Education and Linguistics Research

AIJELR VOL 5 NO 1 (2022) P-ISSN 2641-7987 E-ISSN 2641-7995

Available online at www.acseusa.org
Journal homepage: https://www.acseusa.org/journal/index.php/aijelr
Published by American Center of Science and Education, USA

ACOUSTIC CORRELATES OF STRESS ASSIGNMENTS OF LOANWORDS AMONG NIGERIAN SPEAKERS OF ENGLISH

Oluwasegun Matthew Amoniyan [(a)1] *Abiola Mary Oladipo* [(b)] *Odilia Ifeanyichukwu Ogunka* [(c)]

[(a)] *Department of Linguistics, University of Pittsburgh, USA; E-mail: oma55@pitt.edu*
[(b)] *Department of English and Literary Studies, University of Nigeria, Nsukka, Nigeria; E-mail: abiola.oladipo@unn.edu.ng*
[(c)] *Department of English and Literary Studies, University of Nigeria, Nsukka, Nigeria; E-mail: odiliamicheal@gmail.com*

ARTICLE INFO

Article History:

Received: 26th October 2022
Accepted: 30th November 2022
Online Publication: 30th December 2022

Keywords:

BrE, Igbo English, Loanwords, Praat, Yoruba English

JEL Classification Codes:

H75

ABSTRACT

Nigerian English as a variety of world Englishes has received scholarly investigations at the segmental and suprasegmental levels. At the suprasegmental level, studies on the major varieties of Nigerian English have identified characteristic nature of stress assignment and interactions, but little or no research has explored stress assignment on loanwords in Nigerian English. The study examines the stress placements on loanwords among educated Igbo and Yoruba speakers of English. A well-prepared text is read by sixty (60) educated Igbo and Yoruba speakers of English, and Daniel Jones' 8th Edition Cambridge English Pronouncing Dictionary serves as a control variable. The study uses Praat 6.0 to ascertain the degree of prominence of each syllable in the tokens among the respondents (dependent and control). The samples are analyzed using the metrical theory of stress for theoretical relevance. Findings reveal that the stress patterns of educated Igbo and Yoruba speakers of English in loanwords are 65% and 70% (respectively) closer to British English (hence, BrE), while the average percentage for both educated Igbo and Yoruba is 67.5%, similar to BrE. The study shows that educated Igbo and Yoruba speakers of English preferably stress the second syllable regardless of what is obtainable among the native speakers.

INTRODUCTION

The spread of the English language in Nigeria can be pinned down to the colonization of Africa. The European languages had spread their tentacles to the extent that even after the African countries gained their independence, their importance as the only option for a common language of communication could not be ignored. As the English language spread, it was consistently marked by deviations from the native norms. The dialectal differences that characterize geopolitical boundaries contributed to native varieties such as British English, American English, African American (Gooden & Eberhadt, 2007), Australian English, and New Zealand English, and non-native varieties such as Nigerian English (NE), Indian English, Liberian English, and Singaporean English. The reference made to the dialects of English implies that each of the varieties possesses distinct features at the level of grammar (syntactic categories), vocabulary (lexical categories), and pronunciation (phonological categories). From the foregoing, studies on the English accent have revealed that even within national boundaries, accent variation (e.g., geographically induced variation) is inevitable. In non-native English-speaking communities, accent differences are being investigated along the dimension of local language influences (Anyagwa, 2013). Furthermore, completely different labels that have recently appeared within the literature on NE suggest the tendency to spot accents of NE from a geo-ethnic perspective. Such labels as Hausa English, Nigerian English, and Yoruba English have become official topics of careful tutorial investigations by such scholars as Igboanusi (2001, 2002, & 2006) and Akinjobi (2000, 2006) respectively. These studies lend weight to the fact that the Nigerian English accent is a cluster of accents (Anyagwa, 2013).

Recent studies have ascertained if there is a common similarity among the sub-varieties of the NE as upheld by previous studies. However, it has been discovered that studies that closely investigate how loan words receive prominence among educated Igbo and Yoruba speakers of English have yet to receive an enquiry. It is against this identified backdrop

[1]*Corresponding author: ORCID ID: 0000-0001-6513-4681*

https://doi.org/10.46545/aijelr.v5i1.275

To cite this article: Amoniyan, O. M., Oladipo, A. M., & Ogunka, O. I. (2022). ACOUSTIC CORRELATES OF STRESS ASSIGNMENTS OF LOANWORDS AMONG NIGERIAN SPEAKERS OF ENGLISH. *American International Journal of Education and Linguistics Research*, *5*(1), 8–20. https://doi.org/10.46545/aijelr.v5i1.275

that the current study intends to achieve, with a particular focus on the stress patterns of loanwords among educated Igbo and Yoruba speakers of English. Specifically, the study identifies how stress is assigned to loanwords by educated Igbo and Yoruba speakers of English using metrical phonology and aims to identify the similarities and differences in the stress patterns of loanwords among educated Igbo and educated Yoruba speakers of English.

LITERATURE REVIEW

Previous studies on Nigerian English encompass a wave of efforts to ascertain the segmental and supra-segmental features of the Nigerian accent in English. This chapter explores such works, including their objectives, methodologies, and the findings of their investigations. This enables the present research work to be situated within the existing body of knowledge as well as clearly show the gap in scholarship that the current study intends to fill. For example, Igboanusi (2006) compares the pronunciation features of Igbo English (hence, IE) and Yoruba English (hence, YE) speakers. The data for the study was drawn from previous studies, observations made through fieldwork, and daily interactions both as a lecturer and a competent bilingual in Nigerian society. However, the study was restricted to segments, particularly consonant sounds. Hence, some peculiarities associated with the YE speaker of English are identified. Such peculiarities include/v/, which is occasionally realized as [f] because it is absent in the phonology of Yoruba, as in 'fegetable' for 'vegetable', 'fanguard' for 'vanguard', etc.

