Realizations of TH Sounds among University Students in Brunei

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Abstract. This study investigates the different realizations of TH sounds in Brunei English among 31 local university students based on their pronunciations in a recorded reading task and five-minute interview. The study also attempts to compare the variations in TH sound realizations between female and male speakers to identify gender-based differences. The paper aims to discuss these variations by comparing its findings to previous studies of TH sounds in Brunei. The findings mainly support previous studies on TH sounds, particularly for initial voiced TH and medial and final TH sounds. However, the more remarkable occurrences of dental fricative [θ] in initial voiceless TH in tokens such as *threaten* and *third* contrasts with earlier reports stating more use of plosive [t] instead. Also, it is unclear from our data whether female speakers are leading in linguistic changes as there is insufficient data. Hopefully, this study will contribute to discussing sociolinguistic trends and the defining features of Brunei English to distinguish it from other varieties, such as Malaysian and Singapore English.

Keywords: *TH sounds, Brunei English, pronunciation change, language variation, acoustic analysis*

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INTRODUCTION

The realizations of TH sounds have been reported in many English varieties. The initial TH sounds in words such as *through* and *they* are traditionally pronounced using dental fricatives [θ] and [ð], respectively, for speakers in the United Kingdom, Australia, and the United States. In contrast, London English (Wells, 1982, p. 328) and Hong Kong English

(Deterding et al., 2008) speakers use [f] and [v] for TH sounds, while English speakers in China (Deterding, 2006a) and in Nigeria (Oyebola et al., 2019) use [s] and [z] instead.

Some speakers in places such as Ireland and New York realize TH sounds as plosives [t] and [d] (Wells, 1982, p. 429, 515). This avoidance of dental fricatives is also observed in English varieties in Southeast Asia (Deterding & Kirkpatrick, 2006), such as in Singapore English (Deterding, 2007), Malaysian English (Nur Haziq Fikri et al., 2023, p. 1006), Philippine English (Agbayani & Sy, 2022) and Brunei English (Salbrina et al., 2024).

Nearly thirty years ago, Mossop (1996) reported that there were tendencies to use alveolar plosives for initial TH sounds among Bruneian secondary school and university students and newscasters; for example, *this* would be pronounced as [dɪs] and *thing* as [tɪŋ]. In a recent study, Salbrina et al. (2024) analyzed 53 speakers in the Universiti Brunei Darussalam Corpus of Spoken Brunei English. They found slightly more instances of [t] (53%) in initial voiceless TH sounds compared to [θ] (47%). These findings are like those reported by Salbrina (2010). Salbrina et al. (2024) also observed more occurrences of [d] (64%) than [ð] in initial voiced TH sounds, which supports the description initially reported by Mossop (1996). However, Diana Tahir (2008) found more use of fricatives (64%) than plosives (32%) in initial voiceless TH sounds among local undergraduates.

These differences confirm that pronunciation shifts occur over time, and it is helpful to note such trends and the possible reasons for these changes. Clynes and Deterding (2011) suggest the tendency to use plosives in the TH sounds of Brunei English may be due to the absence of dental fricatives in the Standard Malay phoneme inventory. Also, dental fricatives may be challenging for English speakers to produce and distinguish in speech, especially if the sounds are absent from the speakers' phoneme inventory. For example, Indian English speakers replace dental fricatives with dental plosives [t̪] or [t̪h] and [d̪] (Pingali, 2009, p. 21). Another suggestion is the pronunciation of words borrowed from English into Malay (Salbrina et al., 2024, p. 36), such as 'matematik' (*mathematics)*, 'tesis' (*thesis*), and 'termos' (*thermos*). As these words are pronounced with a plosive where the TH sound in English is pronounced using a fricative, we can expect other words to be pronounced with a plosive in Brunei and Malaysian English.

Variations in pronunciation features such as TH sounds play a vital role as signs of how language is identified and changes over time. While there have been quantitative pronunciation studies, research on the specific features of Brunei English remains limited. This study offers a quantitative analysis of the realizations of TH sounds among university students in Brunei. Using a correlation test, it explores the relationship between TH sounds and other pronunciation features of Brunei English, namely rhoticity and intervocalic [t̪]. The study will also investigate gender as a variable.

This study aims to contribute to understanding the variation of TH sounds among university students who represent a younger demographic likely to lead or reflect ongoing linguistic changes. Their language use can provide insights into emerging pronunciation patterns that may indicate shifts in Brunei English. It also aims to examine gender-based differences by comparing the realizations of TH sounds between female and male speakers.

