



## **Perceptions of World English Varieties by Chinese EFL Students: Effects of Average Ethnic Faces and Speaker Gender**

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### **ABSTRACT**

The objectives of this study are to elicit perceptions that Chinese users of English have towards a selection of world English varieties; to determine the effects of speaker gender and visual primes (ethnic faces) on perceptions; and also to reveal how these two factors interact with each other. In the present experiment, 278 respondents were exposed to eight world English varieties. Each accent sample had a female and a male voice version. Chinese students of English were exposed to these recordings, with the presence and absence of average ethnic faces as visual stimuli during the experiment, and requested to complete a questionnaire to reflect on their impressions by means of Likert scales. The results showed a preference for inner circle monolingual standards, and a rejection of outer circle Englishes (for the circles of English classification, see Kachru, 2006). Results also showed a positive perception of respondents towards their own Chinese accent. Ethnic faces visual prime and speaker gender factors, as well as their interaction, also proved to have significant influences on the results. Respondents rated accents significantly more positively when accompanied by ethnic faces. In the case of sole aural stimuli (in the absence of faces visual stimuli) male versions of the accents were observed to obtain significantly better impressions from participants.

**KEYWORDS:** Accent perceptions; World English varieties; Gender effects; Visual prime effects.

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## 1. INTRODUCTION

Perceptions of language varieties by everyday people has been an important line of research during the last decades, aiming to cast light on how everyday non-linguist speakers perceive language. It has been studied that users of a language do have mental images and social stereotypes associated with different accents (Foulkes & Doherty, 2006), a fact that has been studied largely over the last years by the sociolinguistic community: “Accent variation is very important to sociolinguistics because of the significance people attach to different accents” (Stockwell, 2002: 27).

More specifically, it has been demonstrated that salient linguistic features of a given variety, in their grammatical, lexical and phonological dimensions are perceivable by speakers (Purnel, Idsardi & Baugh, 1999). In other words: speakers possess a perceptual competence. Moreover, it has been demonstrated that language users do use this perceptual competence to relate accents to social stereotypes (Kristiansen, 2008).

There has been a significant number of studies over the last decades of the 20th century (Lambert et al., 1960; Giles & Powesland, 1975; Labov, 1972; Giles & Coupland, 1991; Coupland & Bishop, 2007) in which the aim was to examine the perceptions and attitudes that English native speakers have towards varieties of their own language. There also are a number of more recent studies in which the aim was to shed light on the perceptions that L2 English users have towards different varieties of world Englishes, namely Xu, Wang and Case (2010) in China, Tévar (2015) in Spain, or McKenzie and Gilmore (2017) in Japan.

Gender can also be an influential factor on language perceptions (see Coupland & Bishop, 2007; McKenzie, 2010; Soukup 2011). Extra-linguistic factors such as imitation (Adank et al., 2013), name switching (Berthele, 2012), or racial visual primes (Yi et al., 2014) have also been shown to affect language perception results.

The present study aims to shed light on Chinese users of English perceptions towards English varieties; and also, to examine the effects of speaker gender and visual primes on the results.

## 2. THEORETICAL BACKGROUND

### 2.1. Previous literature

Wallace Lambert and his colleagues were amongst the first involved in language attitude research (Lambert et al., 1960). They elicited linguistic attitudes towards the use of French and English in Canada. Labov (1972) shed light on the English phonetic features which gave

rise to stigmatisation in the mind of New Yorkers, concluding that the pronunciation of postvocalic /r/ was an important sociolinguistic marker in New York.

Giles and Powesland (1975), within the context of British accents, implemented the Matched Guise Technique in order to elicit impressions from British respondents. Giles and Coupland (1991) provided evidence for the same reactions amongst British people: Received Pronunciation (RP) received high and positive judgments whereas “working class” accents such as Cockney received low and negative evaluations in dimensions such as social status. There have been, a number of studies **concerning non-native English speakers’ attitudes** towards English varieties.

Scales et al. (2006), carried out a study in which international learners of English were questioned about their preferences, from a selection of four varieties, namely American, RP, Mexican, and Chinese accents. The majority of English learners stated that their goal was to sound like a native speaker; half of the learners preferred the American accent; and the *Mexican accent was the least preferred*.

Dalton-Puffer et al. (1997) in Austria, carried out a study in which advanced EFL students listened to unidentified speech samples of both native and non-native speakers of RP and General American (GA). The RP accent was the highest ranked, whereas the lowest ranked accent was an Austrian-British one, thus indicating a preference for inner circle standards and *disfavour for their own foreign accent*.

Following the same trend, Chiba, Matsuura and Yamamoto (1995) revealed that Japanese undergraduate students used a higher number of positive descriptors for inner-circle speakers from the United Kingdom and the United States *than for English speakers from Japan, Sri Lanka, Malaysia, and Hong Kong*.

Timmis (2002), in a large study involving 400 learners from more than 45 countries, found that the majority of English students expressed a preference for native-speaker norms as their aim.

In the Spanish context, Tévar (2015) exposed 60 EFL students to 4 varieties of British English (RP, Estuary, Cockney, and Scottish English). The majority of respondents expressed a clear preference for RP, and a clear disfavour for Scottish English (given the narrow choices they had). In another study involving 117 Spanish EFL students, Tevar (2014) also found a clear preference from Spanish learners towards inner-circle standards. Out of eight accent samples corresponding to four non-native and four native English varieties, GA and British accents were the highest ranked, whereas *their own Spanish accent was the lowest ranked*.

In the same fashion, within the Chinese context, Xu, Wang and Case (2010) investigated into 108 Chinese students' attitudes towards six speech samples of American, British, and Chinese varieties of English. Their analysis showed that native varieties were preferred to non-native varieties, and moreover, that standard native varieties were also preferred to less standard native varieties.

Sasayama (2013) investigated the attitudes of 44 Japanese college students towards Japanese English and American English by means of a verbal guise test and a questionnaire. Results showed that the Japanese respondents rated American English higher in terms of power, but rated Japanese English higher in terms of solidarity.

In the same line of results within the Asian context, McKenzie and Gilmore (2017) investigated 158 Japanese university students' perceptions of forms of UK, US, Japanese, Chinese, Thai and Indian English speech. Their results indicated that respondents regarded US and UK English as the "most correct" language varieties.

McKenzie, Kitikanan and Boriboon (2016) examined 204 Thai university students' attitudes towards UK, US, Japanese, Chinese, Thai and Indian forms of English. Their analysis demonstrated that UK, US and Thai English forms were ranked significantly higher than the other forms in terms of competence and warmth. Here we can observe the common pattern of UK and US English standards as the best rated, but also the appearance of *their own foreign accent amongst the best rated*.

All in all, previous research indicates that English learners, speakers from the expanding circle, have a preference for inner-circle (norm providing) standards, namely British English and American English. In the Japanese context, for instance, the findings of the studies cited above as a whole reveal a tendency to evaluate inner circle, and specially US English, most positively.

A dislike from expanding circle users towards their own foreign accent is an observable tendency as well (Dalton-Puffer et al., 1997; Tevar, 2014), but not in all cases (McKenzie, Kitikanan & Boriboon, 2016). There are cases in which [Japanese] respondents show a clear preference for monolingual standards in terms of power; but at the same time prefer their own foreign accent when it comes to solidarity (Sasayama, 2013).

