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Exploring Phonological Variations in Pakistani English A Case Study of Punjabi Native Speakers

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ABSTRACT

The present study examines Punjabi ESL students' perceptual judgment of English syllabification and word stress patterns. The paper focuses on phonological variations in Pakistani English as spoken by native Punjabi speakers, particularly exploring their syllabification and word stress patterns. The study investigates how Punjabi native speakers perceive and produce English syllables and stress, attributing differences to the influence of their native language, Punjabi. The data were collected from 40 Punjabi-speaking undergraduate students in Karachi. There were 40 university undergraduate students from different universities in Karachi. A quantitative research design was employed on account of the number of syllables in each word and the variability of lexical stress. A set of 100 English words with varying syllable counts was used to analyze stress and syllable division. There was inconsistency in identifying syllables and stress placement for English words, but some participants correctly identified these features, demonstrating partial adaptation. Females and males showed differing patterns in syllabification across various syllable structures. The findings aim to improve cross-cultural communication and aid in English language teaching in Pakistan. The study further reviews existing research on phonological variations in Pakistani English, emphasizing the role of native languages like Punjabi in shaping English pronunciation. It also discusses how other local languages like Pashto, Punjabi, and Sindhi influence English speech in Pakistan. English pronunciation is often neglected in Pakistani education systems, leading to difficulties in fluency and accuracy. The study encourages better teaching practices focused on pronunciation, stress, and syllabification.

Keywords: Phonological variations; Pakistani English; Punjabi native speakers; ESL learners

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1. Introduction

The study looks at how Punjabi native ESL learners perceive and analyze English lexical elements and lexical stress. An important part of Pakistan's educational system is the English language. English is taught as a second language in schools, colleges, and institutions. Additionally, it is the most prestigious language. Both the public and private sectors value this language. Around the world, English is a language that is widely spoken. One out of five people can communicate and understand the English language at a basic level. English is the official language of 53 countries worldwide. Every person likes it and uses it for international communication. Younus [1]'four hundred million people speak English as their first language worldwide, and it is today recognized as a language of science, computers, aviation, diplomacy, and tourism.' It is very necessary to comprehend and learn the English language since it is a language of technology and trade, and people must understand and learn it for a better life. Although mastering pronunciation is an essential part of learning any language, it is not taken seriously. The Grammar Teaching Method (GMT) is the preferred approach to teaching English in the majority of Pakistan. This approach emphasizes writing more than exposure to English speech. Thus, phonological differences are made by local Punjabi speakers in Pakistan.

Roach [2] states that English language comprises 44 sounds, including 24 consonant sounds and 20 vocalic sounds. There are 8 diphthongs and 12 vowel sounds. Whereas, Abbasi [3], argues there are twenty-four 24 consonant phonemes /p, b, k, g, t, d, m, n, ʤ, f, ŋ, ʧ, v, θ, z, ʃ, ð, s, ʒ, h, ð, s, r, j, ð, s, w, v, l/ 20 vowel phonemes as follows: /eɪ, aɪ, aʊ, ɪə, ɔɪ, əʊ, eə, ʊə, ɜː, ə, i, ɪ, u, ʊ, ɔː, æ, e, ʌ, ɑ, ɒ/. It is considered that phonological differences, word stress variations, and syllable patterns in English speech are caused by L1 changes for Punjabi native speakers learning the language. The study will cover the sound systems of English and Punjabi, as well as stress patterns and syllabification.

Bhatia[4] states that the Punjabi language has an intricate phonetic structure, defined by a range of distinct sounds including plosives, combination sounds, nasal sounds, friction sounds, lateral sounds, tap sounds, and approximants. Punjabi is distinctive among all Indo-Aryan all languages due to its use of pitch variations, with three unique pitch patterns: high, medium, and low. These pitch levels are sound distinguishing, meaning the pitch can change the sense of a lexical word. Punjabi has 10 vowel sounds, including both brief and extended forms such as /ɪ/, /iː/, /ʊ/, /uː/, and /ə/, /aː/. The list of consonant sounds is just as diverse, including plosives like /p/, /b/, /k/, /ʈ̪/, and /ɖ̪/, as well as combination consonants like /tʃ/, /dʒ/, and nasal consonants /ŋ/, /m/, and /n/.

Additionally, the Punjabi language differentiates among pitch levels, with the elevated pitch represented by a sudden increase in pitch, the medium pitch being indifferent, and the deep pitch associated with voiced breathy consonants at the start of words Shackle [5]. When we compare the sound systems of English and Punjabi, we discover that both have some features based on manner and place of articulation, which means the method of location and sound production. In the area of phonetics, the location of sound production refers to which oral position is involved in articulating consonantal sounds, whereas the meaning of manner of articulation is the way consonantal sounds are articulated by specific speech articulators. In the present research, the contrast of consonantal sounds in Punjabi and English was made using a contrastive analysis method.

Upon examining differences in the syllable patterns of Punjabi and English along with additional differences in stress, the inquiry is made as to which type of syllabification and stress Punjabi-speaking ESL students assign to words in English. The inquiry has not been investigated yet; therefore, the research examines the theory that Punjabi-speaking English learners evaluate the number of syllables and stress placement in words in English differently from how these words are presented in the dictionary of English and unlike Received Pronunciation. Punjabi speakers who speak English show unique phonological characteristics because the Punjabi language has its own syllable structure and stress patterns. Students from Pakistan do not have enough opportunities to study the pronunciation of English in depth. As a result, they do not identify these sounds properly. Meanwhile, they try to match them with the pronunciation of their native language, Punjabi, and when Punjabi speakers speak English, they make phonological variations and mispronounce English words.

Punjabi students speak English with an Urdu accent which ruins their reputation while communicating with outsiders and during public speaking. Nelson [6] claimed that the languages used in South Asia are mostly syllable-based, while English is stress-based, as cited in Rahman [7] and this makes Pakistani English change. While there are many studies and research on how different speakers have phonological variations, the syllabification and stress patterns of Punjabi speakers are not completely understood and require further research. The purpose of the study is to acquire a complete understanding of how speakers of Punjabi perceive language and how they can improve it.

1.1. Significance

The study will help other people understand each other's languages and cultures better and will help to understand how Punjabi speakers use sounds from their first language (Punjabi) when speaking a second language (English). By identifying pronunciation differences communication between native English speakers and native Punjabi speakers becomes more effective and reduces confusion.

1.2. Objectives

(1) To examine how Punjabi native speakers place primary stress in English words.

(2) To investigate how speakers of Punjabi syllabify English words.

1.3. Research questions

(1) How do Punjabi native speakers place primary stress on English words?

(2) How does Punjabi affect English syllabification?