From the foregoing, the identified peculiarities underscore the basilectal and mesolectal speakers of YE as catalogued by Udofot (2003), although they also occur consciously and unconsciously in the pronunciation of some educated YE speakers. On the other hand, the study states the features of the IE that the tendency of the Igbo to imitate other people's way of life including language habits can be known as a serious issue that has compelled IE speakers to lose most of their distinctive pronunciation patterns in favour of alternative pronunciation patterns, notably that of YE (see Adegbija, 2004; Banjo, 1996). The only surviving accent which is regularly associated with IE speakers is the alternation between /l/ and /r/. The feature is commonly found among some basilectal speakers of IE, particularly those from the Anambra and Enugu States. For example, "Lebel' (for rebel), 'sullounded' (for surrounded), 'dangelous' (for dangerous). Igboanusi (ibid) concludes that the gradual loss of most of the features originally associated with the IE accents and the retention of most of the YE accents by the Yoruba speakers of English has one obvious implication, which is that YE pronunciation features are likely to emerge as the standard NE accent. The study fails to investigate the respondents with empirical evidence and it did not focus on the patterns of stress with acoustics, which the current study promises to find out.

Adesina and Oyatokun (2016) analyze stress in educated Nigerian English (ENE) using Optimality Theory to underpin cognition that characterizes patterns of stress in ENE at the word level. Specially prepared normative texts were given to 150 educated Nigerians from the three major language groups (Hausa, Igbo, and Yoruba). The classes of words that formed the data for the study included nouns, verbs, adjectives, adverbs, and the recorded productions were analysed perceptually, theoretically, and acoustically. Unlike in British English (BrE), no syllable was found obscure; they all have the full forms of vowels. There was no significant instance of syncope; rather, where such vowel deletion is expected, alternatively, there is an insertion of a vowel, although the inserted vowel depends on the L1 of the speaker. There were hardly any instances of syllabic nasals.

The study mirrors some of the segmental properties of the three indigenous languages. Where syllabic nasals were expected to occur, there was typically an insertion of a vowel. Also, in BrE, stress may be a product of pitch modification, intensity, and duration; however, in NE, the high frequency is typically comfortable to work out the position of prominence. The high pitch is like the high tone of the indigenous languages of the participants. In other words, the feature of tone, which these three languages have in common, influenced their stress patterns. Also, it was acknowledged that there is a lack of uniformity amongst NE speakers because of some factors, ranging from some stress patterns that cut across all tribes, age ranges, and educational attainment. The analysis affirms Hyman's (1975) discovery, which implies that NE speakers have a distinct stress system different from BrE. It was concluded that, unlike BrE, where word stress is generally backward, that is, it tends to fall on syllables closer to the beginning of the word (Hyman 1975: 210), NE shows a preference for more rightward stress and is sometimes predictable. Udofot (2003) in stress and rhythm in the Nigerian Accent of English identifies three varieties of spoken Nigerian English as non-standard, standard, and sophisticated varieties, which by the identity of varieties differ from BrE. The three varieties are characterized by their disposition to stress and speech rhythm. Sixty Nigerians of different educational and ethnolinguistic backgrounds, and a native (British English speaker), made up the participants for the study. Each respondent was asked to read a passage at a normal conversational speed. They were also engaged in conversations on random topics.

The speeches were analysed perceptually, statistically, and acoustically. The acoustic analysis shows that the sixty Nigerian respondents used a long time to produce unstressed syllables and a shorter time to produce stressed syllables than the native speaker, resulting in a tendency to have an even duration. The analysis also shows that the stress patterns of the respondents were, in many words, different from those of the native speaker, who was used as a control. It was suggested that the variations noticed in the performances of the individuals in the group were not due to chance, but that the varieties of spoken Nigerian English identified existed and differences in their stress patterning. The statistical analysis shows that the varieties have a similar tendency to stress many syllables in an utterance. For example, in the analysis of the spontaneous speeches, there were more stressed syllables than expected in each case. That is, in spoken prose, some syllables are stressed in positions that differ from those of the native speaker. Perceptual analysis of the study corroborates, Jowitt (1991), which notes that in popular Nigerian English, there is a tendency to shift primary accents (stress) to the right from the left hand. This suggests that the rhythmic pattern of spoken Nigerian English cannot be completely homogenous with the BrE which is stress-timed. Despite the significance of the study and its connection with the present study, the study fails to explore patterns of stress in loan words among educated Igbo and Yoruba speakers of English with acoustic evidence.

Gut and Milde (2002) analyse the prosody of Nigerian English and compare it with the prosody of British English and three West African Tone Languages (Anyi, Eka, & Ibibio). Five Nigerians and three British English speakers with a minimum of a university degree served as participants, and the participants were made to read a story of 268 words as a token for the study. Subsequently, they were asked to retell the story in their own words for naturally occurring data. Two Anyi speakers, two Ega speakers, and one Ibibio speaker were among the participants chosen for the West African tone languages. The data was analysed acoustically. The results show characteristic prosody differences between the varieties of English spoken in Southern Britain and Nigeria. In terms of speech rhythm, Nigerian English is different from both the speech rhythm of the West African tone languages and that of British English. In particular, the percentage of vowel intervals is greater in Nigerian English than in British English, and syllabification is also different in Nigerian English compared to British English. In Nigerian English, a higher percentage of CV syllabic structure occurs, and the ratio of open and closed syllables is different from British English. Inter-individual differences between the Nigerian English speakers were also prominent. In terms of tone, contour tones on syllables are very rare in Nigerian English and only occur in very restricted environments, mainly on pre-pausal syllables. A tendency to produce stressed syllables with a high tone and unstressed ones with a low tone was not found. Rather, words of particular grammatical categories seem to be associated with specific tones. It was concluded that Nigerian English prosody is thus closer to the tone languages that have tones associated with grammatical rather than lexically contrastive functions, than to the use of tone in intonation languages.