A dislike towards non-standard (e.g. outer circle) and non-native (expanding circle) varieties is another tendency to be observed (McKenzie & Gilmore, 2017).

The perceptions that Chinese English as a Foreign Language (EFL) speakers have towards world English varieties is an area that can be further explored. In order to expand on previous findings, it would be of value to obtain more data regarding perceptions of world English varieties in the Asian, and more specifically, in the Chinese context. Hence, one of the aims of the present study.

## 2.2. Effects of gender

Gender can be an important factor in language perceptions. The effects of gender on language attitudes and language use have also been the object of study of many scholars who work within this field.

Barbara Soukup (2011) studied language attitudes in the United States, paying special attention to Southern American English. She revealed that there is clearly a higher degree of social attractiveness in Southern American English when spoken by women.

Coupland and Bishop (2007) found that British female participants showed remarkably more positive attitudes than male participants towards a number of regional varieties of English. In Japan, McKenzie (2010) found that female respondents gave significantly higher ratings than males to US and Scottish speech.

Authors such as Palmen et al. (2012) have studied the effect of interviewers' and respondents' accent and gender on the willingness to cooperate in telephone surveys in the Dutch context. They observed that gender does not affect willingness to cooperate, and that accent agreement between interviewer and respondent does not have an effect on cooperation, either.

Hans-Jörg Schmid (2015) studied whether gender-related variation still has an effect even when the topic and (almost) everything else is controlled. By means of statistical analysis of a large corpus data containing language interactions revolving around one sole and unique topic, his statistical regression analysis indicated that the variables GENDER OF SPEAKER and GENDER OF ADDRESSEE have significant effects on the frequencies of occurrence of four of a series of seven targeted items (the lexical items: *the, of, and, I, you, okay, and mmhmm*).

McKenzie, Kitikanan and Boriboon (2016), in their above-mentioned study, also found out that female respondents expressed significantly higher levels of ingroup loyalty towards Thai English speakers.

It would be valuable to extend research and allow comparison with the results from previous studies regarding the effects of gender on language perceptions. The second aim of this experiment is to study the effects of speakers' gender on language perceptions in the Chinese context. The study examines the perceptions and preferences of Chinese EFL speakers towards eight world English accents in their male and female voice versions.

### 2.3. Affective Priming Paradigm

Another methodology factor used in language attitudes research is that of the Affective Priming Paradigm (APP). This technique aims to examine how a variety of different stimuli can affect language perceptions in one way or another. The procedure typically involves exposure to some prior stimuli that can be visual or aural for instance, followed by a goal stimulus, which is the accent to evaluate. Such methods have been traditionally used within the field of social psychology.

Adank et al. (2013), studied how an affective priming factor such as accent imitation affects language attitudes. Their results showed that the scores from respondents in terms of social attractiveness were higher after imitating the accented samples they listened to: participants rated speakers as more socially attractive after imitation. Imitation, then, as an affective prime, can also have an effect on language attitudes.

Speelman et al. (2013) also used the APP technique. Participants were required to evaluate the positive or negative connotation of goal visual stimuli, which were preceded by initial aural stimuli (positive or negative). The automatically activated linguistic attitudes in respondents could be analysed by measuring the latency of answers. Speelman and his colleagues found that the quickest responses took place when the positive or negative connotations of both stimuli (initial and goal stimuli) coincided.

Label switching can also have a priming effect on language attitudes. Berthele (2012) carried out a study in which the speech guises and the names of the speakers were switched in the Swiss context. Future primary school teachers were asked to evaluate student speech samples in terms of proficiency and academic potential. In the speakers samples name labels were switched (Swiss names and Balkan immigrant names were reversed). When interactions with the presence of switches in the name labels were analysed the results confirmed the expected hypothesis in many cases: evaluating participants indeed use stereotypical reference points and socially stigmatised markers give way to a more negative evaluation of the speech samples.

Floccia et al. (2009) have shown that explicit labels have been linked to increased response times in lexical tasks for Foreign Accented Speech. This increased response time indicated that an increased processing load had taken place.

On the other hand, McGowan (2011) proved that visual presentation of race-matched faces increases intelligibility for Chinese-accented speech. An extra-linguistic factor or affective prime, such as the exposure of ethnic faces to listeners has been shown, thus, to increase intelligibility of accented speech.

Yi et al. (2014) found out in their experiments that, in the presence of visual stimuli, native American English listeners had more difficulties transcribing English sentences which were produced by native Korean speakers, and less difficulty transcribing sentences uttered by native English speakers. The fact that this connection between racial bias and Foreign

Accented Speech intelligibility was only observed when the auditory stimuli was accompanied with visual stimuli (video of the speaker talking) shows the extra-linguistic effects of visual primes on language perceptions.

In South Korea, Yook and Lindemann (2013) investigated the attitudes of 60 Korean university students towards five varieties of English, and how they were affected by the identification of the speaker's nationality and ethnicity. Korean respondents stated a preference towards American English especially when they were informed of their nationality. Their findings provided evidence that speaker identification plays a role in the evaluation of a variety.

There are, thus, a series of extra-linguistic factors that can affect language perception and language attitudes, such as context, gender, visual or aural primes. To find out how and to what extent these factors affect results is one of the current challenges within this field of research.

On the whole, previous research indicates that there is indeed an effect of certain primes on language perceptions. In order to expand on the examination of the effects of the APP, the present study uses average ethnic faces as visual stimuli immediately before asking respondents to rate the aural stimuli.

Thus, this experiment aims to study the effects of two factors on language perceptions: gender of the speakers and average ethnic faces exposure. It also intends to unveil how these two factors interact with each other, and how this interaction may affect results.

### **3. METHODOLOGY**

#### **3.1. Respondents**

The respondents who participated in the study were 278 Chinese EFL students from Hainan Foreign Language College of Professional Education (Hainan, China). They were all studying English at the time of data collection along with other subjects. All respondents were Chinese nationals aged between 17 and 21 years old.

### 3.2. Source of accent samples

The source of the accent samples used in this experiment was The Speech Accent Archive (Weinberger, 2013). This archive presents a large set of speech samples uttered in English from a wide range of geographical backgrounds worldwide. Both native and non-native speakers of English read the same paragraph. The paragraph read by speakers is written in English and contains everyday English words, but it also contains a variety of difficult English sounds and sound sequences. Weinberger sustains that the elicitation paragraph contains most of the consonants, vowels, and clusters of the [standard] English language<sup>1</sup> (Weinberger, 2013). The elicitation paragraph is the following:

Please call Stella. Ask her to bring these things with her from the store: Six spoons of fresh snow peas, five thick slabs of blue cheese, and maybe a snack for her brother Bob. We also need a small plastic snake and a big toy frog for the kids. She can scoop these things into three red bags, and we will go meet her Wednesday at the train station (Weinberger, 2013).

### 3.3. Selection of accent samples

The selection comprises eight accents from different continents, which belong to some of the most important World English epicentres placed in Kachru's (2006) inner, outer, and expanding circles:

- Inner circle samples: British English, American English, and Australian English.
- Outer circle samples: Nigerian English and Indian English.
- Expanding circle samples: Hispanic English, Russian English, and Chinese English.