This paper will refer to words from the passage and in the interviews as tokens, and these will be italicized. Non-English words will be used in ' ', and their English translation will

follow in brackets. Also, TH is used to denote the sounds in the onset of tokens, such as *throw* and *them*, in the medial sound in *rather*, and the final sound in the *path*. This is to ensure the analysis is descriptive and that there are no suggestions for how the sounds should be pronounced. Extracts from the interviews will include the participant's code and time stamp of when the token was mentioned. Finally, phonetic transcription using IPA symbols will be inserted where necessary to describe speakers' pronunciation.

RESEARCH METHOD

The study recorded 17 female and 14 male university students between 19 and 25 reading a passage titled 'The Boy Who Cried Wolf' (Deterding, 2006b). This was followed by a five-minute interview to obtain natural or informal instances of TH sounds in their speech. This research adopts a quantitative descriptive design rather than an experimental approach, focusing on realizations of TH without manipulating any variables.

Each recording was done in a quiet room using an H4N Zoom recorder. The participants were assigned a code to maintain anonymity. For example, M1 is the first male participant, and F2 is the second female participant.

The recordings are analyzed using Praat (Boersma & Weenink, 2024). The analysis primarily involves perceptual judgments made by the researchers, with an inter-rater reliability rate of 96%. Spectrograms from Praat illustrate the varied realizations and support the authors in making their judgments when necessary. Table 1 lists the TH tokens from the passage.

Table 1. TH Tokens Observed in the Reading Passage

TH sound	Tokens
Initial voiceless TH	*thought, threaten, third*
Initial voiced TH	*There, This*
Medial TH	*bother*
Final TH	*with*

Cruttenden (2014) notes that the [θ] and [t] sounds are voiceless as there are no vocal fold vibrations compared to their respective voiced counterparts [ð] and [d]. Dental fricatives are produced when the tongue is placed behind the upper teeth, with the tip reaching the lower part of the front teeth while the blade touches the inner side of the upper teeth (Roach, 2009, pp. 40–41). American pronunciation, however, differs slightly as the tongue protrudes between the teeth (Ladefoged & Johnson, 2011, p. 12) to produce these hissing sounds. An alveolar plosive occurs when the tongue blade presses against the alveolar ridge, obstructing air, which is then suddenly released when the articulators separate (Roach, 2009, p. 26; Ladefoged & Johnson, 2011, p. 14).

Fricatives are shown as uneven striations in the upper part of the spectrogram, while plosives are indicated by silence followed by a sharp frequency burst (Davenport & Hannahs, 2010, p. 68). An example of a fricative (*third*) and plosive (*time*) on a spectrogram is shown in Figure 1.

Figure 1. Spectrogram of a third time *by F7*
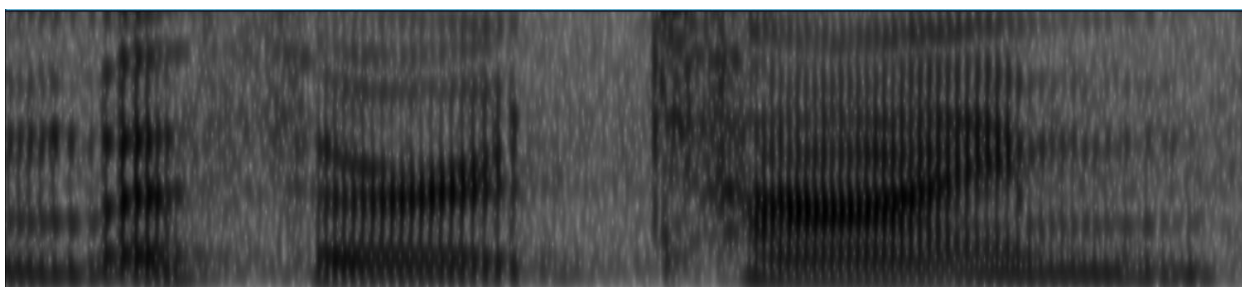
ə   θɜːrd   _taɪm

RESULT AND DISCUSSION

Initial Voiceless TH Sounds

Table 2 shows the 31 university students' realizations of initial voiceless TH sounds. Both female and male speakers produced more [θ] than [t], and there was no significant difference between the two data sets (χ^2=0.60, df=1, p=0.43).

