predictor of vocabulary development and reading comprehension in both first- and second-language learning (Kuo & Anderson, 2006; Ramírez, 2023). By identifying where derivational and inflectional morphemes align or diverge across English, Portuguese, and Urdu, this study suggests areas where enhancing learners' morphological awareness could have measurable pedagogical value. For instance, drawing attention to shared derivational suffixes (e.g., Portuguese -ção and English -tion) may facilitate vocabulary learning, while highlighting typological contrasts may prevent overgeneralization errors. The comparative findings thus establish a platform for empirical research into how morphological awareness contributes to SLA in multilingual settings.

3. Typology

The typological spectrum—analytic (English), fusional (Portuguese), and agglutinative (Urdu)—provides a natural testing ground for theories of morphological typology. Classic typological accounts (Bickel & Nichols, 2013; Comrie, 1989) emphasize that languages encode similar grammatical categories in structurally distinct ways, which can affect acquisition and processing. This study demonstrates these contrasts concretely, including the minimal inflectional marking in English, the complex verbal paradigms of Portuguese, and the agglutinative transparency of Urdu. Results from this study can provide a rich ground for testing hypotheses about processing load, acquisition difficulty, and computational modeling across these typological systems.

4. Contrastive Analysis Hypothesis (CAH)

The Contrastive Analysis Hypothesis (Johansson, 2018; Lado, 1957) argued that structural differences between L1 and L2 predict learning difficulty, while similarities facilitate acquisition. Although later research demonstrated that CAH was overly deterministic (Khansir & Pakdel, 2019; Wardhaugh, 1970), contrastive studies remain valuable for descriptive purposes. By systematically documenting the structural contrasts in derivational and inflectional morphology across three typologically distinct languages, this study illustrates how CAH retains heuristic utility for identifying potential problem areas, even if it cannot predict learner outcomes on its own.

(b). Pedagogical Significance

In addition to its theoretical contributions, this study holds important pedagogical significance. For language teachers working with Urdu-speaking learners of English or Portuguese, the morphological contrasts highlighted here can inform the design of targeted instructional materials. Explicit instruction on derivational morphemes that overlap across languages may accelerate vocabulary acquisition (Kieffer & Lesaux, 2007). Conversely, attention to inflectional mismatches—such as verbal conjugations in Portuguese versus tense marking in English—may help learners avoid systematic errors.

Furthermore, the findings are expected to support the integration of morphological awareness activities into multilingual classrooms, enabling learners to compare and contrast morphological structures across their known languages. Such activities not only enhance vocabulary learning but also foster metalinguistic awareness, which has

been linked to long-term academic achievement (Nagy et al., 2006). By grounding pedagogy in actual morphological structures rather than abstract generalizations, teachers can scaffold learners' understanding in ways that anticipate challenges and leverage cross-linguistic resources.

C. Objective of the Study

The objective of this study is to conduct a systematic contrastive analysis of the derivational and inflectional morphemes of English, Portuguese, and Urdu within the migration context that has brought these languages into sustained contact in Portugal. Specifically, the study aims to:

1. Document and compare the morphological systems of the three languages, focusing on both derivational and inflectional morphemes through descriptive and tabular analysis.
2. Situate the findings within relevant theoretical frameworks, including cross-linguistic influence, morphological awareness, and linguistic typology, while drawing on the Contrastive Analysis Hypothesis as a historical background.
3. Highlight potential points of convergence and divergence in the three systems—such as shared derivational cognates, divergent inflectional paradigms, and their placement along the analytic–fusional–agglutinative spectrum.
4. Lay the groundwork for future empirical studies that may test how these morphological contrasts and overlaps influence second language acquisition, vocabulary development, and cross-linguistic transfer in multilingual migrant contexts.
5. Suggest pedagogical and applied implications, particularly in the areas of language teaching, translation, and natural language processing, where morphological awareness can serve as a key facilitator.

By meeting these objectives, the study contributes both descriptively, by mapping out the morphology of three typologically distinct languages in contact, and theoretically, by offering a basis for testing claims made in contemporary SLA, morphology, and typology research.