This selection of accents can enable the obtention of respondents' perceptions of traditionally prestigious standards, and also their perceptions of non-standard, and non-native varieties, including their own foreign accent. Thus, permitting comparison with results from previous research.

For each of the eight accents, the sample consisted of eight fragments read by women and eight fragments read by men, rendering a total of 16 accented speech samples. Each accent token stems from a single genuine speaker from the geographical regions selected.

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<sup>1</sup> Speakers read the same sample text, but the text did not sound the same as it was produced by each speaker with his/her distinctive accent. The fact that all speakers read exactly the same text in all speech samples helped listeners/respondents to perceive and focus *not* on the content but on the variation in pronunciation and on the specific phonetic differences between samples.



### 3.4. Average ethnic faces

The images corresponding to average ethnic faces used in the present study were obtained from [faceresearch.org](http://faceresearch.org). Researchers from Face Research created a software that calculates and produces images of average faces.

The average ethnic faces obtained from the **Face Research Lab** used in this study are Lisa DeBruine's (2016) creation. She called the images *young adult composite faces*.



**Figure 1.** Young adult composite faces (female).



**Figure 2.** Young adult composite faces (male).

As we may observe, DeBruine's image set comprises five male and five female composite images (four individuals used per composite) of young adult individuals of African, East Asian, West Asian, and white ethnic backgrounds, plus a composite image of all four ethnic groupings, making a total of five different average ethnic faces.

These images are the ones that will serve as visual primes to be shown to respondents along with speech samples.

### **3.5. The procedure: association of faces and accents, distribution of participants, and the questionnaire.**

The experiment was conducted with several groups at Hainan Foreign Language College of Professional Education (Hainan, China). There was a total of 278 students divided into several classrooms of around 30 students each.

Throughout the experiment, half of the groups of respondents were exposed to exclusively aural stimuli. The other half of respondent groups were exposed to faces through visual stimuli as they listened to the accent samples.

The following procedure was applied: Students were briefly informed that it was a sociolinguistic study having to do with English varieties. Then a questionnaire and a response form were distributed in which to fill in their personal data and their impressions about the eight different world English accents. The students were asked to listen carefully to the eight accents (male or female). Immediately after listening to each recording, they were required to fill in a response form stating their impressions.

For each accent sample, one specific average ethnic composite face was chosen to accompany it. Russian, Australian, American, and British accents were accompanied by the white composite face; the Indian accent was accompanied by the West Asian composite face; the Nigerian accent was accompanied by the African composite face; the Chinese accent was accompanied by the East Asian composite face; and the Hispanic accent was accompanied by the composite image of all four ethnic groupings.

The distribution of groups of participants, speakers' gender exposure, and average ethnic face primes is the following<sup>2</sup>:

- 66 respondents were exposed to female speakers and no face primes.

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<sup>2</sup> Factors needed to be balanced in relation to each other. This assertion does not mean that it is absolutely necessary to have the same number of listeners exposed to male and to female speakers respectively. What is important is to have a balanced percentage of listeners who were exposed to the different factors. For instance, the percentage of listeners that were exposed to no faces visual stimuli and male voices needed to be balanced (not very distant) with the percentage of listeners that were exposed to no faces and female voices. The balanced distribution of factors, according to our statistician was successfully achieved in the present experiment.

- 84 respondents were exposed to female speakers along with face primes.
- 64 respondents were exposed to male speakers and no face primes.
- 64 respondents were exposed to male speakers along with face primes.

As for the questionnaire, respondents were requested to give their impressions about the eight accents on a Likert scale immediately after listening to each of the eight accented samples. They were asked to rate each accent on seven different dimensions: *power*, *education*, *intelligence*, *reliability*, *pleasantness*, *friendliness*, and *intelligibility*. The Likert scale consisted in rating each accent on each dimension using a range of scores from one to five. Scores in the questionnaire were represented by emojis: 1 = *Disagree strongly*, 2 = *Disagree*, 3 = *Neutral*, 4 = *Agree*, 5 = *Agree strongly*. Thus, respondents provided 7 scores per accent, and a total of 56 scores per completed questionnaire (8 accents). Having a total of 278 Chinese respondents a total of 15,568 scores were obtained. The use of 5 points Likert scales enabled the obtention of these numerical scores related to the accents for their subsequent analysis.

### 3.6. Statistical procedures

By means of descriptive statistics and mean scores analysis, it was possible to obtain the mean scores for each of the accent cases. Thereby, a ranking of the best and worst rated accents by respondents was obtained, shedding light on which accents are more appealing to the Chinese respondents. Via Repeated Measures Analysis of Variance (RMAV), it was possible to determine whether the differences in the accent rankings were statistically significant.

Two important factors were carefully taken into account during the experiment: SPEAKER GENDER factor (male or female) and FACE GENDER factor (presence or absence of average ethnic face exposure). Considering the SPEAKER GENDER factor, since the eight accents have a female voice version and a male voice version, it was possible, by means of bifactorial ANOVA, to examine the effects of speakers' gender on scores. Homogeneity of variance of the data was obtained before using factorial ANOVA by means of Levene test <sup>3</sup>.

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<sup>3</sup> We evaluated homoelasticity by means of Levene test. In most cases p-values were high indicating a homogeneity of variance. In the few cases in which the p-value was significant, we evaluated the real differences as they appeared in the descriptive tables, where they showed to be homogeneous. Therefore, those significant p-values were due to the big sampling size of the experiment. It is important to highlight that, in any case, the final unifactorial analyses are t-tests (having factors with two levels only) in which the previous result on homogeneity of variance is taken into account in order to decide the final method to consider (Pooled or Satterhwaite).

Considering the FACE and GENDER factors, it was also possible, by means of bifactorial ANOVA, to look into their effects on the scores. Thanks to the use of the bifactorial ANOVA with interaction, it was also possible to examine the interactions between the SPEAKER GENDER factor and the FACE factor in the results. The bifactorial ANOVA with interaction unveiled, for each of the accent cases in the study, whether there was a statistically significant interaction between these two factors. It was also possible to study the general effects of these two factors in the perceptions and scores elicited from participants for all accents in general (total of accents case). There are, thus, nine cases in which this interaction was studied:

- Russian accent case
- Indian accent case
- American accent case
- Hispanic accent case
- Australian accent case
- Chinese accent case
- British accent case
- Nigerian accent case
- Total of accents case.

For the accent cases in which we found a significant interaction between the FACE factor and the SPEAKER GENDER factor, a unifactorial ANOVA was used in order to find out precisely which part of which factor (sub-factor) affected the results. For the unifactorial ANOVA, the two factors were split into four sub-factors: NO FACE sub-factor, YES FACE sub-factor, FEMALE SPEAKER sub-factor, and MALE SPEAKER sub-factor.

