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An Investigation into Pronunciation Problems of Korean Elderly Learners of English

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Pronunciation plays a crucial role in oral communication within a second language. Recently, the interest in English language learning among elderly adults has led to increased participation of older learners in lifelong education programs in Korea. However, there is a paucity of empirical studies on this specific learner group. This article investigates the pronunciation problems frequently encountered by elderly Korean learners of English in their language classrooms. Thirteen participants, aged 60 years or older, took part in this study. To identify their pronunciation difficulties with specific segmental features, each participant was administered a modified diagnostic test adapted from a test developed by Baker (1982). Overall, the results show that elderly learners face greater challenges with consonants than with vowels. Among the consonants, they struggle more with pronouncing /z/, /ʒ/, /θ/, and /dʒ/ compared to other segments. Additionally, Pronunciation difficulty varies significantly depending on age and the duration of time spent abroad, while no significant difference is found based on gender. This article discusses possible pedagogical implications for pronunciation instruction targeting elderly learners and presents the limitations of the study.

Keywords: Pronunciation test, EFL elderly learner, segments, age factor

1 Introduction

Pronunciation is an essential component of oral communication. Producing correct speech sounds facilitate the listener's understanding of the intended message, while poor pronunciation can lead to communication breakdowns as listeners struggle to identify the words the speaker intends to convey. Despite the significance of English pronunciation in oral communication, instruction in this area has been overlooked in many English as a Foreign Language (EFL) classrooms (Gilakjani & Sabouri, 2016; Gilbert, 2008). Studies have shown that teaching this important skill for communication is neglected in language

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classes, as non-native English teachers are often hesitant to address English pronunciation due to a lack of knowledge, time, and suitable teaching materials (Gilakjani & Sabouri, 2016). When teachers neglect pronunciation instruction, learners may fail to recognize its importance. Therefore, greater emphasis should be placed on teaching pronunciation.

English pronunciation is often regarded as a challenging aspect of language learning for EFL learners who have acquired their native language at an early age. Unlike the Korean language, English encompasses both segmental and suprasegmental features of pronunciation. Segmental features include consonant and vowel sounds or phonemes, while suprasegmental features encompass stress, pitch, and intonation. Segmental features refer to the smallest phonetic units that make up speech sounds. In the context of pronunciation, phonemes have traditionally been considered fundamental elements, and achieving proficiency in the target language's phonological system is seen as mastery in differentiating these phonemic distinctions (Pennington & Richards, 1986). Jenkins (2000) highlights the importance of segmental features over suprasegmentals, attributing the most common communication breakdowns to the problematic pronunciation of segmental features. Therefore, EFL learners in Korea require proper instruction in pronouncing English segmental features to achieve successful oral communication.

It is well established that adult learners who start to learn English after their childhood have more problems with learning pronunciation than young learners. One of the reasons resulting in these problems is that English spelling and sound systems are inconsistent. Other factors are interference of the first language, learners' age, and their insufficient knowledge of English sound systems (Derakhshan & Karimi, 2015).

Recently, with increasing interest in learning English among elderly adults, an increasing number of older learners participate in lifelong education language programs in Korea. Learning a new language has been reported to have positive effects on cognitive function and active engagement in social relationships (Bialystok et al, 2006). However, there is a paucity of studies on the teaching and learning experiences of elderly EFL learners. According to Guzmán-Vélez and Tranel (2015), empirical studies on older foreign-language learners are limited. This field has not yet developed methods and teaching materials specifically directed at this age group, considering their cognitive, psychological, and social characteristics. Elderly learners may face unique challenges in learning a new language, including difficulties in acquiring new sounds and adapting to unfamiliar phonetic patterns. By focusing on identifying the particular challenges that elderly learners experience with pronunciation, appropriate language teaching programs can be designed and developed based on findings from pedagogical research targeting this age group of learners.

This study aims to examine the pronunciation problems experienced by elderly Korean learners of EFL. This article primarily focuses on a specific factor of English pronunciation, namely, the segmental features. To achieve this goal, diagnostic pronunciation tests are designed and administered to elderly Korean learners to identify their difficulties in segmental features. Through both quantitative and qualitative analysis, this article investigates which specific segmental features pose the greatest challenges for the learners, whether there are differences in difficulty between genders, and whether age and the duration of time spent abroad impact pronunciation difficulty. As pronunciation problems often lead to miscommunication, identifying problematic segmental features and providing feedback to EFL learners will aid them in acquiring more intelligible and comprehensible pronunciation. This study will benefit English teachers working with elderly learners by helping them recognize the problematic segmental features of pronunciation that their students may encounter, thereby providing valuable pedagogical insights for pronunciation instruction.