2. Literature Review

There is a large change in stress patterns between the Punjabi and English languages because both languages are spoken and written with different rules and diverse phonological and phonetic systems. Both contain different consonants and vowels. The English language is mostly spoken in various accents by different language speakers in Pakistan, including the Sindhi accent in Sindh Province, the Urdu accent, the Pashto accent in KPK and the Punjabi accent in Punjab Province. In the Urdu accent, the lexical stress of English words moves according to the Urdu stress pattern.

The sounds and pronunciation patterns of Pakistani English are different from those of British English (Received Pronunciation) mainly because of the influence of native Pakistani languages. Knowing these differences is important for language research and for teaching and learning English in Pakistan Jadoon [8] provides useful information about the unique features of Pakistani English, helping us understand the variations of English throughout the world.

A recent study has explored the phonological variations in Pakistani English, specifically focusing on the influence of Punjabi speakers. A study by Kashifa and Mahmood [9] investigated the formant frequency variations of English vowels produced by Pakistani speakers from different regional backgrounds, including Punjabi. The research found notable variations in the pronunciation of vowels, such as the merging of /ɒ/ and /ɔ:/ sounds, and difficulties in realizing certain vowel pairs like /ə/ and /ʌ/.

Nawaz [10] found that Urdu speakers, including Punjabi speakers, often misplace lexical stress in English words, typically stressing the wrong syllable. This issue stems from the native stress patterns of Urdu and Punjabi, which differ significantly from English. The researchers suggest that these incorrect stress patterns cause difficulties in English pronunciation and comprehension, affecting both teaching and learning in classrooms.

The study by Abbasi and Hussain [11] focused on how stress influences sound properties and investigated the acoustic correlates of Sindhi lexical stress. A high-quality microphone and the speech processing program Praat were used to record 2,000 voice samples from ten Sindhi word pairs for analysis. The analysis of the acoustic properties of long and short vowels in syllables with and without stress also revealed notable differences. According to the study's findings, Sindhi is a stress-accent language, however, it is a light-stress language which means that lexical stress dramatically changes the auditory properties of the language. In addition, the study elaborates that lexical stress refers to the relative prominence of syllables in a word. This prominence is typically shown by features such as vowel length,

increased loudness and pitch.

Sabbah [12] notes that the term "mother tongue" refers to one's parent language or a native language. Mother-tongue interference is also known as "transfer," defined as the effect of the learner's first language on the target language. The transfer can be either positive or negative. Positive transfer occurs when patterns and rules from the native language facilitate learning the target language due to resemblances between them. Conversely, negative transfer occurs when patterns and rules from the native language hinder learning the target language due to dissimilarities.

Ali [13] states that each language has its unique and different rules of intonation and sound systems for speech pronunciation. Stress emphasizes a sound and syllable by pronouncing it more intensely and louder than other syllables and intonation is the change in pitch while pronouncing a speech or word.

Abbasi and Kiran [14] recorded sound patterns of vocalic sounds in the Rangi regional language, spoken by the Rangar immigrant group in the country. By examining 180 recordings from speakers of Rangri, the research discovers ten vocalic phonemes, providing insight into the speech sounds of this understudied local language. The results can guide comprehension of speech sound differences in English spoken in Pakistan, particularly in how regional languages affect the formation of sounds recognition among users of the language in the area.

Abbasi and Ahlam [15] investigated the difficulties Pashto speakers face when learning English in pronouncing nine speech sounds in English, using the CA Contrastive Analysis. The outcomes show that structural variations and speech sound between the two languages Pashto and English strongly impact learners' pronunciation. These conclusions are also important for my research as they emphasize how the local sound patterns of languages can cause difficulties in speaking English, offering a wider framework for comprehending speech sound differences in English used in Pakistan.

Abbasi and Hamna [16] examined the sound characteristics of vocalic sounds in the Kachchi language, a regional variant of Sindhi, providing useful information about the speech sound features of an under-researched language in Pakistan. The examination of vocalic sound clarity and length shows variations between female speakers and male speakers and highlights the distinctive speech and sound characteristics of the Sindhi. This study is relevant to my research on speech sound differences in Pakistani English, as in explores how regional language affect and shape the speech and vocalic structure among people from Pakistan who speaks English.

Abbasi et al. [17] carried out research investigating the positioning of word stress in students from English and Indo-Aryan backgrounds. This study is very important for understanding the speech sound differences in English spoken in Pakistan, as it emphasizes how first language backgrounds, particularly the Sindhi language, influence the recognition and production of word stress in the language. People speaking Sindhi have a lower understanding of emphasis rules in both their first language and English, indicating that this deficiency in understanding transfers into their second language English, leading to unique speech sound variations. This is important for comprehending the emphasis systems in English spoken in Pakistan, where people often show emphasis positioning affected by their mother tongue, resulting in foreign-sounding speech.

Abbasi and Mangrio [18] investigated the difficulties university ESL learners in the country encounter when attempting to communicate in English fluently. The results emphasize that the language is mainly considered an academic course instead of means of interaction, leading to students' difficulties with fluency. This is especially important regarding the speech sound differences in English spoken in Pakistan, as the research notes that students have difficulty pronouncing speech sound. This issue can be connected to the speech sound structure English in Pakistan, where influence from mother tongues like the Urdu language and local language varieties creates differences in stress and speech intonation patterns. The research also proposes that better verbal skills can increase self-assurance, resulting in better opportunities showing that speech sound proficiency directly affects career achievement.

In another study by Abbasi [19] examined sound relationships of stress in the Sindhi dialect. The study on the sound characteristics of unstressed and stressed vocalic sounds is related to speech sound differences in English in Pakistan, as it provides understanding of how stress can change vocalic sound length and clarity. This is especially important when looking at the transfer of stress patterns

from mother tongues to English, as Pakistani speakers of English often show stress patterns affected by their mother tongue. This research explains how such speech sound might vary in English in Pakistan, in the context of local dialects like Sindhi.

In addition, the study by Abbasi [20] on Urdu-speaking English learners' understanding of word stress in English shows that stress and syllabification are often carried over from Urdu to the English language. This is especially crucial for comprehending the speech sound differences in English in Pakistan, as the wrong use of stress rules leads to a unique pronunciation. People speaking Urdu, emphasize stress on other syllable of words than English native speakers would, changing tune and flow of English. The research results provide a basis for investigating how these stress rules develop in English spoken in Pakistan, shaped by mother tongue speech patterns. This research collectively emphasizes key elements causing the speech sound differences in English spoken in Pakistan, such as enunciation difficulties, language transfer and stress patterns all of which greatly influence the development of the unique features of English spoken in Pakistan.

