

## ON HOW HAPPY POLISH ADVANCED EFL LEARNERS ARE WITH HAPPY-TENSING

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### **Abstract**

This paper aims at investigating the production of happyY vowel by advanced Polish learners of English. Although happyY tensing has become a regular feature of mainstream RP, it is not explicitly taught at English philologies in Poland. There are few studies that deal with the analysis of the phonetic quality of happyY by native speakers of English (Fabricius, 2002; Harrington, 2006), and we know of no published studies aimed at EFL learners. The study presented in this paper included 34 Polish students of English philology. Spectral and durational data on FLEECE, KIT and happyY in three contexts (prevocalic, preconsonantal and prepausal) were obtained. The results showed that Polish advanced EFL learners produced happyY that is spectrally similar to FLEECE in the prevocalic and prepausal contexts but not in the preconsonantal one. Moreover, the participants did not use duration to make up for the spectral properties of happyY. Preconsonantal and prevocalic happyY were shorter than FLEECE, whereas prepausal happyY was longer than FLEECE due to phrase-final lengthening effects.

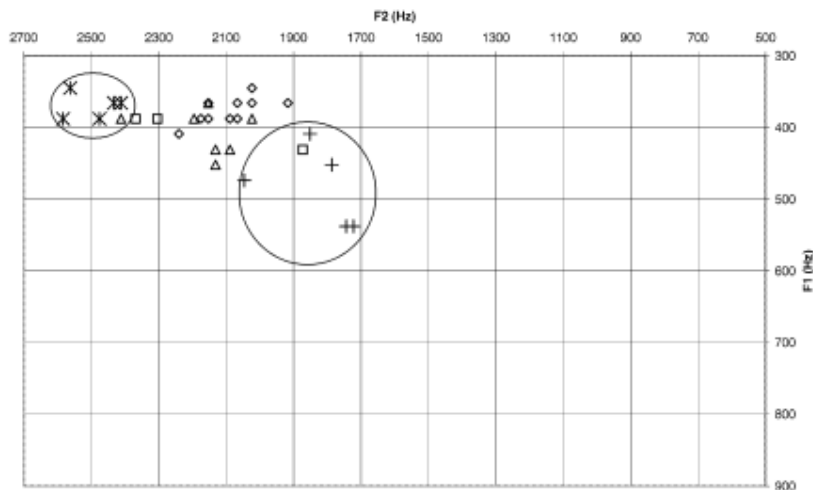
### **1. Literature review**

HappyY tensing was first introduced by Wells (1982) as one of several regional features becoming part of mainstream RP in the latter part of the 20th century. HappyY denotes one of the three lexical sets based on the final unstressed vowels (other being lettER and commA). The lexical set includes words with the following orthographical representation: <y>, <ie>, <i> (more rarely, <ee>, <ey>, <ea>). This vowel quality shift has traditionally been observed in the pronunciations of speakers from the south-east of England (cf. happyY-laxing, e.g. Wood-Wallace, 2012). However, it has also started spreading northwards (Trudgill, 1999), all the while prejudice against the regionalism was disappearing (Wells, 1982). At present, it is claimed to be either in the process of becoming an RP feature (Trudgill, 2008) or a well-established change to mainstream RP (Gimson & Cruttenden, 2000). HappyY tensing consists in replacing the traditional KIT realisation of the word-final unstressed vowel with a tenser vowel leading to KIT-FLEECE neutralisation in this position. On the one hand, happyY has been reported to be an intermediate production between KIT and FLEECE (e.g. Harrington, 2006, p. 448).