2 Literature Review

2.1 First language influence on L2 pronunciation

When EFL students speak English, their pronunciations are affected by their first language. The structure of the Korean language is entirely different from that of English (Sohn, 2001); all of the factors of intonation, stress, and pronunciation of English differ from those of Korean. Avery and Ehrlich (1992) argue that the pronunciation of a target language can be influenced by the sound system of the learners' native language in a minimum of three ways. First, when a sound in the target language does not exist in the learners' native sound systems, or vice versa, learners may not be able to perceive or produce the sound. In addition, when the rules of combining sounds to form words, such as phonotactic constraints, are different in the learners' first language from those of the target language, these phonological rules, which differ from one language to another, can pose challenges for learners due to their language-specific nature. Lastly, since the patterns of stress and intonation are determined by its rhythm and melody, students may transfer these patterns in their native language into the target language. Therefore, teachers should have an understanding of the difference between the target language and learners' first language to identify the difficulties in the pronunciation of the target language experienced by their learners, and then help them overcome their foreign accents and consequently improve their pronunciation.

2.2 Age factor on pronunciation

The influence of age factor on language acquisition and specifically pronunciation may make adults find L2 pronunciation more difficult than children do and they probably may not develop native-like pronunciation. According to the 'Critical Period Hypothesis' (Lenneberg, 1967), there is a biological or neurological period in which a learner needs to start learning a language. After this period, it becomes extremely difficult to achieve complete mastery of a second language, especially pronunciation. On the contrary, Bialystok (1997) has shown that adult learners can attain native-like pronunciation in an L2. However, the degree of pronunciation accuracy varies considerably from one individual to another (Avery & Ehrlich, 1992). In addition, adult learners who had once made mistakes in pronunciation have repeated the incorrect pronunciation for years until the problem becomes the 'fossilized accent'. Since it is impossible to eliminate them, it has been emphasized to begin teaching pronunciation in the earlier stages for the learners (Baker, 1982). Considering age influence on pronunciation, teachers of elderly adults need to find what problems or difficulties in pronunciation the learners encounter when they learn English. The empirical findings can contribute to the development of proper pronunciation instruction to improve elderly learners' pronunciation.

2.3 Pronunciation problems of Korean EFL learners

Some common English pronunciation problems Korean learners of English have in segmental areas have been demonstrated in previous studies. Avery and Ehrlich (1992) identified pronunciation problems with English consonant sounds that are not present or are different in the Korean phonetic system. Swan and Smith (2001) highlights some pronunciation difficulties with English vowels commonly encountered by Korean EFL learners. A current study conducted by Park and Park (2014) found that the segmental feature of pronunciation is a more critical factor for the comprehensibility of advanced Korean learners of English.

2.3.1 Problems with consonants

Korean EFL learners have had difficulties in mastering perfect English pronunciation because the sound system of Korean is significantly different from that of English. In particular, the Korean consonant system with a smaller inventory compared to English has an unusual three-way phonemic distinction such as lax/reinforced/aspirated, whereas English has a voiced/voiceless distinction. Lee and Ramsey (2000) presents the table below displaying the Korean consonants arranged by location and manner of articulation.

Table 1. Korean Consonants

	Lax	Reinforced	Aspirate	Nasal	Liquid
labial	ㅂ p	ㅃ pp	ㅍ ph	ㅁ m	
dental	ㄷ t	ㄸ tt	ㅌ th	ㄴ n	ㄹ l
alveolar affricate	ㅈ c	ㅉ cc	ㅊ ch		
velar	ㄱ k	ㄲ kk	ㅋ kh	ㅇ ng	
fricative	ㅅ s	ㅆ ss	ㅎ h		

As shown in Table 1, Korean consonants have distinctive lax, reinforced, and aspirated contrasts. They are all voiceless when they occur in the initial position. Unlike English consonants that have voiced/voiceless distinctions, there is no voicing contrast in Korean (Lee & Ramsey, 2000). They are allophones of lax consonants /p, t, c, k/ that are phonetically voiced between voiced sounds when they appear in the medial position (Lee & Ramsey, 2000). Avery and Ehrlich (1992) note that Korean voicing diverges significantly from English, leading to challenges for Korean EFL learners in distinguishing between voiced and voiceless sounds in English. They claim that Korean EFL students experience the following pronunciation problems regarding consonants below, which is mostly cited from Park and Park (2014):

- /f/, /v/ (labio-dental fricatives)

Korean does not have labio-dental fricatives, and Korean learners tend to substitute /p/ for /f/ and /b/ for /v/, respectively.

- /v/,/ð/,/z/,/ʒ/ (voiced fricatives)

Korean has no voiced fricatives and Korean speakers tend to substitute voiceless stops or affricates for English voiced fricatives.

- /b/,/d/,/g/ (voiced stops)

Korean does not have these voicing stops, students may have difficulty producing proper sounds for them.

- /s/ (fricative)

Korean learners tend to pronounce /s/ as either /ʃ/ or as aspirated /s/. Interestingly, the three-way distinction in Korean consonants described above does not apply to the dental fricatives, and /s/ is not voiced between vowels, since there is no phonetic [z] in Korean (Lee & Ramsey, 2000).

- /l/,/r/ (liquids)

Korean does not have /r/, and Korean speakers tend to substitute /l/ for English /r/ in the initial position. Alternatively, they may substitute what sounds like an /r/ or a flap /D/ for English /l/ between vowels in the medial position (Park & Park, 2014).