D. Research Questions

This study aims to address the following research questions, grounded in the trilingual contrastive analysis of English, Portuguese, and Urdu morphology:

1. What similarities and differences exist in the derivational morphemes of English, Portuguese, and Urdu? Which morphemes are shared across languages, and how do their semantic and formal properties compare?
2. How do the inflectional systems of English, Portuguese, and Urdu differ in terms of marking grammatical categories such as tense, number, gender, and case?
3. How do the analytic (English), fusional (Portuguese), and agglutinative (Urdu) structures manifest in the morphological patterns observed across the three languages?

II. Literature Review

According to Johansson (2008), contrastive analysis is the systematic examination of two or more languages to reveal their similarities and differences. It is an organized investigation and comparison of languages, usually the target language of learners and their native language, aimed at identifying differences and similarities to anticipate challenges. Lado (1957) established the theoretical basis for the CAH, asserting that aspects similar to the learner's home language will be easy to understand, while dissimilar elements will pose challenges. Contrastive analysis posits that second-language learners often transfer characteristics of their mother language into the target language. Stockwell et al. (1965) introduced a hierarchy of difficulty based on the principles of transfer. They asserted that positive transfer occurs when the structures of two languages are similar, negative transfer occurs when their structures differ, and zero transfer occurs when there is no relationship between their structures.

Several studies conducted contrastive analysis mainly for pedagogical reasons. Al-Jurf (1995) developed a course intended to create a contrastive examination of English and Arabic for future English-Arabic and Arabic-English translators. Kazemian and Hashemi (2014) conducted a detailed analysis of the inflectional-bound morphemes in English, Azerbaijani, and Persian to locate their similarities and differences. Irshad et al. (2018) performed a contrastive analysis of Urdu and English lexicons to assist educators and learners in acquiring lexical items from both languages. Similarly, a recent study by Ejaz et al. (2024) conducted a contrastive analysis of English and Urdu pronouns, highlighting differences in gender marking and case systems. The findings suggest that Urdu's more complex gender system may pose challenges for English-speaking learners. Bertin et al. (Comesaña et al., 2018) discovered that two cohorts of bilinguals analyzed words in the same manner as the native control group. Furthermore, Waseem et al. (2020) conducted a lexico-grammatical analysis of incorporated English lexical elements in Urdu. Additionally, a comparative analysis by García and Borges (2013) examined the shared vocabulary between Portuguese and Urdu, with a focus on Arabic-origin terms. The study found that while both languages have borrowed extensively from Arabic, the integration and usage of these terms differ, reflecting their distinct morphological structures. Ali et al. (2025) explored morphological processing in trilingual speakers of English, Urdu, and Punjabi. The study found that language typology influenced morphological processing strategies: speakers of agglutinative languages, such as Urdu, employed different acquisition strategies than those of analytic languages, such as English. The findings suggest that typological similarity between languages facilitates positive transfer, while structural differences can lead to interference and errors. The

study supports existing theories of multilingual cognition, such as the Inhibitory Control Model, and highlights how language dominance and proficiency affect performance. It also emphasizes the importance of developing morphological awareness in language education to support learning and reduce negative transfer.

III. Methodology

This study adopts a comparative-descriptive methodology to investigate bound morphemes in English, Portuguese, and Urdu. The analysis focuses on two categories of bound morphemes: derivational and inflectional. This paper draws upon established grammatical descriptions and morphological analyses of the three languages as its primary data sources, as follows.

For English, reference is made to standard morphological descriptions such as Katamba (1993), Celce-Murcia and Larsen-Freeman (2016), and Lieber (2010). Portuguese data are based on Mateus and D'Andrade (2000), Perini (2002), and Villalva (2013). Urdu data are drawn from Rahman (1997), Schmidt (1999), and Butt and Ahmed (2011). These works provide detailed accounts of morphological structure, derivation, and inflection, ensuring a reliable basis for contrastive analysis.

The analysis procedure involved identifying the 10 most common distinctive derivational and 10 most common inflectional morphemes in the three languages, organizing them into structured tables, and analyzing their semantic scope, productivity, and typological functions. For derivational morphemes, the focus was on suffixes and prefixes that change word class or meaning. For inflectional morphemes, attention was directed to markers of tense, aspect, mood, person, number, case, gender, and possession. Each morpheme was then contextualized with examples to illustrate actual use in natural language.