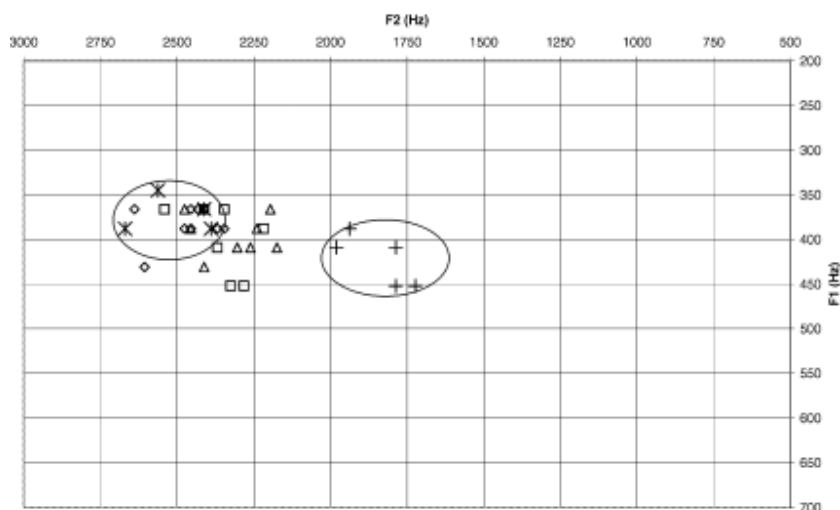
However, according to Wells (1982), native speaker intuition is to associate happY with FLEECE rather than KIT. Moreover, most of the instrumental studies carried out by sociolinguists describe happY as qualitatively closer to FLEECE (Fabricius, 2002; Harrington, 2006). Windsor-Lewis features happY as "...more retracted but as close as ... accented /i:/” (1990). As for duration, there are only impressionistic observations which purport happY to be a short vowel, whereas, typically, duration is expected to increase phrase-finally. Conventional transcription mirrors the lack of uniformity in understanding the phonetic details of happY, as it is either /i/ (Wells, 1990) or /ɪ:/ in Harrington (2006).

There are two recent studies dealing with English native speaker production of happY. Fabricius (2002) examined data from 8 speakers. F1 and F2 measurements at vowel mid-point of happY in three contexts (preconsonantal, prevocalic, prepausal) were carried out. Duration was not taken into consideration. The data was not normalised, thus female and male data had to be analysed separately. Only words with <ly> and <y> were chosen. Only obstruent environment was used. The results show variation in the location of happY on the vowel space when compared to KIT and FLEECE. There are speakers who produce happY as an intermediate value between KIT and FLEECE. The majority of speakers in the study produce happY whose values are much closer to FLEECE (Fig.2.).

Harrington (2006) analysed annual Christmas broadcasts by Queen Elisabeth II. It was a longitudinal study whose aim was to analyse the changes in KIT, FLEECE and happY in the Queen's productions. The data was obtained from speeches separated by 40 years (labelled Q50 and Q90). Q50 is compared to 1980s corpus of four female speakers of Standard Southern British. The results obtained from the corpus show happY located between FLEECE and KIT but sharing vowel space with both vowels.



**Figure 1.** Results from Fabricius (2002). HappY as an intermediate value between KIT and FLEECE.



**Figure 2.** Results from Fabricius (2002). HappyY values closer to FLEECE.

To the best of our knowledge, there has been no published data on the production of happyY in (at least Polish) L2 learners.

## 2. The study

### 2.1 Objectives

The aim of the study was to analyse the production of the happyY vowel by Polish advanced EFL learners. In particular, it was aimed at investigating whether Polish advanced EFL learners produce happyY as a separate category or a vowel that is qualitatively similar to other English vowels, presumably FLEECE or KIT. In the analysis of the above, both F1 and F2 values and vowel length were taken into consideration. Length was included because the authors wanted to investigate whether Polish advanced EFL learners utilise duration instead of spectral properties to produce a FLEECE-like happyY. In order to investigate the relation between happyY, KIT and FLEECE, all three vowels were measured. Due to the fact that happyY is a vowel which mainly occurs word-finally, three contexts of happyY were chosen: prevocalic, preconsonantal and prepausal.<sup>1</sup>

<sup>1</sup> HappyY also occurs word-internally, e.g. in *behind*, *behave*, *prepare*, *various*, etc. (Wells, 2012).

## 2.2 Research questions

There were two research questions:

1. Is happY, as produced by Polish advanced EFL learners, qualitatively more similar to FLEECE or KIT or does it constitute a category of its own?
2. Are Polish advanced EFL learners able to produce a tense happY vowel without recourse to greater duration?