- / θ/, /ð/ (dental fricatives)

The phonetic inventory of Korean does not include these sounds. Consequently, it is common for Korean students to substitute aspirated /t/ for /θ/, and unaspirated /t/ for /ð/

- /tʃ/, /dʒ/ (affricates)

Korean learners tend to insert a short vowel sound, /ɪ/, in words ending with affricates. These sounds may also be difficult in the initial position.

2.3.2 Problems with vowels

According to the findings of Swan and Smith (2001), Korean EFL learners have pronunciation problems with the following vowels, cited from Park and Park (2014):

- / ɪ /, / i /

Korean does not have long/short vowel distinction, and the students often struggle with distinguishing between short and long vowel sounds in English words.

- / ɔ/, /oʊ/, /ʌ/

Korean speakers may have difficulty with these central vowel sounds. In particular, /ɔ/ is often a problem as it does not exist in Korean, substituting them with similar Korean vowel sounds. They may also pronounce /oʊ/ as a pure /o/.

- /æ/,/ɛ/

Korean students may have difficulty in differentiating /æ/ from /ɛ/.

2.4 Research questions

With an increasing number of English classes being offered in lifelong learning education programs for senior learners, this study aims to examine the pronunciation problems experienced by elderly Korean learners in their English language learning. To address this objective, the study formulates three research questions:

(1) Which specific segmental pronunciation features pose challenges for elderly Korean learners of English?
(2) Are there any disparities between the findings of existing literature and the pronunciation abilities of Korean elderly learners?
(3) Do significant differences in pronunciation difficulties exist based on gender, age, and experience of residing abroad?

3 Method

3.1 Participants

Thirteen elderly adults participated in recording their speech samples for this study. All the participants took English classes provided as a lifelong education program at a Senior Citizen center located in Seoul, Korea. Five of them were male and eight were female. Their ages at the time of recording ranged from the early 60's to 81 with a mean of 71. Their English proficiency varies from

beginner to advanced level. All participants started to learn English in middle school at about 12 years of age. Most of them stopped studying English when they finished school, then, after years later or retired from work, they began to learn English again for pleasure.

The reasons why they learn English at the language program are for the pleasure of learning, traveling overseas, and/or communicating with their grandchildren who live in English-speaking countries, and/or brain activity, and so on. They are active in everyday life and eager to learn English as a tool of communication. All of them except one are healthy and report normal or corrected-to-normal vision and hearing. Only one male participant aged 78 has a slight hearing problem, speaks very slowly and quietly, and uses magnifying glasses when he reads. Other than that, his cognitive ability and understandings are not less than other participants.

3.2 Reading aloud test

A diagnostic pronunciation test was designed to collect segmental speech samples from the participants. They were asked to read passages aloud, in which segmental sounds were embedded in the text. As the testing tool, the researcher chose "Shopping List 1" from Baker's Diagnostic Tests (1982, pp. 135-136). It is suitable for this study because the purpose of the diagnostic tests is to determine students' weaknesses in pronunciation to find out which sounds need the most immediate attention for a particular class or language group (Baker, 1982). The reading task is composed of 24 items about a shopping list, which deals with each targeted consonant and vowel. The researcher added two or three more words to the shopping list as some of the items had only one word carrying the target feature. The revised shopping list for the reading-aloud test can be found in Appendix A.

3.3 Procedures

To collect speech samples, the participants were given the pronunciation test sheet with the revised 'shopping list'. Before the recording, they were given preparation time to practice reading. Meanwhile, the researcher demonstrated to the participants how to record their voices and send the recording file to the researcher directly using KakaoTalk-a Korean SNS messenger-step by step individually. When they understood how to do it and were ready, they started recording their voice while reading aloud each word in the revised shopping list. When they finished reading all the words in the list, they stopped recording and then sent it directly to the researcher. Then, a demographic questionnaire (see Appendix B) was given to the participants for personal data that include age, gender, educational background, whether they have stayed in an English-speaking country, and present/past profession. The researcher collected all the

recorded speech samples and the questionnaires to conduct quantitative as well as qualitative analysis.

3.4 Ratings

The pronunciation evaluation primarily relied on the North American variant of English, i.e., American English. The researcher listened to the speech samples and marked their overall impressions of pronunciation and comprehensibility on a 6-point scale, which was adapted from a previous study using nine levels of nativelikeness (Munro & Derwing, 1995). A score of 1 was given when all of the words with the target segmental feature were unintelligible. For intelligible words with a degree of Korean accent, a score of 2-4 was given depending on how many words had a Korean accent. A score of 5 was designated for clear pronunciation. A score of 6 was given for words with full nativelikeness. The researcher as a rater tried not to be affected by other mispronounced words which had untargeted features in the items. After the Likert-type rating, a qualitative assessment was conducted. For this assessment, the researcher listened to each speech sample of all participants repeatedly and judged in what segmental features they experienced more problems.

3.5 Data analysis

The rating scores were saved in the MS Excel program for quantitative analysis. Mean values were calculated and then the data was rearranged to identify the degree of difficulty. Several graphs were made to show the difference in pronunciation difficulty in an Excel program. To examine the differences in difficulties according to age, gender, and overseas stay, the IBM SPSS statistics 29.0 software program was used to carry out *t*-tests for each comparison.