The contrastive framework was applied symmetrically: English and Portuguese data were first compared due to their shared Indo-European origins and historical contact through Latin. Urdu was then introduced as a third language with Indo-Aryan and agglutinative features, offering a typologically distinct counterpart. This triangular approach avoids the limitations of traditional binary contrastive analysis and instead situates the findings within the broader framework of cross-linguistic influence (Odlin, 1996) and morphological awareness theories (Kuo & Anderson, 2006; Nagy & Scott, 2000).

The methodology is qualitative and descriptive rather than predictive. Its goal is to provide a detailed comparative account of morphological structures. Whitman (1970) outlined the procedures for contrastive analysis in four distinct stages. First, L1 and L2 undergo thorough analysis, resulting in formal descriptions for each language. In the subsequent phase, selections are made from the descriptions for comparison. In the third step, a systematic comparison of the forms is carried out, encompassing any linguistic unit of any size. The concluding phase entails predicting difficulty via a contrastive analysis approach.

Ellis (1986) outlined six possible outcomes of emergence in a comparative study of two languages: (i) equivalence between L1 and L2 terms, (ii) dissimilarity between L1 and L2 terms, (iii) a convergent phenomenon, (iv) a divergent phenomenon, (v) terms existing in L1 but not in L2, and (vi) terms existing in L2 but not in L1. This study conducts a contrastive analysis of English and Portuguese bound morphemes, focusing on their similarities and differences.

IV. Results

The first step in this analysis is to compare the derivational and inflectional morphemes of English and Portuguese. These are summed up in Tables 1 and 2.

TABLE 1
DERIVATIONAL MORPHEMES IN ENGLISH AND PORTUGUESE

No.	Type of Morpheme	Semantic Scope	Example in English	Example in Portuguese	Notes
1	Suffix (-ness / -dade)	Nominalization (quality/state)	happiness	felicidade	Cognates, both from Latin -tatem
2	Suffix (-ity / -idade)	Nominalization	activity	atividade	Cognates, highly productive in Portuguese
3	Suffix (-er / -or/-eiro)	Agentive (profession/role)	worker	trabalhador	Cognates (-or), -eiro specific to Portuguese
4	Prefix (un- / in-)	Negation	unhappy	inútil	Cognates, Latin in-
5	Suffix (-able / -ável)	Adjectival, capability	readable	amável	Cognates from Latin -abilis
6	Suffix (-ist / -ista)	Agent noun (profession/ideology)	artist	artista	Direct cognates, productive in both
7	Suffix (-hood / -dade)	Abstract noun (state)	childhood	irmandade	Partial cognates, different derivational families
8	Prefix (re- / re-)	Repetition	redo	refazer	Cognates, high productivity
9	Prefix (pre- / pré-)	Temporal (before)	prewar	pré-histórico	Direct cognates, productive
10	Suffix (-ment / -mento)	Nominalization (action/result)	development	desenvolvimento	Direct cognates from Latin -mentum

TABLE 2
INFLECTIONAL MORPHEMES IN ENGLISH AND PORTUGUESE

No.	Type of Morpheme	Semantic Scope	Example in English	Example in Portuguese	Notes
1	Suffix (-s / -s/-es)	Plural noun	cats	gatos	Cognates, both Latin origin
2	Suffix (-'s / de)	Possessive	John's book	o livro de Maria	Functional equivalents, not cognates
3	Suffix (-ed / -ou/-ei)	Past tense	walked	falou / falei	Different origins, same semantic scope
4	Suffix (-s / -a/-e)	3rd person singular present	he runs	ele fala	Not cognates, equivalent functions
5	Suffix (-er / mais)	Comparative	faster	mais rápido	English bound vs. Portuguese analytic
6	Suffix (-est / o mais)	Superlative	fastest	o mais rápido	English bound vs. Portuguese periphrastic
7	Suffix (-ing / -ndo)	Progressive/gerund	running	falando	Cognates, both from Latin -ndu(m)
8	Suffix (Ø / -mos)	1st person plural present	we run	nós falamos	English analytic vs. Portuguese fusional
9	Suffix (Ø / -am)	3rd person plural past	they spoke	eles falaram	English analytic vs. Portuguese fusional
10	Suffix (-en / -ido/-ado)	Past participle	written	falado / vendido	Cognates from Latin participial endings

The second step in this analysis is to compare the derivational and inflectional morphemes of English and Urdu. These are summed up in Tables 3 and 4.