In addition to that, Akindele (2015) examines stressed and unstressed syllable alternation and duration of rhythmic units in a connected speech to account for the description of syllable-timed or stressed-timed in educated Edo English (EEE) speakers, and the implications for Nigerian English rhythm description. The study explores the metrical theory of stress, which explains the alternation of strong and weak constituents in BrE rhythmic units. The purposive sampling technique was used to select 150 (75 males and 75 females) EEE undergraduates from the University of Benin and Ambrose Ali University as respondents. Two BrE speakers served as the controls for the study. The data consisted of 35 rhythm units with an anacrusis, 40 rhythm units, and 10 English words with syllabic consonants. The analysis shows that the participants rarely produce the unstressed syllable appropriately. All stressed and unstressed syllables of English words with syllabic consonants were produced with the same prominence. The participants' inability to appropriately alternate stressed and unstressed syllables in the English rhythm groups is considered to be due to the absence of a phonological feature in the Edo language and their lack of intuition in the alternation of stressed and unstressed syllables in the connected speech of BrE. It was also observed that the marked difference in the educational measures of English rhythm groups in connected speech, of Educated Edo English speakers (EEES), compared to the BrE form could as well be a result of the linguistic background of the informants. Stressed and unstressed syllable alternation and duration of rhythm units in the connected speech of educated Edo English speakers do not conform to BrE pattern. This implies that Nigerian English rhythm tilts more towards syllable-timing than stress timing.

Hamad (2013) attempts to investigate the role of suffixes in determining the place of stress within words in English and Kurdish. By comparing the suffix-derived word stress between English and Kurdish, it is observed that suffixes in English are mainly divided into two types: stress neutral (that is, most inflectional suffixes) and those that affect stress (derivational suffixes). However, in Kurdish, suffixes in general affect stress placement. Suffixes in Kurdish attract stress on the syllable that is attached as a suffix to the end of the root. The paper concludes that certain derivational and inflectional suffixes do not change stress in English and Kurdish. In English, inflectional suffixes are stress-neutral, whereas, in Kurdish some inflectional ones also affect the place of stress. For example, certain suffixes move stress onto the syllable before the suffix in English, while in Kurdish most of the suffixes are auto-stressed. Also, suffixes being auto-stressed in the Kurdish language is considered the main difference between English and Kurdish.

In summary, the review of the existing literature so far on the suprasegmental features in different varieties of English has not been able to investigate and take into cognisance the peculiarities and similarities in the stress patterns of educated Igbo and educated Yoruba speakers of English in loanwords and metrical stress theory is used to account for them while optimality theory is employed to underpin cognitive processes that characterise stress assignment.

MATERIALS AND METHODS

The study involves a total sample of sixty educated Nigerian speakers of English (NSE) who have Igbo and Yoruba (respectively) as L1, and English as L1 or L2 as well. The L1 Yoruba respondents have been sampled from the University of Lagos, southwest region where Yoruba is spoken as L1 (dominantly), while the Igbo respondents were drawn from the University of Nigeria, Nsukka. Thirty (30) respondents were selected from each tribe. That is, out of the three major ethnic groups that make up Nigeria as a country, two were selected for the study. The selection conformed to Udofot's (2003) classification of an educated variety of Nigerian English (NE), which included penultimate, final year, and postgraduate students who have English as their medium of instruction and communication. Their variant stress patterns were cross-checked against the BrE pronunciation patterns as contained in Daniel Jones' *Cambridge English Pronouncing Dictionary* (18th Edition), which served as a control for the study.

A well prepared, sectionalized text was given to the respondents. The Part A section required each of the respondents to give brief bio-data such as linguistic backgrounds (to validate respondents' L1 and L2 accordingly), age brackets, sex, and educational qualification. The Part B section contained twenty English loanwords of variant syllabic constructions. The respondents read aloud the tokens aloud for voice recording after giving consent. The tokens included *Chauffeur, Nonchalant, Limousine, Adult, Debris, Sachet, Chalet, Elongate, Vaccine, Fiancée, Address, Cigarette, Magazine, Pulsate, Locate, Donate, Dictate, Chiffon, Demonstrate, and Matinee.* The tokens read by the respondents were

recorded through a sound recorder for perceptual, statistical, and acoustic interpretation using Praat (6.0 version) and metrical phonology.

Theoretical Framework

Metrical phonology is a phonological theory concerned with stress phenomena in natural language. It was first mentioned by Liberman (1975) in his doctoral dissertation then, it was further elaborated in Liberman and Prince (1977), Halle & Vergnaud (1978) and Selkirk (1980). As a theory of stress or linguistic prominence, it is used to categorize stress and stress rules. That is, it is a theory concerned with the organization of segments into groups of relative prominence and the parameters that determine the position of stressed and unstressed syllables in words. It posits a hierarchical structure to represent stress patterns in the minds of speakers. Hence, segments are organized into syllables, syllables into metrical feet, metrical feet into phonological words and words into larger units. The organization is represented formally by metrical trees and grids.

In the metrical tree, stress is represented as a hierarchy of binary branching structures, it is either strong-weak (SW) or weak-strong (WS). However, in the English Language, there is a tendency for the first syllable of words to be strong and for words not to have adjacent strong syllables. For example, words like ‘Lantern’ (S W) and ‘Halogen’ (S W W) are far more common than ‘Arise’ (W S) and ‘Apex’ (S S).

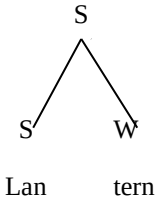


Diagram 1a

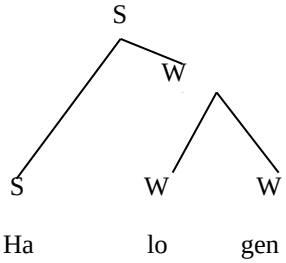


Diagram 1b

S and W indicate relative stress at the word and foot level. While S indicates stronger prominence, W indicates weaker prominence. Hence, in a metrical tree, S and W are used to show the relative prominence of each constituent (Ugochukwu, 2016).