In another research study by Abbasi et al. [21] the significance of sound structures and speech sound in grasping the speech frameworks of various languages, particularly less-researched dialects like the Sindhi language. The research advocates more scientific and methodical techniques to record speech sound structures, which is closely related to the need for studying speech sound differences English spoken in Pakistan. This research also shows the phonological variations in English spoken in Pakistan. Rajimwale [22] notes that people who move to a new country often have trouble speaking the new language because of their accent. This can lead to negative reactions from native speakers. In Asian schools, pronunciation hasn't been a focus. Rajimwale thinks that teaching the rhythm and flow of language could really help non-native speakers improve their speech. He believes language teaching should prioritize speech skills, not just grammar.

Abbasi and Kimball [23] examined the pattern of syllable formation and stress patterns in English and Sindhi through acoustic data and spoken language assessment gathered from American and Sindhi native speakers. The research shows that the speech intonation patterns in Sindh are not connected to stress, unlike most stress-based languages. In the Sindhi language, tone increases starting from the initial syllable, irrespective of the syllable's importance. Additionally, the study reveals that people speaking Sindhi have a limited understanding of stress in both language (English and Sindhi) highlighting the necessity for clear understanding of word stress for Sindhi learners of English.

Robins [24] distinguishes between word stress levels: weak stress and strong stress. While his work provides valuable insights into the phonological structure of language, it notably overlooks the challenges that foreign learners face in mastering word stress. This omission highlights the need for further research into the acquisition of word stress by non-native speakers. Jones [25] made a significant contribution to the field of linguistics by emphasizing the crucial role of stress on syllables in words. His groundbreaking work on pronunciation paved the way for future generations of researchers, providing a foundational understanding of the importance of stress in language acquisition and phonology. Jones' treatise remains a seminal work in the field, influencing successive generations of scholars and linguists. Coulthard Underhill [26] noted that teachers and curriculum designers often neglect teaching intonation, causing confusion among English learners. This issue is particularly relevant to our context, as many teachers and students are unfamiliar with the nuances of word stress and intonation.

Wali [27] conducted a valuable study on the disparities between writing and pronunciation in Urdu. Despite this contribution, his research notably omits an examination of phonological differences between Urdu and English, a crucial area of inquiry for language acquisition and teaching. This oversight highlights the need for further research into the phonological contrasts between the two languages. Nayyar [28] explained how stress works in Urdu words. She created a helpful guide to show where stress falls in Urdu words. However, she didn't explain how this information can help teach English pronunciation more accurately. Talaat [29] explores how Pakistani English differs from Standard English. The study, conducted in Britain, uses both detailed text analysis and supporting numbers. It shows that many Pakistani English speakers do not realize these differences. The paper also discusses how Western read-

ers perceive Pakistani English and argues that it should be recognized as a valid variety of English. It should not be viewed negatively because it's used creatively in Pakistan's bilingual society. Pakistani English reflects the unique social and cultural context of its speakers and should not be compared to the English used in monolingual settings.

Lexical stress is a fundamental element in Pashto that is required for lexical unit differentiation and meaning transmission. Other elements like phonetic characteristics, construction, and harmonious vowel patterns influence where stress is placed, even though the last, initial, or preceding syllable in Pashto words typically receives the most stress Robert [30]. Abbasi and Rehman [31] examined the sound properties of six vocalic sounds in English spoken by people from Pakistan and contrasted them with vocalic sounds in Singaporean English. The research showed major sound variations in terms of F1 and F2 measurements between the two types. This study is especially important for speech sound differences in English in Pakistan, as it offers data on how vocalic sounds in Pakistani English are distinct from other types of English, such as the variety spoken in Singapore. The research also brings attention to variations in sound based on gender, which add to intricate characteristics of speech sound differences within English spoken in Pakistan. These results indicate that vocalic sound clarity, affected by factors like mother tongue influence and social language factors is important for forming the unique speaking styles in English spoken in Pakistan.

According to Abbasi et al. [32], young Sindhi high school ESL learners' acquisition order of English grammatical morphemes is influenced by their L1 interference and deviates from the universal order suggested by previous studies. Abbasi and Hussain [33] discovered five syllable patterns, and numerous free or bound morphemes form the foundation of Sindhi's syllable structure.

Aslam and Kamran [34] examined how six major local languages in Pakistan affect the pronunciation of SBE phonemes. They create phonemic inventories for these subvarieties using both qualitative and quantitative methods. Data was gathered from speakers of Urdu, Saraiki, Punjabi, Sindhi, Pashto, and Balochi, who speak English as a second or third language. The findings show difference in both consonants and vowels. Variations were found in plosives, liquids, fricatives, nasals and glides. Afsar and Kamran [35] compared the consonant sounds in PSE and BSE. The study involved twenty participants from International Islamic University in Islamabad, who read 178 words. Their pronunciations were recorded and analyzed. Data for BSE was taken from the Oxford Talking Dictionary.

3. Materials and Methods

3.1. Research Design

The study employs a quantitative method to investigate phonological variation in Pakistani English among Punjabi speakers. The primary objective is to find out the syllabification and stress patterns of Punjabi and Pakistani English to identify patterns of influence and variation.

3.2. Research Participants

I collected data from 40 native Punjabi participants (20 males and 20 females) and their ages were in between 17 to 25 and these participants were from the different departments and different universities of Karachi. 11 participants were from NED University of Engineering & Technology, 12 were from University of Karachi, 7 from FUUAST, 3 from Iqra University, 3 from Dawood university, 3 were from Sindh Madressatul Islam University and 1 participant was from FAST National University Karachi Campus.

3.3. Speech Material

Stimuli of 100 high frequency lexical items is designed as data collection tool for syllable counts and for identifying lexical stress and a list of words consist of: 20 one-syllable, 20 two-syllabic, 20 three-syllabic, 20 four-syllabic and 20 five-syllabic words.

3.4. Procedure

We created a table in which I randomly write these 100 words and distributed hard copies of this table to all the participants. After this, I gave a brief explanation on syllables and primary stress and provided examples like home (one syllable), happy (two syllables), butterfly (three syllables). Then I asked participants to count and mark the syllables and identify the primary stress of these 100 words

and mark on the table.

4. Results and Discussion

As shown in **Figure 1**, the word cat, moon, man, read, lamp, head, sun, lead ,ship, glass and road were reported as one syllable by all 100% of Punjabi speakers, while the word need, hand and car were reported as one syllabic by nineteen female respondents out of twenty, which means 90% participants and the word thought was reported monosyllabic by eighteen respondents, while flow was mono syllabic by seventeen respondents, and three participants found "thought" as a one syllable word. While other respondents reported these words as two syllables and only five percent, meaning only one respondent reported thread as three syllables.