TABLE 3
DERIVATIONAL MORPHEMES IN ENGLISH AND URDU

No.	Type of Morpheme	Semantic Scope	Example in English	Example in Urdu (transliteration)	Notes
1	Suffix (-ness / -pan)	Nominalization (quality/state)	happiness	khushi-pan	Not cognates; Urdu -pan is Indo-Aryan origin
2	Suffix (-er / -wala)	Agentive (profession/role)	worker	kitab-wala “bookseller”	Functional equivalents, not cognates
3	Prefix (un- / na-)	Negation	unhappy	na-kam “unsuccessful”	Different origins, similar scope
4	Suffix (-able / -ney-wala)	Adjectival, capability	readable	kar-ney-wala “doer”	Urdu construction is agglutinative
5	Suffix (-ist / -gar)	Agent noun	artist	kamgar “worker”	Different etymology, similar scope
6	Suffix (-hood / -pan)	Abstract noun (state)	childhood	bacha-pan	Not cognates, functional equivalents
7	Prefix (re- / dobara)	Repetition	redo	dobara karna “do again”	Urdu uses lexical item, not affix
8	Prefix (pre- / pehle se)	Temporal (before)	prewar	pehle se tayar “prepared beforehand”	Lexical phrase, not bound prefix
9	Suffix (-ment / -i/-gi)	Nominalization (action/result)	development	taraqqi	Urdu uses lexical derivation, not affix
10	Suffix (-ship / -iyat)	Abstract noun (status)	friendship	dosti-iyat	Urdu -iyat productive for abstract nouns

TABLE 4
INFLECTIONAL MORPHEMES IN ENGLISH AND URDU

No.	Type of Morpheme	Semantic Scope	Example in English	Example in Urdu (transliteration)	Notes
1	Suffix (-s / -z̃/-ð)	Plural noun	cats	ladkz̃ "boys"	Not cognates, functional equivalents
2	Suffix (-'s / -ka/-ki/-ke)	Possessive	John's book	Ali-ka kitab	Not cognates; suffix agreement in Urdu
3	Suffix (-ed / -a/-i)	Past tense	walked	likha "wrote"	Different morphology, equivalent scope
4	Suffix (-s / -ta/-ti)	3rd person singular present	he runs	wo karta / karti	Gender marked in Urdu
5	Suffix (-er / ziyada)	Comparative	faster	ziyada tez	Bound vs. analytic word
6	Suffix (-est / sabse)	Superlative	fastest	sabse tez	Bound vs. periphrastic
7	Suffix (-ing / -raha/-rahi)	Progressive aspect	running	wo kar-raha hai	Urdu uses auxiliary construction
8	Suffix (Ø / -te/-ti)	Present habitual	they play	wo khel-te hain	Gender-number agreement
9	Suffix (-en / -a gaya/-i gayi)	Past participle/passive	written	likha gaya "was written"	Equivalent function, different form
10	Suffix (Ø / -on/-in)	Case marking (oblique plural)	—	ladkon "of the boys"	Absent in English

The third step in this analysis is to compare the derivational and inflectional morphemes of Portuguese and Urdu. These are summed up in Tables 5 and 6.