Metrical grid is another way of representing the internal metrical structure of words, phrases and sentences hierarchically. In a metrical grid, all the words in a phrase are arranged along the bottom, and the rows of the grid indicate different levels of prominence. The most prominent syllable in a phrase is the one that does not have any node above it. This syllable is called the Designated Terminal Element. Metrical grids were originally developed to handle a phenomenon that appears in some languages including English, where stress shifts resolve stress clashes. A stress clash can occur when two stressed syllables are too close to each other without intervening unstressed syllable between two stressed syllables. For example, the word, ‘Sixteen’ spoken in isolation has stress on the second syllable. But when placed before ‘Men’, the stress on ‘Sixteen’ shifts to the first syllable.

		x
	x	x
x	x	x
six	Teen	men

Two syllables exhibit stress clash if there are two successive rows on the grid in which their columns are adjacent. So, in the diagram above, the columns for ‘teen’ and ‘men’ are adjacent in the first and second rows, indicating a stress clash. However, ‘stress clashes can be resolved by the rhythm rule which reverses the S-W elation for some pair of sister nodes, as long as such a reversal does not put a Designated Terminal Element of a phrase under any W node and does not put a [-stress] syllable under an S node.’ (Ugochukwu, 2016). This means, the W and S nodes over ‘six’ and ‘-teen’ can be reversed resulting to a non-clashing grid.

		x
x		x
x	x	x
six	teen	men

RESULTS

Table 1. Occurrence of stress placement on loanwords in Igbo English and Yoruba English

Tokens	Igbo English (%)	Yoruba English (%)
CHAUF-feur	**43.33**	**60.0**
Chauf-FEUR	**56.67**	**40.0**
NON-cha-lant	**56.67**	**50.0**
non-CHA-lant	**26.66**	**30.0**
non-cha-LANT	**16.67**	**20.0**
LI-mou-sine	**33.33**	**26.67**
li-MOU-sine	**30.0**	**20.0**
li-mou-SINE	**36.67**	**50.0**
A-dult	**53.3**	**56.67**
a-DULT	**46.67**	**43.3**
DE-bris	**63.33**	**53.33**
de-BRIS	**36.67**	**46.67**
CHA-let	**66.67**	**56.67**
cha-LET	**33.33**	**43.33**
E-lon-gate	**26.67**	**36.67**
e-LON-gate	**40.0**	**60.0**
e-lon-GATE	**33.33**	**56.67**
VAC-cine	**36.67**	**33.33**
va-CINE	**63.33**	**66.66**
MAG-a-zine	**30.0**	**36.67**
mag-A-zine	**10.0**	**13.33**
mag-a-ZINE	**60.0**	**50.0**

DISCUSSIONS

The stress patterns obtained from the educated Igbo and Yoruba speakers of English were represented using the metrical tree. The frequency tables of the stress patterns obtained among the respondents were also shown in this section. The metrical grid was used (only) in the case of stress clash; and the stress patterns obtained from the native speakers were represented using only the metrical tree, and the acoustic pictures were also shown.

Stress patterns for *Chauffeur*

The word *Chauffeur* has prominence on the first syllable according to BrE but among the respondents for the study, it received varied stress patterns among the respondents showing that there was no common stress pattern for *chauffeur*.

Table 2. Stress Patterns for *chauffeur* among the educated Igbo and Yoruba speakers

	Igbo English		Yoruba English	
	Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
CHAUF-feur	13	43.33	18	60.0
Chauf-FEUR	17	56.67	12	40.0
Total	**30**	**100.0**	**30**	**100**

Table 2 showed that a total of thirteen (43.33%) respondents correctly stressed the first syllable as obtainable among the native speakers while seventeen respondents (56.67%) stressed the second syllable. Among the thirty Yoruba respondents, a total of eighteen (60.0%) respondents correctly stressed the first syllable while twelve (40.0%) respondents stressed the second. The study revealed that Igbo English was closer to BrE for *chauffer*, while only 40% of the educated Yoruba speakers were closer to BrE. The statistical analysis can be represented on metrical tree as seen in Figure 1 (below).

Figure 1. Metrical tree for *chauffeur* among Igbo and Yoruba speakers

Figure 1 attested that though educated Igbo and Yoruba speakers of English belong to the same country, however, the two tribes had similarities as well as differences in stress patterns for *chauffeur*.

Stress Pattern for *nonchalant*

The word *nonchalant* has prominence assigned to the first syllable in BrE and this could also be obtained among the respondents for the study. The token had three syllables and three realisations. The varied stress patterns showed that the longer the syllables, the more variant realisations were identified in the study.

Table 3. Frequency table for *nonchalant* among the educated Igbo and Yoruba speakers

	Igbo English		Yoruba English	
	Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
NON-cha-lant	17	56.67	15	50.0
non-CHA-lant	8	26.66	9	30.0
non-cha-LANT	5	16.67	6	20.0
Total	**30**	**100.0**	**30**	**100.0**

Table 3 showed, that a total of seventeen (56.67%) people correctly stressed the first syllable as obtainable among the native speakers; eight (26.66%) respondents stressed the second syllable, while five (16.67%) stressed the third syllable. Among the Yoruba respondents, a total of fifteen (50.0%) people correctly stressed the first syllable, nine (30.0%) people stressed the second, and six (20.0%) stressed the last syllable. The statistical analysis was represented on the metrical tree as seen in Figure 2 (below).

Figure 2. Metrical tree for *nonchalant* among Igbo and Yoruba speakers

Figure 2 identified varied stress patterns that occurred among the educated Igbo and Yoruba speakers of English. It showed that the Igbo and Yoruba speakers of English did not have 100% homogeneity in the stress pattern of *nonchalant*.