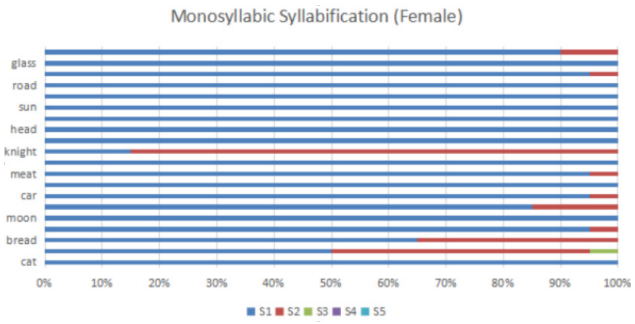

Figure 1. Monosyllable words produced by female speakers.

In **Figure 2**, participants categorized various words based on their syllabification. The word "apple" was recognized as disyllabic by 55% of respondents, while 45% reported it as monosyllabic. The word "better" was recognized as disyllabic by 90% of participants and monosyllabic by 10% of respondents. Likewise, candle, garden, basket, window, yellow, nation was classified as disyllabic by 100% of the respondents. For the doctor fifteen participants, 75% recognized it as disyllabic, while 25% labelled it one syllable word. The same ratio applied for the word eagle and jacket, with fifteen participants classified them as disyllabic word. Zipper was disyllabic according to seventeen respondents, which is 75% of total population, with 15% recognized it was monosyllabic. Flower was disyllabic nineteen participants, while only five percent recognized it one syllable word.

Furthermore, 80% of respondents found magic to be disyllabic, while twenty percent recognized it as one syllable. The word Open was classified as two syllable words by nineteen participants, which was 90% of total participants and monosyllabic by one participant. The word rabbit was classified disyllabic by eighty percent (80%) and monosyllabic by twenty percent (20%). Silent was split divided equally, with half of participants classified it as monosyllabic and half as disyllabic. Tiger and water were each recognized as disyllabic by sixty-five percent (65%) and monosyllabic by thirty-five percent (35%). Ultimately the under was disyllabic for eighty percent (80%) and monosyllabic for twenty percent (20%) of the participants. No respondents recognized any of these words as three syllables, four syllables, or five syllables.

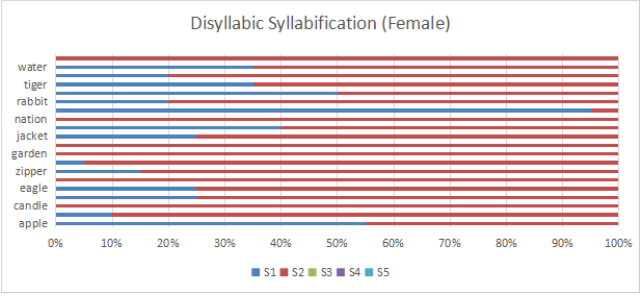

Figure 2. Disyllabic words produced by female speakers.

From **Figure 3**, we can see that respondents categorized different words according to their syllable structure. The word "animal" was categorized as two-syllable by 12 participants (60%), three-syllable by 6 participants (30%), and one-syllable by 2 participants (10%). "Banana" was classified disyllabic by 8 participants (40%) and trisyllabic by 12 participants (60%). "Chocolate" was classified as disyllabic by 16 participants (80%), while 4 participants (20%) classified it as monosyllabic. The word "elephant" was divided, with 10 participants (50%) classifying it as disyllabic and 10 participants (50%) as trisyllabic.

For the word family, 13 participants 60% recognized it as disyllabic, 5 participants 25% as monosyllabic, and 2 participants as trisyllabic. For Hospital was marked two syllables by 10 participants, three syllables by 8 participants, and monosyllabic by 2 participants. Happiness was monosyllabic, with 15 participants which was 75% of total selecting this option, while 5 respondents recognized it as disyllabic.

The word "industry" classified as disyllabic by 14 participants (75%), trisyllabic by 5 participants (5%), and monosyllabic by 1 participant (5%). The Word Library was recognized as disyllabic by 11 participants (55%), trisyl-

labic by 24 participants, and monosyllabic by 5 participants (25%). Word Office was recognized as disyllabic by 8 participants (40%), trisyllabic by 7 participants (37%), and monosyllabic by 5 participants (25%). Paradise was disyllabic for 15 participants and trisyllabic for 5 participants (25%). The word Positive was disyllabic, with 16 participants, while 2 participants (10%) recognized it as monosyllabic while 2 respondents trisyllabic. Butterfly and Quality were both classified as disyllabic by 12 participants (60%) and trisyllabic by 7 participants (75%), with only 1 participant (5%) identifying them as one syllable word. "Telephone" was recognized as two syllable words by 12 participants (60%) and one syllable by 8 participants (40%). Universe was classified as disyllabic, with 17 participants (85%), while 3 participants (15%) considered it trisyllabic. Word Beautiful was recognized with 12 participants (60%) saying it was one syllable word and 8 participants (40%) identifying it as two syllabic words.

"Dangerous" word was classified as trisyllabic by 11 participants, and disyllabic by 8 participants, monosyllabic by 1 participant. The word celebrate was recognized as disyllabic by 14 participants (70%) and trisyllabic by 6 participants (30%). No participants categorized any of this list words as four-syllables or five-syllables.

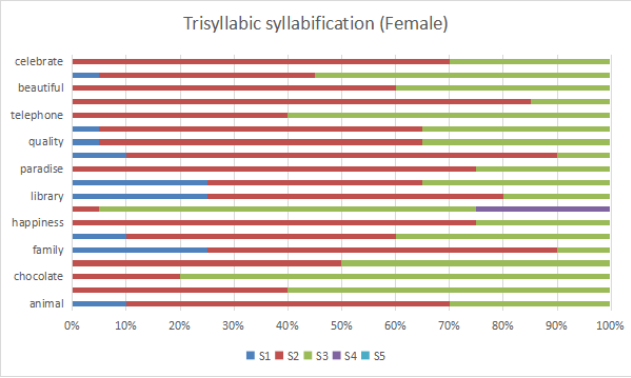

Figure 3. Trisyllabic Words Produced by Female Speakers.

In **Figure 4** subjects categorized different terms according to syllable pattern. The term adorable was recognized as having three syllables by 80% of respondents and two-syllable by 20%. And the word Celebration showed diversity, with 40% considering it as two-syllable and 25% as three-syllable), and four-syllable by 30%, and five-syllabic (5%). In the same way, word definition was classified two-syllable by 65%, three-syllable by 15%, and four-syllable by 20%. Helicopter 35% categorized it as two-syllable, 45% as three-syllable, and 20% as four-syllable. Motorcycles were rated as three-syllable by 60%, and 20% each categorized it as two-syllable or one-syllable. The word Operation was identified as two-syllable by 25%, and three-syllable by 45%, while four-syllable by 30%.