Therefore, the unifactorial ANOVA, in the accent cases in which a significant interaction was detected, aimed to examine the following:

- Effects of the YES FACE sub-factor on the SPEAKER GENDER factor: to elicit if the YES FACE sub-factor significantly affected the comparison between the scores given to female speakers and male speakers.
- Effects of the NO FACE sub-factor on the SPEAKER GENDER factor: to find out if the NO FACE sub-factor significantly affected the comparison between the scores given to female speakers and male speakers.
- Effects of the MALE SPEAKER sub-factor on the FACE factor: to find out if the MALE SPEAKER sub-factor affected the comparison between the scores given in the presence and in the absence of faces.
- Effects of the FEMALE SPEAKER sub-factor on the FACE factor: to find out if the FEMALE SPEAKER sub-factor affected the comparison between the scores given in the presence and in the absence of faces.

## 4. RESULTS

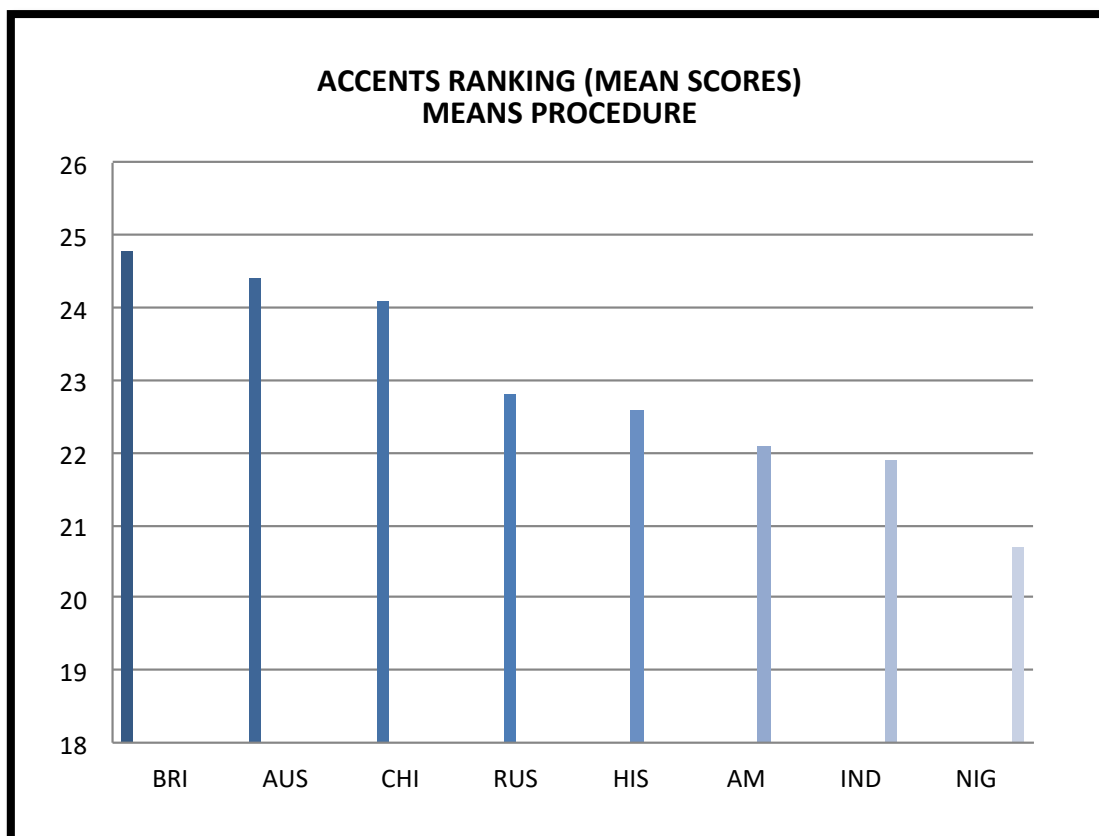
### 4.1. Mean scores given to the eight accents, and statistical differences

As explained above, each of the eight accents was given seven scores by each respondent, corresponding to seven dimensions. Since each score ranges from 1 to 5 points, the maximum value given by one respondent to one accent is 35 (5x7), whilst the minimum value is 7 (1x7). Table 1 below presents the **mean scores** given by the 278 participant students to the eight different English accents along with Standard Deviations, Minimum, Median, and Maximum scores:

**Table 1.** Mean scores obtained by the eight World English accents, Standard Deviations, Minimum, Median, and Maximum scores.

The MEANS Procedure						
Variable	N	Mean	Std Dev	Min	Median	Max
TOTAL_RU	278	22.8	5.0	7.0	23.0	35.0
TOTAL_IND	278	21.9	5.1	7.0	22.0	35.0
TOTAL_AM	278	22.1	5.7	7.0	22.5	35.0
TOTAL_HIS	278	22.6	5.3	7.0	23.0	35.0
TOTAL_AUS	278	24.4	5.3	8.0	25.0	35.0
TOTAL_CHI	278	24.1	5.2	7.0	24.0	35.0
TOTAL_BRI	278	24.8	5.9	10.0	25.0	35.0
TOTAL_NIG	278	20.7	5.8	7.0	21.0	35.0
TOTAL	278	183.3	24.6	115.0	182.0	269.0



These mean scores comprise the scores given to all accents (to both male and female voices together). Figure 4 below shows the ranking of accents according to the mean scores given.



**Figure 3.** Mean scores obtained by the eight World English accents.

The ranking above shows mean score rankings in which preferences are ordered. With the Repeated Measures Analysis of Variance (RMAV), it was possible to elicit whether the mean score differences amongst accents were statistically significant. It turned out that most of the mean score differences shown in the ranking above were statistically significant. That is, thanks to the RMAV and the number of participants and scores given, comparing pair by pair of accent mean scores, results from this method indicated that most of the mean scores were significantly different from each other. These statistical differences can be observed in Figure 5 below.

REPEATED MEASURES ANALYSIS OF VARIANCE								
	BRI	AUS	CHI	RUS	HIS	AM	IND	NIG
BRI	×	×	×	✓	✓	✓	✓	✓
AUS	×	×	×	✓	✓	✓	✓	✓
CHI	×	×	×	✓	✓	✓	✓	✓
RUS	✓	✓	✓	×	×	×	×	✓
HIS	✓	✓	✓	×	×	×	×	✓
AM	✓	✓	✓	×	×	×	×	✓
IND	✓	✓	✓	×	×	×	×	✓
NIG	✓	✓	✓	✓	✓	✓	✓	×

 = significant difference     
  = no significant difference

**Figure 4.** Cases where there was a statistical difference amongst the mean scores obtained by all the accents in the study.

As can be observed in Figure 5 above, the three best-rated accents — British, Australian, and Chinese — stand out above the rest. Comparing their mean scores to the rest of the accents' mean scores, there is always a statistically significant difference. Comparing the three to one another, there is no significant difference. Consequently, the three of them were, comparatively speaking, equally rated.