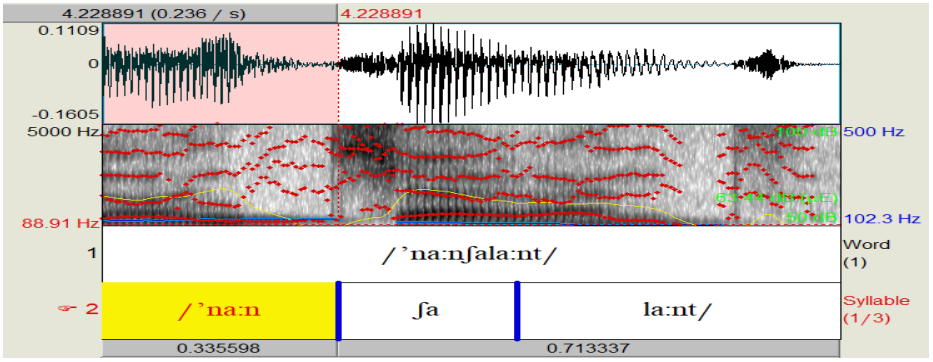


Figure 3. Representation of *nonchalant* among the Igbo and Yoruba speakers

Figure 3 described that educated Igbo and Yoruba speakers shifted the stress to the left as *non* in *nonchalant* had 104Hz, *cha* in *nonchalant* was 91Hz and *lant* in *nonchalant* had 79Hz pitch tracks. It implied that *non* had the highest pitch value among other syllables in the word (*nonchalant*).

Stress Pattern of *Limousine*

The word *Limousine* has prominence on the third syllable according to BrE and this was also obtainable among the respondents.

Table 4. Stress Pattern for *limousine* among the Igbo and Yoruba speakers

	Igbo English		Yoruba English	
	Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
LI-mou-sine	10	33.33	8	26.67
li-MOU-sine	9	30.0	6	20.0
li-mou-SINE	11	36.67	15	50.0
Total	**30**	**100.0**	**30**	**100.0**

Table 4 explained that ten (33.33%) Igbo participants stressed the first syllable, nine (30.0%) stressed the second, while eleven (36.67%) correctly stressed the third syllable. Among the Yoruba respondents, eight (26.66%) stressed the first syllable, six (20.0%) stressed the second syllable, and fifteen (50.0%) correctly stressed the third syllable as obtainable among the native speakers. The statistical analysis was represented on the metrical tree as seen in Figure 4 (below).

Figure 4. Metrical tree for *limousine* among Igbo and Yoruba speakers respectively

Stress Pattern of *Adult*

The word *Adult* has prominence on the first syllable according to BrE and it was obtainable among the respondents for the study.

Table 5. Stress Pattern for *adult* among the Igbo and Yoruba speakers

	Igbo English		Yoruba English	
	Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
A-dult	16	53.33	17	56.67
a-DULT	14	46.67	13	43.33
Total	**30**	**100.0**	**30**	**100**

Table 5 showed that, sixteen (53.33%) Igbo respondents correctly stressed the first syllable as obtained among the native speakers, while fourteen (46.67%) stressed the second syllable. Seventeen (56.67%) Yoruba respondents and thirteen (43.33%) respondents stressed the second (see Figure 5).

Figure 5. Metrical tree for *adult* among Igbo and Yoruba speakers respectively

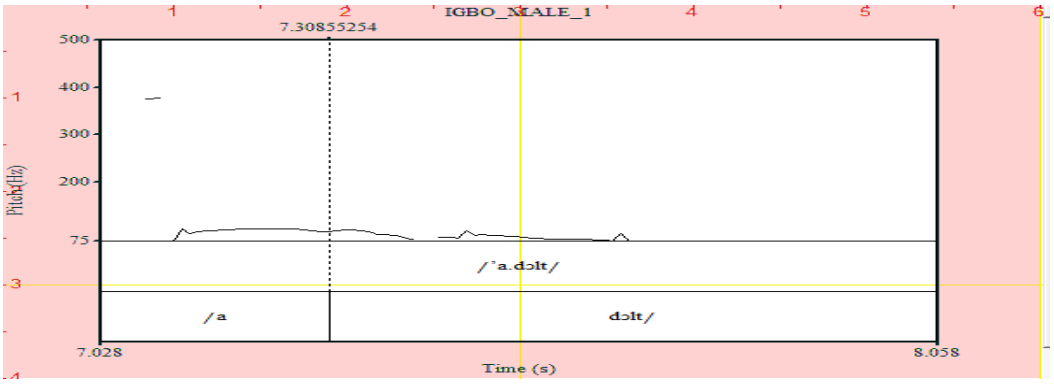


Figure 6. Representative praat picture for *adult* among Igbo and Yoruba speakers

Figure 6 further revealed stress placement with acoustic cues. The representative picture described that the respondents assigned prominence to the syllable towards the left.

Stress Pattern for *Debris*

According to BrE, the word "debris" has prominence in the first syllable, and it also was realized among the respondents. This was in consonance with Banjo's (1996) position that educated speakers of English in Nigeria were similar to BrE. It explained that the respondents were familiar with the stress pattern of the French word (*debris*).

Table 6. Stress Pattern for *Debris* among the Igbo and Yoruba speakers

	Igbo English		Yoruba English	
	Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
DE-bris	19	63.33	16	53.33
de-BRIS	11	36.67	14	46.67
Total	**30**	**100.0**	**30**	**100.0**

Table 6 showed that nineteen (63.33%) and sixteen (53.33%) Igbo and Yoruba respondents stressed the first syllable as obtained among the native speakers, while eleven (36.67%) and fourteen (46.67%) stressed the second syllables accordingly. The stress patterns preferred to assign prominence to *DE* in *debris.*

Stress Pattern of *Sachet*

For example, the word *"sachet"* has prominence on the first syllable according to BrE and this aligned with the pattern of stress among the respondents. For example, 60% and 53.33% of the educated Igbo and Yoruba speakers of English agreed with the BrE accordingly. For example, eighteen (60.0%) Igbo respondents stressed the first syllable as obtained among the native speakers, while twelve (40.0%) respondents stressed the second. Sixteen (53.33%) Yoruba respondents stressed the first syllable, while fourteen (46.67%) stressed the second. The results pictured the syllable that received preference among the participants. It connoted that 56.66% of the educated Igbo and Yoruba speakers of English assigned prominence to the syllable that aligned with the BrE.

