ALAPSZAKOS SZAKDOLGOZAT

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Pronunciation Difficulties among Hungarian Learners of American English

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Abstract

The present thesis examines the pronunciation difficulties among Hungarian learners of English with an emphasis on the phonetic and phonological challenges caused by the differences between Hungarian and (American) English. Hunglish is a widely used accent among Hungarians, which suggests that pronunciation teaching is often considered secondary to other aspects of English teaching due to a lack of time and resources. The following study aimed to give insights into the specific pronunciation challenges Hungarian learners face by analyzing the voice recordings of the participants, asking about the learners' perceptions of their own pronunciation mistakes, and finally comparing these results. The findings revealed that while many learners correctly identified some of their errors, more speakers were unaware of other sounds they frequently mispronounce. Additionally, the most problematic sequences identified were NG clusters, vowels, and sounds that are not present in Hungarian.

Keywords: Hungarian learners, pronunciation difficulties, pronunciation challenges, Hunglish, American English, EFL

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1   Introduction

In Hungarian classrooms, pronunciation often receives less emphasis than grammar practice because of a lack of time, inadequate background knowledge, and limited resources (Baranyi-Dupák, 2022, p. 17). The phonological systems of Hungarian and (American) English differ in ways that might influence spoken language production. Hungarian pronunciation mostly follows spelling, whereas English has more unpredictable spelling-to-sound correspondences (Kiefer, 2010). Moreover, Hungarian is a voicing language, while English is an aspirating one (Jansen, 2004). These phonetic and phonological differences point to the need to focus more on pronunciation when teaching Hungarian students. Focusing predominantly on teaching grammar can lead to high accuracy but will leave Hungarian learners with weak speaking abilities (Baranyi-Dupák, 2022; Gyurka & Piukovics, 2023). Many students may not feel confident about their pronunciation, which can cause misunderstandings or unwillingness to speak English, especially with native speakers. Knowing the basics of articulatory and auditory phonetics of the target language variety helps non-native speakers achieve a more native-like accent. Teaching Hungarian students how to produce the phonemes of American English in particular environments can help them become more intelligible and confident in speaking.

Finding only a few studies on pronunciation difficulties of Hungarian learners suggests that the teaching of pronunciation is considered secondary within English teaching in Hungary. Most studies focus on Mandarin (Han, 2013; Munro et al., 2006; Lan & Wu, 2013), Spanish (Garita et al., 2019; Munro et al., 2006; Goswami & Chen, 2010), or Japanese (Munro et al., 2006; Saito, 2011) natives, with few addressing Hungarian learners (Baranyi-Dupák, 2022; Gyurka & Piukovics, 2023). Though Hunglish (a distinct accent of English among Hungarians, but can also refer to mistranslations influenced by the Hungarian language) is well-known, its sheer existence clearly shows that there are pronunciation difficulties faced by Hungarians.

This thesis seeks to address the aforementioned research gap through a questionnaire on the participants' pronunciation difficulties and an analysis of their voice recordings. The research method combines learners' perceptions of their own pronunciation mistakes with an objective examination of their accent, which may give teachers a better insight into the specific pronunciation challenges Hungarian learners face. Such insights would enable teachers to adjust their teaching styles in order to address these difficulties successfully while improving fluency and language comprehension. Furthermore, the results seek to improve awareness of pronunciation difficulties among Hungarian students, which might promote more effective communication between native English and Hungarian speakers.

The following section provides a review of the relevant literature through five subsections. It covers the development of American English, as well as the differences between American and British English pronunciation. It also addresses the role of English as a Foreign Language in Hungary, while considering how Hungarian phonetics and phonology may affect students' pronunciation. The section concludes with a discussion of the common pronunciation difficulties faced by Hungarian learners of English. Section 3 firstly outlines the applied methodology to address the research questions, secondly presenting the data and results. Section 4 discusses whether the results are supported by the theoretical framework, as well as pointing out limitations and suggesting possibilities for further research.

2 Theoretical Framework

2.1 History of American English

The development of American English consists of three major stages, each of which had an impact on the language from a cultural, social, and linguistic aspect in a way that today's American English could have developed. The first stage is the "Colonial Period," which began when the first English settlers arrived in the New World from all parts of England, bringing their own dialects and accents as it was spoken around the turn of the 17th century. According

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to Kövecses (2000a, p. 19), as this period marked the arrival of the first speakers of what would become American English, it is regarded as the most significant linguistically. English was the dominant language in colonial America, and it was influenced not only by the settlers' regional backgrounds but also by contact with other languages and cultures, such as Native American, Spanish, French, Dutch, and German (Kövecses, 2000a). Many French loanwords became part of American English vocabulary at this time, predominantly from areas related to cooking, art, music, literature, and fashion (Gao & Sun, 2014). Dutch traders also influenced American English through loanwords and place names (see the examples from Gao and Sun (2014): *cookie*, *dollar*, *luck*, *Brooklyn*, *Harlem*, *Coney Island*). The ratification of the Federal Constitution in 1789 and the beginning of the War of Independence marks the end of the Colonial Period (Kövecses, 2000a).

The second stage, the "National Period," started with the end of The War of Independence, when thousands of settlers began to move westward, toward and beyond the Mississippi River (Kövecses, 2000a). As new territories were settled, the linguistic landscape of American English continued to evolve: people encountered new items and organisms, and hence new words and expressions developed. Contact with Native American tribes also shaped American English, especially with respect to loanwords such as *skunk*, *squash*, and *woodchuck*, which were adopted into English (Carney, 1997). Their customs also had an impact on idioms, leading to phrases like *smoke a peace pipe*, *Indian summer*, or *bury the hatchet* (Ammer, 1997). From the 1840s until the end of the century, large groups of immigrants were primarily Irish and German. German dialects influenced regional varieties, especially in Pennsylvania and parts of the Midwest (Parker, 1991). Loanwords were integrated into American English, e.g., *kindergarten*, *zeppelin*, *hamburger*, *noodle*, *pretzel*, and *wanderlust* (Gao & Sun, 2014). Apart from the influence of these languages, dialects also continued to develop and became more distinct as unique linguistic features were influenced by historical settlement patterns. Southern

dialects emerged as a result of the plantation economies and the large number of African American slaves in the region. Either the end of the Civil War (1865) or the Spanish–American War (1898) can be seen as marking the end of the second period (Kövecses, 2000a).

The "International Period," which marks the third stage, began in the late 19th century. This new wave of immigration from all over the world defined this period (Kövecses, 2000a). The latest wave of immigration was predominantly from Spanish-speaking countries: people from Mexico settled in the south and southwest parts of the U.S., while Puerto Ricans and Cubans headed to cities in the eastern part of the U.S., including New York and Miami (Kövecses, 2000a). These Spanish-speaking communities contributed to the introduction of loanwords in areas like food, geography, and clothing; however, Spanish loanwords can be found "in almost every areas of social life in the United States," e.g., *tortilla*, *poncho*, *sombrero*, and *mosquito*, in addition to the place names such as *Los Angeles, San Francisco, Santa Fe,* and *Rio Grande* (Gao & Sun, 2014, p. 2413).

American English developed within the boundaries of the United States; however, with the rise of the media it also started to reach audiences from several parts of the world. The dominance of Hollywood films and American popular culture in the 20th century helped American English to become a major cultural export, spreading American vocabulary, expressions, and pronunciation to audiences around the globe.

2.2 Differences Between American and British English

As English began to evolve separately from the English spoken in the British Isles following the colonization of the United States, Mencken argued in his monumental work (as cited in Kövecses, 2000b, p. 7) that the two varieties of English had become so distinct that they could be considered separate languages. This statement may not be entirely true, but there are conspicuous differences between British and American English. As Americans tend to simplify not only the pronunciation of words but also the grammatical structures and spelling, there are

differences not only in spoken conversations but in writing as well. However, due to the length limitations, as this thesis focuses on pronunciation, it has been decided not to examine the other differences in detail here.

2.2.1 Differences in Pronunciation

According to Wells (1982), Standard Southern British English (SSBE) pronunciation, or Received Pronunciation (RP) is the "standard throughout southern Britain (i.e. in England and perhaps Wales, but not in Scotland)" and "it is the most general type of educated British pronunciation" (p. 117). General American English (GA) is associated with speakers in the United States "who do not have a recognizably local accent," which applies to approximately the two-thirds of the U.S. population (Wells, 1982, p. 118).

Comparisons are made using Wells' (1982) standard lexical sets, where a keyword (in SMALL CAPS) represents words that share the same vowel in a set in a given accent. According to Wells (1982), the lexical sets "are based on the vowel correspondences which apply between British Received Pronunciation and (a variety of) General American, and make use of keywords intended to be unmistakable no matter what accent one says them in" (p. xviii). For example, the DRESS words refer to words which have the DRESS vowel (*friend*, *shelf*, *neck*, etc.). Wells (1982) identified the following lexical set keywords: KIT, DRESS, TRAP, LOT, STRUT, FOOT, BATH, CLOTH, NURSE, FLEECE, FACE, PALM, THOUGHT, GOAT, GOOSE, PRICE, CHOICE, MOUTH, NEAR, SQUARE, START, NORTH, FORCE, and CURE.