4 Results

4.1 Questionnaire findings

Table 2 shows demographic information about the participants including gender, age, educational background, and overseas residence.

Table 2. Learners Profiles

Participants	Gender	Age	Education	Length of stay in English-speaking countries	Profession (retired)
S1	male	74	M.A.	1 month	officer
S2	male	72	college	no	officer
S3	male	67	college	6 years	engineer

S4	male	78	college	no	business
S5	male	82	Ph.D.	about 1 year	professor
S6	female	69	college	no	pharmacist
S7	female	69	high school	3 years	house wife
S8	female	81	college	about 1 year	pharmacist
S9	female	62	college	no	office worker
S10	female	74	college	no	business
S11	female	66	M.A.	1 year	teacher
S12	female	68	middle school	2 months	house wife
S13	female	63	college	no	house wife

*Note: The length of staying overseas is not counted for less than 1 month.

As Table 2 shows, all thirteen participants are elderly adults at the age of over 60. Most of them (except two females) went to the university, two of them received a master's degree and one obtained a doctoral degree. All the male participants used to work in socially higher positions such as officers, professors, or engineers and presently were retired. Regarding the duration of staying overseas, five participants responded they stayed abroad for over a year. Two of them stayed abroad for a longer time, 3 years and 6 years, respectively.

In response to the self-reflective survey question about the difficulty of English pronunciation, most participants answered that it was difficult to pronounce words with segmental sounds that do not exist in Korean, such as /f/,/v/,/r/, and /θ/.

4.2 Quantitative assessment

To identify elderly learners' pronunciation difficulties regarding segmental features, quantitative analysis was conducted for collected speech samples. Target segmental features were 24 consonants and 14 vowels. Table 3 shows calculated mean values for 38 target segments in the diagnostic pronunciation test.

Table 3. Mean Values of Target Segments

Segmental	Mean	Segmental	Mean
i	5.33	h	5.92
tʃ	5.58	aʊ	5.17
ɪ	4.42	n	5.08
f	4.50	ð	4.33
ɛ	4.92	d	4.50
g	4.08	eɪ	4.75
æ	4.33	s	3.92
dʒ	3.92	oʊ	5.50
ɑ	5.17	y	5.08
t	4.83	aɪ	5.75
v	4.08	w	4.67

ŋ	5.33	b	4.75
ɔ	4.33	m	5.67
p	4.50	z	2.75
ʊ	5.00	ʃ	4.33
k	5.33	ɔɪ	5.33
u	4.92	l	4.75
r	4.08	θ	3.33
ʌ	5.00	ʒ	3.25

The order of segmental features in Table 3 follows the order of task number on the pronunciation test sheet. The degrees of comprehensibility for each segment are rated on a 6-point scale in the rating checklist (See Appendix C). A mean value closer to 6 indicates that there is no difficulty in pronouncing the target segmentals.

To identify the degree of difficulty, the order of each segmental was rearranged from low (top) to high (down) based on their mean value. Figure 1 shows the rank order of difficulty based on the mean value, with lower mean values indicating more difficulty in pronouncing the target feature. As you can see, the most problematic feature is /z/, followed by /ʒ/, /θ/, /dʒ/, /r/, and /v/. No vowels are included in the top 8 rank, which suggests that elderly learners have more difficulty in articulating consonant sounds than vowels in English pronunciation.

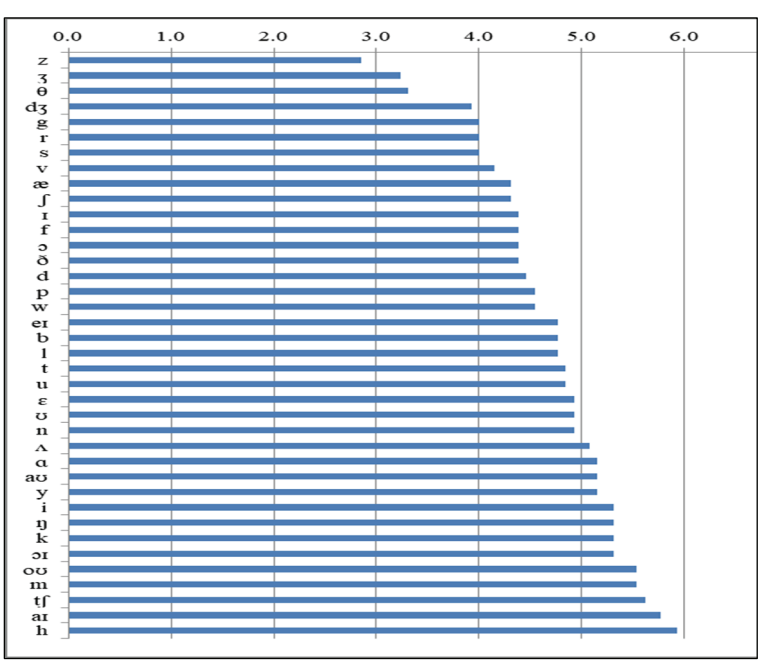

Figure 1. The degree of difficulty for overall target features

4.2.1 Pronunciation difficulty in consonants and vowels

Figure 2 shows the rank order of difficulty in consonants. As you can see, Korean elderly learners have more difficulty pronouncing /z/,/ʒ/,/θ/, and /dʒ/ than other consonants. This result agrees with Avery and Ehrlich (1992), indicating that Korean learners have problems with voiced fricatives, such as /z/ and /ʒ/. However, there are some discrepancies with the previous study conducted by Park and Park (2014). Regarding the consonants, they found that /ʤ/, /m/, /s/, /n/, /ʧ/, /d/, /ŋ/, /w/ is more problematic than the other consonants that the advanced Korean high school students experience in pronouncing segmental features.