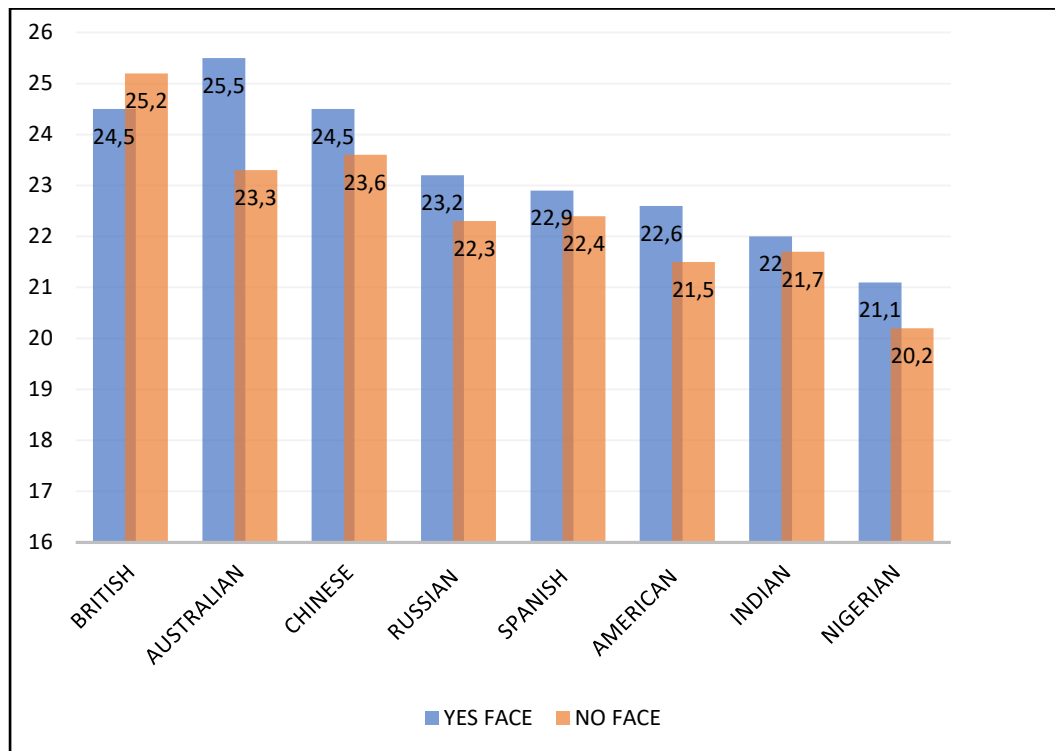
There was a second group of moderately rated accents: Russian, Hispanic, American, and Indian. This group of accents' mean scores were significantly different (they are lower) compared to the mean scores obtained by the best-rated group (British, Australian, and Chinese). This middle group was also better rated than the Nigerian accent, since all of their mean scores were significantly higher compared to the mean scores obtained by the Nigerian accent.

In the last position is the Nigerian accent. It was the lowest rated in the study, as its mean score differences were significantly lower compared to the rest of the accents implemented in the experiment.

## 4.2. Bifactorial ANOVA: effects of the FACE factor and the SPEAKER GENDER factor separately

### 4.2.1. The FACE factor effects

Mean scores given by respondents did fluctuate in the presence or absence of visual facial stimuli. The graph in Figure 6 below represents the mean scores obtained by the eight accent cases in the presence and in the absence of faces.



**Figure 5.** Mean scores of accents in the presence (blue) and absence (red) of average ethnic faces visual stimuli.

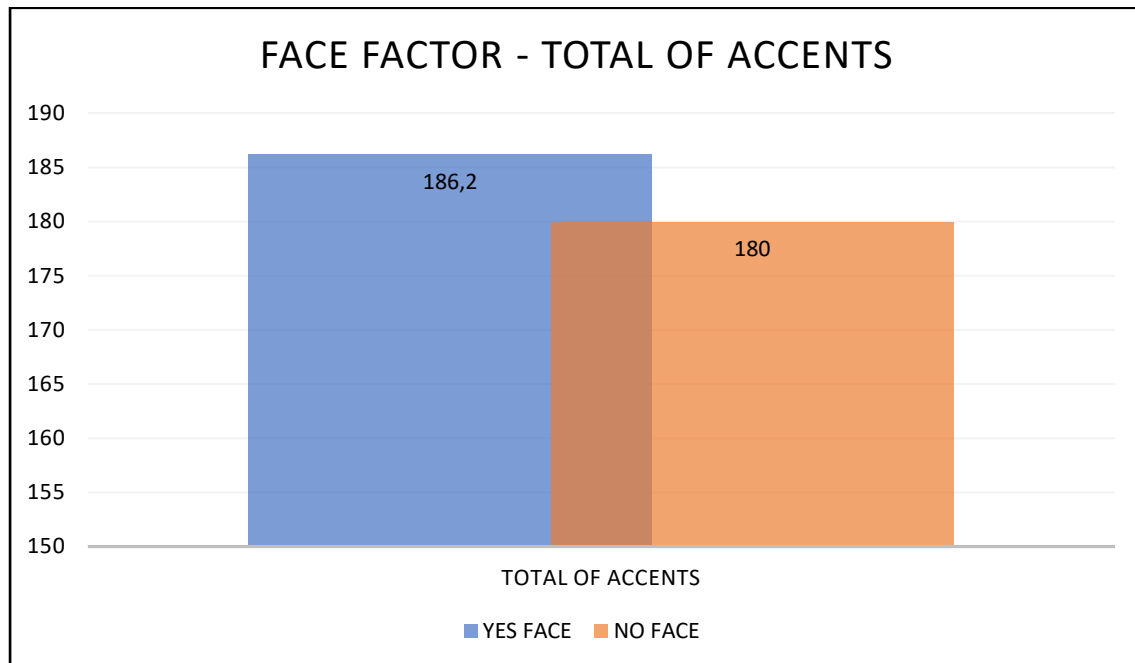
The differences between mean scores obtained by accents in the presence and in the absence of faces were found in all accent cases. It can also be observed that all accents, except British, got higher scores when faces were shown to participants.

The bifactorial ANOVA and its p-values revealed that the FACE factor had significant effects in the American and Australian accent cases. Even though there was a mean score growth in most of the accent cases in the presence of faces, this growth was only statistically significant in the American and Australian cases. The bifactorial ANOVA results concerning the FACE factor effects in the American accent case revealed a p-value of 0.0173. The Australian accent case revealed a p-value of 0.0006.

As for the total of accents (scores obtained by all accents as a whole), the mean score obtained when faces were shown to participants was **186.2**, whereas there was a mean score of **180.0** when faces were not shown. The FACE factor effects were also found to be