2.2.1.1 *BATH Words*

The BATH words (e.g., *after*, *laugh*, *fast*, *grass*, *path*, *bath*, *can't*, and *plant*) "belong phonetically with TRAP in GA, but with PALM and START in RP" (Wells, 1982, pp. 133–134). Before voiceless fricatives and the alveolar nasal /n/ (Kövecses, 2000b), GA speakers have a greater tendency to pronounce the TRAP vowel, a front, nearly open unrounded vowel, [æ], [æ ~ æə], which often becomes raised to the extent of [ɛə ~ eə ~ ẽə], even [iə] can now be heard

(Wells, 1982). Speakers of SSBE use the fully open, unrounded vowel [ɑ+ː] (Wells, 1982). In other phonetic environments (e.g., in words such as *bat*, *tap*, *dad*, *bag*, *track*) both SSBE and GA speakers pronounce the TRAP vowel.

2.2.1.2   *THOUGHT Words*

Words belonging to the THOUGHT lexical set (e.g., *fought*, *daughter*, *sauce*, *hawk*, *wall*) also differ significantly. In SSBE, [oː], a back closely-rounded mid vowel is pronounced, whereas GA pronunciation has an opener, open lip-rounding sound, [ɔː ~ ɒː] (Wells, 1982). Thus, in SSBE, the THOUGHT words phonetically align with NORTH and FORCE, while in GA they "belong to CLOTH or, with a following /r/, to NORTH" (Wells, 1982, p. 145).

2.2.1.3   *LOT Words*

LOT words in GA have a central fully open unrounded vowel, extending from [a] to [ɑ], merging with PALM (Wells, 1982, p. 130). SSBE speakers use a back, nearly open, weakly rounded vowel, [ɒ], phonetically aligning with CLOTH words (Wells, 1982). Additionally, in GA, the THOUGHT–LOT merger neutralizes the contrast in e.g., *cot–caught*, *don–dawn*, *stock–stalk,* etc., with vowel qualities extending from the fully back unrounded [ɑ] to an open [ɔ], though some speakers still preserve such pairs with the LOT–THOUGHT distinction (Kövecses, 2000b; Wells, 1982). According to Bailey (as cited in Wells, 1982, p. 475), the ordering of the environments affected by this merger is (i) /ˈ_tV/ (e.g., *naughty, daughter*), (ii) /_C[alveolar]/ (e.g., *caught, dawn*), and (iii) /_C[velar]/ (e.g., *hawk, talk*).

2.2.1.4   *STRUT* + **/r/**

The quality of the vowel in SSBE in those STRUT words where the STRUT vowel is followed by /r/ (e.g., *curry, hurry, worry, current*) is a half-open, centralized-back, unrounded vowel, while, GA speakers pronounce a mid-central, r-colored [ɝ] vowel (Kövecses, 2000b; Wells, 1982). However, both SSBE and GA have the STRUT vowel in words like *run, cup, mud, luck*, etc. in GA with a backer quality [ʌ+], in SSBE with a more central position [ɐ] (Wells, 1982).

2.2.1.5 The Merry–Marry–Mary Merger

GA neutralizes the vowels of DRESS, TRAP, and SQUARE before /r/ in DRESS (Wells, 1982). Some speakers only merged *merry* and *marry*, pronouncing *Mary* with the FACE vowel. In contrast, speakers of SSBE have a three-way distinction: *merry* [ɛ], *marry* [æ], and *Mary* [ɛə], or nowadays rather [ɛː].

2.2.1.6 The Nearer–Mirror Merger

In GA, the vowels of FLEECE and KIT are neutralized in [ɪ] before a prevocalic /r/. Also, /r/ can be followed by a vowel-initial suffix (clitics behave like suffixes in this case), making *spirit* and *spear it* homophones in GA: [spɪrɪt] (Wells, 1982). In environments /_r‖/ and /_rC/ the vowel is closer in quality, usually diphthongal, thus *near* might be [nɪər] or [nɪɚ]. In SSBE, the FLEECE vowel followed by a prevocalic /r/ aligns with the set of NEAR, thus preserving the opposition between KIT and NEAR in environment /_rV/: *nearer* [nɪərə] and *mirror* [mɪrə].

2.2.1.7 Rhoticity

GA is a rhotic accent, i.e., every orthographic R is pronounced. SSBE is non-rhotic, where onset /r/ is kept, while historical coda /r/ is lost as in *four* [foː]—unless the next word starts with a vowel, as in *four eggs* [foː‿r‿egz], i.e., linking R (Wells, 1982). Due to an analogical rule extension, intrusive R, which is not orthographic, and as such not historical, is pronounced at the end of a morpheme boundary, where the morpheme ends in either a long vowel or a schwa and the next morpheme begins with a vowel e.g., *draw#ing* [droː‿r‿ɪŋ], *idea#of* [ajdɪː‿r‿ɒv]. Where /r/ is dropped, compensatory lengthening of the vowel happens before the orthographic R, which is called R-vowel, i.e., NURSE, NEAR, SQUARE, START, NORTH/FORCE, and CURE in SSBE.

2.2.1.8 Yod-Dropping and Coalescence

Yod-Dropping is typical of GA, the /j/ is not pronounced after coronal sounds in stressed syllables. As the Binary Constraint only allows two consonants in one syllable, Yod-Dropping

is compulsory in GA and SSBE after two consonants (e.g., */blj/ *blue,* */flj/ *flute*). Yod Coalescence is more common in GA, when /s, z, t, d/ is followed by /j/ in a weak syllable they are pronounced as [ʃ, ʒ, tʃ, dʒ] respectively e.g., *si*[tʃ]*uation* and *e*[dʒ]*ucation.*

2.2.1.9 Flapping

In GA, /t/ and /d/ can be neutralized in the flap sound [ɾ] between two vowels where the second one is unstressed (e.g., in *atom–Adam* [ærəm], *matter–madder* [mærɚ] but *atomic* [əthˈɑːmɪk]), the first vowel might be followed by a nonlateral sonorant consonant (e.g., *party* [pʰɑːɾi] and *seventy* [sɛvənɾi]), and between a vowel and a syllabic consonant (e.g., *petal–pedal* [pɛɾl]). Flapping also occurs across the word boundary between two vowels even if the next vowel is stressed, as the stress-sensitivity disappears in this position e.g., *get it* [gɛɾ ɪt], *get out* [gɛɾ ˈaʊt]. If /t/ or /d/ are in the last syllable of a dactyl (i.e., a stressed syllable followed by two unstressed syllables), flapping may be suppressed and the /t/ will be aspirated (e.g., *militaristic, capacity,* and *competitive*). After a /n/, Southerners tend to delete the /t/, pronouncing *winter* as [wɪnɚ] making it a homophone with *winner*, while Northerners use a nasalized flap sound in *winter* [wɪ̃ɾɚ] and pronouncing *winner* as expected [wɪnɚ]. In all these environments, British speakers will pronounce a /t/ (that is (weakly) aspirated) or a /d/.

2.2.1.10 Clear-L and Dark-L

In SSBE, there are two kinds of alveolar lateral liquids, the Clear-L [l], which is produced by the tip of the tongue touching the alveolar ridge, and the Dark-L [ɫ], which is a velarized Clear-L (Kövecses, 2000b). Clear-L occurs before a vowel or /j/, Dark-L occurs elsewhere. These two sounds are allophones of the phoneme /l/ and are in complementary distribution. American English has only Dark-L.

2.2.1.11 Suprasegmental Features

Words that end in *-ary*, *-ory*, or *-ony* are pronounced with both primary and secondary stress in GA, but only with primary stress in SSBE (Kövecses, 2000b). Words such as ˈ*secon*ˌ*dary*,

ˈdictionˌary, *ˈterriˌtory*, *ˈalleˌgory*, *ˈcereˌmony*, and *ˈacriˌmony* will be pronounced only with primary stress at the beginning of the words in SSBE (and with the endings listed above unstressed, pronounced with [ə]), while in GA, these words bear both 1ry and 2ry stress.

2.3   English as a Second Language in Hungary

The history of English language teaching in Hungary started in the 17th century, when the first English course books were introduced. However, at that time, speaking English was not a crucial part of life, so English only became the dominant second language in the past few decades. Before the Second World War, Latin, and German were the mandatory second languages taught in Hungary. English as a subject only started to gain attention only around the second half of the 1920s (Tankó, 2020).

During the mid-20th century, changes in social and political dynamics made it difficult to teach and learn Western languages in Hungary, as these practices were restricted until the 1960s. According to Tankó (2020), English was offered as a subject in secondary schools only from 1965, although it was sometimes taught in primary schools as well. In spite of this, Russian was the compulsory foreign language until 1989, after which the need for teachers of English and of other Western languages rose. Bilingual elementary schools with English-Hungarian curricula were established, the first of which was the Karinthy Frigyes Bilingual Secondary School in Budapest. From then on, English became one of the primary foreign languages taught in Hungary, relying on internationally published English language teaching materials. Additionally, the number of English teacher trainees increased significantly (Tankó, 2020). Nowadays, English is the primary foreign language taught in Hungarian schools. The Hungarian National Core Curriculum (effective from 1 September 2024), which defines the compulsory content for primary and secondary educational institutions states that learning a foreign language is compulsory from 4th grade, although it can begin earlier if possible.