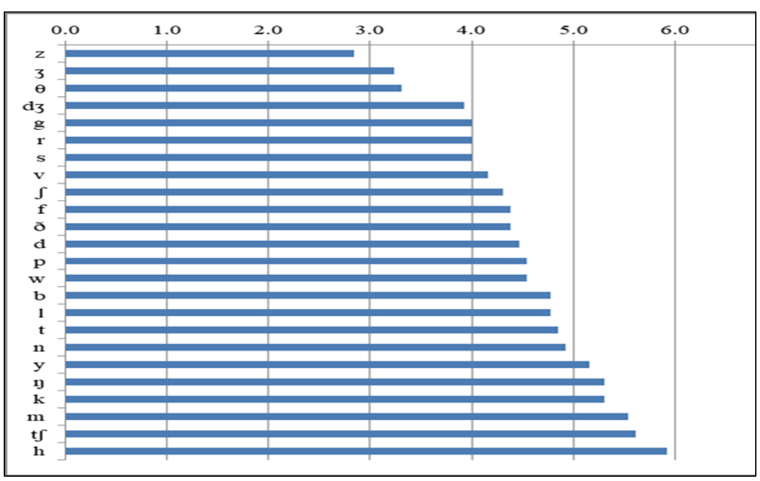

Figure 2. Pronunciation difficulty in consonants

Figure 3 shows the rank order of difficulty in vowels. Concerning vowels, the present research found that /æ/,/ɪ/, and /ɔ/ are more problematic than other vowels. The results are consistent with the previous literature, which will be explained in the discussion section of this article.

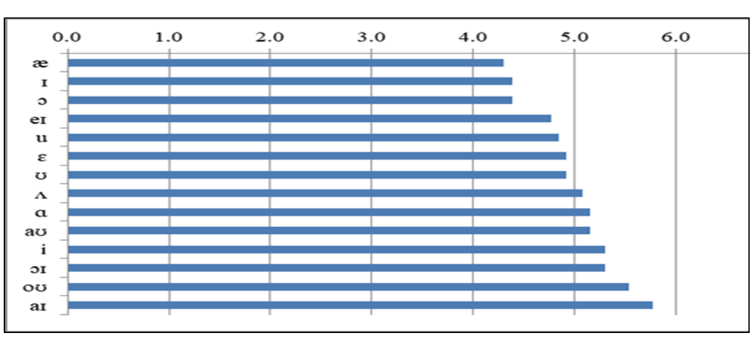

Figure 3. Pronunciation difficulty in vowels

4.2.2 Comparison by age

An independent *t*-test was conducted to examine if there is a difference between elderly learners in their 60s and 70s or older. The *t*-test yielded a t-value of 2.491 with 11 degrees of freedom ($t(11) = 2.491$, $p < 0.05$). Table 4 presents that there is a significant difference in difficulty between younger and older ages. The result suggests that elderly learners aged over 70 have considerably more difficulty pronouncing overall segmental features than their relatively younger counterparts. This might support some theories on aging and cognition to explain the cognitive decrease caused by aging. Burke and Shafto (2008) posit that older adults exhibit reduced resources, including processing speed, working memory, attention, and inhibition, in comparison to young adults. Additionally, certain operations require higher resource demands for older than young adults. Based on their statements, this research finding implies that "older" elderly learners have more difficulty with English pronunciation due to interference from their mother tongue.

Table 4. *T*-test Result for Age Difference

Variable	Age	*N*	Mean	*SD*	*t*	*p*
Comprehensibility	60s	8	5.01	.71	2.491	.009
	70 over	5	4.17	.27		

* $p < 0.05$

4.2.3 Comparison by gender

To examine the differences between male and female learners, a *t*-test was conducted on the mean values. The *t*-test reveals a non-significant result ($t(11) = 0.686$, $p = 0.73$). Table 5 demonstrates that there is no significant difference between males and females, although the latter show lower mean value than the former. This is an interesting finding because it is generally known that women are better learners of English than their male counterparts.

Table 5. *T*-test Result for Gender Difference

Variable	Gender	*N*	Mean	*SD*	*t*	*p*
Comprehensibility	Male	5	4.86	.76	.686	.730
	Female	8	4.57	.70		

* $p < 0.05$

4.2.4 Comparison by staying overseas

To examine the differences in difficulty according to the duration of residence abroad, the participants were divided into a group living abroad for more than a year and a group with less than two months for analysis. The *t*-test yielded a t-value of 0.446 with 11 degrees of freedom ($t(11) = 0.446$, $p < 0.05$). Table 6 shows that there is a statistically significant difference between longer overseas stay and shorter or no overseas stay. The finding presents that elderly learners

who have lived abroad for a long time have less difficulty with English pronunciation, and these results suggest that English pronunciation education is needed for elderly learners with little English exposure, such as those staying abroad, in the future.