Disposable was categorized as two-syllable by 55%, 25% as three syllables, and 20% as four syllables. And the word Population was identified as three-syllable by 50% of population, two-syllable by 45%, and four-syllable by 5%. The word Development was primarily identified two-syllable by 70%, 25% categorizing it as three-syllable and 5% four-syllable. Satisfaction 55% categorized it as three-syllable, 35% as two-syllable, and 10% as four-syllable. And the word invitation was two-syllable words for 30%, three-syllable word for 50%, and four-syllable word for 20%. The word Ordinary was classified as three-syllable by 80% and two-syllable by 20% of population. The word Conversation was classified two-syllable by 35%, three-syllable by 45%, four-syllable by 10%, and five-syllable by 10%. The word Explanation was classified two-syllable by 20%, (three-syllable word by 55%, and four-syllable word by 25%. The word Intelligent was categorized as three-syllable by 65%, two-syllable by 25%, and four-syllable by 10%.

For the word "geography," 60% identified it as two-syllable, 35% as three-syllable, and 5% as four-syllable. The word Inspiration was recognized as two-syllable by 35%, three-syllable by 30%, and four-syllable by 35%. And the Regulation was identified as two-syllable by 40%, three-syllable by 35%, and four-syllable word by 25%. Finally, the word irritation was two-syllable word for 65%, three-syllable for 25%, and four-syllable word for 10%, while the word Activity was predominantly two-syllable two at 95%, with only 5% considering it as one-syllable word.

In **Figure 5**, respondents categorized different words according to their syllable patterns organization. Authorization was classified as three-syllable by 11 participants, four-syllable by (2%), and five-syllable by 5 participants (25%), while 2 participants considered it two-syllable word. The word Communication was recognized as three-syllable words by 8 participants (40%), four-syllable word by 5 participants (25%), five-syllable by 3 participants (15%), and two-syllable by 4 participants (20%) od popu-

lation. Word determination 45% of population classified it as three-syllable, 4 participants as (four-syllable word, and 15% as two-syllable word. Elimination was marked as three-syllable word by 8 participants means (40%) of population, four-syllable by 35% disyllabic by 15% and five-syllabic 10%. Examination was noted as three-syllable by 10 participants (50%) of population, four-syllable by 4 participants (20%), two-syllable by 5 participants (25%), and one-syllable by 1 participant (5%).

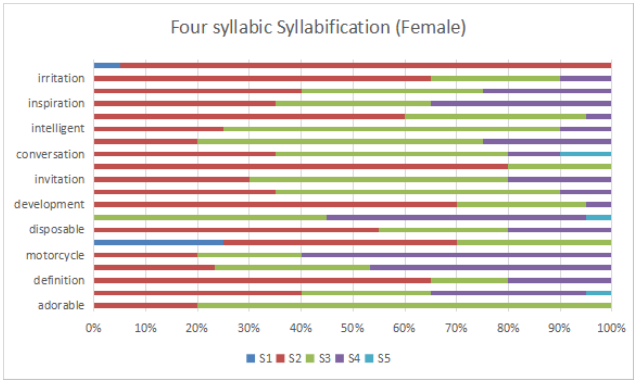

Figure 4. Four-syllabic Words Produced by Female Speakers.

For the word implementation 45% regarded it three-syllable, 30% four-syllable, 20% five-syllable, and 5% two-syllable. The word Manipulation was evenly divided, with 35% marking it as three-syllable word and two-syllable, 20% four-syllable, and 10% five-syllable. The word Participation was marked as three-syllable by 55%, four-syllable by 25%, and \five-syllable by 20% of respondents.

Qualification was identified as three-syllable by 50%, two-syllable words by 20%, four-syllable by 20% and five-syllable words by 10% of participants. Representation marked three-syllable by 45%, four-syllable by 40%, and five-syllable by 15%. The word Simplification was classified as (three-syllable by 50%, four-syllable by 20%, two-syllable by 25% participants, and one-syllable by 5% of participants. For word utilization 35% recognized it three-syllable word, two-syllable by 30%, 25% four-syllable, and 10% five-syllable. The word Verification was categorized as three-syllable by 45% two-syllable by 25% four-syllable by 20% and five-syllable by 10%. The word Clarification was three-syllable word by 45%, with 40% classified it as four-syllable, 10% as five-syllable word, and 5% as two-syllable words. The Congratulation word was recognized as three-syllable by 55%, four-syllable by 20%, five-syllable by 2 participants (10%), and two-syllable by 10% the word Dissatisfaction was identified as three-syllable by 40%, four-syllable by 25%, five-syllable word by 25%, and two-syllable by 10%. The word Unacceptable was recognized as a three-syllable word by 60% and four-syllable by 40%.

The word Interpretation was noted as trisyllabic by 6 participants (30%), disyllabic by 5 participants (25%), four-syllabic by 6 participants (30%), and five-syllabic word by 3 participants (15%). Imagination was recognized as three-syllable word by 11 participants (55%), disyllabic by 20% four-syllable word by 10%, and five-syllable word by only 3 participants (15%). Lastly, the word "cooperative" was categorized as three-syllable word by 70%, four-syllable by 5 participants 25%, and five-syllabic by 1 participant (5%).

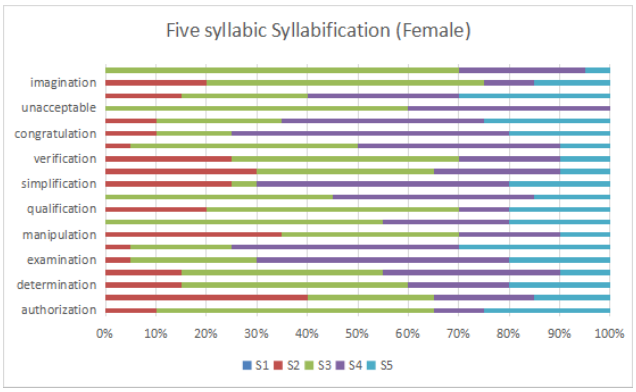

Figure 5. Five syllabic Words Produced by Female Speakers.

In **Figure 6**, respondents took an attempt at categorizing some basic terms according to their syllabic organization. For cat, bread, flow, car, need, read, man, head, sun, lamp, road, hand, and glass, 20 male participants (100%) identified them monosyllabic. On the other contrarily, some terms had a little more diversity. For thread, 17 participants 85% said monosyllabic, while 3 participants15% went with two-syllable word. Moon and meat conformed to the same trend, with 85% of participants going one-syllable and 15% were saying it's a disyllabic word. There are lead and knight, where 80% of respondents thought they were monosyllabic. 20% determined they are disyllabic. The word thought had a more distribution 70% classified it monosyllabic, and 30% said its two-syllable word. And finally, for the word ship 13 participants (65%) were saying it's one-syllable word, but 35% were thinking it's two-syllable word.