Table 2. Realizations of Initial Voiceless TH in thought*,* threaten*, and* third

	Female		Male	
	[θ]	[t]	[θ]	[t]
thought	11	6	9	5
threatn	10	7	10	4
third	9	8	9	5
Total	30 (59%)	21 (41%)	28 (67%)	14 (33%)

Overall, there are more instances of dental fricatives (58; 62%) than plosives (35; 38%) in the onset of *thought*, *threaten*, and *third* which contrasts with findings reported by Mossop (1996), Salbrina (2010), and Salbrina et al. (2024), but supports Diana Tahir's (2008) results. Table 2 also shows more instances of [θ] in *thought* in the female data and slightly decreases in *threaten* and *third*, possibly because the latter two tokens occur near the end of the passage, and the participants may have been less careful with their speech. This could also suggest that the pronunciations were lexical based, such as in the male data, where there is an equal number of dental fricatives for *thought* and *third*, and ten instances were found at the start of *threaten*.

Among the 31 participants, 16 speakers (8 females; 8 males) were consistent in their use of [θ] in all three tokens, two speakers (1 female; 1 male) had two instances of [θ] and one [t], six produced one [θ] and two [t], and seven speakers (4 females; 3 males) used [t] throughout. The two speakers, F13 and M12, realised the onset of *threaten* and *third* using [θ] and *thought* with [t]. This is surprising as *thought* occurs near the beginning of the passage, when we expect participants to be most cautious in their pronunciation. In contrast,

F14 and M1 only produced [θ] in *threaten* and not in *thought* and *third*, while F3, F5, F9, and M9 realized [θ] only in *thought* and not in the other two tokens.

Intra-speaker variation is also observed in the interviews. There are limited TH tokens from the interviews, so providing a comprehensive analysis and conclusion is difficult. This will be addressed further in the limitations of the study.

For example, F10 used both [θ] and [t] in her informal speech, as shown in Extracts 1 and 2, even though she only used the voiceless dental fricative in the three tokens in the formal reading. The different realizations could be due to her fast speech rate and the fact that the participant is more relaxed conversing with the interviewer regarding her previous Study Abroad program. Deterding (2007) also notes similar variations among speakers of Singapore English.

1   three [θriː] point six {F10: 26}
2   I think [tɪŋ] it was a very different um experience (F10: 80}

Speakers like F1 showed no variation in her initial voiceless TH sounds in the reading task and her interview, as she consistently used [θ] in the initial TH. In contrast, M1 had varied realizations in both formal and informal settings.

Initial Voiced TH Sounds

The two tokens analyzed for voiced TH sounds were chosen to facilitate the auditory analysis because they occur at the start of their respective sentences in the passage. The realizations of initial voiced TH sounds are shown in Table 3.

*Table 3. Realizations of Initial Voiced TH in* There *and* This

	Female		Male	
	[ð]	[d]	[ð]	[d]
There	6	11	2	12
This	6	11	6	8
Total	12 (35%)	22 (65%)	8 (29%)	20 (71%)

Compared to the initial voiceless TH results, Table 3 shows the students using more plosives (42; 68%) than fricatives (20; 32%) in initial voiced TH. This is observed in the female and male data, which has no significant differences (χ^2=0.32, df=1, p=0.57). The findings here mirror previous studies' findings (Mossop, 1996; Salbrina et al., 2024). Diana Tahir (2008) did not include quantitative data for initial voiced TH sounds, limiting the scope of a detailed comparison. However, she provided qualitative insights that her participants use [d] over [ð], also observed in the current study.