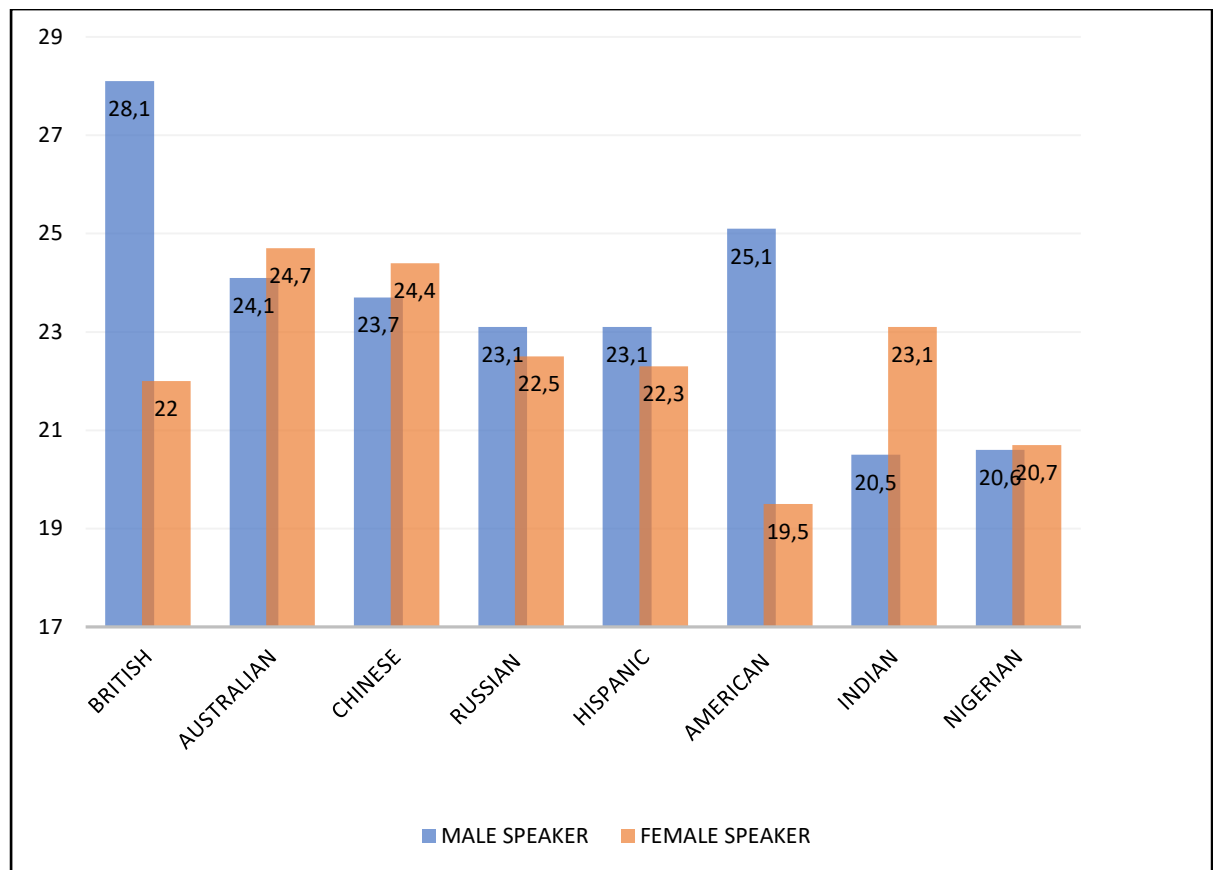
statistically significant in the total of accents case, as bifactorial ANOVA numbers indicated a p-value of **0.0316**.



**Figure 6.** Mean scores for the total of accents case in the presence (blue) and absence (red) of average ethnic faces visual stimuli.

#### 4.2.2. The SPEAKER GENDER factor effects

Mean scores given to accents oscillated depending on their male or female version. The graph in Figure 8 below represents the mean scores given to the male and female speakers of the eight accent cases.

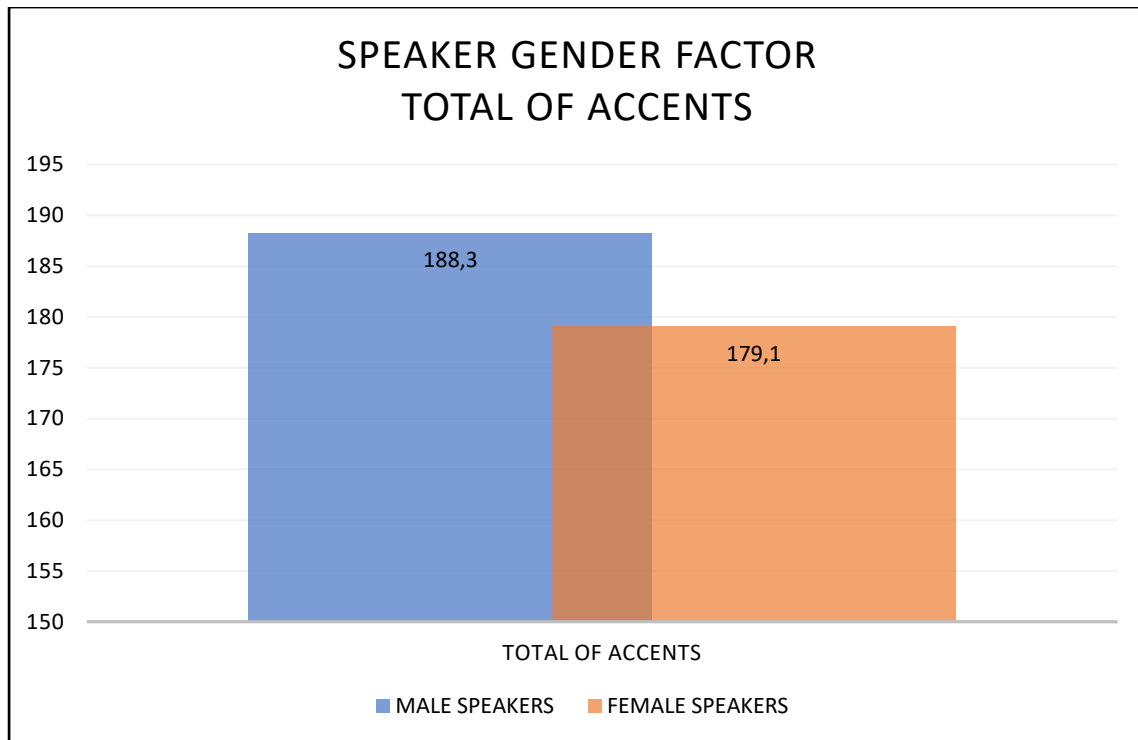


**Figure 7.** Mean scores of accents for male and female speaker versions.

As can be observed above, there were fluctuations and differences between mean scores given to accents in their female and male speaker versions. These differences are most evident in the British, American, and Indian accent cases.

The bifactorial ANOVA and its p-values revealed that the SPEAKER GENDER factor had significant effects in the British, American, and Indian accent cases: a p-value of  $<.0001$  respectively for the three of them. That means there was a highly significant effect of the SPEAKER GENDER factor on the scores given to those three accents. For the British and American cases, scores and impressions were significantly higher for the male speakers than for the female speakers. In the Indian accent case, however, the female speaker obtained significantly higher scores than the male speaker.

As for the effects of the SPEAKER GENDER factor in the total of accents case (all accents taken en bloc), the total mean score given to male speakers was **188.3**, whilst the total mean score given to female speakers was **179.1**. The SPEAKER GENDER factor effects were also found to be statistically significant in the total of accents case, as the bifactorial ANOVA revealed with a p-value of **0.0006**. This means that accents received statistically higher scores when spoken by men.