Learners of ESL in Hungary (and Europe in general) often decide between two main dialects of English: British or American. In the majority of European countries, British English is taught in schools. At the same time, people predominantly hear American English through entertainment, and this accent is becoming more and more influential among learners of English as a Second Language. According to Henderson et al. (2012), "in relation to target models, RP remains the variety of English which teachers claim to use, whilst recognizing that General American might be preferred by some students" (p. 6).

The entertainment industry also helped the English language to reach wider audiences. In 2010, a law was passed requiring the most influential media services to air a quarter of their content in a language other than Hungarian between 7 p.m. and 11 p.m., with Hungarian subtitles (Tankó, 2020). Cinemas also frequently offer several movies in the original language either with subtitles in original language or in Hungarian. However, most films screened in cinemas are dubbed into Hungarian.

A study conducted by Feyér (2012) shows that learners of EFL favor American English approximately as much as British English, whereas non-native varieties of English were deemed not as correct as native varieties, and students preferred these native varieties over non-native ones. However, Modiano (1996) argues that, as the number of non-native English speakers exceeds that of native speakers, the Mid-Atlantic variety of English should replace British English as the educational standard in Europe. This variety neutralizes the British pronunciations and the vocabulary contains both British and American items. While British English continues to be the primary variety taught in schools, the influence of American English through media and entertainment keeps shaping learners' preferences.

2.4 Hungarian

The Hungarian language is spoken by approximately 15 million speakers worldwide (Kiefer, 2010). Most of the speakers live in the Pannonian (or Carpathian) Basin but there are also about

a million speakers in the United States and Canada (Törkenczy & Siptár, 2000). As it belongs to the Ugric languages within the Finno-Ugric subbranch of the Uralic language family, it is dissimilar to most of the other languages in Europe in terms of its typology (Törkenczy & Siptár, 2000). Hungarian is an agglutinative language, like most languages in the Uralic family, meaning that it modifies the meanings of words by adding one or more suffixes to their stems (Kiefer, 2006; Törkenczy & Siptár, 2000).

The oldest layer of the Hungarian lexicon stems from Finno-Ugric roots, including words such as *szem* 'eye,' *fej* 'head,' *háló* 'net,' *nyíl* 'arrow,' *víz* 'water,' *kő* 'stone,' etc.) (Törkenczy & Siptár, 2000). Notably, word frequency studies show that approximately 80% of the words used by Hungarians belong to the ancient vocabulary, i.e., Uralic, Finno-Ugric, and Ugric words, which make up the most commonly used elements of the Hungarian lexicon (Kiefer, 2006).

However, Hungarian separated from these languages far back, around the fifth century B.C. and started to develop in its own way (Kiefer, 2010). Along the way, it came into contact with and was influenced by several languages such as Turkic, Slavic, (early) German, Latin, etc. (Kiefer, 2006; Kiefer, 2010). As a result, Hungarian has integrated a great number of loanwords for example from Iranian (e.g., *kard* 'sword,' *nemez* 'to felt,' *tej* 'milk,' *tíz* 'ten,' *asszony* 'woman/wife,' *híd* 'bridge,' from which the latter two are borrowed from the Alans); Turkish—across several stages of Hungarian history (e.g., *szakáll* 'beard,' *disznó* 'swine,' *gyapjú* 'wool,' *gyümölcs* 'fruit,' *tükör* 'mirror,' etc.); Slavic languages (e.g., Bulgarian: *palota* 'palace,' *zarándok* 'pilgrim;' Czech: *csésze* 'cup,' *kuka* 'trash can;' Russian: *tanya* 'rural farm,' *zátony* 'reef;' Serbo-Croatian: *borostyán* 'ivy,' *kamat* 'bank/loan interest;' Slovak: *lekvár* 'jam,' *bukta* 'soft, yeasty pastry filled with sweet or savory fillings;' Slovenian: *kúp* 'cone,' *malac* 'pig;' Ukrainian: *kalamajka* 'commotion,' *harisnya* 'pantyhose/tights'); German (e.g., *herceg* 'prince,' *cél* 'goal,' *masíroz* 'to march,' *páncél* 'armor,' *polgár* 'citizen,' *zokni* 'socks,'

sonka 'ham,' etc.); Latin (e.g., *mise* 'mass,' *pápa* 'Pope,' *bazsalikom* 'basil,' *muzsika* 'music,' etc.); and many other languages as well (Kiefer, 2006; Törkenczy & Siptár, 2000). Not only words, but also linguistic features were borrowed from the languages Hungarian came into contact with. On the level of morphology, verbal prefixes can be mentioned, which are used in Hungarian like in German or in Slavic languages (Kiefer, 2006). Another similarity with German is the use of the definite and indefinite article. Additionally, the large number of nominal case endings, the possessive suffixes, and the use of postpositions instead of prepositions are features shared with Turkish, a language spoken by a people with whom Hungarians have a long history (Kiefer, 2006).

2.4.1 Aspirating vs. True Voicing Languages

Consonants can be classified by place and manner of articulation along with laryngeal property (Hall, 2001). Based on laryngeal contrast, aspirating and true voicing languages can be differentiated (Kiss & Szigetvári, 2020). Aspirating languages (e.g., English, German, Icelandic, Finnish, Mandarin) contrast positive VOT with zero VOT, i.e., aspirated versus plain voiceless stops (Őri, 2022; Bakró-Nagy, 2012; Jansen, 2004). True voicing languages (e.g., Hungarian, French, Spanish, Romanian, Slovak, Russian) contrast negative VOT with zero VOT, i.e., voiced versus plain voiceless stops (Őri, 2022; Jansen, 2004).

In Hungarian, the following obstruents are voiced: [b, d, ɟ, g, v, z, ʒ, dʒ]; while these are voiceless: [p, t, c, k, f, s, ʃ, ts, tʃ] (Törkenczy & Siptár, 2000). Regressive voicing assimilation occurs where two (or more) obstruents following each other will all be voiced or voiceless, depending on the rightmost obstruent's voice specification, e.g., *padka* 'curb' is *pa[tk]a*, *anekdota* 'anecdote' is *ane[gd]ota*, and *absztrakt* 'abstract' is *a[pst]rakt* (Őri, 2022). This phenomenon is an inherent part of Hungarian phonology, thus, Hungarian learners of English also often apply it when speaking English, which contributes to the distinctive characteristics of their 'Hunglish' accent. This influence of Hungarian regressive voicing

assimilation highlights some of the pronunciation challenges that Hungarian learners of English might face.

As English is an aspirating language, instead of the terms 'voiced' and 'voiceless,' lenis and fortis are used respectively (Kiss & Szigetvári, 2020). The fortis obstruents of English are /p, t, k; f, θ, s, ʃ; tʃ/, while the lenis obstruents are /b, d, g; v, ð, z, ʒ; dʒ/. Lenes can be passively voiced in intersonorant position but their unmarked case is to be voiceless. The stops have aspirated allophones [pʰ, tʰ, kʰ], which occur word-initially (e.g., *[pʰ]éar*) and at the beginning of a stressed syllable (e.g., *a.[pʰ]éar*). Furthermore, if the stop in such a position is followed by an approximant (i.e., /l, r, j, w/), the aspiration is realized in the devoicing of the approximant (e.g., *[tr̥]áy, a.[kl̥]áim*). If the plosive occurs in other positions, the unaspirated allophone is pronounced (e.g., *cá[t], cá[t].nip, há[p]y*). In words such as *rip* and *rib* the opposition is preserved through the duration of the vowel preceding the plosive: before a fortis plosive, the vowel tends to be shorter than before a lenis one, i.e., prefortis clipping. In respect of initial fricative + plosive clusters, it can be said that the plosive cannot be aspirated in such a position in English, as these can be analyzed phonetically as fricative + lenis plosive clusters (see for example, Őri, 2022; Kiss & Szigetvári, 2020; Iverson & Salmons, 1995).

Since Hungarian learners of English are often unfamiliar with these patterns, they typically replace sounds with those used in Hungarian contexts, such as pronouncing *peach* with [p], which, due to the lack of aspiration in word- and stress-initial position, might cause native speakers to hear it as *beach*. This again contributes to the distinctive characteristics of 'Hunglish' and highlights some of the challenges Hungarian learners face with English pronunciation, particularly regarding the crucial distinction between aspiration and voicing.

2.4.2 Word Stress

Another challenge for Hungarian learners of English lies in a suprasegmental feature: stress. In Hungarian, the primary stress always falls on the first syllable of the word (Kiefer, 2010;

Törkenczy & Siptár, 2000), which may lead to the application of the Hungarian stress pattern to English words and utterances. However, English primary stress is more complex, with two views: the 'no-pattern view' suggests that primary stress is lexical, i.e., fully unpredictable, and the 'pattern-with-exceptions view' sees word stress as mostly predictable with several factors that needed to be considered (frequency, word-class, syllable weight, and suffixes). Assuming that (i) the last syllable for nouns, and (ii) the last consonant for verbs is outside the domain of metrification, the General Main Stress Rule (MSR) says within the domain of metrification, stress the rightmost syllable if it is heavy (i.e., ends in a consonant or contains a long vowel), otherwise stress the preceding syllable (Kiss et al., 2015). There are also two other rules: Long Vowel Stressing stresses long-voweled final syllables, and Alternating Stress Rule moves the stress to the antepenultimate syllable if there are more than two syllables (Kiss et al., 2015). The ordering of the rules is LVS, extrametricality, MSR, and ASR. For example, the stress of the noun *animal* can be derived as follows: LVS does not apply, since the final syllable does not have a long V; the last syllable is extrametrical a.ni.<mal>; as the rightmost syllable is not heavy, MSR stresses the preceding syllable á.ni.<mal>; ASR does not apply, since there are only two syllables in the domain of metrification, which results in [ˈæ.nɪ.məl].