## 2.3 Hypotheses

On the basis of the research questions, two hypotheses can be put forward. The first hypothesis has got two alternative versions. On the one hand, taking into consideration studies on native English happy production (Fabricius, 2002; Harrington, 2006), it is hypothesized that happY will be qualitatively more similar to FLEECE than KIT. On the other hand, as happY is spelled with <-y> which stands for the vowel [i] in usual grapheme to sound correspondences in Polish, our participants may be guided by the spelling to produce a vowel that is spectrally closer to KIT. The second hypothesis is that Polish advanced EFL learner will not be able to produce a tense happY vowel without recourse to greater duration. This is based on studies whose results show that Polish learners of English rely more on temporal than spectral cues in vowel perception (Bogacka, 2004). Heavy reliance on duration has been claimed to be a universal tendency in language learners (Major, 2001).

## 2.4 Participants

There were 34 participants in the study, all of them students of English philology: year 2 and 3 BA and 1 or 2 MA, with a General British accent. These included 22 students from Adam Mickiewicz University and 12 from Koszalin University of Technology. As far as sex distribution is concerned, there were 8 males and 26 females. The mean age was 21.7 with a standard deviation of 1.22. Some of the participants reported having been to England, mainly London or the south of England. None of them mentioned extended stays in English-speaking countries.

## 2.5 Research tools

The stimulus consisted of a list of sentences with embedded 11 FLEECE–KIT minimal pairs, e.g. feet-fit, peak-pick, cheap-chip. Moreover, the list included instances of happY in three contexts: (1) preconsonantal, e.g. puffy tummy, happy client, itchy pimples; (2) prepausal: same 11 words from the preconsonantal context, e.g. ... puffy, ...happy, ... itchy; (3) prevocalic: only in the context of a following THOUGHT/NORTH vowel, e.g. lucky auction, pretty auburn, classy ornaments. The prosodic context was unified for all tokens. The sentences required a falling intonation whereas there were 3-4 syllables on either side of the target vowel. The spelling form for happY

was also unified to <y>. The list included fillers to disguise the purpose of the recording and the sentences were randomised. The secondary research tool was a short questionnaire, in which students were asked to fill out their age, sex, foreign language knowledge and information on stays in English-speaking countries.

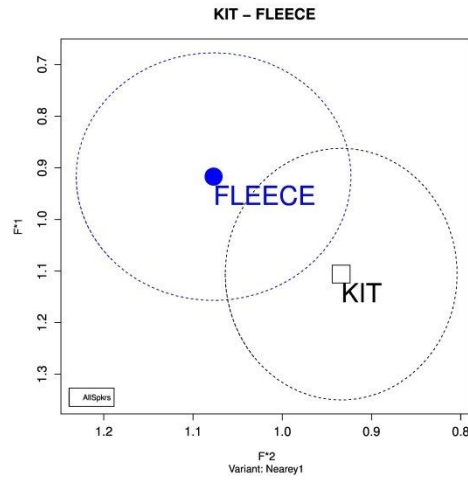
## 2.7 Procedure

The recordings took place in a sound-attenuated booth at Adam Mickiewicz University and in a quiet room at Koszalin University of Technology. The participants were asked to read out sentences from a sheet of paper. They were instructed to read out the sentences at a natural pace and repeat a sentence if a correction was needed. They were unaware of the purpose of the recording. The participants were not paid for their participation.

The measurements were taken at vowel mid-point (or otherwise steady-state portion) and included F1 and F2 in FLEECE, KIT and happY. Several tokens were discarded due to a number of reasons such as vowel devoicing or unclear F2 contour. All in all, there were 1619 tokens: 369 FLEECE tokens, 371 KIT tokens and 878 happY tokens (consonantal context: 354; vowel context: 159 and prepausal context: 365). Moreover, length measurements were taken. The obtained F1 and F2 measurements were normalised by means of *NeareyI*, which is a speaker intrinsic, vowel extrinsic and formant intrinsic method (Thomas & Kendall, 2007). Vowel spaces displaying vowel positions with their standard deviations (2 SDs) were generated in NORM (Thomas & Kendall, 2007). The statistical analysis was carried out in STATISTICA 10PL.