Stress Pattern of *Chalet*

The word *Chalet* has prominence on the first syllable according to BrE and the results supported the stress pattern in IE and YE.

Table 7. Stress Patterns for *Chalet* among the Igbo and Yoruba speakers

	Igbo English		Yoruba English	
	Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
CHA-let	20	66.67	17	56.67
cha-LET	10	33.33	13	43.33
Total	**30**	**100.0**	**30**	**100.0**

Table 7 explained that twenty (66.67%) Igbo respondents stressed the first syllable as obtained among the native speakers while ten (33.33%) respondents stressed the second. Seventeen (56.67%) Yoruba respondents stressed the first syllable while thirteen (43.33%) stressed the second.

Stress Pattern of *Elongate*

The word *Elongate* has prominence on the first syllable according to BrE. The educated Igbo speakers stressed the second syllable while Yoruba speakers stressed the first syllable. The juxtaposition identified that the second syllable was preferred as a primary stress among Igbo speakers.

Table 8. Stress Pattern for *Elongate* among the Igbo and Yoruba speakers

	Igbo English		Yoruba English	
	Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
E-lon-gate	8	26.67	11	36.67
e-LON-gate	12	40.0	2	6.0
e-lon-GATE	10	33.33	17	56.67
Total	**30**	**100.0**	**30**	**100.0**

In Table 8, Igbo speakers, eight (26.67%) stressed the first syllable, twelve (40.0%) stressed the second syllable while ten (33.33%) stressed the third syllable. Among the Yoruba respondents, eleven (36.67%) speakers stressed the first syllable, two (6.0%) speakers stressed the second syllable, while seventeen (56.67%) stressed the third syllable. The statistical analysis was theoretically represented on the metrical tree as seen in Figure 7.

Figure 7. Metrical tree for *Elongate* among Igbo and Yoruba speakers respectively

Stress Pattern of *Vaccine*

The word *"vaccine"* has prominence in the first syllable according to BrE, but among the respondents for the study, the second syllable was stressed. This stress pattern that favoured second syllable was also obtainable in American English (AmE). It could be concluded that the pronunciation of *vaccine* among the educated Igbo and Yoruba speakers was closer to AmE than BrE.

Table 9. Stress Pattern for *Vaccine* among the Igbo and Yoruba speakers

	Igbo English		**Yoruba English**	
	Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
VAC-cine	11	36.67	10	33.33
va-CINE	19	63.33	20	66.66
Total	**30**	**100.0**	**30**	**100.0**

Table 9 displayed that eleven (36.67%) Igbo respondents stressed the first syllable as obtained by the native speakers of BrE, while nineteen (63.33%) that stressed the second syllable were closer to AmE than to BrE. Ten (33.33%) Yoruba respondents stressed the first syllable while twenty (66.67%) speakers stressed the second. The summary further revealed that 65% of the IE and YE respondents were closer to AmE stress pattern for *vaccine* than to BrE.

Figure 8. Metrical tree for *Vaccine* among Igbo and Yoruba speakers

In Figure 8, stress patterns for *vaccine* were rather than at the right hand than at the left. It means that educated Igbo and Yoruba speakers of English prefer to assign prominence to *ccine* in *vaccine*.

Stress Pattern of *Fiancé*

The word *"fiancé"* has prominence on the second syllable according to BrE but among the respondents for the study, it received varied stress patterns, showing that there was no common stress pattern for *fiancé* in IE and YE. Stress patterns showed that the Igbo respondents, 23.33% stressed the first syllable, and 26.67% stressed the second syllable, while 43.33% stressed the third syllable. Among the Yoruba respondents, 46.67% stressed the first syllable, 26.67% stressed the second syllable and 30.0% stressed the third syllable. The second syllable was stressed by the native speakers. The metrical representation was presented in Figure 9.

Figure 9. Metrical tree for *Fiancé* among Igbo and Yoruba speakers

Figure 9 showed that the word *fiancé* had varied stress patterns, for example, Igbo participants stressed the last syllable; while Yoruba participants stressed the first syllable. This means that Igbo and Yoruba speakers did not have a common stress pattern in the fiancé.

Stress Pattern of *Address*

The word *"address"* has prominence in the second syllable according to BrE, and the results in the study were similar though not without any difference. This supported that the second syllable was preferred for primary stress not only among educated Igbo speakers but also among educated Yoruba speakers. Twelve (40.0%) Igbo respondents stressed the first syllable, while eighteen (60.0%) stressed the second syllable. Ten (33.33%) Yoruba respondents stressed the first syllable while twenty (66.67%) stressed the second syllable. The results showed that majority of the educated Igbo and Yoruba speakers of English as respondents for the study assigned prominence to the second syllable for *address*, realizing the *ad* as an unstressed syllable.

Stress Pattern of *Cigarette*

The word *Cigarette* has prominence on the third syllable according to BrE but among the respondents for the study, it was stressed on the second syllable. It was glaring that there was no observation of weak syllables in IE and YE. There was an easy replacement of the schwa sound /ə/ for /æ/ and /ɔ/ respectively. Evidence revealed that seven (23.33%) Igbo respondents stressed the first syllable, seventeen (56.67%) stressed the second while six (20.0%) stressed the third syllable. Among the Yoruba speakers, five (16.66%) stressed the first syllable, fourteen (46.67%) stressed the second syllable while eleven (36.67%) stressed the last syllable (see Figure 10a and 10b)

Figure 10a. Metrical tree for *Cigarette* among Igbo and Yoruba speakers

Below is the metrical tree for *Cigarette* as obtained among the native speakers?