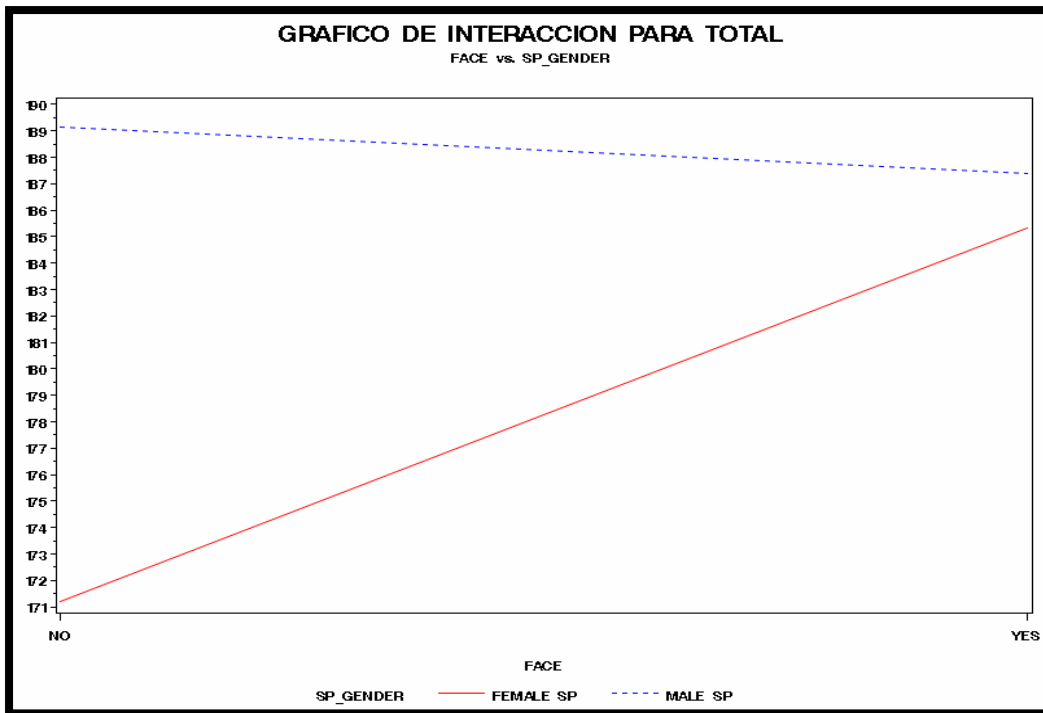
**Figure 8.** Mean scores obtained in the Total of accents case for male speakers (blue) and female speakers (red).

### 4.3. Bifactorial and unifactorial ANOVAs: interactions between the FACE factor and the SPEAKER GENDER factor

This section shows the significant (or non-significant) interactions between the two factors. That is to say, whether the gender of speakers and the presence or absence of faces affected each other.

#### 4.3.1. Total of accents case

The combination of (presence or absence of) visual stimuli and gender of speakers had significant effects on results for the total of accents on the whole. Applying the bifactorial ANOVA to the scores given by participants to the total of accents case, the p-value obtained was **0.0060**. Thus, a significant interaction was found between the FACE factor and the SPEAKER GENDER factor.



**Figure 9.** Interaction graph for the Total of accents case.

The bifactorial ANOVA revealed that the presence or absence of faces in the total of accents case altered the comparison between the mean scores of male and female voices. It can also be observed in the graph that when faces were shown, the mean scores given to female speakers were remarkably higher than when faces were not shown. Likewise, when there were no faces shown, female speaker voices were rated significantly lower than male voices.

Unifactorial ANOVA was applied to shed light on what the most influential sub-factors were. The results were as follows:

- Significant effects of the **NO FACE** sub-factor on the FEMALE and MALE speaker sub-factors (**p-value: 0.0001**).
- No significant effects of the YES FACE sub-factor on the FEMALE and MALE speaker sub-factors (p-value: 0.6019).
- Significant effects of the **FEMALE speaker** sub-factor on the YES FACE and NO FACE sub-factors (**p-value: 0.0002**).
- No significant effects of the MALE speaker sub-factor on the YES FACE and NO FACE sub-factors (p-value: 0.6928).

As the unifactorial ANOVA revealed, the NO FACE factor and the FEMALE SPEAKER factor had the most significant effects within the total of accents case. In short:

- In the **absence of facial** visual stimuli, **male speakers received significantly higher scores** than female speakers.

- **Female speakers received significantly higher scores in the presence of faces than in their absence.**

## 5. DISCUSSION OF RESULTS

The elicitation of perceptions from Chinese respondents evidenced a preference for monolingual standards (British, Australian) and a dislike to outer circle Englishes (Indian, Nigerian). As for their own Chinese accent, it was rated amongst the first three accents. There was not a dislike but a liking towards their own expanding circle accent. The American accent was neither disliked, not especially liked, rated amongst the middle group, in spite the fact that it is a traditionally considered a prestigious standard.

As for the effects of speaker gender on perceptions, it can be sustained that respondents liked male versions better than the female versions of the accents in a significant way.

Regarding visual primes (ethnic faces) on language perceptions, results showed that the presence of ethnic faces gave way to statistically higher scores in accents. Respondents had better impressions of accents when accompanied with an average ethnic face.

Concerning the interaction between the FACE factor and the SPEAKER GENDER factor, results provided evidence to state that in the absence faces, respondents favoured male accented samples. Results also showed that female accented samples received much better impressions from respondents when they were accompanied by average ethnic faces.

### 5.1. Preferences of World English varieties from Chinese respondents

The assumption, based on previous research, that monolingual English standards would be best rated by English learners was partially confirmed. Both British and Australian monolingual standards were, statistically, the best-rated accents in a significant way, but American English is situated within the moderately rated group of accents. It can be stated that the preference for inner circle varieties prevails in general terms, within the Chinese context. As for their moderate liking of American English, further research would be necessary in order to corroborate this tendency.

Chinese respondents did not downgrade the Chinese English accent in this study; they did not dislike their own foreign accent in English. In fact, the Chinese accent is situated amongst the three best-rated accents. Moreover, the mean scores obtained by the Chinese accent are statistically and significantly higher than all the rest of the accents in the study,

except for British and Australian. This could be an instance of covert prestige or a vindication of their own identity. Further research needs to be carried out in order to demonstrate that Chinese listeners find their own accent rather appealing, or at least not unattractive when it comes to the use of English as an international language.

Within the Asian context, there are cases found in previous research in which Japanese respondents rated Japanese accent higher than American accent in terms of solidarity (Sasayama, 2013). In Thailand, university students rated UK, US and Thai English accents, significantly higher than Japanese, Chinese, and Indian. Therefore rating their own Thai English accent amongst the “best” (McKenzie, Kitikanan & Boriboon, 2016). Results from this study seem to be in line with Sasayama’s and McKenzie et al.’s. Chinese respondents graded Chinese accent high, perhaps due to solidarity reasons. That is, the high ratings given to their own accent could be due to solidarity and warmth attached to it. This scores could be subdivided into solidarity and status ones, to shed more light on why respondents highly rated their own foreign accent. Further research is necessary in order to assert due to which specific dimensions this high evaluation took place.

Outer Circle Englishes were the lowest rated. Both Indian and Nigerian are in the last positions concerning mean scores obtained, especially Nigerian, which obtained significantly lower scores than all the rest of the accents. This finding is in accordance with previous research, and supports the claim that expanding circle users of English seek and strive for inner circle accents as their aim and models, whereas they avoid and downgrade non-traditionally standard varieties.