Nonetheless, there are also many factors to consider, such as zero derivation, prefixes of Latin origin in verbs, internal /s/C clusters, *vanilla* nouns, *caress* verbs, and nouns which are stressed on their final short-vowelled syllable (Kiss et al., 2015). In each case, determining an English word's primary stress is more complex than determining the stress of a Hungarian word, which presents another challenge regarding pronunciation for Hungarian learners of English.

2.5 Pronunciation Difficulties and Mistakes for Hungarian ESL Learners

The significance of explicit pronunciation teaching has been reconsidered as being crucial for fluent interaction, as it establishes intelligibility, reduces learners' anxiety, increases their

confidence, plays a part in perceiving the speaker's language ability to appear higher than it is, leaves a good impression on the interlocutor, and contributes to listening skills (Gyurka & Piukovics, 2023). Despite these, other aspects of English teaching dwarf the instruction on pronunciation, mainly because pronunciation is either not evaluated or is worth less points in language exams, or because a thick accent is regarded as acceptable for elementary and high school students (Piukovics, n.d.). However, students might acknowledge pronunciation learning, as many view a Hungarian accent as negative, incorrect, and often funny (Feyér, 2012). While expectations regarding pronunciation concern learners on an advanced level, Lenneberg argues (as cited in Flege, 1995) that, once the critical period for speech learning ends, acquiring new speech forms to a native-like level is no longer possible, as learners perceive the target language's speech sounds as identical to sounds in their native language after this period, i.e., they will not be able to hear the difference, therefore, not be able to produce them (Piukovics, n.d.). Additionally, it becomes harder to enhance pronunciation once inaccurate forms are ingrained in the learners' mental lexicon. Thus, pronunciation should be taught from an early stage (Levis, 2018). However, Gyurka & Piukovics (2023) suggest that the focus of pronunciation teaching should be improving intelligibility rather than aiming for a native-like pronunciation and attention should be on accurate sound production, stress, rhythm, and intonation.

Piukovics (n.d.) groups pronunciation errors into three categories: phonetic (sounds that need to be phonetically explained so that learners know how to produce them), phonological (allophonic rules of English), and lexical (irregular pronunciation patterns). In the phonetic type of errors, one of the most problematic segments for Hungarians is the production of vowels (Huszthy, 2022). It is common among Hungarian learners (as well as among other non-native speakers of English) to substitute sounds with ones similar to those found in their native language (Piukovics, n.d.; Gyurka & Piukovics, 2023; Huszthy, 2022). Hungarian learners

often change vowels, for example, [æ] to [ɛ], [ɪ] to [i], [ʊ] to [u], [ʌ] and [ɑ] to [a], [ɔ] and [ɒ] to [o/oː], and the mid vowels [ə, ɜː] to the close-mid vowel [ø] (Huszthy, 2022). Another common mistake involves the production of consonants that are not present in Hungarian, which are also commonly substituted in Hunglish e.g., [θ, ð] > [t, s, f; d, z, (dz)], [ɹ] > [r], [w] > [v], (Piukovics, n.d.; Huszthy, 2022; Walker, 2010). Mistakes belonging to the phonological group include [pʰ, tʰ, kʰ] > [p, t, k], [ɫ] > [l], suffix -*s* after every consonant being pronounced as [s] (e.g., *films*, *dogs*, *gloves*), applying the Hungarian-type regressive voicing assimilation in English (e.g., *baseball* being [ˈbeːzbol]), the redundant intersonorant s-voicing in Hunglish (e.g., *basic* being [beːzik]), or not deleting the post-nasal lenis stop in a noncoronal cluster word-finally (e.g., in *lamb*, *comb*, *king*) (Piukovics, n.d.; Huszthy, 2022). To the group of lexical errors, words with irregular stress-placement (e.g., *hotel*, *vanilla*, *massacre*, *comprehend*) and words with irregular pronunciation (e.g., *leopard*, *choir*, *yacht*, *debt*) can be listed (Piukovics, n.d.). Additionally, Huszthy (2022) mentions further errors, such as pronouncing geminates in a morpheme boundary (e.g., *appeal*, *suggest*, *manner*), simplifying consonant clusters that cannot appear in Hungarian (e.g., *texts*, *sixths*, *strengths*), adding [ø] or [y] to words that contain syllabic consonants (e.g., *rhythm*, *prism*, *chasm*), pronouncing utterance initial and final obstruents voiced (e.g., *good*, *bag*, *bed*), and using Hungarian stress and intonation patterns.

In summary, these frameworks highlight the difficulties Hungarian learners of English face, particularly because of the differences in the two languages' phonetic inventories, and the dissimilar stress and intonation patterns. Dealing with these issues through explicit pronunciation teaching in an early stage of language learning can help learners become more confident speakers, can improve their intelligibility, and listening comprehension.

3 Research

3.1 Research Methods

In order to reveal the pronunciation difficulties of Hungarian learners of English, a study was conducted involving 17 subjects who had at least a B2 level of English, all of whom stated a preference for American English pronunciation. Composed of a questionnaire that collected information about participants' self-perceptions, and a reading task (see Appendix A) that focused on the subjects' pronunciation, it aimed to answer the following questions:

Q1. What are the most common pronunciation mistakes for Hungarian learners of English?

Q2. Do the participants' reported accents align with their actual pronunciation patterns?

Q3. Are the participants aware of their own pronunciation difficulties?

Each subject was asked to record their voice during the reading, with the instruction to make the recordings somewhere quiet. After submitting the recordings via email, all were converted to .wav format. The first three rows of the reading task focused on stop consonants—whether participants pronounced aspirated or plain voiceless stops (for the exact measurements see Appendix B, Table B1). In order to measure the VOT of each stop, the software program Praat was used. Positive VOT was measured from the (first) release of the stop up to the point when the vocal cords started to vibrate. Negative VOT was measured the other way around. The fourth row of the reading task addressed the distinction between /w/–/v/ (see Table B2), the fifth examined the articulation or substitution of /θ/–/ð/ (Table B3), the sixth focused on NG clusters—whether /ŋ/ is pronounced with a following /g/ (Table B4), the seventh included minimal pairs with the vowels of DRESS and TRAP (Table B5), the eighth contained words in which the flap sound can be used (Table B6), the ninth targeted NT clusters to see if participants delete the /t/ (Table B7), and the tenth row concentrated on primary stress placement (Table B8). Whether subjects pronounced one sound or another was decided based on repeated listening to the recordings and observing the spectrograms. Since measurable phonetic data

was collected and auditory judgments were also made, this is considered to be a mixed-methods study.

3.2 Results

3.2.1 The Most Common Pronunciation Errors of Hungarian Learners

Table 1 below summarizes each participant's accuracy through the reading task.

Table 1

Hungarian Learners' Most Common Pronunciation Mistakes

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	avg.
/ŋ/	63%	25%	100%	0%	25%	0%	13%	25%	13%	0%	0%	0%	0%	25%	0%	0%	13%	18%
/ð/	0%	50%	50%	50%	50%	0%	25%	25%	25%	25%	0%	0%	0%	75%	0%	0%	50%	25%
/æ/	100%	14%	100%	14%	86%	0%	0%	14%	0%	29%	14%	0%	0%	100%	0%	0%	57%	31%
[pʰ]	33%	67%	100%	33%	67%	33%	33%	0%	0%	0%	0%	0%	0%	100%	0%	67%	67%	35%
/θ/	100%	0%	100%	25%	100%	0%	0%	75%	0%	50%	0%	0%	75%	50%	25%	0%	25%	37%
[tʰ]	67%	67%	100%	0%	100%	33%	67%	67%	33%	33%	0%	67%	100%	100%	100%	100%	33%	63%
/w/	83%	83%	100%	75%	58%	0%	67%	67%	17%	100%	42%	92%	17%	75%	100%	92%	100%	69%
/v/	83%	83%	100%	83%	83%	100%	100%	83%	100%	100%	100%	17%	100%	33%	67%	100%	33%	80%
[kʰ]	100%	100%	100%	100%	100%	100%	100%	50%	50%	100%	100%	0%	100%	100%	100%	100%	100%	88%
/ɛ/	100%	100%	100%	86%	100%	100%	100%	100%	100%	57%	100%	100%	100%	100%	100%	100%	71%	95%