Table 6 *T*-test Result for Staying Overseas

Variable	Overseas	*N*	Mean	*SD*	*t*	*p*
Comprehensibility	Yes	5	4.80	.96	.446	.039
	No	8	4.61	.56		

* $p < 0.05$

4.3 Qualitative assessment

All the recordings that each participant sent to the researcher were analyzed qualitatively find their pronunciation errors. The followings are the summary of the common errors made by the participants in the diagnostic pronunciation test:

1. After the final consonants, such as /p/, /ʃ/, /tʃ/, /ʒ/, /g/, /d/ the participants added extra vowel sounds 'i' or 'eh' or 'uh'. i.e. *cheap, fish, church, plates, cabbage, egg, and*
2. Plural nouns were mispronounced,
   - The plural nouns after vowel sounds or vibrated consonants were pronounced /s/ instead of /z/. i.e. *peas, beans*
   - The plural nouns after unvibrated consonant were often omitted. i.e. *forks, plates, drinks*
   - The plural nouns '-es' after fricatives /s/, /z/, /ʃ/, /tʃ/, /ʒ/, /dʒ/ were usually omitted. i.e. *roses*
3. the consonant sounds which are not in Korean such as
   - /r/ is replaced with /l/
   - /f/ is replaced with /p/
   - /v/ is replaced with /b/
   - /θ/ is replaced with /s/
   - /ʒ/ and /dʒ/ are confused with /z/
4. The consonant clusters were separated with extra vowels. i.e. *strong(s-eh-t-eh-r)*
5. Short vowels, /ɪ/ and /ʊ/, were mispronounced with long vowels, /i/ and /u/, respectively.
6. Unknown words with the spelling 'ea' caused spelling-sound confusion, as in *pears* and *measuring*, and were pronounced /i/ instead of /e/.
7. Silent /h/ was another example of spelling-sound confusion. i.e. *white*
8. /l/ in the middle or consonant clusters was pronounced approximant /r/. i.e. *flower*

9. Loanwords or borrowed words were problems. i.e. *oranges, forks, biscuits, sausages, coffee, olive, television, jam, kilo, honey, skirt*

5 Discussion

This study was intended to identify Korean elderly learners' weaknesses in pronunciation to find out which segmental features need to be dealt with in language classrooms and whether there are differences in pronunciation depending on the learners' age, gender, and overseas stay. The research questions posed in the beginning are as follows.

1. Which specific pronunciation features of segmental are problematic for elderly Korean learners of English?

The most problematic segmental features shown in the test results are /z/, /ʒ/, /θ/, /dʒ/, /g/, /r/, /s/, and /v/. Regarding consonants, most difficulties can be explained with L1 interference. As demonstrated in the literature section, Korean doesn't have distinctive features for /z/, /ʒ/, and /dʒ/, and the participants tend to substitute unaspirated affricates for these English voiced fricatives, represented by 'ㅈ'. Among them, the most problematic sound is the /z/ sound, since it is also influenced by the inconsistency of spelling and sound according to the English noun plural rule. For instance, the words in the item of the shopping list reading-aloud test are *tins, peas, beans,* and *please*, which are mostly the plural noun ending '–s' sound. Pronouncing these noun plurals could be problematic if learners have never taken pronunciation lessons about the rules.

/θ/, /ð/, /v/, /f/ are also difficult to master for Korean elderly learners who are affected by their first language because Korean doesn't have those consonants. They pronounce 'th' sound as 'ㅆ' instead of /θ/. The /dʒ/ and /g/ sounds that occur in the ending position, as in *egg* or *cabbage*, are problematic. They made common errors when the consonants occur in the final position. The participants insert the vowel sound /i/ after the consonant /dʒ/ and /g/ and resulted in making another syllable. They pronounce *egg* as two syllables instead of one syllable, and *cabbage* as three syllables instead of two syllables.

Another common error is /r/ sound as the Korean phonetic system doesn't have a distinctive phoneme of the sound. Besides, if it comes after another consonant, as a consonant cluster such as *brown* or *fruit*, the pronunciation becomes more difficult for older learners. They make errors when they pronounce the /s/ sound. When it occurs in the initial position, they pronounce it as /ʃ/ instead of /s/. The plural noun form /s/ as in *plates* is also one of the common errors. Some learners pronounce it as [-tɪs] by adding a short vowel before /s/, or others didn't pronounce the plural –s. Regarding the

consonant /v/, they pronounce unaspirated voiceless stop ‘ㅂ’ instead of it. That is because Korean doesn’t have the sound.

Considering the vowels, /æ/, /ɪ/, and /ɔ/ are most problematic. Korean vowels do not have as many characteristics as English, such as tenseness and laxness, front and back, high and low, and long and short. Since /æ/ and /ɔ/ don’t have representative features in Korean, they are pronounced as close sounds. /ɪ/ sound is also problematic because Korean vowels don’t have long and short distinctions. They mistakenly pronounce it as a long vowel /i/.