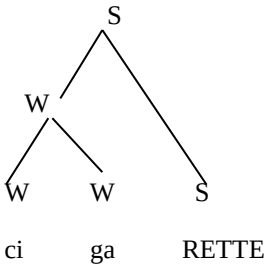


Figure 10b**.** Metrical tree for *Cigarette* in BrE.

Figure 10a and 10b represented that educated Igbo and Yoruba speakers of English did not have a common stress pattern with BrE for *Cigarette*.

Stress Pattern of *Magazine*

The word *Magazine* has prominence on the third syllable according to BrE. In Table 10 (below), it expressed that 30.0% Igbo speakers stressed the first syllable, 10.0% stressed the second syllable and 60.0% stressed the third syllable; but among the Yoruba respondents, 36.67% stressed the first syllable, 13.33% stressed the second syllable, and 50.0% stressed the third syllable.

Table 10. Stress Pattern for *Magazine* among the Igbo and Yoruba speakers

	Igbo English		**Yoruba English**	
	Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
MAG-a-zine	9	30.0	11	36.67
mag-A-zine	3	10.0	4	13.33
mag-a-ZINE	18	60.0	15	50.0
Total	30	100.0	30	100.0

Stress Pattern of *Pulsate*

The word "pulsate" has prominence in the second syllable according to BrE, and this was also obtainable among the respondents as well. This further affirmed that educated Igbo and Yoruba speakers preferably stress the second syllable in loanwords. A simple percentage revealed that the Igbo respondents, fourteen (46.66%), stressed the first syllable, while sixteen (53.33%) stressed the second syllable. In contrast, eighteen (60.0%) Yoruba respondents stressed the first syllable, while twelve (40.0%) stressed the second as obtainable among the native speakers. The results were similar in the stress patterns for *Locate*. For example, six (20.0%) Igbo respondents stressed the first syllable, and eighty-four (80.0%) stressed the second syllable. Ten (33.33%) Yoruba respondents stressed the first syllable, while twenty (66.67%) stressed the second syllable. The same stress pattern that applied to the greater percentage of the respondents was similar to the native speakers.

In addition, the word *"donate"* has prominence on the second syllable in BrE that served control and more than 50% of the respondents articulated stress pattern that was similar to BrE. For example, twelve (40.0%) Igbo respondents stressed the first syllable, while eighteen (60.0%) stressed the second syllable. In contrast, fourteen (46.67%) Yoruba respondents stressed the first syllable, and sixteen (53.33%) stressed the second. The results explained that the respondents of IE and YE preferred to assign prominence to the second syllable than the first. Similarly, the stress patterns

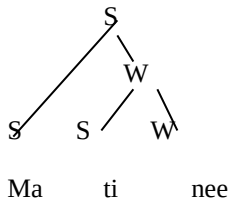
for *Dictate* indicated that ten (33.33%) Igbo respondents stressed the first syllable while twenty (66.67%) stressed the second syllable as obtainable among the native speakers. Thirteen (43.33%) Yoruba respondents stressed the first syllable, while seventeen (56.67%) stressed the second syllable.

Stress Pattern of *Chiffon*

The word *chiffon* has prominence on the first syllable according to BrE but among the respondents for the study, the only Igbo speakers stressed the first syllable while the Yoruba speakers had no definite stress pattern (that is, the syllables were stressed equally). Stress patterns identified that Nineteen (63.33%) Igbo respondents stressed the first syllable while eleven (36.67%) stressed the second. Among the Yoruba respondents, fifteen (50.0%) stressed the first and the second syllables. Findings revealed that when 63.33% of the educated Igbo assigned prominence to the first syllable, 50% of the educated Yoruba stressed the first syllable in consonance with the educated Igbo speakers while 50% of the educated Yoruba assigned prominence to the second syllable. It implied that educated Igbo speakers were closer to the BrE than educated Yoruba speakers.

The word '*demonstrate'* has prominence on the first syllable according to BrE but among the respondents for the study, it received stress on the third syllable. Eight (26.67%) Igbo respondents stressed the first syllable, six (20.0%) stressed the second syllable while sixteen (53.33%) stressed the third syllable. Eleven (66.67%) Yoruba respondents stressed the first syllable, seven (23.33%) stressed the second syllable while twelve (40.0%) stressed the third syllable. Likewise, the word *Matinee* has prominence on the first syllable according to BrE but among the respondents for the study, it received stress on the second syllable. Statistics showed that, among the Igbo speakers, three (10.0%) stressed the first syllable, fifteen (50.0%) stressed the second syllable, while twelve (40.0%) stressed the third syllable. Among the Yoruba speakers, seven (23.33%) stressed the first syllable, sixteen (53.33%) stressed the second syllable, while seven (23.33%) stressed the third syllable. The statistical analysis was represented on metrical tree as seen in Figure 11.

Figure 11. The metrical tree for Matinee as obtained among the native speakers was shown below:



Hence, to resolve the stress clash, we have:

x

x x x

x x x

Ma ti nee

From the analysis, results underscored that educated Igbo and Yoruba preferred to stress the second syllable as opposed to the first and third which was obtainable among the native speakers as stress was not absolutely predictable in Nigerian English. It therefore implied that the preference for the second syllable could be considered as typically Nigerian in stress patterns of loanwords. In all, fourteen (14) words (46.67%) were correctly stressed by Yoruba speakers while only thirteen (13) words (43.33%) were correctly stressed by the Igbo speakers respectively. That is, for stress patterns in loanwords, educated Yoruba speakers were closer to the BrE form than the educated Igbo speakers. Six (6) words (20.0%) were not properly stressed by both speakers. Another similarity was that, there was no observation of weak syllables. The schwa sound /ə/ was readily replaced with /æ/ and /ɔ/. This could also be considered as typically Nigerian. Also, the stress patterns of educated Igbo English speakers in loanwords could tentatively be said to be 65% closer to BrE, when the educated Yoruba speakers were 70% closer to BrE.