Data collected from the voice recordings show that the most common mistake concerned the velar nasal sound, as only 18% of the words were pronounced correctly, without adding a /g/ after /ŋ/, which means 82% of the words were pronounced with [ŋg]. There was only one speaker who pronounced all the words tested correctly, only with a /ŋ/. The second most frequent issue was the substitution of /ð/, with only 25% of correct pronunciation. Out of the 68 words in which a lenis dental fricative should have been articulated, 37 was replaced by the lenis alveolar stop /d/; 6 with the fortis alveolar stop /t/; and interestingly, 4 with the fortis dental fricative /θ/; and in 4 words, the sound was not perceivable. Participants also struggled with the correct pronunciation of the TRAP vowel. Only three of them could make a distinction consistently between the TRAP and the DRESS vowels both in duration and tongue height. Additionally, two speakers used the TRAP vowel correctly in most of the TRAP words. Eight participants differentiated the minimal pairs based solely on vowel duration rather than both

openness and duration. However, five of them produced longer DRESS vowels than TRAP vowels. Four speakers systematically substituted the TRAP vowel with the DRESS vowel, making it impossible to distinguish the minimal pairs from each other. The fourth most common mistake was an allophonic one, as in words where an aspirated [pʰ] should have been pronounced, a plain voiceless /p/ was articulated in 65% of the words. Seven participants did not use the aspirated allophone of /p/ in either of the words tested, four pronounced an aspirated bilabial stop in one word each, another four in two words each, leaving only two speakers who used [pʰ] in all words. The next common error was the mispronunciation of the fortis dental fricative /θ/, as only 37% of the words were correctly pronounced with this sound. Participants substituted it 26 times with /t/, 8 times with an aspirated [tʰ], 5 times with /s/, and 3 times with /tʃ/. A less frequent issue is again related to aspiration, as 63% of the words were pronounced correctly with an aspirated alveolar stop [tʰ], which is 28% more than the occurrence of the aspirated bilabial stop [pʰ]. However, two speakers did not use the aspirated allophone of /t/ in either of the words tested, four used it only in one of the words, five of them pronounced [tʰ] in two words, and six participants pronounced the allophone correctly in all words. Even less commonly, /w/ was substituted with [v], since only in 31% of the words with /w/ was replaced by the lenis labiodental fricative. As can be seen in Table 1, there was only one speaker who consistently pronounced [v] instead of the labio-velar approximant, two participants made this mistake in ten out of the twelve words tested, and one participant in seven words. However, most speakers (14 out of 17) pronounced the words correctly in seven or more words. The mispronunciation of the aspirated velar stop [kʰ] was the least common among the allophonic mistakes, since there was only one participant, who did not use the allophone in either of the words, and two speakers pronounced half of the words with [kʰ]. Furthermore, 88% of the words tested were pronounced correctly with the aspirated allophone of /k/. The pronunciation of the DRESS vowel seems to be the least problematic among Hungarian learners of English.

95% of the words tested were pronounced correctly, and there were only three participants who did not use the DRESS vowel in some of the words: P4 did not pronounce the DRESS vowel in one word, P17 in two words, and P10 in three words. Ultimately, another mistake was noticed: nine speakers consistently pronounced a trill instead of a retroflex R.

Overall, it seems that the top three difficulties for Hungarian learners of English are: (i) not pronouncing the /g/ in morpheme-final NG clusters, (ii) distinguishing the TRAP vowel from the DRESS vowel both in quality and quantity, and (iii) producing the lenis dental fricative correctly and not substituting it with more familiar sounds.

3.2.2 Participants' Reported Accents and Their Actual Pronunciation Patterns

Before selecting the participants, everyone was asked about their preferred accent and/or dialect. Only those were selected who answered that they favored American accent over others. In order to decide whether learners truly use the pronunciation features of American English, five factors were considered (as can be seen in Table 2): the pronunciation of /r/, the usage of the flap sound [ɾ], the deletion of /t/ in NT clusters, primary stress placement, and the quality of the vowels in LOT words.

Table 2

Participants' Pronunciation Patterns

	/r/ pronounced?	flap used?	Drops /t/ in nt cluster?	primary stress	[ɑ]/[ɒ]: *pot, stop, got, hotter, bottle*	LOT avg./P
P1	100%	100%	100%	83%	p[ɒ/o]t, st[ɑ]p, g[ɑː]t, h[ɑ]tter, b[ɑ]ttle	80%
P2	100%	46%	57%	100%	p[ɑ]t, st[a]p, g[ʌ]t, h[ɑ]tter, b[ɑ]ttle	100%
P3	100%	100%	100%	100%	p[ɑː]t, st[ɒ]p, g[a]t, h[?]otter, b[ɑ]ttle	75%
P4	95%	62%	57%	57%	p[o]t, st[a]p, g[o]t, h[ɑ]tter, b[ɑ]ttle	60%
P5	100%	100%	14%	100%	p[ɑ]t, st[ɑ]p, g[ɑ]t, h[ɑ]tter, b[ɑ]ttle	100%
P6	100%	0%	0%	57%	p[o]t, st[ɑ]p, g[o]t, h[o]tter, b[ɑ]ttle	40%
P7	100%	0%	29%	29%	p[o]t, st[ɒ/o]p, g[ɑ]t, h[ɑ]tter, b[ɑ]ttle	60%
P8	100%	0%	0%	86%	p[o]t, st[a]p, g[o]t, h[ɑ]tter, b[a]ttle	60%
P9	100%	0%	0%	100%	p[o]t, st[a]p, g[ʌ]t, h[a]tter, b[ɑ]ttle	75%
P10	100%	92%	14%	100%	p[o]t, st[ɒ]p, g[ɒ]t, h[o]tter, b[ɑ]ttle	20%
P11	100%	0%	0%	100%	p[o]t, st[a]p, g[a]t, h[a]tter, b[ɑ]ttle	80%
P12	100%	0%	29%	57%	p[o]t, st[ɑ]p, g[o]t, h[a]tter, b[ɑ]ttle	60%
P13	100%	0%	0%	100%	p[o]t, st[ɑ]p, g[a]t, h[ɑ]tter, b[ɑ]ttle	80%
P14	90%	92%	14%	100%	p[ɒ]t, st[ɑ]p, g[ɒ]t, h[ɑ]tter, b[ɑ]ttle	60%
P15	100%	0%	0%	43%	p[o]t, st[a]p, g[ɑ]t, h[ɑ]tter, b[ɑ]ttle	80%
P16	100%	92%	29%	83%	p[o]t, st[ɑ]p, g[ɑ]t, h[ɑ]tter, b[ɑ]ttle	80%
P17	100%	85%	0%	71%	p[o]t, st[ɑ]p, g[o]t, h[ɒ]tter, b[?]ttle	25%
avg.	99%	45%	26%	80%	18%, 82%, 59%, 82%, 94%	67%

Concerning R dropping, out of the 340 words tested, 337 contained /r/—P4 deleted the R in the word *sport* and P14 in the words *internet* and *interview*. Regarding the flap sound, it was only used in 45% of the words tested. Three speakers pronounced the alveolar tap in all 13 words tested, while one participant pronounced a flap in all words except for two, where glottal stops were articulated, which is another common feature of American English. Three participants used a flap in twelve words, one used it in eight words, one in six words, and eight speakers never articulated words with this sound. As for /t/ dropping in NT clusters, only 26% of the fortis alveolar stops were deleted in these sequences. Only two speakers deleted the /t/ in all seven words tested, and two dropped it in four words. Four participants did not pronounce the fortis alveolar stop in the words *twenty* and *plenty*, while three speakers deleted it only in *twenty*. Six participants pronounced every /t/ in the clusters. The analysis concerning primary stress examined whether participants follow the American or the British stress placement in words which point out systematic variations in this matter. Five speakers pronounced the words using both British and American stress patterns, however, most of them pronounced the words according primarily to the American conventions. The last factor taken into consideration was the quality of the vowel in LOT words. An [ɒ̝] or [o] was pronounced by fourteen participants in the word *pot*, by seven in the word *got*, three used one of these vowels in *stop*, three in *hotter*, and one speaker in *bottle*. Only one participant pronounced all five words tested with [ɑ], while six speakers pronounced [ɑ] and [a] interchangeably, which indicates inconsistency in their pronunciation of the LOT vowel. Two instances of *got* was articulated with the STRUT vowel, which makes it a homophone with *gut*. One-one instances of the vowels in *hotter* and *bottle* was not perceivable. The results show that these Hungarian learners lean towards rhotic pronunciation but can be influenced by non-rhotic dialects. 55% of the words tested did not contain a flap sound, where most American speakers would have used this allophone, which suggests that this sound is not inherent in many of the participants' pronunciation patterns

regarding English. The tendency to delete the /t/ mostly in the words *twenty* and *plenty* suggests that if learners are exposed to frequent words of spoken American English, it increases the probability that they will adopt its typical pronunciation, whereas less frequent words may still be pronounced with influence from their native language. Finally, most participants pronounced the LOT words without sticking to one particular vowel, suggesting that it is notably difficult for Hungarian learners to avoid influence from their native language.