2. Are there any discrepancies between the existing literature and the Korean elderly learners’ English pronunciation?

As mentioned above in literature reviews, Avery and Ehrlich (1992) pointed out that Korean EFL learners have difficulty with voicing and voicing/voiced distinctions in English. In line with the existing literature, all the most problematic segmental features found in the present research ― /z/, /ʒ/, /θ/, /dʒ/, /g/, /ɾ/, /s/, /v/― result from the voicing difficulty by elderly learners. On the other hand, these present findings do not agree with Park and Park (2014), who found that /dʒ/, /m/, /s/, /n/, /ʧ/, /d/, /ŋ/, /w/ are more problematic than the other consonants. Concerning the vowel, the present research found that /æ/,/ɪ/, and /ɔ/ are more problematic than other vowels, which are consistent with the previous literature. Swan and Smith (2001) found that Korean EFL learners often have problems with /ɔ/, and differentiating between /æ/ and /ɛ/, and between long and short vowels such as / ɪ / and / i /. Park and Park (2014) found in their research that Korean advanced learners also have problems with pronouncing /æ/. These findings suggest that Korean EFL learners need to get proper pronunciation instruction focusing on such vowel sounds since phonemic distinction does not exist in the Korean language.

3. Are there any significant differences in pronunciation difficulties according to gender, age, and residence abroad?

To answer this research question, three independent *t*-tests were conducted for analysis. The results show that there are significant differences in pronunciation difficulty depending on age and longer stay abroad. However, no significant difference was found regarding gender. These findings prove the well-established theories that language learning is influenced by age and language exposure. Therefore, even elderly learners should start to learn English pronunciation in their earlier stage and need to get more exposure to the experience of communicating in English in real situations.

6 Conclusion

This article investigated the pronunciation problems that Korean EFL elderly learners often experience. To identify their pronunciation difficulties concerning segmental features, a diagnostic pronunciation test was administered to each participant. The result shows that the most problematic segmental feature is /z/, followed by /ʒ/, /θ/, /dʒ/, /g/, /r/, /s/, /v/, /æ/, /ʃ/, /ɪ/, /f/, /ɔ/, /ð/ in the order. This indicates that elderly learners have more pronunciation difficulties with consonants than vowels. In addition, the present research findings are consistent with the existing literature, except for Park and Park (2014) concerning consonants. This means that elderly learners of English make mistakes in the pronunciation of English consonants that EFL learners do in general, but younger advanced learners have difficulty with pronunciations other than those. Lastly, this study reveals that there are significant differences in pronunciation difficulty depending on age and longer stay abroad. It suggests that even for elderly adult learners, relatively younger ages and more communicative language exposure can make a positive influence on language learning.

The findings presented in this study can be explained by both L1 transfer and age factors. All of the participants began to learn English after middle school age which is the critical period for second language acquisition. They could have built Korean accents or pronunciation errors affected by their first language, and then the errors could have become 'fossilized' over the years since they have not got proper instruction to correct their pronunciation problems. Thus, when learners' exposure to the target language is limited and L2 has a different phonological system from L1, the difference between the two languages must be explicitly taught in the language classroom.

This article posits some pedagogical suggestions based on the present findings. First, teachers of elderly learners should make them aware of the importance of pronunciation. Second, adult learners need to take pronunciation lessons at their beginner's level to avoid the fossilization of mispronunciation. Third, teachers can help elderly learners to record their speech and analyze their pronunciation features as a listener. To sum up, it is suggested that English programs for elderly learners should provide pronunciation lessons with appropriate teaching materials in consideration of common problematic pronunciation errors presented in this research because pronunciation is the basic ability for oral communication.

The present study has certain limitations that warrant acknowledgement. Firstly, it was carried out with a limited number of participants, thereby potentially compromising the generalizability of the findings to the wider population. The utilization of a small sample size raises concerns about the representativeness of the study's results on a larger scale. The results might not apply to individuals who were not part of the study, limiting the external validity of the research. Additionally, the diagnostic pronunciation test has

limited scope and generalizability as it consists of a word list with only segmental features. It may not assess other important aspects of pronunciation, such as intonation, rhythm, or connected speech. Consequently, the results might not provide a comprehensive understanding of learners' overall pronunciation abilities. However, the limitation does not undermine the value of this research that provides insightful findings on the senior group of EFL learners that has not been studied so far.