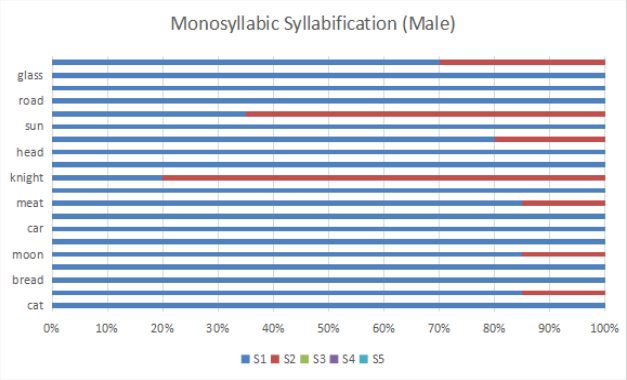

Figure 6. Mono Syllabic Words Produced by Male Speakers.

In this research, multiple words were categorized by respondents according to their syllable organization, the result is shown in **Figure 7**. A total 20 out of 20 100% of participants were agreed that zipper, window, garden and yellow were two-syllable word. Likewise, the word doctor was recognized as disyllabic by 18 participants 90% while only 1 participant 5% marked it as one-syllable and another 1 participant 5% considered it three-syllable. Word like apple, 17 participants 85% marked it two-syllable word and 3 participants 15% classified it as one-syllable word. Better conformed to a similar trend, with 15 participants 75% classified it as two-syllable word and 5 participants 25% as one-syllable word. The word jacket was recognized two-syllable word by 17 participants 85% and one-syllable word by 15% participants. For the word magic 80% classified it monosyllabic while 20% recognized it two-syllable word. Nation was also mainly considered as a two-syllable word by 90% and one-syllable 10%. For open, 95% agreed it was one-syllable word, with only 5% marking it as two-syllabic word. Numerous words displayed a 50/50 division in categorization. Both water and tiger were categorized as either one-syllable or two-syllable word by 50% respondents. Silent had an uneven distribution, with 55% recognizing it as one-syllable and 45% as two-syllable. For rabbit, 60% recognized it as two-syllable and 40% as one-syllable word. Eagle were mostly considered one-syllable by 70%. Basket was likewise identified as two-syllable by 90% and monosyllabic by 5%. These findings indicate participant agreement on the syllabic patterns for many terms, while others showed more diverse categorization.

The **Figure 8** demonstrates most terms, there was a strong agreement about their syllable pattern. For example, 90% of respondents identified "banana" as having three syllables, and 70% considered "chocolate" as trisyllabic. The word positive and hospital were primarily marked as two-syllable by 80% of respondents. However, there were words with more diverse answers.

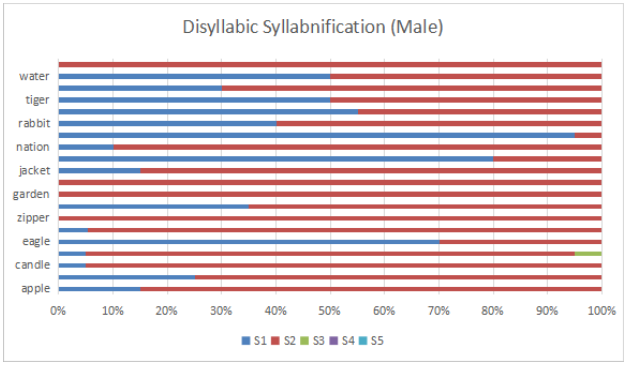

Figure 7. Disyllabic Words Produced by Male Speakers.

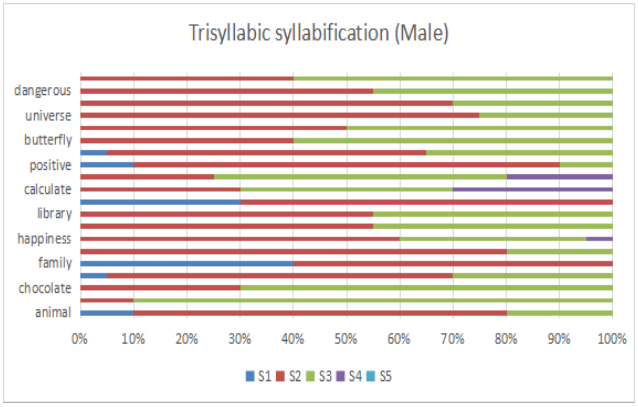

Figure 8. Tri-syllabic Words Produced by Male Speakers.

In **Figure 9**, subjects categorized different words based on their syllable patterns, demonstrating both uniformity and differences in answers. For example, 60% recognized adorable as having three syllables, and motorcycle was considered as two-syllable by 60%. And the words disposable had 80% of respondents labeling it as trisyllabic. The word population was mostly identified as four-syllabic by 18 participants (90%). There were also cases of more mixed answers; for instance, the word helicopter had 45% marking it as two-syllable, but a few labelled it as three-syllable as well as five-syllabic. Comparable differences were in the word operation, where respondents were between di, tri and four-syllabic identifications. Finally, 95% of participants recognized activity as two syllable word, showing significant agreement on its pattern. These findings emphasize both consistent agreement for specific words and diverse responses also.

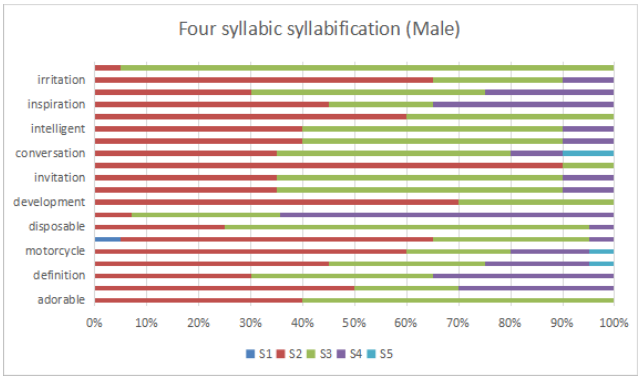

Figure 9. Four-syllabic Words Produced by Male Speakers.

In **Figure 10** participants recognized various words by their syllabic patterns, with some words showing strong agreement and others reflecting more varied responses. For example, communication and authorization were largely classified as five and six-syllabic, Words examination and elimination showed mixed assessments, reflecting difference in syllable perception. There was strong consensus for words like representation and implementation where 60% and 70% of respondents, classified them as six-syllabic. In contrast, words clarification and utilization exhibited more differently, with respondents classifying them different syllable counts. The findings were mix of uniformity and variation in how respondents perceived syllable patterns in the words evaluated.

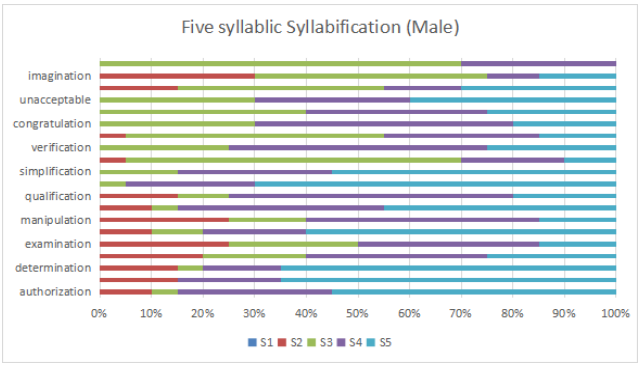

Figure 10. Five-syllabic Words Produced by Male Speakers.