3.2.3 Participants' Awareness of Their Own Pronunciation Difficulties

In the questionnaire part of this study, speakers were asked which sounds they find difficult to pronounce. Their answers were compared to the results of the reading task, shown in Table 3:

Table 3

Participants' Perceptions of Their Pronunciation Difficulties

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	avg.
[pʰ] %	33%	67%	100%	33%	67%	33%	33%	0%	0%	0%	0%	0%	0%	100%	0%	67%	67%	35%
[tʰ] %	67%	67%	100%	0%	100%	33%	67%	67%	33%	33%	0%	67%	100%	100%	100%	100%	33%	63%
[kʰ] %	100%	100%	100%	100%	100%	100%	100%	50%	50%	100%	100%	0%	100%	100%	100%	100%	100%	88%
/w/ %	83%	83%	100%	**75%**	58%	0%	67%	67%	17%	**100%**	42%	92%	17%	75%	100%	92%	100%	69%
/v/ %	83%	83%	100%	**83%**	83%	100%	100%	83%	100%	**100%**	100%	17%	100%	33%	67%	100%	33%	80%
/θ/ %	**100%**	**0%**	100%	**25%**	**100%**	**0%**	**0%**	75%	**0%**	**50%**	**0%**	**0%**	75%	**50%**	25%	0%	25%	37%
/ð/ %	**0%**	50%	50%	**50%**	50%	0%	**25%**	25%	25%	**25%**	**0%**	0%	0%	75%	0%	0%	50%	25%
/ŋ/ %	63%	25%	100%	**0%**	25%	0%	13%	25%	13%	0%	0%	0%	0%	25%	0%	0%	13%	18%
/æ/ %	100%	14%	**100%**	14%	86%	0%	0%	14%	0%	**29%**	14%	0%	0%	100%	0%	0%	57%	31%
/ɛ/ %	100%	100%	**100%**	86%	100%	100%	100%	100%	100%	**57%**	100%	100%	100%	100%	100%	100%	71%	95%
/ɾ/ %	92%	46%	100%	62%	**100%**	0%	0%	0%	0%	8%	0%	0%	**0%**	92%	0%	8%	85%	35%
/n/ %	100%	57%	100%	57%	14%	0%	29%	0%	0%	14%	0%	29%	29%	14%	0%	29%	0%	28%
	77%	58%	96%	49%	74%	31%	45%	42%	28%	43%	30%	25%	43%	72%	41%	50%	53%	50%

The cells with thick outside borders show each participants' response concerning their difficulties regarding pronunciation. While many of them identified some correctly, more speakers did not know about all of the sounds they frequently mispronounce. Additionally, some speakers thought that they do not pronounce particular sounds accurately, yet they do. The majority of the participants reported that they find the fortis TH sound the most problematic, however out of these eleven speakers, two articulated /θ/ without any difficulties,

two pronounced half of the words tested correctly, and the other seven speakers indeed had problems with the articulation of /θ/. Three more participants also systematically mispronounced this sound, yet they did not recognize this difficulty. Five speakers also found it problematic to pronounce words which contain the lenis dental fricative and four of them actually substituted this sound in most of the words tested, while P4 pronounced half of the words correctly with /ð/. Eleven speakers did not indicate any difficulty with this sound, yet seven of them substituted most of the lenis TH sounds, while four of them mispronounced it in half of the words. Even though only P4 reported having problems with pronouncing NG clusters correctly, the results show that fourteen more speakers mispronounced these sequences. This might indicate that many of the participants did not know that the /g/ should be deleted in morpheme-final NG clusters. Only P3 and P10 reported experiencing difficulty in differentiating the DRESS and TRAP vowels. However, P3's voice recordings revealed no issue in this respect, while P10 marked this difficulty accordingly, since the minimal pairs could not be differentiated. Nevertheless, twelve more participants also experienced problems regarding these vowels, yet they did not mention them in the questionnaire. This suggests that they may be unaware of the vowel difference in the DRESS-TRAP minimal pairs. P5 and P13 found the alveolar tap difficult to pronounce, but the recordings show that only P13 had difficulty with this sound, while P5 articulated the words with [ɾ] correctly. As can be seen in Table 3, P2, P4, P10, and P16 could pronounce the tap sound, however, they did not use it consistently, which can indicate some difficulty in articulating [ɾ]. Only P4 and P10 reported problems to differentiate between /v/ and /w/, yet, P4 made just a few mistakes, while P10 did not make any. However, P5, P6, P9, P11, P12, P13, P14, and P17 clearly experienced difficulties distinguishing these sounds, though they did not mention them in the questionnaire. Ultimately, neither of the participants marked the aspirated allophones of /p, t, k/ as problematic, yet many of them had troubles with these sounds as well.

These findings suggest that many respondents are not completely aware of their pronunciation difficulties. Some overestimates their mistakes, while others could not identify several systematic errors in their speech.

4 Discussion

The results revealed that the most common mistake concerns morpheme-final NG clusters, a difficulty which Huszthy (2022) also mentions. The fact that most participants mispronounced these sequences can be associated with their native language, as in Hungarian, every NG cluster is pronounced as [ŋg] irrespective of its position in a word. For these speakers, it can also be considered difficult to drop the /g/ in such clusters articulating only a velar nasal sound or learning that /g/ is only pronounced if the sequence is not morpheme final (except in *hangar* and words ending in *-ingam*). Many participants also struggled with the correct pronunciation of English vowels, which was also observed by Huszthy (2022). Two particular substitutions identified by Huszthy (2022) were also detected in speakers' voice recordings: [æ] was replaced by [ɛ] and [ɑ] mostly by [a]. This issue might result from the fact that vowels do not involve exact points of constriction in the mouth like consonants do, which can make it more complicated for speakers to learn the appropriate tongue positions to articulate a particular vowel sound. Another difficulty also mentioned by Huszthy (2022) and by Piukovics (n.d.) concerns fortis stops—in the recordings, only 35% of the bilabials, 63% of the alveolars, and 88% of the velars were aspirated. A study conducted by Lisker and Abramson (1964) shows the same pattern: the further back the obstruction occurs in the mouth, the more likely the stop will be aspirated in Hungarian (p. 393). This might be explained through an articulatory factor—the more forward the obstruction is in the mouth, the less air pressure and force is needed to release the stop, thus /p/ is less likely to be aspirated than /t/, and /t/ is less likely to be aspirated than /k/. Sounds that are not present in Hungarian can also cause difficulties, as discussed by Piukovics (n.d.), Huszthy (2022), and Walker (2010)—The voice recordings in

this study revealed that [θ] was mainly substituted by [t] and [s] but not by [f]; [ð] was mostly replaced by [d] and sometimes by [t] but not by [z] or [dz]; instead of [ɹ] many participants consistently uttered [r]; and [w] was changed to [v] in 31% of the words tested. Additionally, the plural suffix -*s* was pronounced as [s] by two participants in the word *waves* and both of them applied the Hungarian-type regressive voicing assimilation at the same time, thus the word ended in [fs]. Another common mistake concerns the pronunciation of the word *of*, which belongs to the group of lexical errors: twelve participants used a [f] instead of [v] in this word. Another lexical error occurred in the production of the word *vineyard*: eleven speakers pronounced [aɪ], while one participant uttered a remarkably long FLEECE vowel in the place of the first vowel. Many speakers also struggled with the pronunciation of the word *thorough*.

4.1   Limitations and Further Research

As the study involved only 17 participants, it limited the general applicability of the results. If more learners from more diverse backgrounds could have been studied, the results would have given a more thorough understanding about the pronunciation difficulties of Hungarian learners of English. Factors such as former phonetic training, contact with native speakers, and other language-learning experiences were not considered, all of which could affect the speakers' pronunciation. The research relied on a guided reading task, so the natural accents of participants may not have been fully imitated. As this thesis focuses on American English, only speakers who preferred American accent/dialect were selected as participants. If a more general conclusion about the pronunciation difficulties of Hungarian learners of English were needed, the scope of the selected respondents should not have been narrowed down so much. Furthermore, native speakers of English could have also been involved in order to measure the intelligibility of the participants to English ears. Additionally, plenty of features were not examined by the reading task. For example, words which focus on the distinctions between other vowels than DRESS and TRAP, words that contain a post-nasal lenis stop in a noncoronal

cluster word-finally, words with irregular stress-placement or those with irregular pronunciation. Ultimately, learners from different L1 backgrounds could have been involved in order to study whether they demonstrate comparable pronunciation difficulties, which could have given cross-linguistic insights into English phonological acquisition.

5 Conclusion

In conclusion, Hungarian learners of English encounter a wide variety of pronunciation difficulties, which may stem from the distinctions in the two languages' phonetic inventories, intonation, and stress patterns. The study revealed that the most problematic sequences for the participants were NG clusters, vowels, and sounds that are not present in their native language. Early and straightforward pronunciation teaching might be crucial for learners to be intelligible and confident speakers. However, the purpose of teaching pronunciation should not necessarily be a native-like accent but to understand and use the phonological rules of English accurately. The study also showed that not every speaker was aware of their own errors; or they overestimated their difficulties. This gap between learners' self-perception and their actual errors suggests the necessity of a more thorough and focused feedback, as learners' pronunciation might have been more advanced had they been more aware of their actual errors and difficulties. Every speaker preferred the American dialect, although, some of them used features of non-rhotic accents, many of them used the flap sound inconsistently, furthermore, they did not delete the /t/ in NT clusters consistently. These results suggest that listening to spoken American English might help strengthen these common patterns of American English pronunciation. Further research could involve a larger number of participants from more diverse backgrounds, with a wider range of words, features, and patterns tested, for example, in a conversation, or in a situation that imitates the participants' pronunciation more precisely.