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Appendix A
The Revised Diagnostic Test (Adapted from Baker, 1982, p.136)

Shopping list 1

Read each word aloud:

1. some cheese (cheap cheese); some tea (Chinese tea)
2. fifty biscuits ; four fish
3. ten eggs (big eggs)
4. a jar of jam ; apples and oranges ; a cabbage
5. ten tomatoes (large tomatoes, red tomatoes)
6. five servings of veal for this and some very good vodka
7. some strong string (long string); something strong to drink
8. four forks (small forks) ; spoons ; cups ; small paper plates
9. some good sugar ; milk ; coffee ; a cake ; a good cook book
10. shoes for Mother (blue shoes) ; two kilos of fruit ; rice (brown rice)
11. nuts ; honey ; one bun (a hot bun)
12. one lemon ; nine brown onions ; flowers for the house
13. some paper for Mother's letters (the cheaper paper); a pair of trousers for Father
14. a girl's shirt and a skirt ; some cold drinks ; bread (good bread)
15. eight cakes and paper plates ; some sausages for supper
16. some yellow roses for your wife
17. white wine (sweet wine) ; some ice
18. beer for Bob and Robert (not the dear beer)
19. some shampoo for Mary's hair ; some pears
20. tins of peas and beans (tins, please)
21. fish from the fish shop (English fish)
22. a toy for the boy (a little blue or yellow ball) ; some olive oil
23. something for Mr. Smith (it's his birthday on Thursday)
24. a television; a measuring tape

Appendix B
Learner Profile Questionnaire

1. Name: _____
2. Gender: ① Male ② Female
3. Age:

   ① 61-65 ② 66-70 ③71-75 ④76-80 ⑤81-85
4. Educational background:

   ① Elementary school
   ② Middle school
   ③ High school
   ④ College/University
   ⑤ Graduate school
5. Have you every stayed in an English-speaking country?

   ① Yes [Length of your stay: _____]

   ② No
6. When did you start to learn English? _____
7. What is/was your profession? _____
8. Have any of your previous English teachers taught you about pronunciation?

   ①Yes ②No
9. Which feature of pronunciation do you think is more problematic in your English pronunciation?

   □segmental features (consonants and vowels)
   □supra-segmental features (stress, rhythm, intonation, etc)
10. What do you think are the most difficult features to master in your English pronunciation? (e.g. intonation, stress, /f/, /ng/, /th/, /w/, /r/, /th/, etc)

Appendix C
Pronunciation Rating Sheet

No. in Task	Segmental feature	Segmental feature in word	(1=least comprehensible, 6= most comprehensible)
1	i	cheese, cheap, tea, Chinese	① ② ③ ④ ⑤ ⑥
	tʃ	cheese, cheap, Chinese	① ② ③ ④ ⑤ ⑥
2	ɪ	fifty, biscuit, fish	①② ③ ④ ⑤ ⑥
	f	fifty, four, fish	① ② ③ ④ ⑤ ⑥
3	ɛ	Ten, eggs	① ② ③ ④ ⑤ ⑥
	g	eggs, big	① ② ③ ④ ⑤ ⑥
4	æ	apple, jam, cabbage	① ② ③ ④ ⑤ ⑥
	dʒ	jar, jam, oranges, cabbage	① ② ③ ④ ⑤ ⑥
5	ɑ	jar, father, Bob	① ② ③ ④ ⑤ ⑥
	t	ten, tomatoes	① ② ③ ④ ⑤ ⑥
6	v	five, servings, veal, very, vodka	① ② ③ ④ ⑤ ⑥
7	ŋ	strong, string, long, something, drink	① ② ③ ④ ⑤ ⑥
8	ɔ	four, forks, small,	① ② ③ ④ ⑤ ⑥
	p	spoon, cups, paper, plates,	① ② ③ ④ ⑤ ⑥
9	ʊ	good, cook, book	① ② ③ ④ ⑤ ⑥
	k	coffee, cake, cook, book	① ② ③ ④ ⑤ ⑥
10	u	Shoes, blue, two, fruit	① ② ③ ④ ⑤ ⑥
	r	for, fruit, rice, brown	① ② ③ ④ ⑤ ⑥
11	ʌ	nuts, honey, one, bun	① ② ③ ④ ⑤ ⑥
	h	honey, hot	① ② ③ ④ ⑤ ⑥
12	aʊ	Brown, flowers, house	① ② ③ ④ ⑤ ⑥
	n	one, lemon, nine, brown, onions	① ② ③ ④ ⑤ ⑥
13	ð	mother, the, father	① ② ③ ④ ⑤ ⑥
14	d	and, cold, drinks, bread, good,	① ② ③ ④ ⑤ ⑥
15	eɪ	eight, cakes, paper, plates	① ② ③ ④ ⑤ ⑥
	s	cakes, plates, some sausages, supper	① ② ③ ④ ⑤ ⑥
16	oʊ	yellow, roses,	① ② ③ ④ ⑤ ⑥
	y	yellow, your	① ② ③ ④ ⑤ ⑥
17	aɪ	white, wine, ice	① ② ③ ④ ⑤ ⑥
	w	white, wine, sweet	① ② ③ ④ ⑤ ⑥
18	b	beer, Bob, Robert, beer	① ② ③ ④ ⑤ ⑥
19	m	Some, shampoo, Mary's	① ② ③ ④ ⑤ ⑥
20	z	tins, peas, beans, please	① ② ③ ④ ⑤ ⑥
21	ʃ	fish, shop, English	① ② ③ ④ ⑤ ⑥
22	ɔɪ	toy, boy, oil	① ② ③ ④ ⑤ ⑥
	l	little, blue, yellow, ball, olive, oil	① ② ③ ④ ⑤ ⑥
23	θ	something, Smith, birthday, Thursday	① ② ③ ④ ⑤ ⑥
24	ʒ	television, measuring	① ② ③ ④ ⑤ ⑥

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