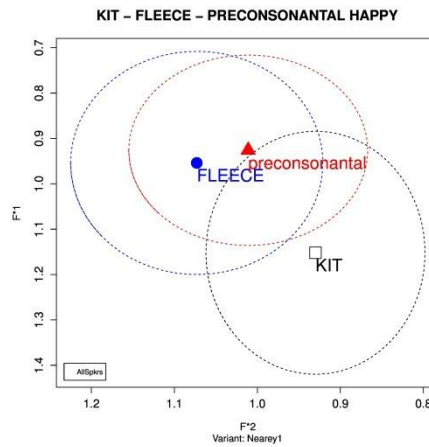
## 2.8 Results

Firstly, the normalised F1 and F2 values were plotted on a vowel space. As can be seen in Figure 3, the participants made a distinction between FLEECE and KIT. They also produced a different quality of happY depending on the particular context, as indicated by Fig.4. The happY vowel in the preconsonantal context is the most retracted and highest one, while it is lowest and frontest in the prepausal context. There appear to be three different variants of happY depending on the context.



**Figure 3.** KIT-FLEECE distinction.

The results also point to the fact that the quality of happyY is much closer to that of FLEECE than KIT (Fig.5, 6, 7). When the variants of happyY are compared to FLEECE, it is noticeable that preconsonantal happyY is the most distinct from FLEECE, whereas prepausal and vocalic happyY occupy nearly the same space as FLEECE (Fig.5, 6, 7).



**Figure 5.** KIT-FLEECE-preconsonantal happyY distinction.

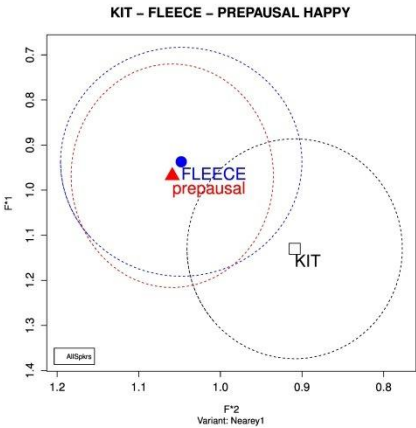


Figure 6. KIT-FLEECE-prepausal happY distinction.

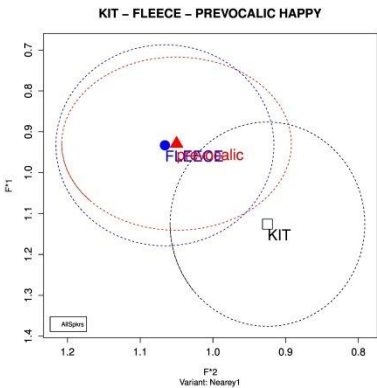
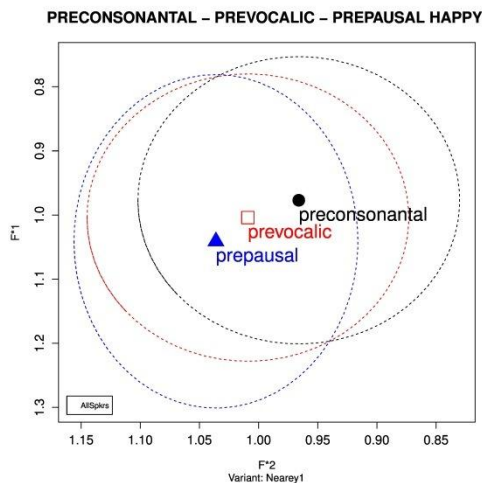


Figure 7. KIT-FLEECE-prevocalic happY distinction.



**Figure 4.** Preconsonantal – prevocalic – prepausal happyY distinction.

The statistical significance of the above findings was determined by means of MANOVA. It reached statistical significance for the whole vowel set ( $p=.00$ ). The differences between particular vowels were further determined by means of post-hoc tests. As shown in Table 1, the difference in F1 between FLEECE and KIT reached statistical significance ( $p=.00$ ). When it comes to particular variants of happyY, they were all distinct from KIT ( $p=.00$ ). When compared to FLEECE, it is the prevocalic and preconsonantal happyY that reached statistical significance ( $p=.00$ ;  $p=.01$ , respectively). There was no statistical difference between FLEECE and prepausal happyY ( $p=.92$ ). The post-hoc tests also showed that there was a statistically significant difference between the variants of happyY for all three contexts ( $p=.00$ ).