The **Figure 11** shows 20 monosyllabic were stressed by respondents as follows: 85% to 100% were indicated on the 1st syllable 5% to 85% indicated on the 2nd syllable and 0% to 5% indicated on the 3rd syllable.

There are disyllabic words and participants marked stressed as follows: 5% to 50% were indicated on the 1st syllable, and while 50% to 95% were indicated on the 2nd syllable, as shown in **Figure 12**.

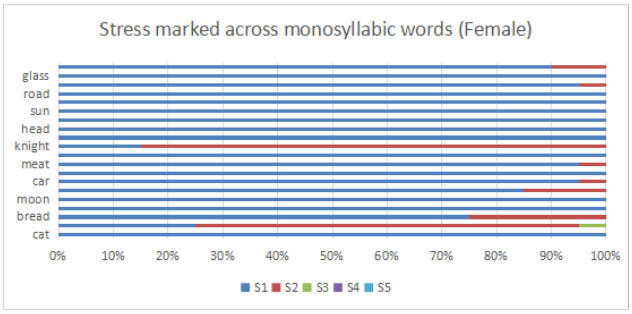

Figure 11. Stress marketed across monosyllabic words (Female).

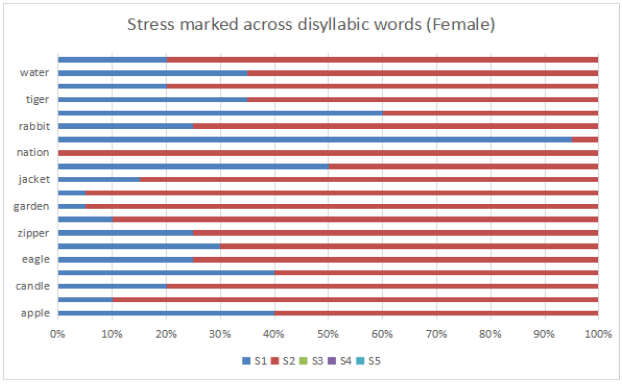

Figure 12. Stress marked across disyllabic words (Female).

There are trisyllabic words and participants marked stressed as follows: 5% to 30% were indicated on the first syllable unit, 5% to 80% were indicated on the 2nd syllable, and 5% to 55% were choose on the 3rd syllable as shown in **Figure 13**.

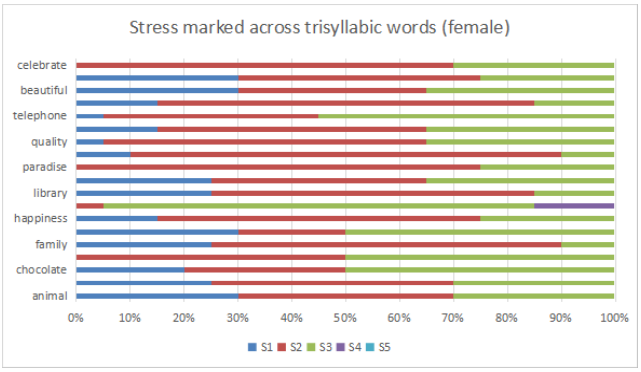

Figure 13. Stress marked across trisyllabic words (Female).

There are 20 four syllabics were stressed by respondents as follows: 5% to 40% were indicated on the 1st syllable, 5% to 80% were indicated on the 2nd syllable, 5% to 65% were indicated on the 3rd syllable, and 5% to 45% were indicated on the 4th syllable, as shown in **Figure 14**.

There are 20 five syllabics were stressed by respondents as follows: 5% to 30% were indicated on the 1st syl-

lable, 5% to 55% were indicated on the 2nd syllable, 5% to 70% were indicated on the 3rd syllable, 5% to 50% were indicated on the 4th syllable, and 5% to 30% were indicated on the 5th syllable as shown in **Figure 15**.

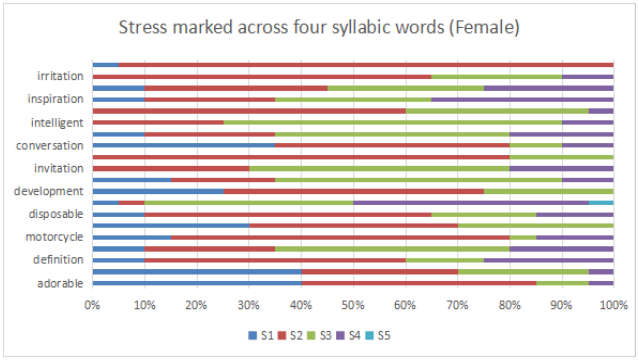

Figure 14. Stress marked across four syllabic words (Female).

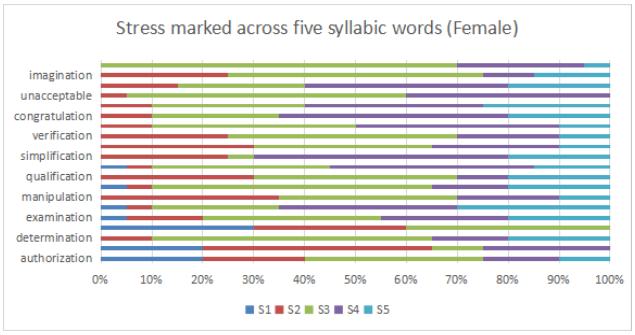

Figure 15. Stress marked across five syllabic words (Female).

There are 20 monosyllabic were stressed by respondents as follows: 80% to 100% were indicated stress on the 1st syllable, while 5% to 70% were indicated on the 2nd syllable, as shown in **Figure 16**.

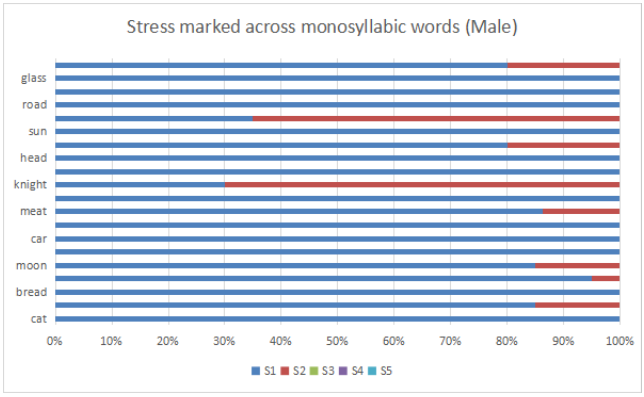

Figure 16. Stress was marked across monosyllabic words (Male).