One reason for this is that the tokens are function words and may be spoken quickly with little emphasis, which lends to the difficulty in analyzing the TH sound. Two disagreements between the first and second authors' analyses were from the pronunciation of *there* and *this* by M5. The first author initially reported no TH sound was produced in the two tokens, but the second author heard a fricative. Figures 2 and 3 show the spectrograms of *There was*
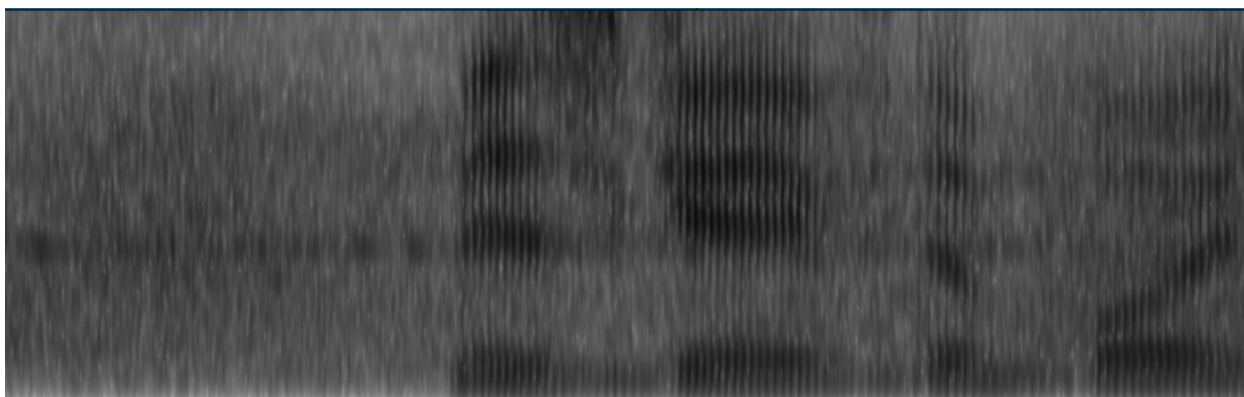
once, and *This gave* by M5. The authors concluded that fricatives were used in these instances based on perceptual judgments.

Figure 2. *Spectrogram of* There was once *by M5*
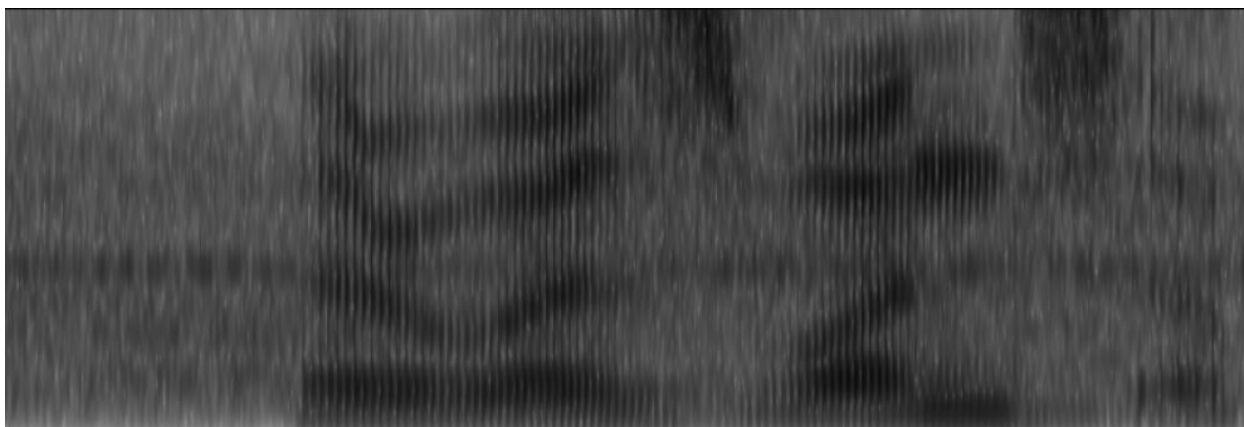
(TH)er   wəz   wʌns

Figure 3. *Spectrogram of* This gave *by M5*

(TH)ɪ z   geɪv

Six out of 31 students (5 females; 1 male) had two [ð], and 17 (10 females; 7 males) produced two [d] in both tokens. The remaining eight participants varied in their realizations: F15 and M7 had [ð] in *There* and [d] in *This*, while conversely, F7, M1, M2, M8, M10, and M14 had [d] in *There* and [ð] in *This*.

We also observe intra-speaker variation in the interview data. For example, M1 uttered *that* using [ð] and [d] and *there* with [d] in the same utterance, as shown in Extract 3. These may also be due to the informal nature of the interview, rapid speech, and the conversation topic being the student's recent internship placement.

3   officers that [dæt] are there [der] and companies that [ðæt]want to sponsor {M1: 76}

Overall, the correlation coefficient between the 17 female students (0.57) and 14 male students' (0.55) use of [θ] in initial voiceless TH and [ð] in initial voiced TH show a positive linear relationship (0.53). Only initial TH sounds are analyzed, as there is inadequate data for medial and TH sounds.