TABLE 5
DERIVATIONAL MORPHEMES IN PORTUGUESE AND URDU

No.	Type of Morpheme	Semantic Scope	Example in Portuguese	Example in Urdu (transliteration)	Notes
1	Suffix (-dade / -pan)	Nominalization (quality/state)	felicidade "happiness"	khushi-pan	Not cognates; Portuguese -dade from Latin, Urdu -pan Indo-Aryan
2	Suffix (-eiro/-ista / -wala/-gar)	Agentive (profession/role)	padeiro "baker", artista "artist"	kitab-wala "bookseller", kamgar "worker"	Different origins, functional equivalents
3	Prefix (in- / na-)	Negation	infeliz "unhappy"	na-kam "unsuccessful"	Not cognates; same semantic scope
4	Suffix (-ável / -ney-wala)	Adjectival, capability	aceitável "acceptable"	kar-ney-wala "doer"	Portuguese suffix vs. Urdu agglutinative construction
5	Suffix (-ista / -gar)	Agent noun	motorista "driver"	kamgar "worker"	Different etymologies, parallel functions
6	Suffix (-dade / -pan)	Abstract noun (state)	irmandade "brotherhood"	bacha-pan	Functional equivalents, not cognates
7	Prefix (re- / dobara)	Repetition	refazer "redo"	dobara karna "do again"	Portuguese uses a prefix, Urdu uses a lexical adverb
8	Prefix (pré- / pehle se)	Temporal (before)	pré-história "prehistory"	pehle se tayar "prepared beforehand"	Portuguese bound prefix vs. Urdu lexical phrase
9	Suffix (-ção / -i/-gi)	Nominalization (action/result)	educação "education"	taraqqi	Portuguese Latinate suffix, Urdu lexical derivation
10	Suffix (-ismo / -iyat)	Abstract noun (system/status)	capitalismo "capitalism"	dosti-iyat	Parallel abstraction devices

TABLE 6
INFLECTIONAL MORPHEMES IN PORTUGUESE AND URDU

No.	Type of Morpheme	Semantic Scope	Example in Portuguese	Example in Urdu (transliteration)	Notes
1	Suffix (-s / -z̃/-ð)	Plural noun	gatos "cats"	ladkz̃ "boys"	Functional equivalents, different roots
2	Suffix (-'s / -ka/-ki/-ke)	Possessive	o livro do João "João's book"	Ali-ka kitab	Portuguese uses a preposition + article, Urdu suffix agreement
3	Suffix (-ou/-ei / -a/-i)	Past tense	ele falou "he spoke"	likha "wrote"	Both are fusional, but unrelated morphology
4	Suffix (-a/-e / -ta/-ti)	3rd person singular present	ele canta "he sings"	wo karta/karti	Agreement marked in both, gendered in Urdu
5	Suffix (-ior / ziyada)	Comparative	maior "bigger"	ziyada bara	Portuguese bound suffix vs. Urdu analytic word
6	Suffix (-íssimo / sabse)	Superlative	grandíssimo "very big"	sabse bara	Portuguese bound form vs. Urdu periphrastic
7	Suffix (-ndo / -raha/-rahi)	Progressive aspect	cantando "singing"	wo ga-raha hai	Equivalent aspect markers, different structure
8	Suffix (-a/-am / -te/-ti)	Present habitual	eles jogam "they play"	wo khel-te hain	Agreement systems in both languages
9	Suffix (-do/-da / -a gaya/-i gayi)	Past participle/passive	escrito "written"	likha gaya "was written"	Similar scope, distinct forms
10	Suffix (-os/-as / -on/-in)	Case marking (plural forms)	dos meninos "of the boys"	ladkon "of the boys"	Functional parallels in oblique marking

V. Discussion

A. Derivational Morphemes

The comparison of derivational morphemes across English, Portuguese, and Urdu reveals both shared semantic functions and typological divergences. The study examined 10 morphemes per language, grouped functionally:

a) Nominalization / Abstract Nouns

- English: -ness, -hood, -ship, -ment
- Portuguese: -dade, -ismo, -idade, -mento
- Urdu: -pan, -iyat, -gi

All three languages use derivational processes to form nouns denoting qualities, states, or abstractions (Ali et al., 2025). English and Portuguese often share Latin-derived morphemes (-ment, -idade), whereas Urdu relies on agglutinative and native Indo-Aryan forms. This suggests that while the semantic function of nominalization is universal, the formal strategies reflect typological differences.

b) Agentive / Occupation Morphemes

- English: -er, -ist
- Portuguese: -ista
- Urdu: -wala, -gar

Despite different etymologies, all three languages mark agents or professions, illustrating functional equivalence. Urdu's system is flexible and context-dependent, consistent with its agglutinative nature (Ali et al., 2025).

c) Adjectival / Capability Morphemes

- English: -able
- Portuguese: -vel
- Urdu: -ney-wala ("doer of")

Urdu forms are periphrastic and agglutinative, contrasting with the single-suffix morphology of English and Portuguese. This highlights typological divergence in the expression of adjectival or potentiality meanings.