There are 20 disyllabic were stressed by respondents as follows: 5% to 90% were indicated on the 1st syllable, while 5% to 95% were indicated on the 2nd syllable, as shown in **Figure 17**.

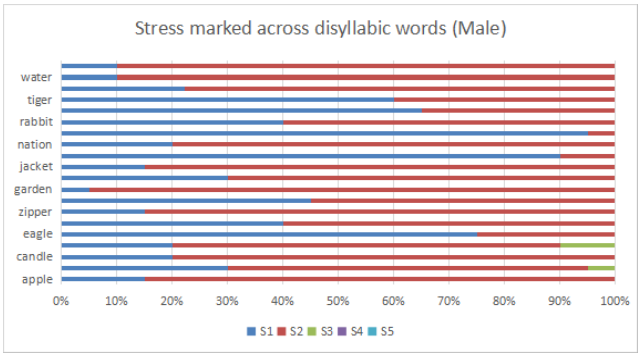

Figure 17. Stress marked across disyllabic words (Male).

There are 20 trisyllabic were stressed by respondents as follows: 0% to 50% were indicated on the 1st syllable 5% to 75% were indicated stress on the 2nd syllable, and 0% to 60% were indicated on the 3rd syllable, as shown in **Figure 18**.

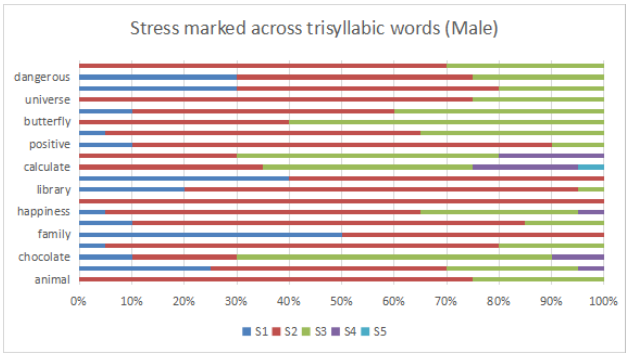

Figure 18. Stress marked across trisyllabic words (Male).

There are 20 four syllabics were stressed by respondents as follows: 0% to 40% were indicated on the 1st syllable, 5% to 90% were indicated on the 2nd syllable, 0% to 70% were indicated stress on the 3rd syllable, 0% to 30% were indicated stress on the 4th syllable, as shown in **Figure 19**.

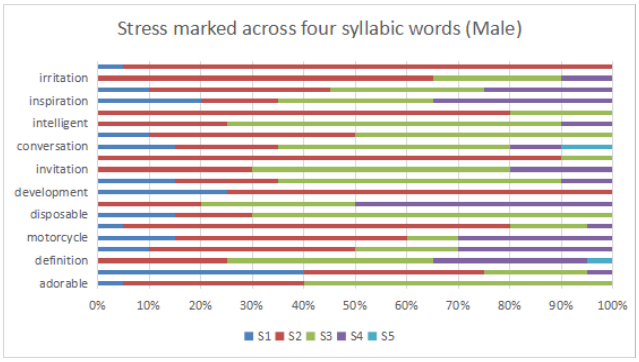

Figure 19. Stress marked across four syllabic words (Male).

Participants were stressed as follows: 0% to 60%

choose stress on the first syllable, 0% to 20% selected stress on the second syllable, 0% to 50% were highlighted stress on third syllable, 0% to 30% indicated stress on fourth syllable, and 5% to 70% were identified stress on the fifth syllable, as shown in **Figure 20**.

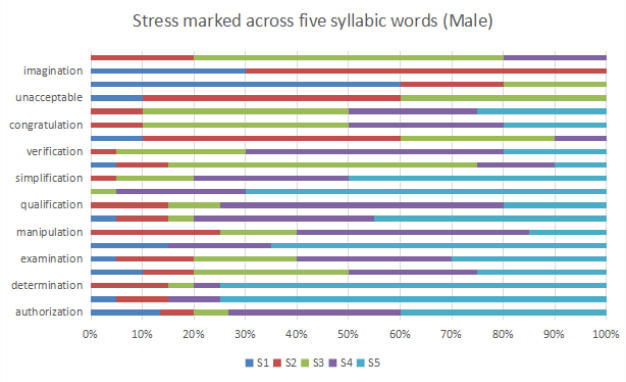

Figure 20. Stress marked across five syllabic words (Male).

5. Implications

The study emphasizes how first-language (Punjabi) phonological systems influence second-language (English) pronunciation. Recognizing this interference is crucial for designing targeted interventions to improve English language learning. The findings highlight the need for teaching practices in Pakistan to focus more on pronunciation, syllabification, and stress patterns rather than just grammar. This could help Punjabi ESL learners overcome their unique challenges and achieve greater fluency. By documenting the phonological variations of Pakistani English, the study aids in bridging communication gaps between native English speakers and Pakistani speakers. This enhances mutual understanding in international and multicultural settings. The study adds valuable data about regional variations in English pronunciation, enriching the global understanding of English as a diverse, evolving language. It may inspire further research into how other local languages in Pakistan influence English speech. The insights can be applied to develop educational materials, workshops, and software that cater specifically to Punjabi ESL learners, making English learning more accessible and effective. Ultimately, this research underscores the importance of considering linguistic and cultural diversity in language education, fostering an inclusive and effective learning environment.

6. Conclusions

The study concludes that Punjabi native speakers exhibit unique phonological patterns in their English pronunciation, particularly in syllabification and stress placement. These variations are attributed to the influence of their first language, Punjabi, which has distinct syllable structures and stress patterns. Punjabi speakers often syllabify and stress English words differently from standard English norms due to linguistic interference from Punjabi. While some participants showed correct identification of syllable counts and primary stress, inconsistencies highlight challenges in fully adapting to English phonological norms. The study underscores the need for improved teaching methods focusing on English pronunciation and stress patterns in Pakistani education systems. By documenting these phonological characteristics, the study aims to enhance communication between native English speakers and Punjabi speakers, reducing misunderstandings. In essence, the research not only contributes to linguistic studies but also offers practical insights for improving English language learning in Pakistan.

Author Contributions

P.S: Original draft, resources, Investigation, Formal analysis; A.M.A.: Conceptualization, Review & editing, Supervision. The same research proposal was presented before DRC and approved. The second author revised, edited and finalized the paper for review.

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Institutional Review Board Statement

The Departmental Research Committee (DRC) approved the research title of BS-English thesis for further processing.

Informed Consent Statement

The study was consented to be conducted by the departmental research committee. The participating students were ultimately permitted as volunteers for participation in

the study.

Data Availability Statement

The data will be made available on request.

Conflicts of Interest

There are no conflicts of interest between the authors.

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