Medial and Final TH Sounds

The reading passage only has one token each for medial TH (*bother*) and final TH (*with*). This limits the study as one token is not enough to capture variability in pronunciation. However, we can still compare the formal reading data with those in the interviews.

From the passage reading, 11 students (8 females; 3 males) pronounced *bother* using the voiced dental fricative [ð], and the remaining 20 students (9 females; 11 males) used [d] instead, deviating from the standard pronunciation (Wells, 2008, p. 97). Furthermore, there are more occurrences of [d] (20; 65%) than [ð] (11; 35%) in the medial TH, and this is more apparent in the male data than in the female data. This could suggest that the female students follow standard pronunciation more closely than the males (Labov, 1990), but there is not enough data to confirm this.

In the interviews, M1 used [ð] in the medial TH in *whether* and *within*, but he pronounced *bother* using [d] in the reading task. In contrast, F4 had [ð] in *bother*, but used [d] in *another* in her informal speech. F16 maintained the use of [d] in *bother* in the formal reading and *other* in the interview. The limited number of tokens in the data makes it challenging to draw definitive conclusions regarding differences between realizations in formal and informal contexts.

Similar to *There* and *This*, the token *with* is also spoken rather quickly as it is a function word and is given less emphasis. Overall, the university students mainly produce dental fricatives (23; 74%) and sometimes plosives (8; 26%) in the final TH. The variations among the female participants are 12 instances of [θ], four [d], and one [t], while nine male participants had [θ], three had [d], one used [ð], and one produced [f]. 85% of British English speakers have [ð] in the coda of *with* while 84% of American English speakers tend to have final [θ] instead (Wells, 2008, p. 904). Perhaps the 21 local students who realized *with* as [wɪθ] lean towards the American pronunciation. The TH findings will be correlated with other pronunciation features to analyze this further.

[θ] is the most common TH sound at the end of *with* in Diana Tahir (2008)'s study, followed by [t] and [f], which is confirmed here. Although there are parallels between the two studies, our analysis shows that the variations of final TH sounds among university students now include [d] and [ð]. Salbrina et al. (2024) also report the use of [d] and [v] among their participants.

Extracts 4 and 5 provide two examples of tokens with the final TH from the interview data. F1 used [θ] at the end of *South*, likely because she is familiar with pronouncing the proper noun, having gone there for her Study Abroad program. However, the final TH in *clothes* was omitted as F1 speaks quite fast, and the token was pronounced similarly to *close*.

4   My DY was in South [saʊθ] Korea. So South [saʊθ] Korea in Seoul {F1: 03}
5   their clothes [kləʊz] are like really pretty {F1: 44}

Other Pronunciation Features of Brunei English: Rhoticity and Intervocalic [ṱ]

Here, we will briefly discuss the university students' realizations of the non-prevocalic [r] in eight tokens from the passage, namely: *poor*, *dark*, *heard*, *concern*, *short*, *more*, *before*, and *third*, and their pronunciation of three other tokens with potential intervocalic or flapped [ṱ]: *little*, *shouting*, and *later*. These findings correlate with the participants' use of initial voiceless and voiced TH sounds. These features are chosen as they are characteristic of American English pronunciation as it is a rhotic variety. Its speakers tend to have flapped [ṱ] when 't' occurs in the middle of a word and the preceding syllable is stressed (Davies, 2007, p. 75). For example, an American English speaker might pronounce *writing* and *riding* the same way. Similar to the TH sound, the analyses below are based on the authors' perceptual judgments.

The results for rhoticity are shown in Table 4.

Table 4. Realizations of R-colouring

	Female		**Male**	
	[r]	[Ø]	[r]	[Ø]
poor	14	3	12	2
dark	16	1	10	4
heard	16	1	12	2
concen	16	1	9	5
short	15	2	8	6
more	16	1	12	2
before	15	2	12	2
third	14	3	10	4
Total	122 (90%)	14 (10%)	85 (76%)	27 (24%)

In total, 207 out of 248 tokens (83%) had R-colouring. 28 participants (90%; 16 females, 12 males) are considered rhotic. Among these, four students had five tokens with R-colouring, five students had seven occurrences of [r], and 19 consistently produced [r] in all eight tokens. The remaining three, F15, M10, and M11, are non-rhotic as they did not produce [r] in any of the tokens.