d) Temporal / Repetition / Prefixes

- English: re-, pre-
- Portuguese: re-, pré-
- Urdu: dobara, pehle se

Urdu employs lexical items for repetition and temporal modification, unlike English and Portuguese, which have bound prefixes. This reflects the contrast between analytic (English), fusional (Portuguese), and agglutinative (Urdu) structures.

e) Summary

Across derivational morphemes, functional categories are shared mainly, but form, origin, and productivity differ. These patterns provide insight into potential areas of cross-linguistic transfer and influence, as learners may more easily acquire cognate morphemes but struggle with structural divergences (Ali et al., 2025; Orcasitas-Vicandi, 2019). Cognates between English and Portuguese are more numerous than those between English and Urdu. This signifies the longer distance in the language family tree, as well as the geographical distance between the homelands of Urdu on the one hand, and English and Portuguese on the other.

B. Inflectional Morphemes

The study also compared 10 inflectional morphemes per language, revealing key differences in marking grammatical categories:

a) Number (Plurality)

- English: -s
- Portuguese: -s
- Urdu: -ẽ/-õ

All three languages mark plural nouns, but Urdu employs suffixes that also encode gender agreement, whereas English plural forms are unmarked for gender.

b) Possessive / Genitive

- English: -'s
- Portuguese: de + article
- Urdu: -ka/-ki/-ke

Urdu's case and agreement marking is more morphologically explicit than English or Portuguese, reflecting its agglutinative typology (Marks et al., 2022).

c) Tense / Aspect

- English: -ed, -ing; auxiliary constructions
- Portuguese: -ou, -ava; verb endings encode person and tense
- Urdu: -a/-i, with auxiliaries (gaya, gayi)

English relies on analytic constructions, Portuguese shows fusional endings, and Urdu combines agglutinative suffixes with auxiliaries, illustrating typological variation.

d) Person / Gender / Agreement

- English: limited gender distinction; 3rd person singular -s
- Portuguese: verb endings mark person and gender
- Urdu: verb suffixes and auxiliaries encode gender and number

These differences illustrate how typology affects morphological marking of agreement and syntactic dependencies.

e) Comparative / Superlative Forms

- English: -er/-est or periphrastic (more/most)
- Portuguese: -ior/-íssimo
- Urdu: periphrastic (ziyada/sabse)

Again, Urdu relies on lexical constructions rather than bound morphemes, reflecting its agglutinative structure.

f) Case / Oblique Forms

- English: mostly analytic (prepositions)
- Portuguese: fused in prepositional phrases (dos meninos)
- Urdu: suffixes (-on/-in) mark oblique plural

C. Synthesis of the Results

a) derivational morphemes

Function	English	Portuguese	Urdu	Functional Similarity	Notes
Nominalization	-ness	-dade	-pan	Yes	All form abstract nouns; Urdu form is agglutinative
Agentive	-er	-ista	-wala	Yes	Functional equivalence, different origins
Abstract noun	-hood	-ismo	-iyat	Yes	Semantic function shared
Adjectival/capability	-able	-vel	-ney-wala	Yes	Urdu uses periphrastic construction
Temporal/repetition	re-/pre-	re-/pré-	dobara/pehle se	Partially	Urdu uses lexical items, not prefixes
Comparative derivation	-er/-est	-ior/-íssimo	ziyada/sabse	Partially	Urdu uses periphrastic, not bound suffix
Repetition	re-	re-	dobara	No	Urdu lexical, others affix
Action/result nominalization	-ment	-mento	-gi/-i	Yes	Functionally similar
Status/abstract noun	-ship	-idade	-iyat	Yes	Shared function, form differs
Agent noun	-ist	-ista	-gar	Yes	Semantic equivalence