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Appendix A

Text of the Reading Task

1. bat, pat, pot, bot, bin, pin, prick, brick, appeal, sport;

2. din, tin, two, do, down, town, train, drain, attain, stop;

3. cot, got, gap, cap, crane, grain, crab, grab, accustom, scale;

4. While Victor watched the waves crash violently against the wet wooden walkway, he vowed
   to visit the vineyard where the vines were woven into a whimsical wall;

5. The thin thief thought the weather was worthy of a thorough investigation;

6. The king was singing a song while hanging a painting in the evening;

7. bad, bed, man, men, bag, beg, pan, pen, pat, pet, sad, said, dad, dead;

8. water, matter, butter, Betty, better, letter, city, pretty, little, kitten, hotter, later, bottle

9. twenty, plenty, internet, center, interview, winter, interstate

10. adult, ballet, brochure, garage, vaccine, buffet, detail

Appendix B

Table B1

Participants' VOT Measurements for Stop Consonants (in milliseconds)

	/p/	/b/	/p/L	/b/L	V/p/V	/sp/	/t/	/d/	/t/L	/d/L	V/t/V	/st/	/k/	/g/	/k/L	/g/L	V/k/V	/sk/
P1	36	-66	-	-77	149	27	37	-107	85	73	64	37	56	-89	106	-58	46	50
	31	-37					/ts/ (89)	-81					68	-83	95	-72		
	23	-93					46	-84										
P2	25	-127	62	-104	24	39	57	-82	/tʃ/ (111)	-111	52	29	68	-120	93	-116	29	45
	44	-117					/ts/ (94)	-114					54	-118	79	-95		
	53	-105					62	-21										
P3	66	-134	39	-95	68	31	66	-69	/tʃ/ (101)	-53	80	17	51	-7	97	-72	74	38
	73	-146					99	-98					81	-103	92	-63		
	95	-122					99	-75										
P4	10	-155	90	-257	18	23	25	-170	123	-	18	21	45	-184	127	163	37	27
	26	-162					23	-90					44	-217	77	-157		
	181	-164					21	-109										
P5	65	-180	116	-73	23	19	83	-115	/tʃ/ (139)	-	50	13	74	-79	110	-119	64	45
	34	-65					110	76					87	-89	125	71		
	60	-111					63	-99										
P6	13	0	37	-42	16	15	19	-126	77	-80	47	19	59	-72	78	-35		
	49	-56					111	38					54	-76	94	-56	67	46
	17	-138					33	-142										
P7	15	-118	76	40 (!)	22	11	56	-150	/tʃ/ (135)	-	23	22	53	-144, 40	46	-	53	32
	38	-114					58	29 (!)					49	-114	40	47 (!)		
	24	-162					30	-82										
P8	18	-145	29	-	36	-	37	-141	35	-45	34	34	25	-103	64	-146	31	-
	12	-103					60	-66					75	-52	69	-92		
	20	-87					30	-65										
P9	9	-85	7	-	26	15	28	-84	73	-102	18	14	56	21 (!)	156	-	23	32
	31	-104					67	-76					33	-56	99	-		
	19	-66					25	-63										
P10	13	-98	50	-135	0	7	22	-64	/tʃ/ (83)	-	24	11	61	-74	58	-111	32	30
	24	-					/ts/ (52)	-54					52	-107	53	-90		
	12	-125					51	-72										
P11	9	-118	43	-75	23	18	28	-115	30	-62	12	19	59	-66	59	-106	37	58
	22	-109					31	96					53	-125	99	-92		
	20	-96					25	83										
P12	4	-108	15, 46	-108	34	9	37	-130	31	-	14	8	25	-114	37	-93	38	38
	26	-135					36	-105					19	-87	70	-95		
	11	-107					20	-94										
P13	12	-124	105	-107	36	18	53	-119	71	39 (!) /tʃ/	22	15	54	-114	100	-43	55	56
	22	-84					53	20 (!)					75	-88	188	-63		
	20	-86					35	-107										
P14	66	-121	34	13 (!)	31	35	47	94	/tʃ/ (58)	-76	27	24	69	-43, -111	78	-47	62	58
	35	-125					/ts/ (50, 55)	-74					51	-77	88	27 (!)		
	51	-106					47	-69										
P15	12	-162	34	-98	39	27	38	-113	112	-	40	32	85	-137	79	-	64	79
	18	-109					47	-86					57	-155	77	-84		
	28	-133					53	-105										
P16	18	-91	63	0	48	49	69	-138	/tʃ/ (156)	-68	51	3	57	-48	111	42 (!)	41	36
	59	-88					104	0					93	-54	97	41 (!)		
	100	-109					68	0										
P17	28	-98	113	23 (!)	70	15	33	-117	/tʃ/ (118)	/dʒ/ (-82)	38	24	47	-129	106	-155	50	41
	53	-145					55	-130					77	-77	110	-41		
	91	-104					33	-91										

Note. The first row shows the word-initial sounds. /p/L = /p/ is followed by a liquid, V/p/V = /p/ is in intervocalic position. Participants frequently pronounced /t/ as /ts/ and /tʃ/, which is indicated where happened. In the cells where a hyphen is present, the sound was not measurable.

Table B2

Participants' Pronunciation of Words that Contain /w/ and /v/

WORD	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17
while	-	-	-	-	v	v	v	-	v	-	v	-	v	-	-	-	-
victor	-	-	-	-	-	-	-	-	-	-	-	w	-	-	-	-	w
watched	-	-	-	-	-	v	v	-	v	-	v	-	v	-	-	-	-
waves	-	-	-	-	v	v	v	v	v	-	-	-	v	-	-	-	-
violently	w	-	-	-	-	-	-	-	-	-	-	w	-	w	-	-	w
wet	-	v	-	v	v	v	v	v	-	-	v	-	v	v	-	v	-
wooden	-	v	-	-	-	v	-	-	-	-	v	-	-	v	-	-	-
walkway	-	-	-	-	-	v v	w v	-	v v	-	-	-	v w	-	-	-	-
vowed	-	-	-	w	w	-	-	w	-	-	-	w	-	w	w	-	w
visit	-	w	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
vineyard	-	-	-	-	-	-	-	-	-	-	-	w	-	w	w	-	w
where	v	-	-	v	v	v	v	-	v	-	-	-	v	-	-	-	-
vines	-	-	-	-	-	-	-	-	-	-	-	w	-	w	-	-	-
were	-	-	-	-	-	v	-	-	v	-	-	-	v	v	-	-	-
woven	v	-	-	-	-	v	-	-	v	-	v	-	v	-	-	-	-
whimsical	-	-	-	v	v	v	v	v	v	-	v	v	v	-	-	-	-
wall	-	-	-	-	-	v	v	v	v	-	v	-	v	-	-	-	-

Note. In the cells where a hyphen is present, participants pronounced the particular word with the appropriate sound.

Table B3

Participants' Pronunciation of TH-Sounds

	the /ð/	thin /θ/	thief /θ/	thought /θ/	the /ð/	weather /ð/	worthy /ð/	thorough /θ/	/θ/ %	/ð/ %
P1	d	θ	θ	θ	-	d	d	θ	100%	0%
P2	-	t	tʰ	tʃ	ð	ð	d	tʃ	0%	50%
P3	ð	θ	θ	θ	d	ð	θ	θ	100%	50%
P4	ð	θ	t	s	d	d	ð	s	25%	50%
P5	ð	θ	θ	θ	d	ð	d	θ	100%	50%
P6	d	t	t	t	d	d	t	t	0%	0%
P7	d	t	t	t	d	d	ð	t	0%	25%
P8	ð	θ	θ	θ	d	d	θ	s	75%	25%
P9	-	t	t	t	d	d	ð	-	0%	25%
P10	d	θ	t	θ	d	d	ð	s	50%	25%
P11	d	t	t	t	d	d	t	t	0%	0%
P12	d	t	t	t	d	d	t	s	0%	0%
P13	d	θ	θ	θ	d	d	t	t	75%	0%
P14	ð	θ	θ	tʰ	ð	ð	θ	tʃ	50%	75%
P15	d	t	t	θ	d	d	t	tʰ	25%	0%
P16	-	tʰ	tʰ	t	d	d	t	tʰ	0%	0%
P17	ð	tʰ	tʰ	t	d	ð	θ	θ	25%	50%

Note. In the cells where a hyphen is present, the sound was not clearly perceivable.