In the individual groups, the female students had more instances of R-colouring than the males, which is statistically significant (χ^2=8.49, df=1, p=0.003). This finding confirms with those reported in previous studies (Nur Raihan, 2017; Salbrina et al., 2024). Brunei English speakers are becoming increasingly rhotic, and females are more rhotic than males. One possible reason for the widespread rhoticity among the locals may be due to the Americanisation of Brunei English, as younger Bruneians are more exposed to American media and culture (Salbrina, 2022).

Table 5 shows the correlation results between using [θ] and [ð] in initial TH and R-colouring among the female and male participants.

Table 5. Correlation between using [θ] and [ð] in Initial TH and R-colouring

	[θ]	**[ð]**
Female	-0.21	0.23
Male	-0.08	0.06
Overall	-0.16	0.14

It is difficult to conclude a correlation between these pronunciation features as the values are too small. Nonetheless, we observe a small negative correlation (-0.16), especially among the female speakers, between using [θ] and rhoticity. In contrast, there is a positive correlation (0.14) for the use of [ð] in initial voiced TH and [r] in non-prevocalic positions.

Table 6 shows the results for the occurrences of intervocalic [ṭ]. This analysis includes fewer tokens due to the 8 instances where the participants realized little as the abbreviated 'Lil.' These are omitted from the overall results.

Table 6. Realisations of Intervocalic [ṭ]

	Female		**Male**	
	[ṭ]	[t]	[ṭ]	[t]
little	9	5	3	6
shouting	4	13	2	12
later	12	5	3	11
Total	25 (52%)	23 (48%)	8 (22%)	29 (78%)

As mentioned above, there is a tendency to use [t] (61%) than [ṭ] (39%), especially in the male data in the tokens *shouting* and *later*. Conversely, the female participants used [t] more in *shouting* and had a higher frequency of [ṭ] in *little* and *later*. The difference between the female and male data is statistically significant (χ^2=8.16, df=1, p=0.004). Perhaps the use of [t] over [ṭ] may be attributed to spelling pronunciation (Raihan, 2015). However, to confirm this, we need to analyze other tokens in the passage, which is beyond the scope of this paper.

The correlation results between using [θ] and [ð] in initial TH and intervocalic [ṭ] among the female and male participants are shown in Table 7. The results show that there is a positive correlation, for both female and male data, between the use of [θ] (0.46) and [ð] (0.37) in initial TH and using flapped [ṭ]. There is insufficient evidence to claim Brunei English is leaning towards the American variety. So, more data is needed to conclude the relationship between initial TH sounds in Brunei English and features that American English potentially influences.

Table 7. Correlation between using [θ] and [ð] in Initial TH and Intervocalic [t̪]

	[θ]	[ð]
Female	0.64	0.44
Male	0.42	0.20
Overall	0.46	0.37

In summary, the data showed a tendency to use [θ] in initial voiceless TH. This supports Diana Tahir's (2008) study on TH sounds among undergraduates but contrasts with other reports on TH sounds in the English of Brunei, Malaysia, and Singapore. Nonetheless, the higher frequency of [d] than [ð] found in initial voiced TH and variation among medial and final TH in the female and male data support the findings of previous studies of Brunei English. We also observed variations of TH sounds in the interview data, but this proved inconclusive as there were limited tokens for analysis. We must also be careful when making conclusive statements regarding small correlation coefficients between the pronunciation features.

Finally, we cannot claim female speakers are at the front of pronunciation change (Labov, 1990; Johnson, 2008, p. 166) based on the realizations of TH sounds and intervocalic [t̪] as there was insufficient data. However, in terms of rhoticity, there were more rhotic speakers among the female university students, and they had a higher frequency of tokens with R-colouring than the male students. These results reflect previous descriptions of rhoticity in Brunei English, suggesting that these young female speakers are linguistic trendsetters. Again, we need more data to confirm this for other pronunciation features.

CONCLUSION

We have observed variations in the initial, medial, and final TH sounds among 31 university students regarding gender and formal and informal speech. While the findings showed differences between male and female speakers, the data did not draw definitive conclusions about gender-based trends. The study's limitations include the limited number of tokens from the passage, the quality of the recordings, the reliability of the spectrograms, and the fact that the results cannot be generalized as the data is not representative of Brunei English speakers. The analysis of voiced TH and medial TH sounds highlights the complexity of realizations among the participants, where the variations were influenced not only by the speech context (i.e., formal and informal) but also by individual speech habits. This suggests the need to explore further the intra-speaker variation and its implications for phonetic studies. Nevertheless, it is hoped that consideration for future research includes conducting a longitudinal study, or a similar synchronic study with more representative samples of Bruneians, with variables such as ethnicity and age, more tokens to be observed, and investigating the extent of the influence of Malay on TH realizations in Brunei English. Exploring these areas could offer further insights into the dynamics of pronunciation variability in this context.