CONCLUSIONS

The study identified and discovered how Igbo English and Yoruba English speakers assigned stress to loanwords. Since most English loanwords usually remain relatively faithful to the phonology of the source language and many non-native

speakers were not aware, there was a corresponding impulse for the non-native speaker to attempt pronunciation with familiar sounds in his or her mother tongue. Popular loanwords were said to spread in speech communication, while learned loanwords were first used in written language, often for scholarly, scientific, or literary purposes. This showed that loanwords could be useful in deducing intelligibility problems in the language interactions of non-native speakers of English, especially in their stress patterns.

So far, the study revealed that there was a great degree of similarity between the Igbo English and Yoruba English speakers. There was no observation whatsoever of weak syllables. The schwa sound /ə/ was readily replaced with /æ/ and /ɔ/. Individual accent markers were made prominent in the pronunciation of unpopular loanwords (that is, loan words that were hardly used in daily language interactions in Nigeria). For instance, in the word, *Chauffeur*, only thirteen Igbo respondents correctly pronounced the first syllable as /ʃ/ while seventeen others pronounced the first syllable as /tʃ/. However, Igbo and Yoruba English speakers could conclusively be said to prefer the second syllable as opposed to what was obtained among the native speakers. In all, thirteen (13) words (65.0%) were correctly stressed by both respondents, while seven words (35.0%) were not properly stressed. Amongst the thirteen words, eleven (11) were popular loanwords that could be found in daily language interactions in Nigeria. The present study has reaffirmed that the stress patterns in Igbo and Yoruba English were were fixed and had similarities with and differ from the BrE. However, as revealed in the study, the percentage of similarities was higher than the differences.

Author Contributions: Conceptualization, A.M.O., O.M.A., and O.M.A.; Data Curation, A.M.O.; Methodology, A.M.O.; Validation, A.M.O.; Visualization, A.M.O., O.M.A., and O.M.A.; Formal Analysis, A.M.O., O.M.A., and O.M.A.; Investigation, A.M.O., O.M.A., and O.M.A.; Resources, A.M.O., O.M.A., and O.M.A.; Writing – Original Draft, A.M.O., O.M.A., and O.M.A.; Writing – Review & Editing, A.M.O., O.M.A., and O.M.A.; Supervision, A.M.O.; Software, A.M.O.; Project Administration, A.M.O.; Funding Acquisition, A.M.O., O.M.A., and O.M.A. Authors have read and agreed to the published version of the manuscript.
Institutional Review Board Statement: Ethical review and approval were waived for this study, due to that the research does not deal with vulnerable groups or sensitive issues.
Funding: The authors received no direct funding for this research.
Acknowledgement: Not Applicable.
Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.
Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to restrictions.
Conflicts of Interest: The authors declare no conflict of interest.

REFERENCES

Adegbija, E. (2004). Language policy and planning in Nigeria. *Current issues in language planning*, *5*(3), 181-246.
Akindele, J.A (2015). *Duration as a determining factor in educated Edo English rhythm description."* Unpublished PhD Dissertation, University of Benin.
Akinjobi, A.A. (2000). An introduction to English phonetics and phonology. *Studies in English Language, ECFP, 5 24.*
Akinjobi, A.A. (2006). Vowel reduction and suffixation in Nigeria. *English Today*, 22(1), 10-17.
Anyagwa, C.N. (2013). *Word Stress in Nigerian (Igbo) English*. (Unpublished PhD Dissertation, University of Lagos).
Banjo, A. (1996). "*Making a Virtue of Necessity: An Overview of the English language in Nigeria."* Ibadan. Ibadan University Press.
Daniel, J. (2006). *Cambridge English Pronouncing Dictionary.* 18th edition. Cambridge University Press.
Gooden, S., & Eberhardt, M. (2007). Local identity and ethnicity in Pittsburgh AAVE. *University of Pennysylvania Working Papers in Linguistics, 13(2)*, 7.
Gut, U. and Milde.(2002). *The Prosody of Nigerian English.* Gut and Gibbon, eds, 167-78.
Halle, M., & Vergnaud, J.R. (1978). Metrical structures in phonology. *Ms. Cambridge, MA.*
Hamad. M.M. (2013). "Factors Negatively Affect Speaking Skills at Saudi Colleges for Girls in the South." *English Language Teaching*, 6(12), 87-97.
Hyman, L.M. (1975). *Phonology: theory and analysis* (Vol. 10). Harcourt College Pub.
Igboanusi, H. (2001). The Igbo tradition in the Nigerian novel. *African Study Monographs*, *22*(2), 53-72.
Igboanusi, H. (2002). *Igbo English in the Nigerian novel*. Enicrownfit Pub.
Igboanusi, H. (2006). A comparative study of the pronunciation features of Igbo English and Yoruba English speakers of Nigeria. *English Studies*, *87*(4), 490- 497.
Jowitt, D. (1991). *Nigerian English Usage*: *An Introduction*. Zaria: Longman. Print.
Jowitt, D. (1991). *Nigerian English usage: an introduction*. Longman Nigeria.
Liberman, M.Y. and Prince, (1977) A. "On Stress and Linguistic Rhythm." *Linguistic Inquiry* 8, 249-336.
Liberman, M.Y. (1975). *The intonational system of English* (Doctoral dissertation, Massachusetts Institute of Technology).
Selkirk, E.O. (1980). The role of prosodic categories in English word stress. *Linguistic inquiry, 11*(3), 563-605.
Sunday, A. B., & Oyatokun, O. O. (2016). Optimality theoretical analysis of word stress in educated Nigerian English. *SKASE Journal of Theoretical Linguistics*, *13*(1).
Udofot, I. (2003). Stress and rhythm in the Nigerian accent of English: A preliminary investigation. *English World Wide*, *24*(2), 201-220.

Ugochukwu, C.N. (2016). "Metrical Phonology*". Theories of Linguistics*. Nsukka: University of Nigeria Nsukka Press Ltd, 43-54.

Publisher's Note: ACSE stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.