	FLEECE	KIT	preconsonantal	prevocalic	prepausal
FLEECE		0,000017	0,013656	0,000060	0,919574
KIT	0,000017		0,000017	0,000017	0,000017
preconsonantal	0,013656	0,000017		0,000017	0,000671
prevocalic	0,000060	0,000017	0,000017		0,000825
prepausal	0,919574	0,000017	0,000671	0,000825	

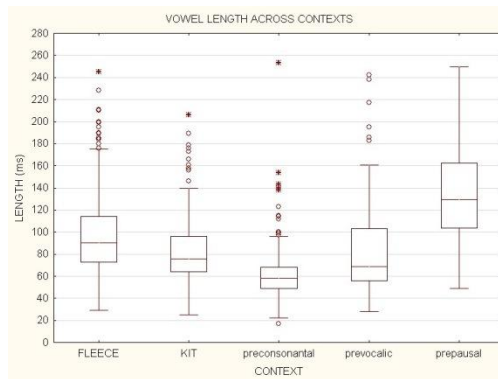
**Table 1.** Post-hoc Tukey test results for F1.

Furthermore, the difference in F2 reached statistical significance between FLEECE and KIT ( $p=.00$ ) as well as between KIT and all happyY variants (Table 2). As for the difference between happyY and FLEECE, it only reached statistical significance in the preconsonantal context ( $p=.00$ ). The post-hoc test also revealed a difference between prepausal and the other two contexts of happyY ( $p=.00$ ). There was no difference between prevocalic and prepausal happyY ( $p=.07$ ).

	FLEECE	KIT	preconsonantal	prevocalic	prepausal
FLEECE		0,000017	0,000017	0,131925	0,997463
KIT	0,000017		0,000017	0,000017	0,000017
preconsonantal	0,000017	0,000017		0,000017	0,000017
prevocalic	0,131925	0,000017	0,000017		0,071517
prepausal	0,997463	0,000017	0,000017	0,071517	

**Table 2.** Post-hoc Tukey test results for F2.

The results for length are shown in Fig.8. There was a difference between FLEECE (mean value = 90ms) and KIT (mean value = 78ms). When it comes to the difference between FLEECE and happyY, both preconsonantal and prevocalic happyY were shorter than FLEECE (60ms and 70ms respectively). Prepausal happyY showed great variation, nevertheless the mean length in case of prepausal happyY was much greater than for any of the other vowels (130ms).



**Figure 8.** Vowel length for all vowels.

The statistical significance of the above differences was confirmed by means of ANOVA ( $p=.00$ ). The difference between FLEECE and KIT reached statistical significance ( $p=.00$ ). So did the difference between FLEECE and all happyY variants ( $p=.00$ ). KIT and happyY were distinct apart from the prevocalic context ( $p=.99$ ).

	FLEECE	KIT	preconsonantal	prevocalic	prepausal
FLEECE		0,000017	0,000017	0,000039	0,000017
KIT	0,000017		0,000017	0,999320	0,000017
preconsonantal	0,000017	0,000017		0,000017	0,000017
prevocalic	0,000039	0,999320	0,000017		0,000017
prepausal	0,000017	0,000017	0,000017	0,000017	

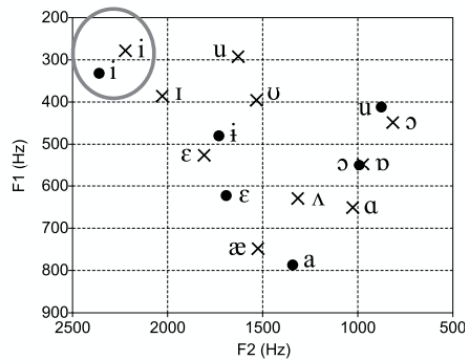
**Table 3.** ANOVA results for length.