REFERENCES

Agbayani, R. S., & Sy, D. B. L. (2022). Phonological varieties of interdental fricative and voiceless 'TH' among Philippine English lectal speakers. *Studies in English Language Teaching*, *10*(2), 96–107. DOI: 10.22158/selt.v10n2p96.

Boersma, P., & Weenink, D. (2024). Praat: doing phonetics by computer [Computer program]. Version 6.3.18.

Clynes, A., & Deterding, D. (2011). Standard Malay (Brunei). *Journal of the International Phonetic Association*, *41*(2), 259–268.

Cruttenden, A. (2014). *Gimson's pronunciation of English*. Routledge.

Davies, C. (2007). *Divided by a common language: A guide to British and American English* (3rd ed.). Houghton Mifflin Company.

Deterding, D. (2006a). The pronunciation of English by speakers from China. *English World-Wide*, *27*(2), 175–198.

Deterding, D. (2006b). The North Wind versus a Wolf: Short texts for the description and measurement of English pronunciation. *Journal of the International Phonetic Association*, *36*(2), 187–196.

Deterding, D. (2007). *Singapore English*. Edinburgh University Press.

Deterding, D., & Kirkpatrick, A. (2006). Emerging South-East Asian Englishes and intelligibility. *World Englishes*, 25, 381–409.

Deterding, D., Wong, J., & Kirkpatrick, A. (2008). The pronunciation of Hong Kong English. *English World-Wide*, *29*(2), 148–175.

Diana Tahir. (2008). Dental fricatives in Brunei English: A comparison with Singapore English. Universiti Brunei Darussalam.

Johnson, K. (2008). *Quantitative methods in linguistics*. Blackwell.

Labov, W. (1990). The intersection of sex and social class in the course of linguistic change. *Language variation and change*, *2*(2), 205–254.

Ladefoged, P., & Johnson, K. (2011). *A course in phonetics* (6th ed.). Wadsworth, Cengage Learning.

Mossop, J. (1996). Some phonological features of Brunei English. In. P. W. Martin, C. Ożóg, & G. Poedjosoedarmo (Eds.), *Language use and language change in Brunei Darussalam* (pp. 189–208). Ohio University Center for International Studies.

Nur Haziq Fikri, A., Dalila Faris, Siti Husniah Husin, & Muhammad Haikal Shariff. (2023). The phonological features of Malaysian English. *International Journal of Academic Research in Business and Social Sciences*, *13*(12), 994–1012. DOI: 10.6007/IJARBSS/v13-i12/19923.

Nur Raihan, M. (2015). Spelling pronunciation: A new norm in Brunei English? *Southeast Asia: A Multidisciplinary Journal*, *15*, 36–42.

Nur Raihan, M. (2017). Rhoticity in Brunei English: A diachronic approach. *Southeast Asia: A Multidisciplinary Journal*, *17*, 1–7.

Oyebola, F., Ho, B. S. Y., & Li, Z. (2019). A sociophonetic study on TH variation in educated Nigerian English. In International Congress of Phonetics Sciences [conference paper], Melbourne, Australia.

Pingali, S. (2009). *Indian English*. Edinburgh University Press.

Roach, P. (2009). *English phonetics and phonology: A practical course* (4th ed.). Cambridge University Press.

Salbrina, S. (2010). The sounds of Brunei English – 14 years on. *Southeast Asia: A Multidisciplinary Journal*, *10*, 39–55.

Salbrina, S. (2022). The Americanisation of English in Brunei. *World Englishes*, 1–17. https://doi.org/10.1111/weng.12577.

Salbrina, S., Deterding, D., & Nur Raihan, M. (2024). *Brunei English: A new variety of multilingual society* (2nd ed.). Springer.

Wells, J. C. (1982). *Accents of English*. Cambridge University Press.

Wells, J. C. (2008). *Longman pronunciation dictionary* (3rd ed.). Pearson Longman.