## 5.2. Effects of average ethnic facial visual stimuli on results

The effects of average ethnic faces on the Chinese participants in the experiment uniformly affected results in all accents (except British) in the same way: higher scores, hence better impressions. Although this growth in scores in the presence of faces was only high enough to be statistically significant in the Australian and American accent cases, the pattern of growth was stable enough throughout all accent cases, and as a consequence, the bifactorial ANOVA indicated that **the effect of the FACE factor was statistically significant for the total of accents case**. It can therefore be concluded that, in the present experiment, the effects of visual stimuli in the form of ethnic faces had a significant effect and led to **statistically higher scores in the total of results**.

In other words, throughout all the experiment, the presence of Average Ethnic Faces consistently led to higher scores given to all accents. The more visual, the more positive perceptions of accents were. This finding is in agreement with previous research concerning the patent effects of the APP. For instance, McGowan (2011) unveiled that visual presentation of race-matched faces increases intelligibility for Chinese-accented speech. Yi et

al. (2014) found that, in the presence of visual stimuli [video of a person talking], native American English listeners found it harder to transcribe English sentences which were produced by native Korean speakers, and found it less hard to transcribe sentences uttered by native English speakers. If they saw a white person talking, they did better at transcribing the speech; but if they saw an Asian person talking, they had more difficulties transcribing speech. It seems that pre-conceptions reinforced by visual stimuli clearly affect speech perceptions.

### 5.3. Effects of speakers' gender on results

The effects of speaker gender did not have such a homogeneous effect on results as that of the ethnic facial visual prime. In some accents, the scores were higher for male speakers, whereas in other accents it was the other way around. However, the effects gender had in the British, American, and Indian cases were striking. The first two obtained considerably higher scores for their male voice versions, whereas the latter obtained remarkably higher scores for the female voice versions. Although a panel of English teachers selected these specific sets of accent samples amongst thousands of samples in the Speech Accent Archive (Weinberger, 2013), bearing in mind that they should be as homogeneous as possible, there is still room for speaker-related variation amongst speech samples. A particular voice could sound more pleasant than others regardless of the accent spoken. However, all samples contain exactly the same text read by speakers, which diminishes content variation to the minimum.

Some accents can sound more appealing when spoken by a certain gender rather than the other. This statement is not to be ignored, since it is in accordance with previous research, which showed that certain language varieties sound more appealing and attractive to respondents when they are spoken by women rather than men. That is the case of the Southern American accent, as demonstrated by Soukup (2011). This accent was particularly attractive and socially appealing to respondents in the US *when spoken by women*.

A similar effect as that found by Soukup (2011) seems to have taken place in the present study. Chinese respondents found British and American accents remarkably more pleasant when spoken by a male voice; whereas they found Indian English remarkably less unpleasant when spoken by a female voice.

#### 5.4. Interactions between factors

Results showed that for the total of accents in the study, we found a significant interaction between the FACE factor and the SPEAKER GENDER factor. More specifically, the NO FACE sub-factor and the FEMALE SPEAKER sub-factor had the greatest effects.

In the absence of faces, Chinese respondents rated male voices significantly higher than female voices, whereas in the presence of faces, they rated both male and female voices at a similar level. The female voices experienced a general growth in their scores when they were accompanied by faces. However, male voices were equally rated in the presence and in the absence of facial visual stimuli.

In the light of the results it can be stated that female accented samples are significantly more appealing to Chinese respondents when accompanied by a face; whereas male accented samples do not experience significant fluctuations in their scores when accompanied by faces.

#### 6. CONCLUSION

The results obtained from the present study show that Chinese students of English do have a certain preference for monolingual standards. This assertion is not categorically confirmed, since Australian and British monolingual standards are situated amongst the three significantly best-rated accents, but the American accent is situated amongst the middle-rated accents.

Results also show a rejection from Chinese respondents of Outer Circle Englishes: Indian and Nigerian English varieties. In this respect, the most robust affirmation in statistical terms concerns Nigerian English, which was rated significantly lower than all the rest of the accents. This English learners' dislike for outer circle varieties is in line with previous research.

Another interesting finding from this study is that Chinese respondents do not seem to dislike a Chinese English accent. As a matter of fact, it is situated amongst the three significantly best-rated accents of the experiment. Chinese users of English appear to like their own foreign English accent. The tendency from previous research indicates a preference for inner circle standards, and a dislike to outer and expanding circle accents from the English learner's point of view. There are instances in previous research of respondents clearly rejecting their own "foreign" accent in the Spanish (Tevar, 2014) and Austrian (Dalton-Puffer et al., 1997) contexts. But there are also cases in the Asian contexts where Japanese or Thai respondents rate their own accents as high as prestigious standards (McKenzie, Kitikanan & Boriboon, 2016), or even higher in terms of solidarity (Sasayama, 2013). In the light of the results obtained in the present experiments, Chinese respondents seem to be in line with



Japanese and Thai perceptions from the above mentioned studies, not rejecting but embracing their native non-standard accent. Further research would be necessary to ratify this tendency. A more nuanced scrutiny of responses divided into dimensions would be needed in this study, in order to find out whether the high ranking obtained by the Chinese accent was due to solidarity dimensions.

In turn, results show that gender does influence language attitudes. Female speakers are rated significantly lower than male speakers in the absence of faces in the total of accents case, as the p-values from the bifactorial ANOVA show, with the NO FACE sub-factor and the FEMALE SPEAKER sub-factor most significantly affecting results. In brief, female accented voices were less liked than male ones.

It seems to be a fact that gender affects language perceptions in different ways. It has been found out that Southern American English is particularly appealing to Americans *when spoken by a woman* (Soukup, 2011); found that British female participants showed remarkably more positive attitudes than male participants towards a number of regional varieties of English (Coupland & Bishop, 2008); or that Japanese female respondents gave significantly higher ratings than males to American and Scottish speech (McKenzie, 2010). Future research should collect evidence to shed light on which particular accents, and in which specific contexts positive ratings benefit from either speaker gender or listener gender when it comes to language perceptions.

Facial visual stimuli also show to have an effect on language attitudes. The visual affective prime of average ethnic faces affected the responses and scores that Chinese students gave to the different English-accented samples. When no faces were shown, female speakers were rated significantly lower than male speakers. In contrast, when average ethnic faces were shown, female speakers were rated at the same level as male speakers. Accents, overall, receive generally better scores when accompanied by a face.

There are cases in which it has been found that visual presentation of race-matched faces increases intelligibility of Chinese accented speech (McGowan, 2011); in other cases it has been revealed that American listeners find it easier to transcribe sentences uttered by native English speakers when they are accompanied by a matching visual stimulus; and that they find it more difficult to transcribe sentences uttered by Korean speakers when they are accompanied by a matching visual stimulus. It appears that existing stereotypes in the minds of respondents can be reinforced by means of visual primes, increasing or decreasing levels of intelligibility. The present study shows an increase in the ratings of accents when they were accompanied by matching ethnic faces. Future research can ratify these tendencies.

In light of the results obtained, it can be asserted that there is an interaction between the FACE factor and the SPEAKER factor in general terms for the total of accents in the present study. The presence or absence of faces alters the comparison between male and female voice scores and vice versa. More specifically and significantly, female voices have proved to be significantly downgraded in comparison with male voices when the faces were not shown. In other words, female accented voices show to be remarkably better liked when accompanied by a face.

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