### 3. Discussion

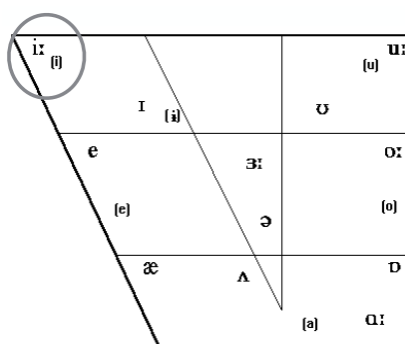
First of all, it was confirmed that the participants of our study produced FLEECE and KIT as separate categories. Moreover, it was shown that their production of happyY differed depending on the context (prevocalic, preconsonantal, prepausal).

In order to answer research question 1 on the quality of happyY as produced by Polish advanced EFL learners, the normalised F1 and F2 values were plotted on a vowel space and the differences between the values were confirmed by means of MANOVA and post-hoc tests. The results showed that happyY in all three contexts was much closer to FLEECE than KIT in both F1 and F2. Thus, the first version of hypothesis 1 was confirmed. What is more, the closeness was gradable depending on the context of happyY. With respect to height, preconsonantal and prevocalic happyY were statistically different from FLEECE. With respect to backness, only the preconsonantal variant of happyY was statistically different from FLEECE. This means that happyY constituted a category of its own only in the preconsonantal context, whereas the differentiation between FLEECE and happyY was carried out more consistently by means of F1. Choosing a FLEECE-like vowel quality may also be based on the fact that Polish learners of English do not pay attention to the phonologically irrelevant quality of happy. It could be hypothesised that they utilised the Polish /i/ vowel, which is closer to FLEECE than KIT (Fig.9. Weckwert, 2010 after Bogacka, Schwartz, Zydorowicz, Polczyńska, & Orzechowska, 2006 and Ferragne & Pellegrino, 2010 and Fig.10. Sobkowiak, 2001).

Moreover, a tense happyY might be salient to them, because /i/ is less frequent than /ɪ/ word-finally in Polish (cf. Polish EFL learners' realisations of DRESS as TRAP, Sobkowiak 2001).



**Figure 9.** Adopted from Weckwert, 2010 after Bogacka, Schwartz, Zydorowicz, Polczyńska, & Orzechowska, 2006 and Ferragne & Pellegrino, 2010.



**Figure 10.** Adopted from Sobkowiak, 2001.

Furthermore, there were differences between particular variants of happyY. As regards F1, the happyY vowel was realised differently in all three contexts. When it comes to F2, preconsonantal happyY was different from the other two happyY variants. It may be concluded that preconsonantal happyY is qualitatively distinct from FLEECE, whereas prevocalic and prepausal happyY overlap significantly with FLEECE. These results conform to Fabricius (2002), in which one of the participant's (Thomas) prevocalic and prepausal happyY was most advanced and FLEECE-like.

Research question 2 referred to the ability of Polish advanced EFL learners to produce a spectrally FLEECE-like vowel without recourse to longer duration. As shown by ANOVA results and post-hoc tests, happyY in the preconsonantal and prevocalic contexts was shorter than FLEECE. This was a statistically significant result. In the prepausal context, mean happyY length was greater than FLEECE and it had a very high standard deviation. Together with F1 and F2 results, it can be concluded that Polish advanced EFL learners are able to produce a happyY vowel spectrally similar to FLEECE without turning to greater length.

## 4. Conclusions

This paper is aimed at analysing the production of happyY by advanced Polish learners of English, as there is a scarcity of phonetic accounts of happyY in both native English speakers and EFL learners. Spectral and durational data on FLEECE, KIT and happyY in three contexts (prevocalic, preconsonantal and prepausal) were obtained. The results show that Polish advanced EFL learners produce happyY that is spectrally similar to FLEECE in the prevocalic and prepausal context, but not in the preconsonantal one, as shown by the statistical analysis. Moreover, the participants did not use greater duration as a compensatory strategy. Preconsonantal and prevocalic happyY was shorter than FLEECE, whereas prepausal happyY was longer than FLEECE (as a result of phrase-final effects).

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