- Fully functionally similar: 6/10
- Partially similar: 2/10
- Functionally different: 2/10

b) Inflectional Morphemes

Function	English	Portuguese	Urdu	Similarity	Notes
Plural	-s	-s	-ẽ/-õ	Yes	Functional similarity
Possessive	-’s	de + article	-ka/-ki/-ke	Yes	Functional equivalence
Past tense	-ed	-ou/-ava	-a/-i	Yes	Form differs; function shared
3rd person singular	-s	verb endings	-ta/-ti	Yes	Functionally equivalent
Comparative	-er	-ior	ziyada	Partially	Urdu uses periphrastic form
Superlative	-est	-íssimo	sabse	Partially	Urdu lexical, not suffix
Progressive	-ing	-ndo	-raha/-rahi	Yes	Urdu uses auxiliary construction
Present habitual	Ø	Ø	-te/-ti	Partially	Urdu suffix marks gender-number
Past participle / passive	-en	-ado/-ido	-a gaya/-i gayi	Yes	Functionally equivalent
Case marking	Ø	fused	-on/-in	No	English lacks explicit suffix

- Fully functionally similar: 5/10
- Partially similar: 3/10
- Functionally different: 2/10

D. Interpretation of Results

1. High functional similarity in derivational morphology (6/10) suggests that semantic functions like nominalization and agentive marking are essentially universal. Learners can leverage these similarities for positive transfer.

2. Partial similarities (2–3 morphemes per set) reflect typological differences, especially with Urdu's agglutinative constructions versus English analytic or Portuguese fusional forms. These areas may predict negative transfer or learner errors.
3. Fully different morphemes (2 each for derivational and inflectional sets) indicate that some constructions (like case marking or lexical repetition in Urdu) are unique to specific languages and require explicit instruction.
4. Typological lens:
    - Analytic English favors auxiliary/lexical constructions, fusional Portuguese favors bound morphemes expressing multiple features, and agglutinative Urdu favors sequential morphemes marking single grammatical features.
    - Quantifying similarities/differences clarifies which typological features most strongly influence cross-linguistic influence.

E. Implications for Cross-Linguistic Influence, Morphological Awareness, and CAH

1) Cross-Linguistic Influence

The presence of cognate derivational morphemes (e.g., -ness vs. -dade) can facilitate positive transfer, whereas typological divergences (agglutinative vs. analytic/fusional) may lead to negative transfer and errors, consistent with Ali et al. (2025).

2) Morphological Awareness

A contrastive analysis of derivational and inflectional patterns can enhance morphological awareness, enabling learners to recognize word formation patterns and develop literacy strategies across languages (Marks et al., 2022). Awareness of functional equivalence and structural differences improves reading and vocabulary skills.

3) Contrastive Analysis Hypothesis (CAH)

Findings pave the ground for CAH predictions: areas of similarity predict fewer errors, while structural differences predict potential difficulties (Orcasitas-Vicandi, 2019). Understanding typological distinctions—analytic, fusional, and agglutinative—helps anticipate learner challenges in second-language acquisition. Figure 3 summarizes predicted difficulty levels of Portuguese morphemes when learned by Urdu learners.