Table B4

Participants' Pronunciation of NG Clusters

	king	singing	singing	song	hanging	hanging	painting	evening	%/P
P1	ŋ	ŋg	ŋ	ŋ	ŋg	ŋg	ŋ	ŋ	63%
P2	ŋg	ŋ	ŋ	ŋg	ŋg	ŋg	ŋg	ŋg	25%
P3	ŋ	ŋ	ŋ	ŋ	ŋ	ŋ	ŋ	ŋ	100%
P4	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	0%
P5	ŋg	ŋ	ŋg	ŋg	ŋg	ŋ	ŋg	ŋg	25%
P6	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	0%
P7	ŋg	ŋ	ŋg	ŋg	ŋg	n	ŋg	ŋg	13%
P8	ŋ	ŋ	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	25%
P9	ŋ	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	13%
P10	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	0%
P11	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	0%
P12	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	0%
P13	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	0%
P14	ŋg	ŋ	ŋg	ŋg	ŋ	ŋg	ŋg	ŋg	25%
P15	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	0%
P16	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	0%
P17	ŋg	ŋ	ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	13%

Table B5

Quality and Quantity of the DRESS and TRAP Vowles

WORD	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17
bad	æ 268	æ 167	æ 302	ɛ 191	æ-ɐ 303	ɛ 181	ɛ 141	ɛ 181	ɛ 122	æ-ɛ 235	ɛ 109	ɛ 155	ɛ 147	æ 278	ɛ 166	ɛ 183	ɛ 198
bed	ɛ 164	ɛ 119	ɛ 186	ɛ 159	ɛ 209	ɛ 160	ɛ 164	ɛ 177	ɛ 168	ɛ 277	ɛ 152	ɛ 170	ɛ 131	ɛ 187	ɛ 192	ɛ 161	ɛ 196
man	æ 256	ɛ 124	æ 272	æ 276	æ-ɛ 187	ɛ 158	ɛ 144	ɛ-æ 196	ɛ 106	æ 212	ɛ 139	ɛ 156	ɛ 129	æ 268	ɛ 158	ɛ 151	æ 192
men	ɛ 159	ɛ 97	ɛ 142	æ 193	ɛ 194	ɛ 164	ɛ 198	ɛ 193	ɛ 149	æ-ɛ 220	ɛ 150	ɛ 166	ɛ 144	ɛ 173	ɛ 181	ɛ 80	ɛ 189
bag	æ 260	ɛ 137	æ 305	ɛ 158	æ-ɛ 190	ɛ 172	ɛ 158	ɛ 230	ɛ 111	ɛ 225	ɛ 126	ɛ 148	ɛ 144	æ 299	ɛ 179	ɛ 168	æ 226
beg	ɛ 152	ɛ 89	ɛ 194	ɛ 174	ɛ 207	ɛ 157	ɛ 182	ɛ 152	ɛ 157	ɛ 246	ɛ 99	ɛ 175	ɛ 108	ɛ 161	ɛ 206	ɛ 98	ɛ 198
pan	æ 271	ɛ 197	æ 220	ɛ 171	æ-ɛ 173	ɛ 161	ɛ 170	ɛ 167	ɛ 118	ɛ 227	æ-ɛ 165	ɛ 167	ɛ 121	æ 250	ɛ 188	ɛ 124	ɛ 220
pen	ɛ 168	ɛ 89	ɛ 114	ɛ 131	ɛ 196	ɛ 157	ɛ 162	ɛ 196	ɛ 150	ɛ 230	ɛ 157	ɛ 168	ɛ 121	ɛ 172	ɛ 192	ɛ 95	ɛ 173
pat	æ 266	ɛ 139	æ 230	ɛ 95	æ-a 179	ɛ 121	ɛ 98	ɛ 125	ɛ 84	ɛ 143	ɛ 115	ɛ 125	ɛ 115	æ 217	ɛ 137	ɛ 118	æ 138
pet	ɛ 143	ɛ 89	ɛ 124	ɛ 82	ɛ 175	ɛ 136	ɛ 194	ɛ 118	ɛ 138	ɛ 126	ɛ 39	ɛ 153	ɛ 109	ɛ 72	ɛ 188	ɛ 106	æ-ɛ 127
sad	æ 300	ɛ 135	æ 258	ɛ 162	æ-ɐ 226	ɛ 136	ɛ 134	ɛ 142	ɛ 124	ɛ 207	ɛ 119	ɛ 114	ɛ 129	æ 236	ɛ 152	ɛ 140	ɛ 238
said	ɛ 147	ɛ 126	ɛ 149	ɛ 50	ɛ 189	ɛ 148	ɛ 155	ɛ 142	ɛ 151	æ-ɛ 228	ɛ 125	ɛ 164	ɛ 133	ɛ 170	ɛ 188	ɛ 100	æ-ɛ 228
dad	æ 302	ɛ 149	æ 292	ɛ 142	ɛ 184	ɛ 160	ɛ 144	ɛ 154	ɛ 138	æ 215	ɛ 158	ɛ 134	ɛ 147	æ 251	ɛ 187	ɛ 170	æ 210
dead	ɛ 190	ɛ 127	ɛ 188	ɛ 119	ɛ 198	ɛ-3 124	ɛ 164	ɛ 191	ɛ 180	æ-ɛ 256	ɛ 148	ɛ 175	ɛ 179	ɛ 161	ɛ 196	ɛ 159	ɛ 208
/æ/ avg.	274.7	149.7	268.4	170.7	206	155.6	141.2	170.7	114.7	209.1	133	142.7	133.1	257	166.7	150.6	203.1
/ɛ/ avg.	160.4	105.1	156.7	129.7	195.4	149.4	174.1	167	156.1	226.1	124.3	167.3	132.1	156.6	191.9	114.1	188.4

Note. Where two phonemes are present with a hyphen between them, the participant pronounced a sound which was a mix of the two phonemes.

Table B6

Participants' Pronunciation of Words Where the Flap Sound Can Be Used

WORD	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17
water	ɾ	t	ɾ	ɾ	ɾ	t	t	t	t	t	t	t	ts	ɾ	t	t	ɾ
matter	ɾ	t	ɾ	t	ɾ	t	t	t	t	t	t	t	ts	ɾ	t	t	ɾ
butter	ɾ	t	ɾ	ɾ	ɾ	t	t	t	t	t	t	t	ts	ɾ	t	t	ɾ
betty	ɾ	ts	ɾ	ɾ	ɾ	tt	t	t	t	t	tt	t	ts	ɾ	t	tt	ɾ
better	ɾ	ts	ɾ	ɾ	ɾ	t	t	t	t	t	t	t	ts	ɾ	t	t	ɾ
letter	ɾ	ɾ	ɾ	ɾ	ɾ	t	t	t	t	t	t	t	ts	ɾ	t	t	ɾ
city	ɾ	ɾ	ɾ	t	ɾ	t	t	t	t	t	t	t	t	ɾ	t	t	ɾ
pretty	ɾ	ɾ	ɾ	t	ɾ	t	t	t	t	t	t	t	t	ɾ	t	t	ɾ
little	ɾ	ɾ	ɾ	ɾ	ɾ	th	t	t	t	ɾ	t	t	θ	ɾ	t	t	ʔ
kitten	ts	ts	ɾ	t	ɾ	th	t	t	t	t	t	t	ts	ɾ	t	t	ʔ
hotter	ɾ	ɾ	ɾ	ɾ	ɾ	t	t	t	t	t	t	t	t	t	t	t	ɾ
later	ɾ	t	ɾ	ɾ	ɾ	t	t	t	t	t	t	t	t	ɾ	t	t	ɾ
bottle	ɾ	ɾ	ɾ	-	ɾ	-	t	t	t	t	t	t	ts	ɾ	t	ɾ	ɾ
/ɾ/ %	92%	46%	100%	62%	100%	0%	0%	0%	0%	8%	0%	0%	0%	92%	0%	8%	85%

Note. In the cells where a hyphen is present, the sound was not identifiable.

Table B7

Participants' Pronunciation of NT Clusters

WORD	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17
twenty	n	n	n	n	n	nt	n	nt	nt	n	nt	n	n	n	nt	n	nt
plenty	n	n	n	n	nt	nt	n	nt	nt	nt	nt	n	n	nt	nt	n	nt
internet	n	nts	n	n	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
center	n	n	n	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
interview	n	nts	n	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
winter	n	nt	n	n	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
interstate	n	n	n	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
/n/ %	100%	57%	100%	57%	14%	0%	29%	0%	0%	14%	0%	29%	29%	14%	0%	29%	0%

Table B8

Where Did Participants Place Primary Stress on Words in the 10th Row of the Reading Task

P1	a'dult	ball'et	'brochure	ga'rage	vac'cine	V	'detail
P2	a'dult	ball'et	bro'chure	ga'rage	vac'cine	bu'ffet	'detail
P3	a'dult	'ballet	'brochure	ga'rage	vac'cine	bu'ffet	'detail
P4	a'dult	ball'et	'brochure	'garage	vac'cine	'buffet	'detail
P5	a'dult	ball'et	bro'chure	ga'rage	vac'cine	bu'ffet	'detail
P6	a'dult	'ballet	'brochure	ga'rage	vac'cine	'buffet	'detail
P7	a'dult	'ballet	'brochure	H. 'garázs	'vaccine	'buffet	'detail
P8	a'dult	ball'et	bro'chure	'garage	vac'cine	bu'ffet	'detail
P9	a'dult	ball'et	bro'chure	ga'rage	vac'cine	bu'ffet	'detail
P10	a'dult	ball'et	bro'chure	ga'rage	vac'cine	bu'ffet	'detail
P11	a'dult	ball'et	bro'chure	ga'rage	vac'cine	V	'detail
P12	a'dult	'ballet	'brochure	ga'rage	vac'cine	'buffet	'detail
P13	a'dult	ball'et	bro'chure	ga'rage	vac'cine	bu'ffet	'detail
P14	a'dult	ball'et	bro'chure	ga'rage	vac'cine	bu'ffet	'detail
P15	'adult	'ballet	bro'chure	ga'rage	'vaccine	H. 'büfé	'detail
P16	a'dult	ball'et	bro'chure	ga'rage	vac'cine	V	'detail
P17	a'dult	ball'et	'brochure	ga'rage	vac'cine	bu'ffet	de'tail

Note. V = the participant pronounced the verb form of the word *buffet*. H. = the participant pronounced the word as it would be pronounced in Hungarian.