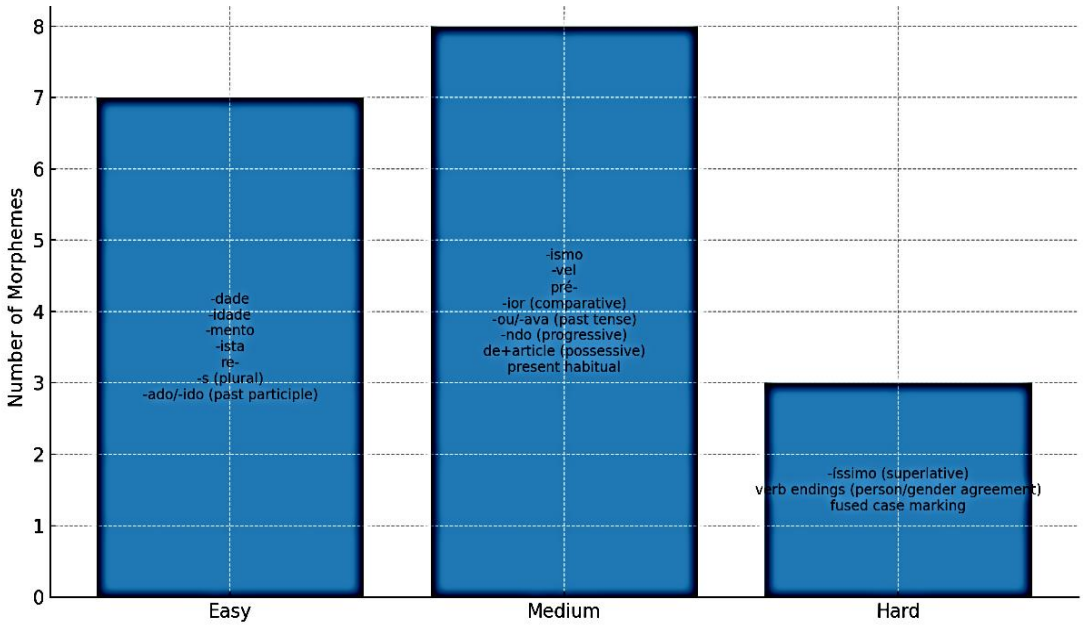

Figure 3. Difficulty Hierarchy of Portuguese Morphemes for Pakistani Immigrants (Urdu/English Speakers)

VI. Conclusion

This comparative study of English, Portuguese, and Urdu morphology has shown that while the three languages share certain broad semantic categories of derivational and inflectional morphemes, they differ strikingly in their formal realizations and morphological strategies. In derivation, English and Portuguese occasionally converge through cognate morphemes of Latin origin (e.g., -ment in English and -mento in Portuguese), while Urdu typically achieves similar functions with Indo-Aryan or Persian–Arabic derived affixes (e.g., -pan, -iyat). These parallels suggest functional equivalence, but the differences in form mean that learners cannot always rely on surface similarity.

In inflection, Portuguese distinguishes itself by a fusional system in which tense, person, number, and gender are expressed simultaneously in verb endings, a feature absent in both English and Urdu. English, with its relatively analytic system, uses fewer inflectional morphemes and often relies on auxiliary constructions. Urdu, by contrast,

employs a more agglutinative structure, stacking morphemes in systematic patterns with gender and number agreement. These contrasts illustrate how typological differences shape the expression of grammatical categories across languages.

Taken together, the study highlights that similarities across languages tend to occur in semantic scope—for example, pluralization, agentive roles, or abstract nominalization—while the formal expression of these categories often diverges. Such divergences are precisely where learners are expected to encounter the most significant challenges, especially when moving from the analytic and agglutinative systems of English and Urdu into the fusional morphology of Portuguese.

A. Recommendations for Future Research

This study generates predictions that can be empirically tested in future work. For example, it suggests that Pakistani immigrants learning Portuguese may find morphemes with clear functional parallels in English or Urdu (e.g., plural markers, agentive suffixes) relatively straightforward, while complex fusional verb endings may present greater challenges. Future research could test these predictions through psycholinguistic experiments, classroom interventions, or longitudinal learner corpora. Another direction is to extend the comparison to additional heritage languages spoken in Pakistan, such as Punjabi or Pashto, to determine whether the same patterns hold across diverse L1 backgrounds. Finally, it would be valuable to investigate how morphological awareness develops in trilingual learners who juggle analytic, fusional, and agglutinative systems simultaneously, building on earlier processing studies (Ali et al., 2025).

B. Theoretical Implications

The findings underscore the importance of integrating typological differences into theories of cross-linguistic influence. They show that the CAH remains useful when combined with more recent perspectives on morphological awareness and psycholinguistic processing. While CAH helps predict areas of difficulty by highlighting contrasts, it must be adapted to account for how learners transfer functions rather than mere forms across languages. Moreover, the study contributes to discussions on morphological complexity, showing that what appears "difficult" formally may still be learnable if semantic parallels exist. In this way, the results align with recent trilingual processing studies (Ali et al., 2025), which stress that learners' success often depends on how well they can map old semantic categories onto new morphological realizations.

C. Pedagogical Implications

For language teaching, the study suggests a hierarchical approach to morphology. Teachers working with Urdu- or English-speaking learners of Portuguese should begin with morphemes that have clear functional equivalents in the learners' L1s, such as plural markers, agentive derivations, and nominalizations. These serve as "bridges" to Portuguese morphology. More complex forms, particularly fusional verb endings that encode multiple categories simultaneously, should be introduced gradually with explicit scaffolding and repeated contextual exposure. Instruction should also emphasize morphological awareness, encouraging learners to see beyond form and identify cross-linguistic semantic parallels. This approach empowers learners to use their existing linguistic knowledge as a resource rather than solely as an obstacle.

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